

Paul Mougeolle

Transnational Climate Due Diligence (CDD)

Existence, Limitations and Potentialities
in International and Comparative Law



Nomos

Schriften zum Klimaschutzrecht

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Foreword

First and foremost, I would like to express my sincere appreciation to Professor Laurence Sinopoli (University of Paris Nanterre) and Professor Norman Weiß (University of Potsdam) for their support and the freedom they have given me, not only during this PhD, but also during my Master's thesis ten years ago. I must admit that the topic of my thesis has often raised eyebrows among lawyers, given its broad scope and mix of public and private law. Despite this, and the time and energy it required to finish it, I still believe that studying the concept of "due diligence" on this scale was worthwhile. Indeed, the wide comparative approach enabled drawing trends across legal systems, which may be useful for both practice and academia. Furthermore, the comparison of the existence and extent of due diligence requirements for States and corporations, and their relationship with each other, remains largely unexplored. Lastly, historic legal responsibility, which is largely argued in US litigation and deemed possible by the International Court of Justice, remains poorly addressed in legal scholarship.

I also thank Professor Harro van Asselt and Research Director Sandrine Maljean-Dubois for their thorough review of my thesis and for their comments. I was truly honoured by the depth of engagement with my ideas. Thanks as well to Professor Helmut Aust for evaluating my work during the defence.

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Foreword

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Abbreviations

API	American Petroleum Institute
AR	Assessment Report (of the IPCC)
BGB	<i>Bürgerliches Gesetzbuch</i> (German Civil Code)
CAT	Climate Action Tracker
CDD	Climate Due Diligence
CDR	Carbon Dioxide Removal
CJ	Chief Justice
CJEU	Court of Justice of the EU
COP	Conference of the Parties
CSDDD	Corporate Sustainability Due Diligence Directive
DARSIWA	Draft Articles on State Responsibility of the ILC
DD	Due diligence
ECHR	European Convention of Human Rights
ECtHR	European Court of Human Rights
EU	European Union
GHG	Greenhouse Gases
HRDD	Human Rights Due Diligence
HRC	Human Rights Committee
ICJ	International Court of Justice
IEA	International Energy Agency
ILC	International Law Commission
IPCC	International Panel on Climate Change
ITLOS	International Tribunal on the Law of the Sea
KP	Kyoto Protocol
LTTG	Long-term temperature goal of the Paris Agreement (1.5°C, or well-below 2°C)
<i>op cit</i>	already quoted above
PA	Paris Agreement

Abbreviations

RECIEL	<i>Review of European, Comparative & International Environmental Law</i>
SCOTUS	Supreme Court of the United States
SR1.5	Special Report on 1.5°C of the IPCC
SPM	Summary for policymakers
UN	United-Nations
UNFCCC	United-Nations Framework Convention on Climate Change
UN-HRTB	United-Nations Human Rights Treaty Bodies
UNGA	United-Nations General Assembly
UNGPs	Guiding Principles on Business and Human Rights.
US	United States (of America)
WEO	World Energy Outlook
WG	Working Group
WMO	World Meteorological Organization

Abstract and executive summary

Abstract

This PhD thesis explores the existence and boundaries of “climate due diligence” (CDD) owed by States and corporations in international law, human rights law and domestic law in selected Global North jurisdictions. It finds that due diligence applies to climate change, since prevention remains possible at the individual level, despite the cumulative nature of global warming. CDD is also enforceable: courts recognise climate-related impacts as injuries and establish causation through the concept of shared responsibility. The redressability of CDD claims depends, however, on the existence of either specific legislation or scientific and institutional consensus. Absent such conditions, States and corporations must benefit from wider discretion while implementing best efforts. A historical analysis of compliance with CDD reveals past and ongoing breaches by public and private Global North actors, which may give rise to secondary obligations, such as compensation or enhanced mitigation. This thesis concludes that CDD has emerged as a transnational legal norm with growing recognition across jurisdictions, and that it provides a meaningful tool to advance climate accountability and action.

Executive summary

This PhD thesis explores “due diligence” to assess whether and to what extent this legal concept, generally used to refer to norms whose functions require harm prevention, and which mandate a careful and reasonable man standard, oblige States and corporations to mitigate climate change (i.e., in short: climate due diligence (CDD)).

1. Applicability

In international law, due diligence requires prevention when activities might cause significant harm overseas. This thesis found that the collective and cumulative features of global warming are not insurmountable obstacles to applying *general* or customary due diligence to climate change, given

the serious dangers and the possibility of reducing emissions, and thus the risk of harm.

Since global warming imperils human rights as well, States must - *mutatis mutandis* - mitigate global warming, requiring due diligence too.

In domestic law, whether in the civil or common law traditions, *general* due diligence in tort law or *specific* due diligence in statutory law analogically require public and private actors (including multinationals) to tackle climate change. However, certain areas may be pre-empted by *lex specialis* (see, notably, the US case *American Electric Power Cie*).

2. Extent of the enforceability

Some courts still have rejected climate lawsuits for lack of demonstrated individual and specific climate-related injuries, but many others have recognised individual and/or collective harms. Given the progress of science and the aggravation of global warming, many injuries are likely to be established in the future.

Courts all over the world have accommodated the causation pillar to global warming, thanks to the removal of any uncertainty as to the occurrence of climate change and the acceptance of the concept of shared responsibility, enabling the attribution of a part of the harm to an individual actor, implying in turn a duty to do (only) its share. Further, due diligence attributes responsibility regarding indirect and transnational events, grounding causation in this respect against States and corporations.

As to the redressability of CDD, judicial bodies accept enforcing targets and measures enshrined in *specific* legislation. Regarding claims based on *general* due diligence, which aim to increase the ambition of the public or private actors, they pose significant redressability challenges, especially in light of the separation of powers. Given this consideration, courts are only willing to admit strongly consensual elements when interpreting *general* CDD. In their absence, it appears that courts and legislators can still impose best efforts obligations while granting discretion on the substance (see, notably, *KlimaSeniorinnen*, *Milieudefensie v Shell*, or Article 22 CSDDD).

3. Historical Responsibility

Before the IPCC's creation in 1988, scientific and institutional consensus on the risks of GHG emissions emerged, and, as a result, the general due diligence obligation to mitigate climate harm.

Between 1988 and 2015, the establishment of the IPCC and the UNFCCC implied a clear recognition of the risks and the ability to act individually. Despite reuniting those clear due diligence criteria, key public and private Global North actors manifestly failed to meet their duties.

After the 2015 adoption of the Paris Agreement, the international community recognised the 1.5°C objective by leaving leeway to individual States. Nonetheless, the world remains far from being aligned with these temperature goals, and Global North actors do not meet their fair share.

This dissertation infers that these individual historical breaches of CDD could give rise to secondary obligations, which may include monetary compensation for climate losses and damages, or increased mitigation to make up for past shortcomings. Awarding these remedies could contribute to a more equitable global burden-sharing.

Conclusion

Although CDD has gained judicial traction transnationally, significant differences regarding compliance enforcement remain, particularly in the USA compared to the other assessed legal systems (France, Germany, the UK, the Netherlands, human rights law, and international law), pointing to a persistent fragmentation risk. While it remains unclear whether CDD can really reinforce climate action, it still provides a judicial mechanism which has the potential to do so.

0 Introduction

0.1 The PhD's research question in a nutshell: Reinforcing climate action with due diligence?

Can the judicial system protect the climate by notably basing itself on general preexisting and overarching norms, such as *due diligence*?¹

Global warming appeared in recent times as one of the most complex global challenges humanity has ever faced. Not only are its impacts on the environment and human interests so harmful, but finding ways to mitigate climate change poses significant challenges. The UN Secretary-General Guterres, who regularly highlighted the massive problem of climate change since the beginning of his mandate, stated in 2022 that:

“We are on a fast track to climate disaster. Major cities under water. Unprecedented heatwaves. Terrifying storms. Widespread water shortages. The extinction of a million species of plants and animals. This is not fiction or exaggeration. It is what science tells us will result from our current energy policies. [...] Climate scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate impacts. But, high-emitting Governments and corporations are not just turning a blind eye, they are adding fuel to the flames. They are choking our planet, based on their vested interests and historic investments in fossil fuels, when cheaper, renewable solutions provide green jobs, energy security and greater price stability.”²

Judicial institutions seem to offer a remedy. In 2015, a Dutch court ordered the Netherlands to reduce its greenhouse gas (GHG) emissions by a greater amount than was planned³, in line with scientific indications regarding the

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- 1 Cox R, *Revolution Justified: Why Only the Law Can Save Us Now*, trans Elizabeth HD Manton (The Planet Prosperity Foundation 2012); Rochfeld J, *Justice pour le climat ! Les nouvelles formes de mobilisation citoyenne* (Odile Jacob 2019).
 - 2 United Nations, “Secretary-General Warns of Climate Emergency, Calling Intergovernmental Panel’s Report ‘a File of Shame’, While Saying Leaders ‘Are Lying’, Fuelling Flames”, *Meetings Coverage and Press Releases*, SG/SM/21228, 4 April 2022.
 - 3 District Court of The Hague, *Urgenda v Netherlands*, C/09/456689 / HA ZA 13-1396, 2015.

risks related to global warming, and the concept of “fair share” elements, i.e., how much one individual actor (generally a State) needs to contribute to climate action, especially mitigation⁴. This is the *Urgenda* case, which marked the beginning of multiple other similar “systemic mitigation” or “framework cases”⁵. In 2019, the Supreme Court ultimately confirmed the *Urgenda* judgement⁶.

Subsequently, in 2021, another Dutch lower court expanded on these principles in a case against Shell’s parent company by ordering emission reductions affecting the entire corporate group’s economic activities worldwide⁷. This case also took a “systemic” or “framework” approach, albeit in a different manner, since the defendant was a multinational corporate group⁸.

Interestingly, both judgements rely on so-called “due diligence” norms. The Courts of first instance in The Hague relied on the “duty of care”⁹ or “standard of care” (“*zorgplicht*”), a general but vague legal notion similar to the concept of “due diligence” in terms of functions and features. Like due diligence, it requires taking appropriate measures in light of the severity of the risk, in order to prevent harm. The Dutch duty of care stems from Article 6:162 of the Dutch Civil Code, a provision which sets out tort liability in the event of harm, but which does not mention the *duty* or

4 The principle of common but differentiated responsibilities is closely linked to the concept of fair share. In fact, as the IPCC stated, “it is only in relation to such a ‘fair share’ that the adequacy of a state’s contribution can be assessed in the context of a global collective action problem” (see IPCC, AR6 (2021-23) WG III, Chapter 14, p 1468). The Climate Action Tracker, an initiative led by climate scientists, including from the IPCC, regularly discloses “fair share” assessments concerning a certain number of countries.

5 See Maxwell L, S Mead and D van Berkel, “Standards for adjudicating the next generation of *Urgenda*-style climate cases”, *Journal of Human Rights and the Environment*, March 2022; See as well, Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2023 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2023) p 22.

6 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019.

7 District Court of The Hague, *Milieudefensie v Shell*, C/09/571932 / HA ZA 19-379, 26 May 2021.

8 See Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2022 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2022) p 18.

9 District Court of The Hague, *Urgenda v Netherlands*, C/09/456689 / HA ZA 13-1396, 2015, § 4.83; District Court of The Hague, *Milieudefensie v Shell*, C/09/571932 / HA ZA 19-379, 26 May 2021, § 4.4.1.

standard of care (“*zorgplicht*”)¹⁰. Instead, the courts are using it. Hence, the choice of this specific term is somewhat discretionary, including a specific translation decision (i.e., it could have been due diligence rather than duty of care, for example). Note that, in international law, “due diligence” is used interchangeably with the “standard of care”¹¹. In any case, their *functions* are the same: they prescribe a certain careful and reasonable conduct aimed at avoiding negligence and ultimately the causation of harm.

However, in appeal and cassation of the *Urgenda* case, the Dutch Courts relied on Articles 2 and 8 of the European Convention of Human Rights (ECHR), especially the positive duty to protect the right to life and private and family life (Art. 2 and 8 ECHR), considering that the Netherlands’ GHG emissions contribute to endangering these rights. In any case, the Dutch Court of Appeal still mentioned the concept of the duty of care in these decisions (“*zorgplicht*”)¹², and the ECtHR also referred to the due diligence in some of its previous decisions¹³.

This thesis mainly uses the expression “due diligence” to refer to a general standard of conduct to prevent harm, due to its international and widespread recognition (see subsection 0.2 of this introduction). However, this dissertation will also identify norms with similar functions and criteria and label them as due diligence-type of norms. In this respect, the use of the functional comparative law approach is important because many legal concepts have different names, especially in other languages, but actually have a similar role¹⁴.

After the *Urgenda* case, litigants around the world launched multiple other similar “systemic” or “framework cases”. Some of them were “successful”, in the sense that they resulted in the recognition of the “responsibility”¹⁵

10 See Article 6:162 of the Dutch Civil Code.

11 See the definition of due diligence in subsection 0.2 of this introduction.

12 Court of Appeal of The Hague, *Netherlands v Urgenda Foundation*, Case No 200.178.245/01, 2018, § 41 and 73; See as well: Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019.

13 See, among others, ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129.

14 Zweigert K and Kötz H, *Einführung in die Rechtsvergleichung*, 3rd ed, Mohr, 1996; see English translation by Tony Weir, *An Introduction to Comparative Law*, 3rd ed, Oxford University Press, 1998; See as well, Michaels R, “The Functional Method of Comparative Law” in M Reinmann and R Zimmermann (eds), *Oxford Handbook of Comparative Law* (Oxford University Press 2006) p 340-380.

15 Why mention the term ‘responsibility’ in this context, when the successful outcomes of the case laws enforced primary obligations to reduce GHGs through injunctions, but did not provide compensation or other forms of reparations? While some may

or the unlawfulness of the State measures (see below – case law review in 0.4.1). While some courts explicitly relied on *general* due diligence norms, akin to the Dutch courts, others relied on *specific* legislation or regulation. This thesis postulates that these latter legislations or regulations ultimately aim to respond to *general* due diligence, assuming that *general* due diligence is an *overarching* duty related to the no-harm principle enshrined in the highest norms (customary international law, human rights law, constitutional law), ultimately meaning that compliance *must* be achieved for reasons of hierarchy of norms.

Said differently, this doctoral dissertation makes the following hypotheses regarding “climate due diligence” (CDD), i.e.:

1. Due diligence type of norms apply to climate change in international and comparative law, requiring public and private actors to appropriately mitigate global warming.
2. Further, in cases of failures, courts of law can enforce and redress CDD across legal systems by requiring certain measures to ensure that public or private actors do their share or by imposing precise injunctions, as in the Netherlands, thereby introducing some forms of judicial constraints and control on climate action.
3. The pre-existence of due diligence and its previous applicability to climate change may highlight past and ongoing failures to tackle climate change, and consequently, ground *historical* responsibility in legal terms and lead to corresponding secondary obligations¹⁶ (i.e., compensation for losses and damages, cessation of the harm, minimisation to the most feasible extent, declaration of responsibility etc). This legal demonstration may incidentally reinforce the relevance of the historical responsibility

argue that the use of the term responsibility is inadequate in this context, this thesis considers it appropriate because an injunction is already a form of judicial remedy to redress an unlawfulness. The ICJ concurs with this position in the context of its advisory opinion, as it considered that imposing a duty to perform the breached primary obligation is part of the panoply of available secondary obligations (ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 446).

- 16 The term “secondary obligations” means here the obligations arising after the violation of a primary duty. See, for instance, under international law, among others: ILC, Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries, 2001 (Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10).

criterion of the fair share methodology, which is rooted in ethics, and the corresponding proposed burden sharing.

0.2 The potential relevance of due diligence for climate action

This subpart of the introduction aims to establish two things: the *likely* universal existence of due diligence and its functions.

To do so, this section starts with customary international law, which reflects somewhat *transnational* law, beyond interstate relations¹⁷. In fact, customary international law was not constructed *ex nihilo* but rather with inspirations from analogies with domestic tort law, as the *Trail Smelter* case¹⁸ and the ILC work¹⁹, among others, illustrate, and the legal doctrine more generally²⁰.

Hence, section 0.2.1 establishes the somewhat universality of due diligence since it is the basic duty related to the no-harm principle in customary international law, which itself developed from the due diligence principles of Roman and domestic law. These widespread origins strongly point to a form of ubiquity. Additionally, this section highlights the requirements and properties of due diligence under international law, which requires using best efforts to prevent risks that should be known, including by regulating private actors.

Section 0.2.2 addresses due diligence in the “business and human rights field” for the following reasons: it is an international concept bearing se-

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- 17 For concurring opinion, see Shaffer G C and Coye C, “From International Law to Jessup’s Transnational Law, from Transnational Law to Transnational Legal Orders” (2017) in Peer Zumbansen (ed), *The Many Lives of Transnational Law: Critical Engagements with Jessup’s Bold Proposal* (Cambridge University Press 2020); See as well the foundational writing on “transnational law”: Jessup P, *Transnational Law* (Yale University Press, 1956).
 - 18 *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941), p 1965. Here, the Arbitral Tribunal actually decided this case by applying both the law of the USA and international law, due to relevant factual and legal similarities.
 - 19 The ILC Draft Articles commentary regularly quotes domestic cases, see for instance: ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 10 commentary § 4, footnote 919 (p 162).
 - 20 Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order” in Krieger H, Peters A and Kreuzer L (eds), *Due Diligence in the International Legal Order* (Oxford University Press 2020) p 389, DOI: 10.1093/oso/9780198869900.003.0021.

mantic similarities with due diligence under international public law, but applying to private businesses²¹. Thanks to its ongoing implementation in domestic “hard law”, it is becoming increasingly widespread.

Section 0.2.3 eventually sets out the intermediate conclusions on the relevance of due diligence for this PhD project.

0.2.1 State due diligence in customary international law

This section shows the universal origins of State due diligence, stemming from the no-harm principle in tort and Roman law (subsection 0.2.1.1). It further shows due diligence functions and features, aimed to prevent harm by requiring *procedural* and/or *substantive* measures (subsection 0.2.1.2). It moreover highlights the interrelationships between *general* due diligence and *specific* treaty obligations (subdivision 0.2.1.3).

0.2.1.1 Universal origins of State due diligence: no-harm principle

In 2010, after the publication of the ILC Draft Articles, the International Court of Justice (ICJ) explicitly recognised the interlinkages between the general principles of international law of due diligence, prevention, vigilance and the no-harm principle, by even stating that due diligence is at the origin of all these principles²², akin to “russian dolls”²³:

“The Court points out that the principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory. It is “every State’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States” (*Corfu Channel (United Kingdom v Albania)*, Merits, Judgment, I.C.J. Reports 1949, p.

21 Backer LC, “Regulating the Multinational Enterprise as Entity, as a Network of Links and as a Process of Production” (SSRN, 2018) <https://ssrn.com/abstract=3126866> accessed 20 October 2025; Shams A, “Tempering Great Expectations: The Legitimacy Constraints and the Conflict Litigation Function of International Courts in International Climate” (2023) 32 *RECIEL*.

22 ICJ, *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010, § 204.

23 Kerbrat Y and Maljean-Dubois S, “La contribution en demi-teinte de la CIJ au droit international de l’environnement dans les affaires Costa-Rica - Nicaragua” (2018) *Droit de l’environnement* n°4, LexisNexis p 1133–1154.

22). A State is thus obliged to *use all the means at its disposal* in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obligation “is now part of the corpus of international law relating to the environment” (*Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996 (I), p. 242, para. 29).²⁴

Before this decision by the ICJ, numerous other international tribunals referenced the due diligence principle, including in the 1872 *Alabama*²⁵ and 1887 *Wipperman* cases²⁶, and Justice Moore of the Permanent Court of International Justice in the famous *Lotus* case in 1927²⁷. The recognised arbitrator Max Huber also hinted at a due diligence obligation in the 1928 *Island of Palmas* case of any State “to protect within the territory the rights of other states, in particular their right to integrity and inviolability in peace and war”²⁸.

The 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities²⁹, a codification endeavour of general international law undertaken by the International Law Commission (ILC), which re-

24 ICJ, *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010, § 101.

25 Tribunal of arbitration established by Article I of the Treaty of Washington by the of 8 May 1871, *Alabama claims of the United States of America against Great Britain*, 14 September 1872: “the British government failed to use due diligence in the performance of its neutral obligations; and especially that it omitted, notwithstanding the warnings and official representations made by the diplomatic agents of the United States during the construction of the said number “290,” to take in due time any effective measures of prevention”.

26 *Wipperman (United States of America v Venezuela)* (1887), reprinted in J. Bassett Moore, *History and Digest of the International Arbitrations to Which the United States Has Been a Party*, vol. 3 (1898–1906), at 3041: “no state is responsible for acts of private individuals in its territory ‘as long as reasonable diligence is used in attempting to prevent the occurrence or recurrence of such wrongs”.

27 Dissenting Opinion of Mr Moore, S.S. *Lotus (France v Turkey)*, 1927 Series A, No. 10, § 284: “It is well settled that a State is bound to use due diligence to prevent the commission within its dominions of criminal acts against another nation or its people (*United States v Arizona* [p89] (1887), 120 U. S. 479)”.

28 *Island of Palmas*, II UN Reports of International Arbitral Awards, 829 (1928), p 839.

29 Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10). The report, which also contains commentaries on the draft articles, appears in the Yearbook of the International Law Commission, 2001, vol. II, Part Two.

ceived the official mandate by the UN General Assembly to develop and codify international law³⁰, also shows that due diligence is one of the most basic principles to ground liability in international law.

Semantically, the ILC interchangeably uses “duty of prevention”, “due diligence”, “due care” or “standard of care”:

“Discharge of the duty of prevention or due diligence is all the more required as knowledge regarding the operation of hazardous activities, materials used and the process of managing them and the risks involved is steadily growing. [...] What would be considered a reasonable standard of care or due diligence may change with time”.

The ILC Draft Articles also explain the origins of due diligence, which “is based on the fundamental principle *sic utere tuo ut alienum non laedas*”, a Roman law principle. This Latin expression suggests that it constituted a source of inspiration for international due diligence. Some authors, who carried out historical legal research on due diligence, concur with this point³¹. Moreover, according to other prominent authors of the legal literature, “[t]he concept of due diligence seems to have passed into international law through the writings of Grotius in the 17th century.”³²

Customary international law also developed from analogies with domestic tort law, which also already recognised the no-harm principle, and, by extension due diligence, as it is necessary to act with due care or due diligence to not harm (see, for instance, the *Trail Smelter* case³³, the ILC

30 According to the website of the ILC (<https://legal.un.org/ilc/>), “The International Law Commission was established by the General Assembly, in 1947, to undertake the mandate of the Assembly, under article 13 (1) (a) of the Charter of the United Nations to “initiate studies and make recommendations for the purpose of ... encouraging the progressive development of international law and its codification.”

31 British Institute for International and Comparative Law et al, “Study on due diligence requirements through the supply chain”, Final report, European Commission, January 2020, p 158.

32 Bonnitcha J and McCorquodale R, “The Concept of ‘Due Diligence’ in the UN Guiding Principles on Business and Human Rights” (2017) 28(3) *European Journal of International Law* p 903. See concurring opinion: Descamps O, “La responsabilité dans le Code civil” (2009) *Histoire de la Justice* No 19 p 298.

33 *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941), p 1965.

work³⁴ or the legal literature contributions³⁵). As recognised authors of the literature have put it, due diligence “is law by necessity, not by choice”³⁶ besides being “the cornerstone of international environmental law”³⁷.

0.2.1.2 Functions and features of due diligence: a substantive obligation of means

As the above subsection clearly shows, the aim of due diligence is to protect the rights of others to fulfil the function of the no-harm principle.

What are those rights? International public law was first conceived as law governing the relations between States. Hence, public international due diligence protects the rights of States. However, incrementally, State rights expanded, ranging from sovereign territorial prerogatives to gradually include the interests of their national individuals, and more recently, human rights and environmental issues. For instance, in the 1949 *Corfu Channel* case, the ICJ widened this obligation to “elementary considerations of humanity”, being in this case the disclosure of the location of maritime mines to avoid their explosion when a ship is lawfully using the territorial waters³⁸. The arbitral award in the *Trail Smelter*³⁹ and *Lac Lanoux*⁴⁰ cases further applied this core obligation to environmental interests, being transboundary air pollution, and the management of water courses. Later on, the ICJ used these principles in its 1996 advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*, an issue with potential global cataclysmic consequences, including environmental⁴¹, and also in its 2007

34 The ILC Draft Articles commentary regularly quotes domestic cases, see for instance: ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 10 commentary § 4, footnote 919 (p 162).

35 Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order”, *op cit*.

36 Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.

37 See Sands P and Peel J, *Principles of International Environmental Law* (3rd edn, Cambridge University Press 2012) p 191.

38 ICJ, *Corfu Channel (United Kingdom v Albania)*, Merits, Judgment, I.C.J. Reports 1949, p 22.

39 *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941), p 1965.

40 *Affaire du Lac Lanoux (Spain v France)*, 16 November 1957, UNRIIAA, vol. XII, p 281.

41 ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996 (I), p 242, para. 29.

Bosnian Genocide case, addressing the international crime of genocide⁴². This thesis questions the applicability of due diligence to climate change under international law, as it was still not settled as the ILC noted in 2021⁴³ (see Part 1).

The ILC specified the requirements of due diligence with the criteria of reasonableness, foreseeability, appropriateness, and proportionality. It notably established that:

“due diligence is manifested in *reasonable* efforts by a State to inform itself of factual and legal components that relate *foreseeably* to a contemplated procedure and to take *appropriate* measures, in timely fashion, to address them. [...] (18) The required *degree of care* is *proportional* to the *degree of hazard* involved. The degree of harm itself should be foreseeable and the State must know or should have known that the given activity has the risk of significant harm. The higher the degree of inadmissible harm, the greater would be the *duty of care* required to prevent it.”⁴⁴

Moreover, the ILC considers that the aim of due diligence is a duty to prevent harm by encompassing both a *procedural* and a *substantive* dimension⁴⁵. These two dimensions aim to achieve the same result, being the

42 See ICJ, *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro)*, Judgment, I.C.J. Reports 2007, § 430.

43 ILC, Protection of the atmosphere, Draft guidelines on the protection of the atmosphere, A/76/10, Guideline 3, commentary § 8: “However, the existence of this obligation in customary international law is still somewhat unsettled for global atmospheric degradation.”

44 See also Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the International Law Commission at its fifty-third session in 2001 (A/56/10), p 154.

45 *Ibid*, General Commentary, § 1 and § 10 (p 148). This dichotomy also exists with the positive due diligence obligations developed by the ECtHR, which differentiates between procedural and substantive obligations (see Akandji-Kombé J-F, *Positive Obligations under the European Convention on Human Rights: A Guide to the Implementation of the European Convention on Human Rights* (Human Rights Handbooks No 7, Council of Europe 2007); Tran H, “Les obligations de vigilance des États parties à la Convention européenne des droits de l’homme”, *Bruyant*, 2013). Some authors criticise this distinction for creating complexity and confusion (see Maljean-Dubois S, “Les obligations de diligence dans la pratique: la protection de l’environnement” in *Le standard de diligence et la responsabilité internationale*, Journée SFDI du Mans, 24 février 2017 (Pedone 2018) p 8 - 10).

identification of risks and corresponding substantive measures to prevent harm, besides their *implementation*.

In this vein, the ICJ underlined in its recent *Nicaragua - Costa Rica* case that discharging due diligence requires conducting an impact assessment to identify the risk of a violation⁴⁶. If a risk of significant transboundary harm is confirmed, the basic due diligence duty triggers the corollary obligation to consult the affected States, to shape the adequate measures to prevent, mitigate or compensate the harm⁴⁷.

Furthermore, the International Tribunal for the Law of the Sea (ITLOS) found that the *precautionary* principle is “an integral part of the general obligation of due diligence” in its *Seabed Mining Advisory Opinion*⁴⁸. In accordance with the ILC, the ITLOS specified that “due diligence” is a variable concept. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge, or the risks involved in the activity.”⁴⁹ As the ILC specified it, the “obligation is of a continuing character”⁵⁰. This feature implies a significant *procedural* dimension.

The ILC also explicitly sets out that the due diligence obligation requires the regulation of private actors if they are a source of significant transboundary risk:

“To say that States must take the necessary measures does not mean that they must themselves get involved in operational issues relating to the activities to which article 1 applies. Where these activities are conducted by private persons or enterprises, the obligation of the State is limited to establishing the appropriate regulatory framework and applying it in accordance with these articles.”⁵¹

46 ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)*, Judgment, I.C.J. Reports 2015, § 104.

47 *Ibid.*

48 ITLOS, *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion of 1 February 2011, ITLOS Reports 2011, § 131.

49 *Ibid.*, § 117.

50 ILC, *Draft articles on Prevention of Transboundary Harm from Hazardous Activities*, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 3 Commentary, § 5 (p 154).

51 *Ibid.*, Article 5 Commentary, § 3 (p 156).

Although due diligence seems overburdening in light of its almost unlimited ambit, one must recall that it requires, in principle, only *best efforts* to prevent or minimise the concrete risks⁵². In other words, the substantive dimension of due diligence is an *obligation of means*, not an obligation of result⁵³. This type of expected conduct means that, without negligence or wrongdoing, no liability unfolds, even if the harm occurred. Additionally, the adequate, reasonable, and proportionate measures are assessed in an *in concreto* manner in light of specific circumstances of the case, the State's capacities to prevent harm, the available means etc⁵⁴. In case of even competing interests, due diligence leaves a certain margin of appreciation to balance them and to find reasonable measures designed to prevent or minimise harm⁵⁵. Hence, the due diligence obligation is linked to a State responsibility regime based on fault under international law, instead of a strict liability regime.⁵⁶

To conclude this subdivision, due diligence constitutes a default principle or the “basic duty” as the ILC states⁵⁷, which applies in cases in which no specific liability rules were determined by States, more precisely, in those cases in which a simple prohibition (rendering a conduct or product unlawful) or a more stringent liability regime than due diligence does not exist such as strict liability, or presumption of liability⁵⁸ (see the *Corfu Channel* case and the restatement of the due diligence rule in *Pulp Mills*).

52 *Ibid*, Article 3 Commentary, § 7. See as well, Shinya M, “Third Report on the Protection of the Atmosphere” (A/CN.4/692, UN International Law Commission, 25 February 2016); ICJ, *Bosnian Genocide* case, Judgment, I.C.J. Reports 2007, § 430; ICJ, *Pulp Mills*, Judgment, I.C.J. Reports 2010, § 187; Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021).

53 ILC, Chapter IV Protection of the atmosphere, draft guidelines on the protection of the atmosphere, A/76/10, 2021, Article 3 commentary, § 6.

54 ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 3 commentary, § 17: See as well *Bosnian Genocide* case, Judgment, I.C.J. Reports 2007, § 430.

55 *Ibid*, see, among others, Articles 8 – 14 and respective commentaries.

56 It is noteworthy that a previous ILC attempt in 1996 to shape the due diligence rule in a strict liability regime failed.

57 ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Article 7, Commentary, § 6 (p 158). See for a corresponding opinion: Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order”, *op cit*, p 374 – 376.

58 Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order”, *op cit*, p 374 – 390.

0.2.1.3 The interrelationships between general due diligence and specific treaty obligations

There are interrelationships between *general* and *specific* due diligence in numerous ways.

The ICJ asserted that a treaty obligation can set out a due diligence obligation if the treaty obligation requires similar conduct to the general international law principle (see *Pulp Mills*⁵⁹, or *United States Diplomatic and Consular Staff in Tehran (United States of America v Iran)*⁶⁰). In other words, *general* due diligence can reside in *specific* conventions, which shows the pervasiveness of due diligence within international law, beyond customary law.

In other cases, the ICJ stated that due diligence should be used as a standard, a yardstick or a framework of interpretation to assess whether one complies with a treaty obligation (see the *Bosnian Genocide case*⁶¹).

More generally, treaty obligations are regularly interpreted in a *harmonious* manner with the customary due diligence rule⁶². In fact, relevant rules of general international law shall be taken into account when interpreting treaty provisions, according to the general rule of interpretation enshrined in Article 31 (3) (c) of the Vienna Convention on the Law of Treaties⁶³. Hence, due diligence must generally be considered whenever the interpretation of a treaty provision and a harm to a state is involved, attributing to due diligence a prominent, dynamic and almost ubiquitous role in international law⁶⁴.

59 ICJ, *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010, § 197.

60 ICJ, *United States Diplomatic and Consular Staff in Tehran (United States of America v Iran)*, Judgment of 24 May 1980, ICJ Reports 1980, § 63. The legal literature considers that the ICJ applied due diligence in this case without naming it, due to the requirement of taking all appropriate measures (see Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order”, *op cit*, p 365).

61 ICJ, *Bosnian Genocide case*, Judgment, I.C.J. Reports 2007, § 430.

62 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 20 quoting *The South China Sea Arbitration, The Republic of Philippines v The People's Republic of China*, 2016, paras 941–48.

63 The ICJ has even done so before the Vienna Convention entered into force, see opinion in *Pulp Mills* (§ 65).

64 See Argentina's opinion in *Pulp Mills* concerning the dynamic effect of considering general international law, including due diligence (§ 55); see also the studies on due diligence in international law, among others: Heike Krieger, Anne Peters, and Leon-

In any case, due diligence has been recognised in international law for a very long time. Given its versatility, it may “close accountability gaps” when seeking to address unregulated issues such as climate change⁶⁵.

0.2.2 Businesses’ human rights due diligence (HRDD)

The business and human rights area deals with the responsibility of multinational private actors and the corresponding responsibility of States to protect human rights. This field also contains a transnational and polycentric problematic bearing similarities to the global climate change problem. Interestingly, the notion of *due diligence* also recently emerged as a very influential concept in this field, due to John Ruggie’s work from 2005 to 2011 as a UN Secretary-General’s Special Representative in this area, which resulted in the consensual endorsement of the UN Guiding Principles on Business and Human Rights (or the “UNGPs”⁶⁶).

Similarly to international law, this section shows the comparable origins of HRDD, stemming from the no-harm principle and Roman law (subsection 0.2.1.1), in addition to its functions and features, aimed to prevent harm by requiring *procedural* and *substantive* best efforts (subsection 0.2.1.2). The last subsection describes the dynamic implementation of the HRDD through judicial interventions, notably based on *general* due diligence, and *specific* legislative interventions (subdivision 0.2.2.3).

0.2.2.1 Origins of HRDD: the universal no-harm principle

Professor Ruggie started his mandate after the failure in 2003 of the international treaty project proposed by the UN Sub-Commission on the Pro-

hard Kreuzer (ed), *Due Diligence in the International Legal Order*, Oxford University Press, 2021.

65 See, for a concurring opinion: Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order”, *op cit*, p 365 – 368, and 389. See the following concurring opinion: Bäumler J, *Das Schädigungsverbot im Völkerrecht: Eine Untersuchung anhand des Umwelt-, Welthandels- und Finanzvölkerrechts* (Max-Planck-Institut für ausländisches öffentliches Recht und Völkerrecht, Beiträge zum ausländischen öffentlichen Recht und Völkerrecht, 1st edn, Springer 2017).

66 Ruggie J (Special Representative of the Secretary-General of the United Nations), “Guiding Principles on Business and Human Rights: Implementing the United Nations ‘Protect, Respect and Remedy’ Framework”, HR/PUB/11/04, 2011.

motion and Protection of Human Rights, which aimed at establishing international human rights obligations *directly* on companies⁶⁷. His objective was to solve the dispute that emerged during the discussions around the 2003 treaty project between human rights defenders and companies, which aimed to impose new direct international obligations on companies⁶⁸. To find a compromise, Ruggie created a set of principles by relying on existing law, similarly to the ILC process of codifying and further developing international law⁶⁹. John Ruggie stated he did not create any new international law obligation⁷⁰ but that he merged two pre-existing elements: the duty to protect human rights and due diligence, to create “human rights due diligence” (HRDD).

This concept turned out to be very influential as it requires States to ensure human rights are protected, and companies to respect human rights by carrying out due diligence, including to prevent any liability risks stemming from domestic law (see the subdivision below 0.2.2.2.2). This combination also enables interpreting domestic law (due diligence principle) in light of the UNGPs, to provide an extraterritorial reach, through human rights.

Although it is widely acknowledged that human rights *aim to be* universally applicable (see, for instance, the “Universal Declaration of Human Rights” and the International Covenants on human rights protection, or Article 55 and 56 of the Charter of the United Nations which establishes “universal respect for, and observance of, human rights” and the ICJ opinion in *Barcelona Traction*⁷¹ which found human rights give rise to “obligations *erga omnes*”)⁷², it was not self-explanatory for due diligence.

67 Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights, U.N. Doc. E/CN.4/Sub.2/2003/12/Rev.2, 2003; Approved August 13, 2003, by U.N. Sub-Commission on the Promotion and Protection of Human Rights resolution 2003/16, U.N. Doc. E/CN.4/Sub.2/2003/L.11 at 52, 2003.

68 Ruggie J, “Interim report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises”, E/CN.4/2006/97, 22 February 2006, p 15; De Schutter Olivier, “Towards a New Treaty on Business and Human Rights”, *Business and Human Rights Journal*, 13 November 2015 p 43.

69 *Ibid*, p 15.

70 *Ibid*, p 1.

71 ICJ, *Barcelona Traction, Light and Power Company, Limited*, Judgment, I.C.J. Reports 1970, § 33.

72 I will not come back to the universality of human rights in this thesis, I will rather try to make clear in this introduction that due diligence has a universal character. For an article discussing the universality of human rights, see for instance Weiss N,

Nevertheless, as the section above on international public law showed, due diligence might be even more universal than human rights. In fact, similarly to international customary law, Ruggie also understood the concept as closely related to the no-harm principle:

“24. To respect rights essentially means not to infringe on the rights of others - put simply, to do no harm. [...]

25. Yet how do companies know they respect human rights? Do they have systems in place enabling them to support the claim with any degree of confidence? Most do not. What is required is due diligence - a process whereby companies not only ensure compliance with national laws but also manage the risk of human rights harm with a view to avoiding it.”

The “Study on due diligence requirements through the supply chain” commissioned by the European Commission confirmed this interrelationship between the no-harm principle and due diligence by moreover recalling their universal character:

“John Ruggie referred to due diligence as the principle of “do no harm”, which is a common principle in all legal systems, common law or civil, across the EU and indeed the world.”⁷³

The subsection 0.2.1.1 above also already pointed to a likely universal recognition of due diligence in comparative domestic law. Furthermore, the authors of the study for the European Commission even carried out some historical legal research on the origins of due diligence and found that it stems from Roman law:

“The concept of due diligence as a standard of care originated from Roman law, where it was used as an objective standard of expected conduct both in contract law and in the law of tort. In particular, a wrongdoer would be held liable for acts of negligence if he or she had failed to comply with the standard of conduct which would have been exercised in the circumstances by the diligent *paterfamilias* (i.e. prudent father of family/head of the household), which would then become known in common

“Die Entwicklung der Menschenrechtsidee, heutige Ausformung der Menschenrechte und Fragen ihrer universellen Geltung”, in Hasse J, Müller E and Schneider P (eds), *Menschenrechte – Bilanz und Perspektiven*, 2002, p 39-69.

73 See the study carried out for the European Commission: Smit L et al, “Study on Due Diligence Requirements through the Supply Chain – Final Report”, *BIICL, Civic Consulting, LSE, European Commission (Directorate-General for Justice and Consumers)*, January 2020 p 158.

law as the ordinary reasonable person standard. Although terminologies vary, this principle that a person should exercise a certain standard of care in order not to harm another is still commonly recognized in legal systems across EU Member States.”⁷⁴

In fact, the Latin expression “*bonus pater familias*” (i.e. prudent father of the family) stems from Roman times. As some legal authors researched it, “in the 6th century AD, Justinian argued that an individual may be liable for harm where ‘what should have been foreseen by a diligent man was not foreseen.’”⁷⁵ It is indeed established that the Roman *Lex Aquila* already recognised some forms of negligence, but in a casuistic manner⁷⁶. In that sense, the principles of due diligence and negligence are nothing new.

Applicable domestic provisions also stress the need to avoid harm in various ways, i.e., through domestic constitutions, fundamental rights, or tort law. For example, Article 4 of the French Declaration of Human and Civic Rights of 26 August 1789, which establishes the basic right of liberty, still puts limitations on it. The first one is the no-harm principle: nobody has the right to abuse one’s liberty to infringe on others. Moreover, it was specifically designed by the will of the lawmaker:

“Liberty consists in being able to do anything that does not harm others: thus, the exercise of the natural rights of every man has no bounds other than those that ensure to the other members of society the enjoyment of these same rights. These bounds may be determined only by Law.”⁷⁷

In other words, exercising due diligence and considering the will of the lawmaker are the two main restrictions of liberty. Almost the same provision can be found in Article 2 of the German Constitution, or “Basic Law”:

“Article 2 [Personal freedoms] (1) Every person shall have the right to free development of his personality insofar as he does not violate the

74 *Ibid.*

75 Bonnitcha J and McCorquodale R, “The Concept of ‘Due Diligence’ in the UN Guiding Principles on Business and Human Rights” (2017) 28(3) *European Journal of International Law* p 902 referring to Justinian, *The Digest of Roman Law: Theft, Rapine, Damage and Insult*, translated by Colin Kolbert (1979), p 91.

76 Descamps O, “La responsabilité dans le Code civil” (2009) *Histoire de la Justice* No 19 p 299.

77 See the English translation of the French Declaration of Human and Civic Rights of 26 August 1789 on the Constitutional Council’s website: https://www.conseil-constitutionnel.fr/sites/default/files/as/root/bank_mm/anglais/cst2.pdf, last accessed 28 October 2025.

rights of others or offend against the constitutional order or the moral law. (2) Every person shall have the right to life and physical integrity. Freedom of the person shall be inviolable. These rights may be interfered with only pursuant to a law.”

And, to not harm and infringe the liberty of others, it is necessary to act with due care or due diligence. The US Second Restatement of Torts explicitly expresses the interlinkage between both basic principles⁷⁸. These examples further illustrate in a *prima facie* manner the widespread or even universal existence of the no-harm principle and its related due diligence duty, thereby complementing the claims in this regard made in subpart 0.1.

0.2.2.2 Functions and properties of corporate due diligence (HRDD): an obligation of conduct

Given that human rights violations represent “harms” and that due diligence is *a priori* universal, like human rights, the logical conclusion is that every person (whether public or private) should or even shall respect human rights by carrying out due diligence. The interpretive guide of the UNGPs states in this regard: “The responsibility to respect human rights applies in all contexts. It is a uniform standard, reflecting its roots in the universal expectation that enterprises should not harm the dignity of people as they go about their business.”⁷⁹

And even if the UNGPs do not impose any new obligations and use the term “should” to express their expectations applicable to corporate actors (see Principles 11 and 17, in particular), which has led many commentators to merely appreciate the non-binding nature, the UNGPs still recall in their commentary that companies can nonetheless be held liable under provisions of domestic law⁸⁰. In fact, the *general* due diligence principle in tort law (i.e., the duty of care) indeed served as a basis to find companies *potentially* responsible for different types of harms overseas already in the

78 Restatement (Second) of Torts, section 302, comment (a).

79 Ruggie J (Special Representative of the Secretary-General of the United Nations), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, HR/PUB/12/02, United Nations, 2012.

80 UNGPs, Commentary of Principle 17, p 19.

year 2000 in the *Lubbe v Cape* case in the UK⁸¹. Hence, it is even more justified that companies should carry out HRDD.

Due diligence also lays out the corresponding expected standard of conduct, defining the manner how they should behave. It is clearly '[t]he opposite of negligence'⁸². Ruggie used a traditional legal definition of due diligence⁸³ to refine and adapt it to business and human rights issues, notably in Principle 17:

"17. In order to identify, prevent, mitigate and account for how they address their adverse human rights impacts, business enterprises should carry out human rights due diligence. The process should include assessing actual and potential human rights impacts, integrating and acting upon the findings, tracking responses, and communicating how impacts are addressed. Human rights due diligence:

(a) Should cover adverse human rights impacts that the business enterprise may cause or contribute to through its own activities, or which may be directly linked to its operations, products or services by its business relationships;

(b) Will vary in complexity with the size of the business enterprise, the risk of severe human rights impacts, and the nature and context of its operations;

(c) Should be ongoing, recognizing that the human rights risks may change over time as the business enterprise's operations and operating context evolve."

Therefore, HRDD has many similarities with due diligence in international law. Indeed, numerous terms are used interchangeably (such as the no-

81 UK House of Lords, *Lubbe and Ors v Cape Plc* [2000] UKHL, 20 July 2000, § 20.

82 Bonnitcha J and McCorquodale R, "The Concept of 'Due Diligence' in the UN Guiding Principles on Business and Human Rights" (2017) 28(3) *European Journal of International Law* p 903 referring to Whittuck, Whittuck, *Institutes of Roman Law by Gaius, with a Translation and Commentary*, translated by Edward Poste (4th edn, 1905), at 429. See, similarly, *Tesco Supermarkets Ltd v Natrass*, [1972] AC 153, 199, per Lord Diplock."

83 Ruggie J (Special Representative of the Secretary-General of the United Nations), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, HR/PUB/12/02, United Nations, 2012, p 6: "Due diligence has been defined as "such a measure of prudence, activity, or assiduity, as is properly to be expected from, and ordinarily exercised by, a reasonable and prudent [person] under the particular circumstances; not measured by any absolute standard, but depending on the relative facts of the special case". [footnote 4: Black's Law Dictionary, 6th ed. (St. Paul, Minnesota, West, 1990)]."

harm principle, standard of care), and several criteria appear over and over (risks identification, prevention, reasonableness, foreseeability, etc.).

0.2.2.3 The binding force of HRDD through case laws and specific legislations

France was the first country to implement HRDD into its domestic legal system in 2017⁸⁴, followed notably by Germany in 2021⁸⁵, and the European Union in 2024 with the Corporate Sustainability Due Diligence Directive (CSDD)⁸⁶. Furthermore, a business and human rights treaty has been under discussion since 2014⁸⁷.

Beyond these *specific* legislative developments, Ruggie's UNGPs also further influenced case law developments in different jurisdictions with respect to the *general* tort duty of care, which eventually led to the recognition of the partial responsibility of parent companies for harms caused by affiliated companies overseas. For example, in 2019, the UK Supreme Court admitted that parent companies can bear duties of care with respect to harms caused by their subsidiaries abroad⁸⁸. These developments show that courts accept the extraterritorial reach of the *general* due diligence obligations stemming from tort law, in light of the need to protect human rights and the environment abroad.

Additionally, although regulating private actors, particularly businesses, was already recognised as an obligation in certain areas, as noted above⁸⁹,

84 LOI n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre.

85 Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten, vom 16. Juli 2021.

86 Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence.

87 See the work of the "Open-ended intergovernmental working group on transnational corporations and other business enterprises with respect to human rights" under the mandate given by the decision of: Human Rights Council, "26/9 Elaboration of an international legally binding instrument on transnational corporations and other business enterprises with respect to human rights", 26th Session, A/HRC/RES/26/9, 14 July 2014 https://ap.ohchr.org/documents/dpage_e.aspx?si=A/HRC/RES/26/9, last accessed 27 October 2025.

88 UK Supreme Court, *Lungowe v Vedanta*, [2019] UKSC 20, 10 April 2019.

89 ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 5 Commentary, § 3 (p 156).

some human rights treaty bodies eventually recognised the duty to regulate the extraterritorial or rather transnational activities of corporate actors⁹⁰. This was somehow a surprising development since the UNGPs commentary specified that “States are not generally required under international human rights law to regulate the extraterritorial activities of businesses domiciled in their territory and/or jurisdiction”⁹¹.

The basis for this development lies in State due diligence itself, as transnational corporate activities have regularly negatively affected human rights, triggering the need to clarify State human rights duties in this respect⁹². In other words, by releasing a General Comment on this issue, the CESCR undertook its own *procedural* due diligence by addressing a serious and regular or even systemic human rights risk. Additionally, the CESCR stressed that this extraterritorial human rights duty is aimed at protecting other States and their respective individuals, in conformity with the due diligence principles of customary international law and the *erga omnes* character of human rights⁹³. While extraterritorial regulations must not harm the sovereignty of third states⁹⁴, a “best efforts” obligation provides enough flexibility to meet the purpose of avoiding violations of third states’ interests, as it makes it possible to reconcile universal concerns (human rights and environmental protection) with other state and business interests⁹⁵.

This General Comment shows the mutually reinforcing effect of due diligence as it is applicable to both State and corporate actors. Initially

90 Committee on the Economic, Social and Cultural Rights, General Comment No. 24 (2017) on State obligations in the context of business activities, § 16 and 27 especially. See as well Human Rights Committee, General Comment n°36 on Article 6, the right to life, CCPR/C/GC/36, 3 September 2019, Para 22. Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 7 and 21; Five UN human rights treaty bodies issue a joint statement on human rights and climate change (Committee on the Elimination of Discrimination Against Women, Committee on Economic, Social and Cultural Rights, Committee on the Protection of the Rights of All Migrant Workers and Members of their Families, Committee on the Rights of the Child, Committee on the Rights of Persons with Disabilities), Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019, § 3 and 5

91 UNGPs, Commentary of Principle 2.

92 CESCR, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, § 1, 3 and 27 especially.

93 *Ibid*, § 27.

94 *Ibid*, § 26.

95 *Ibid*, § 33.

stemming from Roman law (or even before), its analogical consideration enabled its integration into other legal systems and contexts, including in the business and human rights area, ultimately making it possible to close difficult accountability gaps between jurisdictions. This fruitful expansion is due to the ingenious design strategy of the UNGPs, whose method was based on the combination of pre-existing and widely recognised legal notions such as due diligence and human rights⁹⁶. Subsequently, the Human Rights Committee (HRC) and other human rights treaty bodies laid out a similar State requirement⁹⁷.

0.2.3 Main hypothesis: due diligence, a pervasive concept requiring climate action?

After having rapidly outlined the hypotheses of this PhD in subpart 0.1 of the introduction, subpart 0.2 established the manifest pervasive existence of a *preexisting* global due diligence norm and concept, thanks to broadly accepted international law and business and human rights law.

In fact, due diligence stems from the no-harm principle, the core objective of any liability system, including domestic tort law and, formerly, Roman law. This very basic function, in addition to its widespread recognition, suggests that due diligence shapes the law globally. It seems furthermore difficult to dispute that the no-harm principle, and conversely, due diligence, are universal, as they are the most crucial principles to sustain security, social order and peace, not only in the context of business behaviour or private persons but also State actors⁹⁸.

The ubiquitous existence of due diligence is so important for this thesis for the simple reason that climate change is a global and polycentric issue requiring action by every person, whether public or private. Since due diligence applies to anybody in potentially any legal system, it therefore

96 Bonnitcho J and McCorquodale R, “The Concept of ‘Due Diligence’ in the UN Guiding Principles on Business and Human Rights” (2017) 28(3) *European Journal of International Law* p 900.

97 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 7 and 21; Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019, § 3 and 5.

98 Descamps O, “La responsabilité dans le Code civil” (2009) *Histoire de la Justice* No 19 p 299; Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law* p 14: “The principle of prevention is law by necessity, not by choice”.

offers a potential corresponding legal basis to impose climate obligations on anybody.

In fact, the ILC stated in 2021 that customary due diligence *may* apply to climate change: States “have the obligation to protect the atmosphere by exercising due diligence in taking appropriate measures, in accordance with applicable rules of international law, to prevent, reduce or control atmospheric pollution and atmospheric degradation”⁹⁹. Note that the ILC understands under atmospheric degradation encompasses global warming¹⁰⁰. However, the ILC recognised that “the existence of this obligation in customary international law is still somewhat unsettled for global atmospheric degradation.”¹⁰¹ The same problem exist(ed) in other domestic and regional legal systems which recognise some form of State due diligence, without clarifying its applicability to climate change.

In addition, some cases and judgements, including in *Milieudefensie v Shell*, or *Notre Affaire à Tous v Total*, relying on tort law or specific laws implementing HRDD, also suggest the applicability of corporate due diligence to climate change. The Corporate Sustainability Due Diligence Directive (CSDDD) on the EU level clarified climate due diligence obligations in specific legislation. While these indications seem to point to a potential applicability of due diligence to climate change, there are remaining uncertainties that Part 1 aims to address.

Additionally, there are numerous uncertainties concerning due diligence obligations in the climate realm, whether for private or public actors. Parts 2 and 3 of this thesis aim to shed light on, respectively, the extent of its enforceability and the potential existence of secondary obligations due to past and/or ongoing breaches of due diligence.

0.3 Specifying the PhD's research questions in light of the multidisciplinary scientific elements

0.3.1 The persisting non-alignment with the Paris Agreement's target

In 2015, the community of States adopted the Paris Agreement (PA) at “COP 21” (Conference of the Parties), the 21st convening of the State

99 ILC, Protection of the atmosphere, Draft guidelines on the protection of the atmosphere, A/76/10, Guideline 3.

100 *Ibid*, Guideline 1 (c), including the commentary § 9; Guideline 2, including the commentary § 5.

101 *Ibid*, Guideline 3, commentary § 8.

parties to the United Nations Framework Convention on Climate Change (UNFCCC).

The Paris Agreement entails one core element: the long-term temperature target enshrined in Article 2 (1) (a), which aims at:

“Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”

This objective concretises the “ultimate objective” of the UNFCCC, which itself aims at preventing “dangerous anthropogenic interference with the climate system”¹⁰².

However, neither the world nor individual countries have managed to set out policies which are credible enough to achieve the Paris Agreement’s objective, according to the latest analysis of the IPCC Working Group III (WG III) on climate mitigation:

“Without a strengthening of policies beyond those that are implemented by the end of 2020, GHG emissions are projected to rise beyond 2025, leading to a median global warming of 3.2 [2.2 to 3.5] °C by 2100.”¹⁰³

This forecast shows that the world is *not* preventing dangerous global warming, which threatens the global and local environments, and more generally life on Earth, as the Courts found in *Urgenda*, *KlimaSeniorinnen* and others. In other words, this thesis postulates that this situation may mask persistent ongoing collective and individual breaches of CDD¹⁰⁴. Courts of law could play a role in closing this emissions gap by compelling further individual or multiple public and private actors to comply with CDD and associated principles in order to limit global warming to 1.5°C. To do so, the world must be carbon (CO₂) neutral by 2050 at the latest, and reduce GHGs by approximately 50% between 2030 and 2035 compared to current levels.

102 UNFCCC, Article 2 (1).

103 IPCC, AR 6, WG III, § C.1, p 21.

104 See for a similar hypothesis: Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 3.

0.3.2 The factors of individual and collective mitigation non-compliance

In the climate area, there are some causes of inaction. What are the factors of the collective and individual mitigation non-compliance with the Paris Agreement's objective? Can the concept of CDD serve as a remedy?

0.3.2.1 The lack of a legally binding and effective international climate regime

The PA does not provide for precise binding reduction obligations nor enforcement mechanisms¹⁰⁵. Is the current failure due to a lack of binding norms and sanctions in the PA?

The weak binding architecture of the PA is a common criticism in the legal and sociological literature, as summarised in the last IPCC AR6 report, but also its strength, since it collectively enables pursuing ambitious goals¹⁰⁶. Additionally, the commentators and the IPCC are divided on the issue of whether it is possible to go beyond the PA's structure in terms of enforceability in light of the previous failed attempts to regulate GHG emissions globally¹⁰⁷. As Professor Maljean-Dubois summarised this situation, "(almost) everyone now deem[s] the content of the Agreement to be insufficient but in any event both fragile and better than nothing"¹⁰⁸.

The same question remains: can due diligence assist the implementation of the Paris Agreement, by making the existing judicial enforcement mechanisms of tort and liability law available through the reliance on due diligence for the purpose of climate mitigation and action?

105 Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law* § 29; as to the Paris Agreement, no clause foresees the possibility for contentious cases; but only so-called "soft-compliance mechanisms" in its Articles 13 and 15 (for more information, see subsections 3.2.1.3 and 3.3.2.5 of the thesis).

106 See for a summary of the controversy: IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173. See as well Viñuales Jorge E, "The Paris Climate Agreement: An Initial Examination", *C-EENRG Working Papers*, no 6, 15 December 2015.

107 See for more details part 3, especially part 3.2.2. on the USA's and Canada's dismissal of the KP, the low ambition of the European countries with the Doha Amendments etc. See as well: IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173.

108 Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law* § 14; for a summary of the corresponding current debate by a leading legal scholar, see Bodansky D, "The Forever Negotiations" (EJIL: Talk!, 2022).

0.3.2.2 The collective and cumulative nature of climate harm: a “drop in the ocean”?

Global warming is physically only possible with the accumulation of GHGs in the atmosphere over a long period of time by multiple different sources. Thus, one person can only make a small contribution to global climate change. Some argue that the GHGs of one actor are only a “drop in the ocean”. This leaves the impression that no one causes the problem. Beyond this psychological factor, which provides a sense of innocence to individual actors, the *cumulative* and *collective* nature of global warming challenges the establishment of causation in climate liability cases against one actor. Can due diligence, which obliges everyone to prevent harm as soon as one is aware of it – or rather should be aware of it – overcome this problem, by obliging each individual actor to do its share in the context of the collective nature of the issue, following the principle of shared responsibility¹⁰⁹ or common but differentiated responsibilities¹¹⁰?

0.3.2.3 The onerousness of the climate transition

In addition to the cumulative nature of global warming, the required mitigation measures are onerous in economic, social and governance terms. They require wide-scale transformation, such as eliminating fossil fuels and replacing them with renewable and other forms of low-carbon energies, ensuring that industrial and energy systems become highly efficient.

Those actions are only possible with adequate state regulations, incentives, and investments – including public financing – in addition to the appropriate contribution of the private sector¹¹¹. However, countries and companies tend to reject those measures due to their economic and other competing interests¹¹². One could therefore say that public and private ac-

109 See the already cited *Urgenda* and *Shell* cases. See, furthermore, Nollkaemper A et al, “Guiding Principles on Shared Responsibility in International Law” (2020) 31(1) *European Journal of International Law* p 15 – 72.

110 The “common but differentiated responsibilities and respective capabilities” (CB-DRRC) principle was established in the 1992 UNFCCC.

111 See, among others: IPCC, AR6 (2021-23), WG III, SPM, § E.2 – E.5.4; also see COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 30 - 31.

112 For a summary of the necessary actions, see Subpart 1.2 and 1.3 describing the main results from the IPCC reports, especially those of the AR3 showing in 2001

tors *de facto* consider these efforts so far as *disproportionately* burdensome compared to their small individual contribution to global warming.

On the other hand, the risks linked to the aggravation of climate change are so great, that it becomes difficult to conceive the mitigation efforts as disproportionate. The IPCC precisely laid out the risks of overstepping the Paris Agreement's objective, in addition to the potential costs of mitigation of doing so. It also explained the benefits and feasibility of mitigating climate change in line with this objective¹¹³.

Since due diligence requires the implementation of appropriate, adequate, and proportionate measures, can it assist in generating choices in favour of mitigating global warming?

0.3.2.4 The "free-riding" and "carbon leakage" issues vs the need to do its share

Another factor contributing to climate inaction is the "free riding" issue¹¹⁴, being the intuitive perception, supposition, assumption, or fear that others do not do their part since mitigation is onerous, and the contribution of one actor is anyhow only *a drop in the ocean*. Additionally, the climate mitigation goal of the Paris Agreement is framed in global terms, and the related benefit of achieving it may appear to some far-fetched and abstract. Hence, why should any individual actor take action if everybody believes that others are, at the end of the day, free-riding?¹¹⁵

that taking action in line with the 2°C objective (450 ppm scenario) involved disproportionately high costs compared to the slightly higher scenario (just above 2°C).

113 See IPCC, AR6, WG III, SPM, § E.1.

114 The free riding issue (or "*passager clandestin*" in French) is regularly quoted in the analytical literature. See, for instance : Ostrom E, "A Polycentric Approach for Coping with Climate Change", Background Paper to the 2010 *World Development Report*, Policy Research Working Paper 5095, 2009; Paavola J, "Climate Change: The Ultimate Tragedy of the Commons?", in D H Cole and E Ostrom (eds), *Property in Land and Other Resources* (Lincoln Institute of Land Policy, Cambridge, MA); Mayer B, "Construing International Climate Change Law as a Compliance Regime" (2018) 7(1) *Transnational Environmental Law* p 115–137; Auverlot D, "La tragédie du réchauffement climatique: Du cinquième rapport du GIEC à la conférence du Bourget 2015", *France Stratégie, Annales des Mines – Responsabilité et environnement*, 2015/1 No 77, 7 May 2014, p 20.

115 See the corresponding theory of "the tragedy of the commons": Hardin G, "The Tragedy of the Commons", *Science* 162, 13 December 1968, pp 1243–1248.

Additionally, global warming is a highly complex polycentric issue¹¹⁶, requiring the actions of everyone to be effective. The IPCC highlights in a larger and bold font that “[e]ffective implementation depends on policies and cooperation at all scales”¹¹⁷. The opposite *may* lead to “carbon leakage”¹¹⁸. For instance, if one actor decides to put in place some mitigation actions and policies, but not the others, it *may* lead to economic isolation and the displacement of high-emitting activities. This happened to some extent to the EU when it adopted in 2003 the first legislation worldwide on the regulation of GHG through a market-based system (EU Emissions Trading System, EU ETS)¹¹⁹. Six years later, in 2008, it rolled back the economic constraints on some branches of industry to avoid their relocation to other countries¹²⁰. Therefore, being among the first to regulate GHGs *may* entail the risk of leakage.

Can due diligence remedy the free-riding and carbon leakage issues by legally ensuring that everyone does their share to mitigate global warming?

0.3.2.5 The higher responsibility of the “developed countries”

Climate change was originally triggered by the “Global North”. In fact, industrialised or developed States are responsible for a large share of *historical* emissions (25% for the USA, 22% for the EU+UK, 2% for Canada, 1%

116 See the proposed definition of polycentricity in the Glossary of this thesis: “A polycentric issue or situation may also be defined as follows: one specific “central” problem requires its addressment by a multitude of actors (public and private) and levels of governance (international organisations, regional organisations such as the EU, nations, municipalities and local authorities, private companies, multinational companies, individuals etc (see, Ostrom E, “A Polycentric Approach for Coping with Climate Change”, Background Paper to the 2010 *World Development Report*, Policy Research Working Paper 5095, 2009).

117 The IPCC highlights in a larger and bold font that “[e]ffective implementation depends on policies and cooperation at all scales”, see IPCC, AR5 (2014), SYR, SPM, p 26.

118 Leakage in the climate context may be defined as the displacement of GHG emissions to another place due to the implementation of climate mitigation measures by a particular State or company.

119 Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

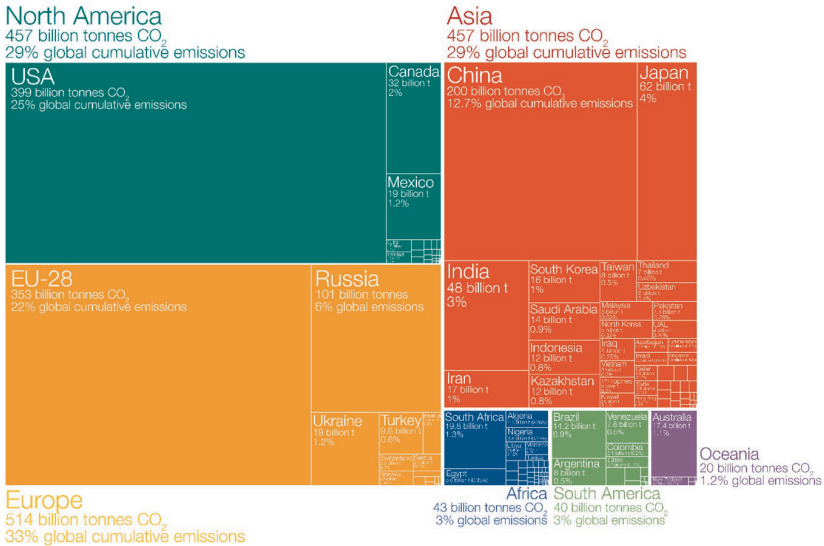
120 Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.

for Australia – hence more than 50% for those countries; adding Russia would arrive at more than 56%)¹²¹.

Who has contributed most to global CO₂ emissions?

Cumulative carbon dioxide (CO₂) emissions over the period from 1751 to 2017. Figures are based on production-based emissions which measure CO₂ produced domestically from fossil fuel combustion and cement, and do not correct for emissions embedded in trade (i.e. consumption-based). Emissions from international travel are not included.

Our World
in Data



Figures for the 28 countries in the European Union have been grouped as the 'EU-28' since international targets and negotiations are typically set as a collaborative target between EU countries. Values may not sum to 100% due to rounding.

Data source: Calculated by Our World in Data based on data from the Global Carbon Project (GCP) and Carbon Dioxide Analysis Center (CDIAC).

This is a visualization from OurWorldinData.org, where you find data and research on how the world is changing.

Licensed under CC-BY by the author Hannah Ritchie.

Source: Ritchie H, "Who Has Contributed Most to Global CO₂ Emissions?"; published online at Our World in Data (2019), <https://ourworldindata.org/contributed-most-global-co2>, last accessed 28 October 2025.

These facts led to the recognition of the principle of "common but differentiated responsibilities and respective capabilities" (CBDRRC) in the first climate convention adopted, the 1992 UN Framework Convention on

- 121 Ritchie H, "Who Has Contributed Most to Global CO₂ Emissions?"; published online at Our World in Data (2019), <https://ourworldindata.org/contributed-most-global-co2>, last accessed 28 October 2025;
Evans S, "Analysis: Which Countries Are Historically Responsible for Climate Change?"; *Carbon Brief*, 5 October 2021, <https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change/>, last accessed 28 October 2025.

Climate Change (UNFCCC)¹²². This concept encompasses (i) the historical contribution to climate change¹²³, (ii) the economic capability and (iii) the technical capability dimension, in light of their early industrialisation and experience with environmental protection, having notably led to scientific and technical progress such as energy efficiency. Thus, according to the UNFCCC, developed countries *should* “take the lead in combating climate change and the adverse effects thereof”¹²⁴. Notably, this recognition was scientifically supported by the first IPCC report’s findings on that issue in 1990, which recognised those needs.¹²⁵ The second climate convention of 1997, the Kyoto Protocol, also intended to operationalise the principle by only assigning GHG reduction obligations to developed countries.

Yet, despite all of this legal and scientific progress, the GHG reductions achieved globally and in the global North remain largely insufficient. Numerous studies using different metrics show that developed countries fail to meet their “fair share”. The ECtHR’s Grand Chamber recently recognised in its recent *Klimaseniorinnen* ruling “the States’ generally inadequate track record in taking action to address the risks of climate change [...] in the past several decades”¹²⁶.

Last, but not least, there is no longer any consensus on the burden sharing. The Paris Agreement only sets out a global objective, but leaves the leeway to States to self-determine their ambition. However, as the IPCC stated, “it is only in relation to such a ‘fair share’ that the adequacy of a state’s contribution can be assessed in the context of a global collective action problem”¹²⁷.

Since due diligence requires adequately preventing harm *as soon as* the risks are known, CDD should be historically applicable. Furthermore, since climate inaction is a problem of the last “past several decades” as the ECtHR pointed out, non-compliance with CDD over time is likely. Nonetheless, the consideration of economic capacities may also be a feature determining the onerousness of CDD (see section 0.2).

122 See, contradicting argument: Zahar A, “Two Arguments Against Historical Responsibility for Climate Change”, 2021, <https://ssrn.com/abstract=3679381>.

123 The UNFCCC recognises in its preamble that “the largest share of historical and current emissions of greenhouse gases has originated in developed countries”, see UNFCCC, Preamble § 3.

124 UNFCCC, Article 3 (1).

125 IPCC, AR1 (1990), Overview (SYR), § 3.1.

126 ECtHR, *Klimaseniorinnen v Switzerland*, no. 53600/20, 9 April 2024, § 542.

127 IPCC, AR6 (2021-23) WG III, Chapter 14.

Hence, in light of what precedes, this thesis examines the question of whether there are indeed historical periods of negligence and non-compliance with due diligence, as those findings could trigger so-called “secondary obligations” requiring the rectification of previous shortfalls through the provision of compensation for losses and damages, or through the increase in mitigation ambition to make up for past shortcomings and historical wrongful emissions. Note that some fair share studies have sought to operationalise these general principles by interpreting ethical and scientific fair share results from a legal perspective¹²⁸.

0.3.2.6 Private actors' responsibilities, especially those of businesses

Some private actors, especially the fossil fuel industry (and the automotive sector ¹²⁹), resisted climate transformation, as described by the IPCC and numerous studies accepted by scientific journals. According to the IPCC, fossil fuel companies unduly highlighted scientific uncertainties, pressured decision-makers, and deflected responsibility for the climate crisis onto individuals, despite their early and accurate knowledge of the climate dangers¹³⁰. While this finding may give us the perception that the fossil fuel *industry* is the only and ultimate root cause of the problem, even more since fossil fuels were scientifically identified at the beginning of climate science as the main cause of greenhouse gases¹³¹, and prominent studies pointing at their responsibility¹³², one should not forget that the interests in *using* fossil fuels go way beyond the industry itself, as it is closely linked with national economic interests and all other economic branches (industry, transportation, construction, agriculture, finance etc). In fact, without energy sources, no other economic and industrial activity can work, no infrastructure can be built, etc. Put simply, without energy, “nothing” in the economy and human society happens. Humans are currently still dependent on fossil

128 See Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 11.

129 Joselow M, Exclusive: GM, Ford knew about climate change 50 years ago, 2020.

130 IPCC; AR 6, WG III, Chapter 5, p 84.

131 See Part I, demonstrating the evolution of climatology and the main political responses.

132 See the Carbon Majors term developed by Heede, in combination with the CDP: Heede R, *The Carbon Majors Dataset*, CDP, 2017.

fuels¹³³. In any case, these facts and previous findings also call for looking at the responsibility of business enterprises, beyond State actors, as they *can* play a key role in the mitigation of global warming¹³⁴.

Can due diligence provide the legal principles to justify the regulation of private persons in the climate realm? Moreover, can it apply directly to companies, and ground “secondary obligations” in cases of past and ongoing breaches?

0.3.3 The research questions: CDD as a remedy to the above non-compliance factors?

The mainstream recognition of the inability of the 2015 Paris Agreement, as a unique instrument, to address this planetary crisis justifies the study of alternative and complementary ways to solve this highly polycentric governance problem. As opposed to its predecessor, the 1997 Kyoto Protocol, which imposed direct binding reduction obligations on developed States, the so-called “*bottom-up*” architecture of the Paris Agreement leaves a wide latitude to the State parties as to the definition of their ambition and implementation (i.e., in terms of domestic GHG reduction targets, but also adaptation, climate finance etc.), which may be legitimately understood to be a factor of weakness. In any case, the Paris Agreement is not legally self-sufficient but requires active complementary implementing acts, by all States and all other relevant multilateral organisations, but also private actors (especially systemic private actors).

In line with this prevailing finding, this thesis proposes studying more deeply due diligence as a legal tool to assist the implementation of the Paris Agreement and, more generally, climate action since it presumably applies to all relevant actors worldwide, whether public or private. The existence of due diligence in different legal systems and its applicability to all types of public and private actors may also contribute to tackling the polycentric dimension of climate change, as it could enable the imposition of binding due diligence duties on each actor.

The IPCC took note in its recent full AR6 report of the possibility of combining the PA interpretation with international customary due dili-

133 This is shown by the facts since there is still an ongoing heavy reliance on fossil fuels: IEA, WEO 2022, p 18: “The share of coal, oil and natural gas in global energy supply – stuck for decades around 80%”.

134 IPCC, AR 6, WG III, Chapter 5, p 84.

gence, but did not elaborate further on it¹³⁵. The current outcomes of climate litigation also contribute to highlighting the potentialities of due diligence, but do not respond to all questions. Indeed, the current state of the (case-) law does not fully answer the following issues:

1. Is there a clear *transnational* recognition of the existence of CDD, establishing that due diligence applies to global warming?
2. If the first question is responded in the affirmative, it is not entirely clear what the main implications of CDD are.
3. Finally, no court has issued a judgement by assessing compliance with CDD over time, even though it may highlight perpetuated non-compliance, thereby grounding secondary obligations to compensate those past and/or ongoing breaches through increased GHG reductions, potentially legitimising the historical responsibility criterion of the fair share methodology and its associated global burden-sharing formula, besides other classic secondary obligations (i.e., compensate for losses and damages, declaration of responsibility etc).

This PhD thesis contributes to responding to these questions in international and comparative law.

0.4 The potentialities and critiques of CDD

0.4.1 Overview of general and specific CDD cases

This section provides a succinct overview of the main cases this thesis analyses, and classifies them either as “*general* CDD cases” or “*specific* CDD cases”.

In *Urgenda*, the courts relied on the duty of care or due diligence enshrined in tort and human rights law to issue the court injunctions. Given the general character of tort and human rights law, this doctoral dissertation classifies those cases as “*general* CDD”. The legal basis for grounding the interventions of the German Federal Constitutional Court (*Bundesverfassungsgericht*) is the German Basic Law (*Grundgesetz*), which lays out some fundamental rights, also drafted in a general manner. Additionally, since the Court explicitly mentioned that the constitutional provisions at hand also require “duties of care” to protect future generations,

135 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1464.

the environment, and human rights¹³⁶, this PhD considers that this case also relied on *general* CDD. The ECtHR also usually applies the standard of due diligence when overseeing compliance with the positive obligations to protect human rights¹³⁷. In *KlimaSeniorinnen*, the Court even explicitly mentioned this concept¹³⁸. Given the high-level and rather vague nature of human rights provisions in the ECHR, this dissertation also categorises this case as a “*general* CDD” one.

Instead, the Irish¹³⁹, French¹⁴⁰, Belgian¹⁴¹, and British¹⁴² Courts compelled their own respective States and/or governments to achieve their GHG reduction objectives enshrined in *specific* legislation or regulation. In light of those circumstances, this thesis classifies these cases as “*specific* CDD” cases. However, since these specific legislations aim to implement *general* CDD, enshrined in the Paris Agreement, customary international law, constitutional law, and human rights law, this category should be rather called “*specific* legislation aimed at implementing *general* CDD”¹⁴³. Moreover, their ambition could theoretically be judicially reviewed, potentially based on principles similar to due diligence¹⁴⁴.

136 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, Headline 1.b and § 230. A lower court decision by the Administrative Berlin Court (first instance) issued in 2020 also came close to the reasoning in *Urgenda* (see Berliner Court (*Verwaltungsgericht*), 31 October 2019 (VG 10 K 412.18)).

137 See, for instance, ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129.

138 ECtHR, *KlimaSeniorinnen v Switzerland*, no. 53600/20, 9 April 2024, see especially § 550.

139 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020.

140 Supreme Administrative Court of France, *Grande-Synthe*, n° 427301, 19 November 2020 ; Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1.

141 Court of Appeals of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023.

142 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022.

143 For example, Section 8 of the UK Climate Change Act explicitly refers to the need to be compatible with international obligations of the UK, hence, indirectly the Paris Agreement.

144 In the USA, decisions taken by the EPA based on the main climate legislation, the Clean Air Act, may be judicially reviewed “if it finds it to be] arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” (see §7607(d)(9)). Similar principles apply in other jurisdictions.

Similar to the precedent set in the *Shell* case, a series of similar court cases in France invoke the French Duty of Vigilance Act against, among others, TotalEnergies (formerly Total)¹⁴⁵. The Paris Court of Appeal declared this case admissible in 2024¹⁴⁶. Since France implemented the human rights due diligence concept in a *specific* legislation, these cases are at the crossroads between *general* and *specific* CDD. Other cases against other corporate actors, such as those in Germany against some carmakers¹⁴⁷, rely instead on *general* tort law, making those cases *general* CDD ones.

Lastly, the UN General Assembly (UNGA) and a coalition of small island states requested the ICJ¹⁴⁸ and the ITLOS¹⁴⁹ to issue advisory opinions on climate change. The ICJ and ITLOS subsequently assessed the applicability of the general due diligence standard to global warming¹⁵⁰. Hence, these cases can also be considered as *general* CDD cases.

In light of what precedes, it is possible to differentiate between cases based on *general* CDD and others on *specific* CDD:

- Cases relying on *general* CDD aim to ensure the adequacy of the climate-related measures, including potentially by attempting to *increase* the ambition of a given actor, if *specific* climate policies are insufficient and, therefore, in breach of higher norms, such as human rights, constitutional provisions, or international law, which entail due diligence.
- Legal cases based on *specific* CDD aim to enforce particular requirements in statutes and regulations. Since the purpose of these *specific* laws

145 See the pending case of *Notre Affaire à Tous and Others v Total*: Case summary and documents: https://www.climatecasechart.com/document/notre-affaire-a-tous-and-others-v-total_85ea, last accessed 28 October 2025.

146 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19-22.

147 See the cases filed by Deutsche Umwelthilfe against car manufacturers Mercedes Benz and BMW and oil and gas company Wintershall, and in November 2021 by Greenpeace and others against Volkswagen.

148 UN General Assembly, "Obligations of States in respect of Climate Change, Request for Advisory Opinion transmitted to the Court pursuant to General Assembly resolution 77/276", 29 March 2023.

149 The ITLOS climate advisory opinion was requested by the Commission of Small Island States on Climate Change and International Law (COSIS Agreement) in 2023, representing only 8 States in 2023 (see <https://treaties.un.org/Pages/showDetails.aspx?objid=08000002805c2ace>).

150 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025.

is to ultimately implement *general* due diligence in a certain manner¹⁵¹, their study falls within the scope of this PhD. Furthermore, these laws may need to be judicially reviewed due to their potential insufficiency, including through *general* CDD.

Other scholars (especially Setzer and Higham, as well as Burger and Tigres) elaborated comparative reports on climate litigations and have for this purpose devised slightly different categories, which remain consistent with the ones of this PhD thesis.

Setzer and Higham highlight differences between cases based on “pre-existing legal duties” and those on “climate change legislation”¹⁵². This classification is very similar to the typology of this PhD: “pre-existing legal duties” overlap with *general* due diligence because of the pre-existing and overarching nature of due diligence, whereas “climate change legislation” refers to specific legislation. However, this thesis focuses on due diligence to trace and discuss its presence and relevance in the climate case law, even if the notion is not explicitly mentioned. Moreover, this dissertation hypothesises that *specific* legislation ultimately aims to implement *general* CDD. In turn, *specific* laws may be revised in case of non-compliance with *general* CDD by arguing the violation of the latter. This proposal on the consistency of global law does not seem to be present in previous literature.

Additionally, Burger and Tigres differentiate between cases seeking “orders to legislators, policymakers and business enterprises to be more ambitious” and others seeking “the enforcement of existing laws”¹⁵³. These categories describe the respective requests and objectives of cases relying on *general* CDD and *specific* CDD: while *general* CDD cases seek in principle “orders to legislators, policymakers and business enterprises to be more ambitious”, cases relying on *specific* legislation seek “the enforcement of existing laws”. Hence, this categorisation is also compatible with this PhD dissertation, whose typology seeks to categorise the law on a higher conceptual level to ultimately show the more profound interrelations between *general* law and *specific* legislation. However, cases seeking the enforcement

151 For example, Section 8 of the UK Climate Change Act explicitly refers to the need to be compatible with international obligations of the UK, hence, indirectly, the Paris Agreement.

152 Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2023 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2023) p 13.

153 Burger M and Tigre MA, *Global Climate Litigation Report: 2023 Status Review* (UNEP 2023) XI.

of specific CDD are not necessarily limited in terms of ambition: a system of remedies may enable judicial review of inadequate *specific* CDD, besides its inadequate implementation.

Last but not least, this PhD typology also aims to analyse the sufficiency of the *specific* legislation and regulations addressing *general* due diligence over time, which could ultimately uncover breaches of CDD, and legitimise the imposition of secondary obligations to make up for potential past and/or ongoing shortfalls (see Part 3).

0.4.2 The main critiques of CDD in the legal literature

Despite many outcomes favourable to climate action, showing an increasing recognition of CDD, some authors, such as Mayer, criticise the application of due diligence in the climate field¹⁵⁴. Mayer, Van Asselt, and Bodansky even stated that domestic and international climate litigation – notably based on the interpretation of vague concepts such as due diligence – *could* rather do harm instead of good¹⁵⁵.

The first critique is of a procedural nature: for Mayer, due diligence in combination with the doctrine of systemic integration is used by “judges to bypass rules on jurisdiction and admissibility”¹⁵⁶ to enforce the climate conventions although, as such, it “provides no justification for overlooking the absence of state consent to jurisdiction with regard to the application of the referential rule.”¹⁵⁷ He also disagrees with the current trend of systematically integrating the Paris Agreement into other legal instruments, especially human rights instruments, a process he redefined as the “incorporation

154 See, among others, Mayer B, “International Advisory Proceedings on Climate Change” (2023) 44 *Michigan Journal of International Law* 113–114 ; see as well: Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*; Mayer B, “The State of the Netherlands v Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018)” (2019) 8(1) *Transnational Environmental Law* p 180.

155 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 3; Bodansky D, “The Role of the International Court of Justice in Addressing Climate Change: Some Preliminary Reflections” (2017) *Arizona State Law Journal* p 689–712.

156 Mayer B, “Climate Change Mitigation as an Obligation under Human Rights Treaties?” (2021) 115(3) *American Journal of International Law* DOI: 10.1017/ajil.2021.9.

157 *Ibid.*

theory”, which “has been tacitly accepted rather than carefully demonstrated” and overall “inconsistent with the tenets of treaty interpretation”¹⁵⁸.

The second major line of the critique concerns the substance, more precisely the lack of real “enforceability” of due diligence, due to its vagueness, and lack of operational guidance in the climate area¹⁵⁹. Other authors consider that framing due diligence mainly as a “doing more” requirement is superfluous and redundant with the climate conventions¹⁶⁰. In fact, due diligence as such is even more vague than the Paris Agreement’s obligation. More generally, some prominent scholars who directed collective research on international due diligence stated that the wide margin of discretion granted by due diligence to its duty-bearers does not guarantee any result, which may ultimately “undermin[e] the governance capacity of the law”¹⁶¹.

Thirdly, reliance on due diligence may also have triggered specific reduction obligations, such as in *Urgenda*. Some authors have criticised this outcome, as they consider it to be “creative” or rather “arbitrary”, i.e., going beyond mere interpretation, and in violation of the Court’s fundamental role¹⁶². Furthermore, Mayer highlights the counterproductive effects on climate action of “creative” rulings such as *Urgenda* and *Shell* on climate action, arguing that the absence of a proper legal basis hinders compliance. One may remain conscious of the basic consideration that a violation of the separation of powers or an impression that judges overstep their role may create counterproductive effects, such as political opposition to the ruling, or “carbon leakage”¹⁶³. The IPCC seems to confirm this position as it generally considers that “[m]itigation options that align with prevalent

158 *Ibid*, p 436.

159 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*; Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.

160 Mayer B, “International Advisory Proceedings on Climate Change” (2023) 44 *Michigan Journal of International Law* p 113–114. ; see as well: Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 8.

161 Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order” in Krieger H, Peters A and Kreuzer L (eds), *Due Diligence in the International Legal Order* (Oxford University Press 2020) p 348–385, 390.

162 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*; Mayer B, “The State of the Netherlands v Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018)” (2019) 8(1) *Transnational Environmental Law* p 180.

163 Mayer B, “The Contribution of Urgenda to the Mitigation of Climate Change” (2023) 35(2) *Journal of Environmental Law* p 18.

ideas, values and beliefs are more easily adopted and implemented.”¹⁶⁴ Although this position was issued with a high level of generality, it may well apply to the issue of climate litigation and case law (i.e., note that the IPCC expressed this opinion in 2022, just after addressing the still uncertain effects of climate litigation). Therefore, this PhD attaches significant importance to analysing the compatibility of CDD with core principles of the separation of powers and the rule of law (its “justiciability”, as analysed in subpart 2.3).

0.4.3 The potentialities identified by other scholars

In contrast to those critiques, numerous prominent authors of the legal literature consider that due diligence (or similar norms) applies to climate change and that courts of law can redress shortcomings based on this kind of general concept¹⁶⁵. The IPCC also took note of the possibility of interpreting due diligence and climate conventions together, by quoting notably Maljean-Dubois, Voigt, Rajamani and Mayer.¹⁶⁶ The IPCC even addressed the outcomes achieved so far in the realm of climate litigation and stated in its summary for policymakers that climate litigation *could* reinforce climate action but did not specify whether it is favourable or nor to climate action¹⁶⁷.

164 IPCC, AR6 (2021-23), WG III, SPM, § E3.3.

165 See for instance, Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 4.

166 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1464 and 1466.

167 IPCC, AR6 (2021-23), WG III, SPM, § E3.3.

Firstly, due diligence could provide a legal basis to turn voluntary commitments into hard and enforceable obligations¹⁶⁸, as the Irish¹⁶⁹, French¹⁷⁰, Belgian¹⁷¹, and British¹⁷² Courts did.

A second bolder proposal in line with *Urgenda* would consist of using due diligence to enforce individual fair shares, and thereby, potentially contributing to solving the burden-sharing issue. Rajamani and climate scientists from the CAT followed this line of thought and proposed to generally interpret due diligence and other general norms in combination with equity and fair share studies¹⁷³: since those studies found that developed States should be carbon neutral by 2030, (i.e., which seems considerably more ambitious than current plans), Rajamani et al inferred they must achieve net zero emissions by 2030 either domestically, or by funding emission reductions overseas if they cannot reach those objectives domestically, on the basis of the principle of cooperation¹⁷⁴. This interpretation is very ambitious since it aims to transform general principles such as due diligence into very precise and radical requirements, which are not agreed with by developed states in particular¹⁷⁵.

A third middle ground proposal exists, shared by several notable lawyers. Considering the *Urgenda* case, the Rajamani and CAT paper, and the critiques of Mayer¹⁷⁶, Voigt expressed doubts on “whether courts would be able, or are the right forum” to resolve the fair share and burden sharing

168 Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 3–4.

169 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020.

170 Supreme Administrative Court of France, *Grande-Synthe*, n° 427301, 19 November 2020; Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1.

171 Court of Appeals of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023.

172 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022.

173 Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 11.

174 *Ibid*, p 18.

175 See all the government responses in the *Duarte Agostinho* case here, which followed such an approach: <https://youth4climatejustice.org/case-documents/>, last accessed 27 October 2025.

176 Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023 p 244 -248.

debate in a manner akin to *Urgenda* or to the proposals of Rajamani and CAT¹⁷⁷. She added that determining what is precisely a fair share is politically too disputed as well, as States have not been able to resolve this issue for decades, and that solving it would require “a number of fundamental value judgments”. To solve this conundrum, Voigt believed that a court may still “inquire whether States deployed their best efforts [...] in adopting all reasonable and appropriate measures to effectively address climate change.”¹⁷⁸ Said differently, courts could verify whether States are approaching the issue of climate change with due diligence, in other words, assessing whether they comply with the core mitigation obligations of Article 4 Paris Agreement (achieving progress, establishing its highest possible ambition, taking the lead as a developed state etc) without being overly prescriptive. Voigt concluded that a systemic “Paris-aligned interpretation” would enhance the integration of Paris-related principles and the cross-fertilisation with other legal norms such as due diligence, ultimately leading to more climate action without necessarily taking away the fundamental leeway provided by the PA to States¹⁷⁹. Maljean-Dubois agreed with her, arguing that due diligence enables courts to intervene domestically and internationally, complementing themselves and thereby creating a “circular continuum”¹⁸⁰. Even Mayer laid out a corresponding proposal in a critique on the *Urgenda* case, arguing that courts still have a role to play if they leave aside a top-down approach, and instead ensure that all “appropriate mitigation action [...] by way of procedural injunctions”¹⁸¹.

Furthermore, one must be conscious of the possibility of analysing compliance with due diligence *over time*, which should be possible, given its likely pre-existence (in the sense of the historical applicability to climate change). Carrying out this analysis may lead to the establishment of *historical* non-compliance findings, which may be significant, opening up avenues for establishing judicial remedies and so-called “secondary obligations”, including the duty to compensate for the lack of past mitigation, by setting up higher mitigation targets which reflect historical responsibility (i.e., the results of the fair share studies may be relevant for this purpose). Secondary

177 *Ibid*, p 248.

178 *Ibid*.

179 *Ibid*, p 249.

180 Maljean-Dubois, Climate change litigation. Max Planck Encyclopedia of Procedural Law, 2019, § 46.

181 Mayer B, “The State of the Netherlands v Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018)” (2019) 8(1) *Transnational Environmental Law*.

obligations may also take the form of more classic remedies, such as monetary compensation to address losses and damages.

Thus, this comparative PhD will deliver further responses on due diligence in the context of climate change, especially:

1. The universal applicability of due diligence to climate change.
2. The extent of the enforceability of due diligence in mitigation cases.
3. The potential historical legal failures to adequately tackle climate change over time.

0.5 Method, scope, and structure

This section of the introduction addresses the methods, scope, materials and structure of the PhD.

0.5.1 The reliance on climate science

This thesis has a specific characteristic, akin to any other study or lawsuit in the field of climate mitigation: its overall significant reliance on climate science. Relying on this field and this body of literature is more than necessary to specify the facts, the problems, and the solutions. In fact, science is used to find the applicability of due diligence to climate change, as it establishes the factual elements, notably specified by science (see Part 1). Moreover, in litigation, plaintiffs are largely dependent on climate science to specify their injury, causation, and the solution they request (see Part 2). To know whether States and companies properly carry out CDD, it is necessary to rely on climate science, a common evidential theme enabling the assessment of whether climate action is sufficient by comparing the ambition of a given climate measure against the measures indicated by the scientific and institutional consensus (see Part 3).

The scientific consensus is mostly highlighted in the IPCC reports, upon which this PhD significantly relies, as does all other serious climate-related legal work. The science of the International Panel on Climate Change (IPCC) is very relevant for legal reasoning, as it presents the most consensual findings and is considered by State Parties of the UNFCCC and the Paris Agreement as “best available science”. The IPCC was founded in 1988 by the United Nations to establish peer-reviewed scientific reports on the science of climate change, including summaries for policymakers reviewed

by state officials¹⁸². Authoritative and institutional scientific reports, showcasing some scientific consensus, may also be found in other reports of international bodies, such as the IEA (International Energy Agency).

0.5.2 The functional approach to find harmonisation or fragmentation

Given that this PhD compares different legal systems of the “Global North”, it needs to follow a comparative “method” or “approach” (i.e., the word approach may be preferable since there is no clear comparative law “methodology” in general¹⁸³). This dissertation takes a somewhat *functional* or *universalist* approach¹⁸⁴ as it compares the existence and implications of “due diligence” in the context of climate action, a subject matter that is, *per se*, a global issue physically and legally.

More precisely, this comparison focuses on due diligence or similar concepts with analogous criteria and *functions*, stemming from norms and

182 The IPCC is an intergovernmental body with 195 member states. Its mission is to make public the elements of consensus in the scientific community and to identify limitations in knowledge or in the interpretation of results. Its studies are the fruit of the collaboration of thousands of experts from some forty countries, and are based on thousands of scientific references and are assessed by public institutions from all over the world, which are given the opportunity to comment on them. According to the IPCC itself, it “has different levels of endorsement, including “approval”, “adoption” and “acceptance”¹. “Approval” is the process used for IPCC Summaries for Policymakers (SPMs). Approval signifies that the material has been subject to detailed, line-by-line discussion, leading to agreement among the participating IPCC member countries, in consultation with the scientists responsible for drafting the report. This process strengthens the SPM by ensuring that SPM statements are as direct, clear and unambiguous as possible in summarizing the material contained in the corresponding Working Group Assessment Report or Special Report. Participation of assessment authors ensures that any changes to the SPM are consistent with the underlying report and are scientifically robust.” IPCC, “About the IPCC” (2024), <https://www.ipcc.ch/about/>, accessed 19 May 2024.

183 Michaels R, “The Functional Method of Comparative Law” in M Reinmann and R Zimmermann (eds), *Oxford Handbook of Comparative Law* (Oxford University Press 2006) p 342: “First, there is not one (‘the’) functional method, but many. Second, not all allegedly functional methods are ‘functional’ at all. Third, some projects claiming adherence to it do not even follow any recognizable ‘method’. Does functionalist comparative law actually have any meaning?”.

184 Zweigert K and Kötz H, *Einführung in die Rechtsvergleichung*, 3rd ed, Mohr, 1996; see English translation by Tony Weir, *An Introduction to Comparative Law*, 3rd ed, Oxford University Press, 1998; see as well, Michaels R, “The Functional Method of Comparative Law” in M Reinmann and R Zimmermann (eds), *Oxford Handbook of Comparative Law* (Oxford University Press 2006) p 340-380.

principles meant to be universal, such as the no-harm principle, human rights, tort law, or customary law of the nations (see above, due diligence in international law and business and human rights law, and Part 1 on Applicability for more detailed assessments). Although these concepts often carry different names in different legal systems, their *function* remains the same as they impose a reasonable obligation or standard of conduct to prevent or mitigate harm to others. Hence, “due diligence” can be found by identifying the common functions and criteria.

Additionally, given that all countries have a general interest in the protection of the climate, and given the similar problems they face in mitigating this phenomenon (balancing contradictory interests with economic development, conflicting fundamental and human rights etc), a *praesumptio similitudinis* can be assumed, which is the basic requirement to use the functionalist method. Climate action is, in fact, addressed in various domestic and international norms and litigations. The database of the Sabin Center¹⁸⁵ and the comparative climate litigation reports (Setzer et al, Burgers et al) facilitate the wide-scale comparison project of this PhD since they provide all the necessary information on climate litigation (case documents, judgements), including in a synthetic and analytic manner.

Thus, given the legal and factual similarities developed countries face with respect to climate change, and the similar nature of ongoing climate cases, this comparative law undertaking seems feasible.

Nonetheless, given the wide scope of the thesis, it is still necessary to take a close look at the differences in the related legal systems assessed, namely the legal cultures, institutions, domestic concepts, and translations into other languages, by following the so-called “differential”¹⁸⁶ or relativity method. Being conscious of those differences requires knowing the underlying languages and context. The author of this thesis speaks French, German and English, and has studied French law, German law, and common law. Furthermore, he has researched the specific legal areas across these legal systems, besides working with academics and NGOs in this field. For instance, he volunteered for Our Children’s Trust, which managed the *Juliana v USA* case between 2017 - 2018, and he worked for the French NGO Notre Affaire à Tous in France for all the climate cases in which

185 See the “climate case chart” of the Sabin Center for Climate Change Law (Columbia Law School) <https://www.climatecasechart.com/>, last accessed 28 October 2025.

186 Legrand P, “La comparaison du droit expliquée à mes étudiants” in P Legrand (ed), *Comparer les droits résolument* (PUF, 2009) p 225.

the NGO is involved¹⁸⁷, as well as the Global Legal Action Network for the *Duarte Agostinho v Portugal and 31 States*. He also participated in numerous conferences and symposiums on climate litigation and relied on NGO communications, press articles and domestic legal doctrine to properly understand what is at stake in these lawsuits.

While comparison enables highlighting differences or similarities, numerous scholars considered that the functional approach aims to emphasise similarities rather than differences in order to aspire to the unification of transnational law¹⁸⁸. However, the purpose of the functional method is not biased. It still aims to compare by determining both similarities and differences¹⁸⁹. In any case, this particular PhD aims to compare legal systems and due diligence within those to find both similarities and differences to *understand* whether the law may result in more harmonisation or fragmentation¹⁹⁰. A transnational situation of fragmentation, in which legal requirements and interpretations of CDD differ significantly, may hinder climate protection and the implementation of the Paris Agreement. Previous scholarship addressed this risk in the climate field, but merely on the international level¹⁹¹. This PhD study goes beyond that by looking at the interactions between the domestic and regional legal systems.

More precisely, concerning the fragmentation risks in the realm of this thesis, there is some uncertainty about (i) whether or not due diligence is applicable to climate change, (ii) the extent to which courts can judicially intervene and (iii) its potential historical applicability and corresponding consequences on liability. The outcomes of the climate cases appear, so far,

187 See notably *Notre affaire à tous et al v France*, *Grande-Synthe v France*, the *Total* climate cases, the *BNPP* climate cases, the *FIFA* case, etc.

188 Ralf Michaels, “The Functional Method of Comparative Law”, in: Mathias Reinmann et Reinhard Zimmermann (dir), *Oxford Handbook of Comparative Law*, Oxford, OUP, 2006, p 380-381.

189 *Ibid.*

190 This risk, studied by the ILC in international law points to the situation in which different laws enter into direct conflict, potentially hindering any climate protection in this field (for instance commercial laws vs climate laws). See: ILC, *Fragmentation of international law: difficulties arising from the diversification and expansion of international law, 2000 – 2006* (see especially, the Report of the Study Group of the International Law Commission, Finalized by Martti Koskenniemi, A/CN.4/L.682, 13 April 2006).

191 See, as well, the following book on the fragmentation of climate governance and the different regimes on the international level (only): Van Asselt Harro, *The Fragmentation of Global Climate Governance: Consequences and Management of Regime Interactions*, Edward Elgar Publishing, 2014.

quite different: while the Dutch courts found the applicability of *general* due diligence to climate matters and inferred from it specific reduction obligations (25% by 2020 and 45% by 2030), akin to the top-down manner of the Kyoto Protocol; other domestic courts rejected climate cases (e.g., *Juliana v USA*), or left the applicability of *general* due diligence to climate change explicitly aside.

If these differences and uncertainties continue or develop, which may be characterised as fragmentation, there is a high risk of rendering the achievement of the Paris Agreement impossible since its global long-term temperature target (1.5°C to well below 2°C) requires that everyone does their part in a manner which is sufficient and commonly accepted. Indeed, as set out above, significant causes of inertia in the climate area are the “free riding” and “carbon leakage” issues, being the fear that some do not do their share, or the fact that one’s positive climate actions will simply be offset by another actor, leading to the maintenance of the *statut quo* and the continuation of business as usual.

Litigation on the domestic, regional, and international levels by relying on due diligence norms, combined with the interpretation of international law, especially the Paris Agreement’s objectives, may have the potential to break this international inertia, by compelling States – especially developed States – and companies to reinforce their measures to properly do their part¹⁹². Hence, the enforcement of general CDD in the respective legal systems may lead to polycentricity as being the solution rather than an ongoing problem. According to Ostrom, “[p]olycentric order is likely to emerge in a *bottom-up* way when diverse actors in a phenomenon like climate change seek to realize diverse benefits (or to avoid diverse costs) that accrue on different scales.”¹⁹³ The polycentric order is exactly what climate litigators (in favour of climate action) aim to achieve by creating a

192 Beyond the IPCC concurring finding on the potential of climate litigation to influence the outcome and ambition of climate governance (AR 6, WG III, SPM, § E.3.3), see the other concurring opinions: Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023; See as well the concurring decision of the German Constitutional Court: Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

193 Ostrom E, “A Polycentric Approach for Coping with Climate Change”, Background Paper to the 2010 *World Development Report*, Policy Research Working Paper 5095, 2009.

“circular continuum”¹⁹⁴. This dissertation aims to assess whether CDD can contribute to this polycentric solution, notably through climate litigation.

0.5.3 Considering “framework cases” against systemic public and private global North actors

Although this thesis has a very broad and somewhat eclectic approach with respect to the consideration of domestic legal systems, it eventually examines the climate responsibility of public and private persons located in industrialised States, labelled as “developed States” or “Annex I” countries in the climate conventions (UNFCCC, Kyoto Protocol, Paris Agreement). This international environmental law category makes the legal, factual, and geographical scope of the comparative assessment sufficiently consistent and justified since developed States have higher climate obligations than their counterparts from the so-called “global South” since they emitted more GHG historically and have more capacities to mitigate global warming. In addition, those countries have legal and political systems which are, *in principle*, democratic and based on the rule of law. This level of similarity is also necessary to properly apply the functional approach according to its conceptors¹⁹⁵.

This PhD also *mainly* focuses on high-profile “systemic mitigation cases” or “framework cases”, which rely on general norms such as due diligence and aim to increase the overall ambition in terms of planned GHG reduction targets, akin to the *Urgenda* and *Shell* cases. Nonetheless, this dissertation will not exclude other cases relying on *specific* CDD, as they may entail due diligence features and other interesting elements concerning the existence and breadth of CDD. And since climate-related harms have already occurred, this PhD does not exclude from its ambit cases seeking compensation or climate adaptation, categorised as “Polluter pays’ (com-

194 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 46.

195 Zweigert K and Kötz H, *Einführung in die Rechtsvergleichung*, 3rd ed, Mohr, 1996; see English translation by Tony Weir, *An Introduction to Comparative Law*, 3rd ed, Oxford University Press, 1998.

pensation) cases”¹⁹⁶ or “compensation for climate harms” by Burger and Tigre (Sabin)¹⁹⁷.

0.5.4 The PhD structure

The objectives of this dissertation are to assess, in the legal systems of developed countries (Global North) – including international law – the existence and the substantive content of CDD, meaning that the thesis is structured as follows:

Part 1 discusses the pervasive applicability of due diligence to climate change in customary international general law, human rights law, and domestic general law in France, Germany and Common-law jurisdictions. To do so, this section examines whether legal cases already confirmed or hinted in some manner at the existence of CDD, and carries out legal analysis to deconstruct and confirm the reasoning in each jurisdiction.

Part 2 analyses the extent of the enforceability of CDD in comparative case law by relying on the “standing” conditions – as tested in the USA – by analysing how courts respond when asked to find climate-related “injury”, “causation” and “redressability”. Note that the term “redressability” encompasses issues related to the justiciability of the requests, separation of powers, constitutional democratic principles, rights of other States, etc. This assessment ultimately aims to know whether courts accept the enforcement of individual 1.5°C fair shares, as theoretically proposed in the *Urgenda* case.

Part 3 assesses the pre-existence of CDD and compliance with it over time, to know whether i) the international community and ii) key public and private actors in developed States have adequately responded to the risks so far, based on the principle of individual and collective responsibility. For this purpose, it compares the historical evolution of the facts, science and the international legal regime against the measures enacted by the international community and the public and private actors of the “Global North”. Given the requirements of due diligence as laid out in this introduction, this thesis assesses whether significant discrepancies between

196 Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2023 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2023) p 4.

197 Burger M and Tigre MA, *Global Climate Litigation Report: 2023 Status Review* (UNEP 2023) p XI.

climate-related knowledge and action could be defined as breaches of CDD and ground *secondary* obligations to compensate for the past and ongoing shortfalls.

1 The applicability of the transnational due diligence concept to global warming

Subpart 1.1 demonstrates the applicability of international customary due diligence to climate change. Subpart 1.2 shows that protecting human rights also requires States and companies to conduct due diligence and mitigate global warming. Subpart 1.3 lastly argues that due diligence norms in domestic tort legal regimes also apply to climate change.

1.1 *International general due diligence applicable to climate change*

As seen in the introduction, the concept of due diligence is nothing new. In fact, international legal bodies began to apply the due diligence principle as early as the 1872 *Alabama* case¹⁹⁸. More recently, in 2010, the ICJ recognised the applicability of due diligence to environmental harms, as discussed in section 0.2.1 of the introduction¹⁹⁹. Does that mean that the basic norm of due diligence applies to climate change?

Before providing an analysis to respond to this question, one needs to recall that the climate conventions UNFCCC, Kyoto Protocol, and Paris Agreement made reference to the international no-harm rule and due diligence principle. Additionally, numerous small island States declared that the climate regime (i.e., the UNFCCC, KP and PA) does not preclude the applicability of customary international law, which provides for general due diligence, and “shall in no way constitute a renunciation of any rights under international law concerning State responsibility for the adverse effects of climate change”²⁰⁰. Some authors provided early reactions to those opin-

198 Tribunal of arbitration established by Article I of the Treaty of Washington of 8 May 1871, *Alabama claims of the United States of America against Great Britain*, 14 September 1872.

199 ICJ, *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010, § 102.

200 See the declarations of the small island States regarding the UNFCCC here: <https://unfccc.int/cop5/resource/docs/cop5/inf02.htm>, last accessed 28 October 2025, and the Paris Agreement here: https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=_en, last accessed 28 October 2025.

ions. For instance, Zahar contended that international climate conventions constitute *lex specialis*, rendering general principles of customary international law such as due diligence inapplicable (see below the corresponding subsection 1.1.2.3 on *lex specialis*)²⁰¹.

The International Law Commission (ILC – mandated by the UN General Assembly to develop and codify international law) addressed this debate in its 2021 “Draft Guidelines on the Protection of the Atmosphere”. It laid out that the customary due diligence rule applies with respect to any kind of atmospheric degradation, which should also include climate change²⁰². However, the ILC recognised that this debate was still somewhat unsettled²⁰³, and did not benefit from a mandate itself to clarify this question²⁰⁴.

Nonetheless, the ITLOS argued in its 2024 advisory opinion that the due diligence rule contained in the Convention on the Law of the Sea applies to climate change. The ICJ may have irrevocably settled this debate by subsequently confirming this view in its own advisory opinion on the issue, one year later in 2025²⁰⁵.

In the meantime, this thesis will proceed as follows to demonstrate the customary due diligence applicability to climate change: Section 1.1.1 demonstrates that due diligence, set out in the 2001 ILC’s Draft Articles on Prevention, applies to climate change. Section 1.1.2 argues that the UNFCCC and the PA lay out obligations which may be defined as due diligence; therefore, the convention system does not constitute international *lex specialis*, and does not derogate CDD. Finally, Section 1.1.3 briefly discusses whether CDD constitutes *jus cogens* or *erga omnes obligations*.

201 Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.

202 ILC, Chapter IV Protection of the Atmosphere, Draft Guidelines on the Protection of the Atmosphere, A/76/10, December 2021, commentaries of Guideline 1 (c) and 3.

203 *Ibid*, Guideline 3, commentary § 8.

204 At its 3197th meeting, on 9 August 2013 (Yearbook ... 2013, vol. II (Part Two), para. 168). The Commission included the topic in its programme of work on the understanding that: “(a) work on the topic will proceed in a manner so as not to interfere with relevant political negotiations, including on climate change, ozone depletion, and long-range transboundary air pollution.

205 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 138.

1.1.1 International customary due diligence applicable to climate matters

To analyse whether customary due diligence applies to climate change, this section relies on the 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities²⁰⁶, already mentioned in Section 0.2.1 of the introduction, as they lay out in the most comprehensive manner the theoretical framework for applying due diligence in international law.

As the title of the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities makes clear, they apply in principle to “hazardous activities”. The current scientific findings of the IPCC and official statements of the UN Secretary General clearly show the dangerous character of anthropogenic global warming²⁰⁷. Given this feature of global warming, customary due diligence seems *a priori* applicable to global warming. Nonetheless, this PhD still discusses this issue in more depth in this first part, given its legal importance and its unsettled and controversial character, at least until recently.

To do so, subsection 1.1.1.1 argues that climate change meets the due diligence applicability criteria of the ILC Draft Articles on Prevention of Transboundary Harm; while subsection 1.1.1.2 addresses the corresponding “transboundary” criterion more specifically and argues that this notion – which overlaps with causation – does not rule out cumulative harms such as climate change.

1.1.1.1 GHGs fulfilling the ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities criteria

Those who oppose the recognition of CDD usually argue that the emission of GHGs does not pose an immediate danger to human health or the environment. They also argue that the impact of GHGs is diffuse and multifactorial, as opposed to the hazards of nuclear weapons or other transboundary pollution issues, such as the dumping of chemical substances in international watercourses (situations quoted by the ILC in the Draft

206 Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10). The report, which also contains commentaries on the draft articles, appears in the Yearbook of the International Law Commission, 2001, vol. II, Part Two.

207 IPCC, AR6 (2021-23), WG II, SYR.

Articles Commentary as falling under their scope). Moreover, since GHGs pre-exist man-made climate change, CDD opponents consider that their presence may be perfectly natural²⁰⁸.

However, as the introduction laid out, GHGs become dangerous through their accumulation in the worldwide atmosphere, as they create a global imbalance in the atmosphere's natural chemical composition²⁰⁹. Given this cumulative character, CDD opponents such as Zahar refute the applicability as they consider that the contrary would mean that all activities may be labelled as dangerous since GHG emissions are a pervasive consequence of almost any activity.

In any event, this controversy requires an in-depth analysis of the applicability of due diligence to climate change. To do so, this subsection relies on the ILC Draft Articles on Prevention of Transboundary Harm, laying out applicability criteria regarding due diligence.

Article 1 of the Draft Articles on Prevention set out the applicability conditions: "[t]he present articles apply to activities not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences." More precisely, the ILC established four criteria in its commentary on Article 1 : (i) they must not be prohibited, (ii) the activities must fall under the State's jurisdiction, (iii) they must cause transboundary harm, and (iv) they must occur through their physical consequences.

Firstly, GHGs must not be prohibited under international law. Although GHGs are to some extent regulated by international law agreements (UN-

208 The IPCC differentiates between "naturally-induced" and "man-made or anthropogenic" climate change. The latter phenomenon is due to some human activities, including "the burning of fossil fuels, deforestation, land use and land-use changes (LULUC), livestock production, fertilisation, waste management and industrial processes.

209 This man-made imbalance is mainly due to the use of "fossil fuels", meaning coal, oil and gas. As humans use energy and fossil fuels in their daily lives, GHGs have accumulated over the last two centuries, ultimately creating a dangerous situation. In fact, 70% of the GHG stems from the extraction, production and consumption of fossil fuels. These fuels are deposits of organic material stored for decades, centuries or even millennia in the geological substrata, mainly made up of carbon compounds (for coal and oil) and methane (for gas). Hence, when humans burn hydrocarbons for energy purposes, they basically extract the carbon and methane stored in the ground for millions of years and release them into the atmosphere. The same process basically happens with wood or other plants used as fuels (biofuels): plants capture CO₂ from the atmosphere, but burning them ultimately restores the carbon to the atmosphere.

FCCC and Paris Agreement), their release is not forbidden. All countries in the world continue to emit GHGs. It would be impossible to generally ban the emissions of anthropogenic GHGs, as some vital behaviours necessarily lead to GHG emissions, such as breathing.

The second criterion concerns jurisdiction and requires the regulation of activities taking place on the States' territories or falling under their jurisdiction or control to prevent harm to other States. This criterion does not seem to constitute any issue since GHGs may be physically emitted from one specific state (i.e., territorial emissions). As to indirect (extraterritorial) emissions, those also seem to be captured by the Draft Articles on Prevention, as the ILC noted in its commentary of Article 1, that States must intervene as soon as they have jurisdiction, potentially leading to situations of shared responsibility: "[i]n cases of concurrent jurisdiction by more than one State over the activities covered by these articles, States shall individually and, when appropriate, *jointly* comply with the provisions of these articles" (on extraterritorial jurisdiction, see below the subsection 1.2.1.3 on international human rights law for more analysis).

The third criterion concerns the "risk of causing *significant* transboundary harm"²¹⁰. Although there is a legal debate concerning the interpretation of the term "transboundary" (i.e., whether or not it encompasses cumulative causation, see just below subsection 1.1.1.2), it is clear that climate change causes *serious* or *significant* harm of different natures. The UN Secretary-General recently clarified in plain words that "we are already *perilously* close to tipping points that could lead to cascading and irreversible climate impacts." Additionally, the recent IPCC reports made clear (SR 1.5 and AR6) that exceeding the 1.5°C threshold contains numerous risks of harm, besides tipping points risks, which may cause substantial additional global warming and irreversible and disastrous environmental changes. Since humanity is still on a pathway clearly incompatible with the Paris Agreement (3.2°C according to AR6²¹¹, 2.8°C with existing policies according to UNEP, and 2.5°C according to the IEA Stated Policies scenario²¹²),

210 According to Article 2 ILC's Draft articles on Prevention of Transboundary Harm from Hazardous Activities, "Use of terms": (a) "Risk of causing significant transboundary harm" includes risks taking the form of a high probability of causing significant transboundary harm and a low probability of causing disastrous transboundary harm; (b) "Harm" means harm caused to persons, property or the environment".

211 IPCC, AR 6, WG III, § C.1, p 21

212 IEA, WEO 2022, p 21.

and since “the window of opportunity to limit global warming to well below 2°C, preferably 1.5° [...] is closing rapidly”²¹³, it seems clear that the current path is “dangerous”²¹⁴.

Lastly, the fourth criterion concerns the causal effect of GHGs, as they must cause harm “through their physical consequences”²¹⁵. The ILC specifies that the causing activity must differentiate itself from “transboundary harm which may be caused by State policies in monetary, socioeconomic or similar fields.”²¹⁶ Since GHGs are a consequence of almost any activity, they constitute a “physical link [that] connect[s] the activity with its transboundary effects”²¹⁷. Even if GHGs might be activities allowed by State policies, including to produce economic growth, GHGs are not the *direct* result of economic policies, such as the establishment of free trade rules. It is also not an issue that GHGs mostly stem from private persons, as customary due diligence requires regulating the latter, by setting up an “appropriate regulatory framework”²¹⁸. The ILC confirmed this stance in much more explicit terms in its recent “Guidelines on the protection of the atmosphere”:

“Significant adverse effects on the atmosphere are caused, in large part, by the activities of individuals and private industries, which are not normally attributable to a State. In this respect, due diligence requires States to “ensure” that such activities within their jurisdiction or control do not cause significant adverse effects. This does not mean, however, that due diligence applies solely to private activities since a State’s own activities are also subject to the due diligence rule.”²¹⁹

213 UNEP, “Emissions Gap Report 2022: The Closing Window”, 2022, p 1.

214 See also CRC, *Sacchi et al v Argentina et al*, Decision concerning France, CRC/C/88/D/106/2019, 8 October 2021, § 10.12.

215 ILC, Chapter IV Protection of the atmosphere, draft guidelines on the protection of the atmosphere, A/76/10, Article 1 commentary, § 17.

216 ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 1 Commentary, § 16.

217 *Ibid*, Article 1 Commentary, § 17.

218 *Ibid*, Article 5 Commentary, § 3.

219 ILC, Chapter IV Protection of the atmosphere, draft guidelines on the protection of the atmosphere, A/76/10, Article 3 commentary, § 6.

1.1.1.2 Transboundary criterion and compatibility with cumulative causation

As for the “transboundary” requirement and its compatibility with climate change, lawyers such as Zahar challenge the applicability of these articles to climate change since it is not a “transboundary” damage occurring “in a short timeframe and in a confined space” but rather a “cumulative” and “global” one²²⁰. A great – and still, to some extent unresolved – debate exists in this regard, as environmental and liability law more generally has traditionally only related to local or regional harms. As climate change emerges as a genuine global legal issue, its apprehension by general international law (and domestic liability law) causes difficult issues of reconciliation with some legal pillars, especially causation in the wider sense, as one actor cannot cause global warming on its own. For Mayer, who engaged in a confrontational debate with Zahar in the international legal literature²²¹, “[d]ifficulties in implementing the principle of prevention with regard to cumulative damage are not a sufficient reason to reject the application of this principle, although they may require particular modalities of application.”²²²

Beyond Mayer’s position, numerous highly relevant institutional authorities seem to point to the compatibility of the transboundary criterion with climate change: firstly, the UNFCCC preamble refers to the recognition of the no-harm principle under international law²²³. In turn, the ILC 2001 Draft Articles on Prevention quote the UNFCCC and the Vienna Convention for the Protection of the Ozone Layer²²⁴ (the Protection of

220 Zahar A, “Mediated versus Cumulative Environmental Damage and the International Law Association’s Legal Principles on Climate Change”, *Climate Law*, 4(3–4), 2014 p 217, 229; see as well Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law* p 1–24.

221 Zahar and Mayer are both international law Professors specialising in the climate field by regularly publishing on that issue in prestigious journals and authoring books. What may distinguish them beyond their scientific rigour may certainly be their prolific and thought-provoking articles in which one responds to the other’s arguments, akin to submissions in a contentious legal case. They even co-edited an academic book on this issue, publishing it in a “traditional debating-style” format (see Mayer B and Zahar A (Editors), *Debating Climate Law*, Cambridge University Press, 2021).

222 Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law* p 13.

223 UNFCCC, preamble, page 1.

224 See ILC Draft Articles, Footnote 923 p 162 and § 5 of Article 13 commentary, p 166.

the Ozone Layer is another global issue resulting from cumulative diffuse contributions). The ILC's work on the protection of the atmosphere also hints at the applicability of the due diligence obligation in the realm of climate change (see Guidelines 1 in combination with 3), but, as pointed out above, this work suffered from a weak mandate on certain aspects – especially concerning climate change – since the purpose of the work was subject to an *understanding* which was aimed to not “interfere with relevant political negotiations, including on climate change”²²⁵. However, while the Draft Guidelines themselves do not explicitly mention climate change, the General commentary does so multiple times, and was also adopted by the ILC. Moreover, the ILC commentary on guideline 2, which addresses the definition of atmospheric pollution and degradation, states that “climate change and depletion of the ozone layer are the two principal concerns leading to atmospheric degradation”.

Moreover, legal bodies accept addressing GHG and climate change in the framework of international law or domestic law, by partly relying on customary international law and recognising the basic tenet, following which each GHG emission *contributes to* and *aggravates* global warming. Examples of this approach include the US Supreme Court in *Massachusetts*²²⁶, the Dutch Supreme Court in *Urgenda*²²⁷, the German Constitutional Court in *German Climate Protection Act*²²⁸, the French Supreme Court in *Grande-Synthe*²²⁹, the Paris Court in *Notre Affaire à tous et al v France* or “*l'affaire du siècle*”²³⁰; the HRC in *Torres Strait Islanders Petition*²³¹; the CRC in

225 ILC, Chapter IV Protection of the atmosphere, draft guidelines on the protection of the atmosphere, A/76/10, p 9, footnote 6.

226 SCOTUS, *Massachusetts et al v EPA*, opinion of the Court, 549 U. S. ____ (2007), p 20.

227 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 4.6 and § 5.7.5.

228 Constitutional Court of Germany (*Bundesverfassungsgericht*), 1 BvR 2656/18, 24 March 2021, headnotes 1 and 2 (c);

229 Supreme Administrative Court (Conseil d'Etat), *Grande-Synthe*, n° 427301, 19 November 2020, § 12.

230 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 21.

231 Human Rights Committee, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, *Daniel Billy et al v Australia*, CCPR/C/135/D/3624/2019, 22 September 2022, § 7.8 and 8.3.

*Sacchi et al v Argentina et al*²³², and five other HRTBs²³³. While these legal bodies did not *directly* apply general international law, some still considered the ILC Draft Articles on State Responsibility (DARSIWA). For instance, the Dutch Supreme Court explicitly referenced the international no-harm principle and the UNFCCC in the *Urgenda* case to justify the “Joint responsibility of the states and partial responsibility of individual states”. Following this line of thought, the Dutch Supreme Court therefore considered that due diligence requires all individual States to “make their contribution to reducing greenhouse gas emissions”²³⁴. Equally, the CRC in *Sacchi* referred to Art 47 (3) Draft Articles on State Responsibility to ground the joint and individual responsibility of States in the realm of climate change²³⁵.

More precisely, since the word “cumulative” implies multiple factors, which is the case with climate change, triggered by the GHGs of an almost infinite number of authors, Article 47 ILC DARSIWA addresses the “plurality of responsible States in relation to the same internationally wrongful act”. The corresponding ILC commentary states that:

“(8) Article 47 only addresses the situation of a plurality of responsible States in relation to the same internationally wrongful act. The identification of such an act will depend on the particular primary obligation, and cannot be prescribed in the abstract. Of course, situations can also arise where several States by separate internationally wrongful conduct have contributed to causing the same damage. For example, several States might contribute to polluting a river by the separate discharge of pollutants. In the *Corfu Channel* incident, it appears that Yugoslavia actually laid the mines and would have been responsible for the damage they caused. ICJ held that Albania was responsible to the United Kingdom for the same damage on the basis that it knew or should have known of the presence of the mines and of the attempt by the British ships to exercise their right of transit, but failed to warn the ships.⁷¹⁹ Yet, it was not suggested that Albania’s responsibility for failure to warn was reduced, let alone precluded, by reason of the concurrent responsibility

232 CRC, *Sacchi et al v Argentina et al*, Decision concerning France, CRC/C/88/D/106/2019, 8 October 2021, § 10.10.

233 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019, § 3 and 5.

234 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.7.5.

235 CRC, *Sacchi et al v Argentina et al*, Decision concerning France, CRC/C/88/D/106/2019, 8 October 2021, § 10.10.

of a third State. In such cases, the responsibility of each participating State is determined individually, on the basis of its own conduct and by reference to its own international obligations.”

Interestingly, this passage by the ILC of its DARSIIWA refers to the *Corfu Channel* case in which the ICJ brought the due diligence principle for the first time to the fore (no-harm principle). In this case, the ICJ imposed different individual obligations on the States involved to ensure that harm does not occur. Thus, due diligence fits well with a cumulative causation situation, since it imposes on all actors an independent obligation to prevent harm in case of knowledge and capacities, meaning that each actor must do its share.

Additionally, the “Guiding Principles on Shared Responsibility”²³⁶ further developed the principle of multiple co-authors in the case of “Shared responsibility arising from multiple internationally wrongful acts”:

“International persons share responsibility for multiple internationally wrongful acts when each of them engages in separate conduct consisting of an action or omission that: (a) is attributable to each of them separately; and (b) constitutes a breach of an international obligation for each of those international persons; and (c) contributes to the indivisible injury of another person.”

According to the Commentary, this principle encompasses the notion of cumulative contribution to an indivisible injury (such as climate change) besides “concurrent contributions”²³⁷. Hence, according to these Guiding Principles, drafted by recognised international law professors, shared responsibility for cumulative harms (including climate change) is possible. To do so, a certain conduct must be “attributable to each of the international persons separately”, meaning that “separate wrongful acts are committed by each of those international persons.”²³⁸ In other words, one must breach one of its legal obligations, such as due diligence, to find shared responsibility²³⁹. Section 2.2.2 addresses the link between causation and attribution in

236 Nollkaemper A et al, “Guiding Principles on Shared Responsibility in International Law” (2020) 31(1) *European Journal of International Law* p 15 – 72.

237 *Ibid*, Principle 4, Commentary, § 1.

238 *Ibid*, Principle 4, Commentary, § 2.

239 *Ibid*, Principle 4, Commentary, § 3.

more detail, which links the direct and indirect GHG emissions of private parties to State responsibility, including so-called “scope 1-3” emissions²⁴⁰.

Other eminent international law Professors – already quoted above (see Voigt, Rajamani, Maljean-Dubois) – agree with this interpretation. For instance, Maljean-Dubois argues that:

“GHG emission increases the risk of specific harm by adding, in cumulative terms, to the GHG already present in the atmosphere. Thus, one could suggest that causation could be established on the sole basis of *contribution* to the problem of climate change by a specific actor. The issue of how much damage might have been caused by this contribution is irrelevant in this respect, although it will play a role at the stage of apportioning costs (Voigt, 2008, 16).”²⁴¹

In light of the foregoing, the issue of GHG emissions causing global warming should fall under the scope of the ILC Draft Articles, and more generally under the scope of customary international law. Therefore, according to Article 3 of the ILC Draft Articles on Prevention of Transboundary Harm, every State shall take all appropriate measures to reduce its GHG to prevent significant transboundary harm related to global warming or, in any event, to minimise the risk thereof, including by regulating private actors. The ICJ, or any other tribunal, may also impose injunctions, in the form of provisional measures, cessation, guarantee of non-repetition, as a Tribunal did in the *Trail Smelter* case²⁴², or the ICJ discussed, for instance in *Certain Activities Carried Out by Nicaragua in the Border Area*²⁴³. The ICJ subsequently confirmed these options in its advisory opinion on climate change²⁴⁴.

The opposite finding (i.e., that general due diligence is not applicable to climate change) would mean that there is no general law governing climate change. This would be dangerous because each State would have unlimited

240 See glossary for the definition of “scope 1”, “scope 2” and “scope 3” emissions.

241 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 26.

242 The *Trail Smelter* case also addresses the injunction issue in the international law context, with a parallel made with the nuisance claim under US law (see “Institution of régime to prevent future damages” in *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941), p 1965).

243 ICJ, *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua)* and *Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)*, Judgment, I.C.J. Reports 2015, p 665.

244 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 444 – 448.

freedom in this respect if it were no longer bound by the climate regime. This finding may also be unacceptable because of the potential *jus cogens* nature of due diligence in the climate field (see section 1.1.3 for further analysis in this respect).

Further, according to the 2006 ILC Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities²⁴⁵, “each State should take all necessary measures to ensure that prompt and adequate compensation is available for victims of transboundary damage caused by hazardous activities located within its territory or otherwise under its jurisdiction or control”. Note that these principles apply without the requirement to establish fault or wrongful conduct²⁴⁶. Since the COP 27 decision already recognised that climate change caused numerous losses and damages²⁴⁷, States may already be under an obligation under general international law to ensure that climate-related victims are adequately compensated (see Part 3 and especially section 3.4.2 for more analysis in this respect).

The ICJ and the International Tribunal for the Law of the Sea (ITLOS) have confirmed in their advisory opinions that customary due diligence applies to climate change²⁴⁸. This dissertation further assesses their opinions, including the nature of the CDD requirements in subsection 2.3.4 on the redressability of these obligations.

1.1.2 The parallel applicability of customary and conventional CDD

According to some States and some authors of the legal literature, the climate conventions (UNFCCC, Kyoto Protocol and Paris Agreement) encompass due diligence and state that *general* due diligence requires tackling climate change (hence, CDD). If this position is correct, what is the added value of considering that the PA’s provisions contain due diligence?

245 Text adopted by the International Law Commission at its fifty-eighth session, in 2006, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/61/10). The report, which also contains commentaries on the draft articles, will appear in Yearbook of the International Law Commission, 2006, vol. II, Part Two.

246 Ibid, Principle 4 (2).

247 COP 27, “Sharm el-Sheikh Implementation Plan”, FCCC/CP/2022/L.19, 20 November 2022, § 27.

248 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 234 – 243; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 137 – 138.

Subsection 1.1.2.1 addresses the similarities between the conventional climate duties and due diligence from customary international law, including showing that the conventions require due diligence conduct from State parties, like the UNFCCC and the KP. Next, subsection 1.1.2.2. argues that the CDD concept usefully complements climate conventions due to its preexisting liability system, which one can claim if its rights are violated due to negligent conduct. Finally, subsection 1.2.2.3 demonstrates that the climate conventions are not *lex specialis*; therefore, they do not rule out the parallel applicability of customary due diligence.

1.1.2.1 The concretisation of general due diligence in the climate conventions

The climate conventions set out global objectives, principles and individual State obligations, which bear resemblances to the characteristics of due diligence. However, they remain as such almost entirely unenforceable on the international level, in (potential) contrast to *general* due diligence.

Subsection 1.1.2.1.1 shows that the United Nations Framework Convention on Climate Change (UNFCCC) of 1992 first specified the *general* due diligence rule under international law. Subsection 1.1.2.1.2 explains how the 2015 Paris Agreement further concretised *general* due diligence.

1.1.2.1.1 The UNFCCC concretisation of general due diligence

The UNFCCC reflects due diligence in many ways.

The 1992 UNFCCC aims to stabilise GHGs to safe levels and, thereby, “prevent dangerous anthropogenic interference with the climate system”. At the same time, it recalled that pursuing mitigation measures shall not threaten “food production” and “economic development”, which should “proceed in a sustainable manner”²⁴⁹. Preventing risks in light of competing interests is a typical feature of due diligence, which leaves a margin of appreciation to balance those interests while still requiring the minimisation of risks to the lowest point possible²⁵⁰.

249 See the full wording of Article 2 UNFCCC.

250 See 0.2 of the introduction. In addition, see especially ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Articles 8 – 14 and respective commentaries.

Laying out this balance was the purpose of the UNFCCC, including in terms of its principles and obligations. For instance, the fundamental principles of Article 3 UNFCCC – which remain those currently applicable with the Paris Agreement – specify due diligence in the realm of climate:

- Protection of “the climate system for the benefit of present and future generations of humankind”.
- Precautionary principle: the “lack of full scientific certainty should not be used as a reason for postponing such measures”.
- Equity, “common but differentiated responsibilities and respective capabilities” (CBDR-RC), and “vulnerability” of developing country parties.
- Cost-effectiveness of measures: “ensure global benefits at the lowest possible cost” and no “disproportionate or abnormal burden”.
- Sustainable development, as “economic development is essential for adopting measures to address climate change”.

Hence, the principles above require State parties to take precautionary measures against climate change by sharing the global burden equally among States and without imposing any disproportionate burden. The implementation of those framework principles should enable sustainable economic growth and development (see for precise and authentic wording of Article 3 of the Convention, defining more precisely the implementation of these principles). It is noticeable that Articles 2 and 3 of UNFCCC do not require any impossible change in the conduct of the State parties, but rather some form of action to ensure sustainable growth. On the other hand, the principle of common but differentiated responsibilities and respective capabilities entails the consideration of historical responsibility and the higher capabilities of developed States to frame an equitable burden sharing, which is also in line with due diligence. The combined effect of these principles seems in line with due diligence requirements under general international law and represents an international concretisation of CDD²⁵¹.

251 Other prominent authors in the legal literature already provided concurring assessments; their opinions are discussed below in subdivision 1.1.2.2: Verheyen R, “Climate Damage and International Law: Prevention Duties and State Responsibilities”, *Martinus Nijhoff*, Leiden, 2005 p 153 and 174–192; Voigt C, “State Responsibility for Climate Change Damages”, (2008) 77 *Nordic Journal of International Law* p 17; Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 13-17; Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) pp 165 – 172.

As to the individual State obligations enshrined in Article 4 UNFCCC, this thesis argues that they also impose due diligence obligations since they make it necessary to identify more precisely the contributing factors to the harm and prevent those:

- Report domestic emissions.
- Implement national climate mitigation measures.
- Develop technologies to control, prevent, and reduce GHG emissions “in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors”.
- Preserve natural carbon sinks (forests and oceans).
- Embed climate change consideration in all “relevant social, economic and environmental policies” through, for example, “impact assessments”.
- “Promote and cooperate in scientific, technological, technical, socio-economic and other research”.

Article 4 (1) (f) even imposes on State parties to consider climate considerations exhaustively in their relevant policies and actions, including by suggesting that it be integrated in environmental impact assessments (EIA)²⁵². This is another striking similarity with due diligence, as the ICJ considered that the duty to establish environmental impact assessments is the corollary of due diligence under international customary law²⁵³.

Article 4 UNFCCC even imposed on developed countries to set out the measures “with the aim of returning individually or jointly to their 1990 levels” before 2000²⁵⁴, i.e., by “the end of the present decade” according to Article (4) 2 lit a). According to Prof L Rajamani, quoting Prof Voigt and Prof Mayer, this latter provision lays out a due diligence expectation²⁵⁵. Moreover, for Prof Maljean-Dubois, quoting Prof Faure, Nollkaemper and

252 Article 4 (1) (f)) UNFCCC.

253 *Certaines activités menées par le Nicaragua dans la région frontalière (Costa Rica c. Nicaragua) et Construction d'une route au Costa Rica le long du fleuve San Juan (Nicaragua c. Costa Rica)*, arrêt, C.I.J. Recueil 2015, p 665, § 104.

254 Article 4 (1) lit b) in combination with Article (4) 2 lit a) UNFCCC, which mentions the timeframe of “the end of the present decade” according to Article (4) 2 lit a).

255 Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) quoting at footnote 23: Voigt C, “State Responsibility for Climate Change Damages”, (2008) 77 *Nordic Journal of International Law* p 6; see also Mayer B, “Obligations of Conduct in the International Law on Climate Change: A Defence” (2018) 27 *Review of European, Comparative and International Environmental Law (RECIEL)* p 134.

Voigt, it “arguably could be the basis of a liability claim”²⁵⁶. Either way, this obligation, whether or not it may constitute a legal basis for liability claim, could only be invoked against The Netherlands under international law. In fact, Article 14 (2) UNFCCC, which provides for a dispute settlement provision by leaving States the ability to recognise through additional declaration the compulsory jurisdiction of the ICJ or other arbitral tribunals, was only recognised by the Netherlands as a developed country. This restricted recognition of the competence of international legal bodies increases the usefulness of looking at alternative bases, such as those related to CDD.

Lastly, one should note that some small island states declared that the UNFCCC does not preclude due diligence’s applicability under international law. More precisely, they claimed that the “ratification of the Convention shall in no way constitute a renunciation of any rights under international law concerning state responsibility for the adverse effects of climate change as derogating from the principles of general international law”²⁵⁷. These declarations marked the beginning of a legal literature debate on the applicability of general international law to climate change, including due diligence.

1.1.2.1.2 The Paris Agreement’s due diligence character

The 2015 Paris Agreement sets out a global objective to “limit the temperature increase to 1.5°C”²⁵⁸, concretising thereby the ultimate goal of the 1992 UNFCCC, which is to stabilise GHGs to safe levels. Notably, the goal of the Paris Agreement also mentions different – potentially competing – objectives, being sustainable development and efforts to eradicate poverty²⁵⁹. Hence, the climate conventions demand the mitigation of climate change without impeding the economy, which should “proceed in a sustainable manner”. As laid out above in the subsection on the UNFCCC, due dili-

256 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 17.

257 See the declarations of Nauru, Tuvalu, Kiribati, Fiji, and the Independent State of Papua New Guinea concerning the UNFCCC here: <https://unfccc.int/cop5/resource/docs/cop5/inf02.htm>, last accessed 28 October 2025.

258 Article 2 (1) (a) PA.

259 *Ibid.*

gence – especially in the environmental realm – typically applies in circumstances with different competing objectives (see 0.2 of the introduction²⁶⁰).

The Paris Agreement’s specific principles and obligations also reflect due diligence, like the UNFCCC. It recalls the UNFCCC principles and complements them with the principles of progression and “highest possible ambition”. It also imposes individual climate obligations on States, such as the obligation to communicate Nationally Determined Contributions (NDCs), in which States must clearly and transparently set out their mitigation policies and explain how they carry out their best efforts to make a fair contribution to achieve the 1.5°C goal of the Agreement. Article 4 (1) provides that “Parties aim to reach global peaking of greenhouse gas emissions as soon as possible” while recognising that achieving this objective “will take longer for developing countries”. This provision describes a further equity dimension between the global North and South.

Equity is ultimately in line with due diligence as it aims to adequately prevent harm *as soon as* the risks are known (if this is not the case, historical ongoing responsibility may be faced), considering thereby as well the economic level and capacities. Other notable academic authorities asserted concurring positions in this regard.

For instance, Professor Voigt, a law Professor in Oslo, who was the principal legal adviser to the Norwegian delegation during the negotiation and adoption of the Paris Agreement, and who currently co-chairs the implementation and compliance committee of the Paris Agreement and the IUCN²⁶¹, affirmed “that ‘highest possible ambition’ is reflective of a duty of care that states now need to exercise. It implies a due diligence standard”²⁶². Note that she already argued in 2008 that customary due diligence requires addressing climate change²⁶³.

260 In addition, see especially ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Articles 8 – 14 and respective commentaries.

261 Voigt C, The power of the Paris Agreement in international climate litigation, RECIEL, 29 June 2023, p 249.

262 Voigt C and Ferreira F, “Dynamic Differentiation: The Principles of CBDRRR, Progression and Highest Possible Ambition in the Paris Agreement”, *Transnational Environmental Law*, 5(2), 2016; Note that Voigt wrote this article with Ferreira, from the Brazilian Ministry of Foreign Affairs, who represented Brazil during the PA’s negotiation on mitigation.

263 Voigt C, “State Responsibility for Climate Change Damages”, (2008) 77 *Nordic Journal of International Law*.

Professor Maljean-Dubois agrees. She is a renowned French scholar regularly publishing on international environmental and climate law, and she quoted Voigt in a 2019 paper to reaffirm that the PA's provisions, especially the principles established in Article 4 (highest possible ambition, progress, CBDRRRC) read in combination with the LTTG objective in article 2 imply "a due diligence standard which requires governments to act in proportion to the risk at stake" (Voigt, 2016, 158).²⁶⁴

Professor Rajamani also agrees²⁶⁵. As a renowned Professor of international environmental and climate law at Oxford, Rajamani is also a "coordinating lead author" for the IPCC²⁶⁶, acts as a negotiator in the COP processes for the Alliance of Small Island States, and counselled the Vanuatu government in the advisory opinion it sought before the ICJ. In a collective book on due diligence in the international legal order, Rajamani argued that the Paris Agreement requires exercising due diligence²⁶⁷. More precisely, Articles 3 and 4 (1) and (2) of the Paris Agreement pose both *procedural* and *substantive* "due diligence requirements", being the obligation to communicate NDCs and the implementation of mitigation actions to achieve the core objectives of the UNFCCC and Paris Agreement²⁶⁸. Rajamani also concurs with Voigt that the principles of progression, highest possible ambition and CBDRRRC correspond to due diligence requirements²⁶⁹.

However, if one takes a step back, what is the added value of reading due diligence within the provisions of the Paris Agreement?

264 Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law* §17. This article shows – albeit in a brief manner – the different bridges and interconnections between international law, the PA, and domestic and regional law.

265 Rajamani L, "Due Diligence in International Climate Change Law" in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) pp 165 – 172.

266 See IPCC, AR6 (2021-23), WG III, Chapter 14 on International Cooperation.

267 Rajamani L, "Due Diligence in International Climate Change Law" in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) pp 165 – 172.

268 *Ibid*, p 169.

269 *Ibid*.

1.1.2.2 The added value of general due diligence: a legal base linked to preexisting liability systems

As stated in the subdivision above on the UNFCCC, some authors in the legal literature already identified way before this PhD thesis the similarities between the due diligence rule and the UNFCCC provisions, besides the added value of due diligence, namely its customary and enforceable character requiring climate action, independently from adherence to the treaties. According to Verheyen:

“In sum, the no-harm rule is an enforceable primary obligation on States to take measures to mitigate climate change and therefore resembles the obligation identified in Articles 2 and 4.2 FCCC. However, unlike the provisions of the FCCC, the no-harm rule is applicable to all States and allows a distinction only on the level of determining what constitutes proportionate prevention measures. Nevertheless, given the resemblance and the structure and dynamic character of the climate regime, it is necessary to discuss the influence of the regime on the no-harm rule and in particular the due diligence standard. The next section shows that while the rules can stand alone, there are also strong linkages between them.”²⁷⁰

Regarding the Paris Agreement, authors unanimously consider that States were unable to agree on something more ambitious and entirely mandatory. For instance, the Brazilian proposal, which combined a mixture of Kyoto Protocol’s provisions for developed country parties and a flexible approach for developing countries akin to the current Paris Agreement regime, was rejected²⁷¹. Maljean-Dubois notes that “(almost) everyone now deem[s] the content of the [Paris] Agreement to be insufficient but in any event both fragile and better than nothing.”²⁷² Voigt is or was more optimistic and

270 Verheyen R, “Climate Damage and International Law: Prevention Duties and State Responsibilities”, *Martinus Nijhoff*, Leiden, 2005 p 187.

271 Voigt C and Ferreira F, “Dynamic Differentiation: The Principles of CBDRRRC, Progression and Highest Possible Ambition in the Paris Agreement”, *Transnational Environmental Law*, 5(2), 2016 p 292; Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 19-20.

272 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 3.

argued that the Paris Agreement has the “potential to function as a catalyst for a race to the top on climate”²⁷³.

Rajamani took a more nuanced position in her 2020 analysis: considering the Paris Agreement offers conditions for “constructive ambiguity”²⁷⁴, she noted at the same time the danger that State Parties “privilege self-identified benchmarks for ‘progression’, ‘highest possible ambition’, and ‘leadership’, and self-serving narratives concerning the extent to which parties have complied with these”²⁷⁵. This kind of critique is recurrent with due diligence, which leaves in principle a significant margin of appreciation. However, for Rajamani, the “enormous risk of potentially irreversible climate impacts at temperatures above 1.5°C suggests a correspondingly high standard of due diligence [...], further bolstering the normative expectation of progression and highest possible ambition placed on parties in relation to their NDCs.”²⁷⁶ In light of this, what is the added value of due diligence with respect to the “highest possible ambition” principle?

Rajamani admits in her conclusion that “[m]uch will depend on state practice that will emerge in the coming years, and the extent to which states engage in good faith interpretation and application of the standard for due diligence in international climate change law.”²⁷⁷ In other words, interpreting the Paris Agreement as requiring due diligence does not seem to add any additional substantive expectations to the existing ones, as all ultimately depends on the willingness of States to properly address the climate crisis. Mayer and Van Asselt’s critique concerning the superfluous and – ultimately “unhelpful” – character of due diligence in climate matters resonates here²⁷⁸.

While this thesis would tend to side with their nuanced positions, the question remains: what is CDD’s added value, if the Paris Agreement actually already imposes a due diligence standard?

273 Voigt C and Ferreira F, “Dynamic Differentiation: The Principles of CBDRRC, Progression and Highest Possible Ambition in the Paris Agreement”, *Transnational Environmental Law*, 5(2), 2016 p 303.

274 Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) p 170.

275 *Ibid.*

276 *Ibid.*, p 178.

277 *Ibid.*, p 180.

278 Mayer B, “International Advisory Proceedings on Climate Change” (2023) 44 *Michigan Journal of International Law* p 113–114. ; see as well: Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 8.

The main advantage of international due diligence is that it provides a basis for legal action, even before the Paris Agreement was adopted²⁷⁹. Further, due diligence in general international law and the UNCLOS enabled the international community to request advisory opinions from the ICJ²⁸⁰ and the ITLOS. The presence of due diligence in other legal systems – or similar terms with corresponding legal functions – enabled other applicants to claim failures to address climate change before other courts of law, such as in *Urgenda*, the German constitutional case, or in *KlimaSeniorinnen* before the Grand Chamber of the ECtHR. Thus, as hypothesised in the introduction, due diligence can provide preexisting “traditional” judicial remedies to address the lack of climate action.

Taking note of the pending climate cases, Voigt argues in one of her 2023 papers that “[t]he Paris Agreement will likely be relevant in many of these and other cases to come, whether directly in disputes about its application or interpretation, or indirectly in informing the interpretation of other international agreements.”²⁸¹ Due diligence may, therefore, give the opportunity to courts of law to issue “Paris-aligned” interpretations, meaning integrations of the PA’s provisions in other instruments²⁸². This dynamic is also induced by article 31 (3) (c) of The Vienna Convention on the Law of Treaties, which requires, when interpreting treaties, to consider the “context” and “[a]ny relevant rules of international law applicable in the relations between the parties.” Beyond international law, the ECtHR may also consider the doctrines of “living instrument” and “harmonious interpretation”, or simply consider other legal instruments not directly applicable to their cases if the context so requires²⁸³. Systematic “Paris-aligned” interpretations ultimately avoid *fragmenting* the law and enable the shaping of *consistent* law beyond borders (see in the glossary, the terms

279 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 19 et seq.

280 See UN General Assembly, “Obligations of States in respect of Climate Change, Request for Advisory Opinion transmitted to the Court pursuant to General Assembly resolution 77/276”, 29 March 2023.

281 Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023.

282 *Ibid*, p 243 referring to, among others, Vienna Convention on the law of treaties, article 31 (3) (c).

283 The ECtHR applied the doctrine of the living instrument and harmonious interpretation in preceding cases, such as, for example, to consider the death penalty incompatible with the convention (ECtHR [GC], *Soering v United Kingdom*, no. 14038/88, 07 July 1989, § 102 – 103).

“transnational law” and “global law”), ultimately giving potential rise to “transnational CDD”.

Remarkably, domestic courts also entered into a harmonisation undertaking by considering the Paris Agreement, and for some of them, customary due diligence. For instance, the Dutch District Court in *Urgenda* mentioned the “reflex effect”²⁸⁴ of international law to justify its consideration when it based its decision on the tort law duty of care, while the Dutch Supreme Court acknowledged that the interpretation of articles 2 and 8 ECHR, which formed the basis of its judgement, entail the consideration of international law, given the corresponding requirements of the Vienna Convention on the Law of Treaties²⁸⁵. The German Constitutional Court (BVerfG)²⁸⁶ considered the Paris Agreement throughout its lengthy opinion to discuss many different aspects, while the British²⁸⁷ and French Courts in *Grande-Synthe*²⁸⁸ and *L'affaire du siècle*²⁸⁹ also did so, albeit more succinctly, to take note of the fact that States recognise their capacity to act and their “common but differentiated responsibilities”. The High Court of London also acknowledged that the UK policies respond to the Paris Agreement in the successful British climate case²⁹⁰.

Professor Maljean-Dubois also noted that treaty obligations are generally regularly interpreted in a *harmonious* manner with the customary due diligence rule²⁹¹, by referencing the *South China Sea Arbitration* Award. She also stated that customary due diligence provides the advantage of being actionable before international and domestic courts²⁹² and allows

284 Rechtbank Den Haag, C/09/456689 / HA ZA 13-1396, 24 June 2015, 24 June 2015, § 4.43.

285 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.4.1 – 5.4.3.

286 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

287 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 1 – 5.

288 Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020, §12.

289 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 18 – 21.

290 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 1 – 5.

291 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 20.

292 *Ibid*, § 20 and 46.

it to be interpreted in combination with the Paris LTTG and legislation implementing NDCs. Maljean-Dubois concluded that due diligence will enable courts to intervene domestically and internationally, complementing themselves and thereby creating a “circular continuum”²⁹³.

Rajamani also agrees since she ended her article on international due diligence in the climate context with a hopeful note by recalling the fact that due diligence may enable holding States “to a high standard of due diligence in the discharge of their obligations of conduct under the climate regime”²⁹⁴ without excluding the possibility of doing that in a legal forum. Rajamani concluded that “it may trigger an ever-increasing cycle of ambitious action, which could eventually meet the goals of the climate regime.”²⁹⁵

The conceptual proximity of the climate conventions with customary due diligence provides even more potential for courts of law to position themselves on the Paris Agreement, even though they do not have any *direct* competence to monitor, enforce (or even reinforce) its application. However, as shown above, international, regional and domestic courts seem willing to consider the Paris Agreement thanks to general due diligence types of legal bases, in order to *indirectly* monitor, enforce or even strengthen it. Ultimately, the ICJ aligned with this trend and interpreted due diligence in light of the climate conventions, and vice versa, in its corresponding advisory opinion²⁹⁶.

1.1.2.3 The UNFCCC and the Paris Agreement do not derogate due diligence

In addition to the non-applicability of due diligence to climate change, some lawyers, such as Zahar, argue that the climate conventions constitute

293 *Ibid.*, § 46.

294 Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) p 180.

295 *Ibid.*

296 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025.

lex specialis, meaning they exclude general law (i.e., *lex specialis derogat legi generali*)²⁹⁷.

On the other hand, a majority of recognised legal authors argue that customary due diligence applies to climate change (see just above, notably section 2.1.1) and that international conventions such as the Paris Agreement merely specify customary international law by laying out “a compliance regime”²⁹⁸. A line of analysis, with which this thesis agrees, even considers that the climate conventions contain due diligence, or similar principles which reflect due diligence (see section 1.1.3). In any case, conventional and customary rules can coexist without excluding each other²⁹⁹.

To settle this dispute, one needs to consider the basic rule on *lex specialis*, notably present in the ILC Commentary on the Draft articles on Responsibility of States for Internationally Wrongful Acts (DARSIWA), which states that “[f]or the *lex specialis* principle to apply it is not enough that the same subject matter is dealt with by two provisions; there must be some actual inconsistency between them, or else a discernible intention that one provision is to exclude the other”³⁰⁰. To claim a contradiction, Zahar endeavoured to show in 2014, before the Paris Agreement’s adoption, inconsistencies between the due diligence rule and the climate regime by arguing that developing countries must not reduce their GHGs under the conventions, whereas due diligence under general international law would require efforts by everyone (if applicable). He noted that the UNFCCC recognises that “economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties”, which in his eyes “implicitly affirms the legal right of a ‘sizable number of states to continue to pump out greenhouse gases in ever-increasing quantities”³⁰¹.

297 Zahar A, “Mediated versus Cumulative Environmental Damage and the International Law Association’s Legal Principles on Climate Change”, *Climate Law*, 4(3–4), 2014.

298 See Mayer B, “Construing International Climate Change Law as a Compliance Regime” (2018) 7(1) *Transnational Environmental Law* p 115–137.

299 ILC, DARSIWA, with commentaries, 2001, Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10), Commentary of Article 55 on *lex specialis*, paragraph 2.

300 *Ibid*, Commentary of Article 55 on *lex specialis*, paragraph 4.

301 Zahar A, “Mediated versus Cumulative Environmental Damage and the International Law Association’s Legal Principles on Climate Change”, *Climate Law*, 4(3–4), 2014 p 32.

This PhD argues, in line with other authors (Maljean-Dubois, Voigt, Mayer and others), that the recognition of competing priorities for developing States in the UNFCCC does not rule out a general mitigation duty, or the applicability of *general CDD*³⁰². More specifically, the UNFCCC and the Paris Agreement do not exempt the Global South from climate obligations; they only require developed countries to do more than the developing ones and to assist them with regard to funding, capacity building, and technology transfer. And while Article 4 (7) UNFCCC and Article 3 Paris Agreement make *effective* climate action from developing countries dependent on the assistance of the developed countries, it still requires all State Parties to act on mitigation by communicating NDCs and complying with some principles, such as the highest possible ambition and progression (see above, section 1.3.2 on the PA). Thus, it is *indisputable* that the climate conventions require climate mitigation by everyone.

While the climate conventions set out principles to organise the burden-sharing of mitigation and climate finance (equity, CBDRRC, principle of “taking the lead” for Global North countries), they do not contradict the customary due diligence rule. One must remember that due diligence does not expect the same conduct from every State. On the contrary, its concrete requirements depend on individual State capabilities, as seen in the introduction. This flexibility and adaptability are similar to the conventional principles. These core ingredients make CDD compatible with the obligations and expectations of the climate conventions, among which the “common but differentiated responsibilities and respective capabilities” (CBDRRC) principle (see the concurring arguments of Voigt³⁰³, Maljean-Dubois³⁰⁴, and Rajamani³⁰⁵).

However, there is to some extent one difference between the climate regime and *general CDD*: the Paris Agreement relies on compliance pro-

302 See for example, Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law*.

303 Voigt C and Ferreira F, “Dynamic Differentiation: The Principles of CBDRRC, Progression and Highest Possible Ambition in the Paris Agreement”, *Transnational Environmental Law*, 5(2), 2016; Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023 p 237 – 249.

304 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 17.

305 Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) pp 165 – 172.

visions which are “non-adversarial and non-punitive”³⁰⁶, whereas, due diligence, on the other hand, is a standard legal basis which can be claimed in contentious cases. These differences do not make these regimes entirely incompatible, but rather complementary. Indeed, conventional law rather focuses on cooperation and transparency, whereas general international law offers the availability of judicial remedies. Either way, the climate conventions also provide for compromissory clauses, which can also lead to the application of customary due diligence read in harmony with the conventions.

Thus, the conventional system does not rule out *general* due diligence, an opinion that the ICJ and ITLOS confirmed in their recent advisory opinions³⁰⁷.

1.1.3 CDD, towards jus cogens?

In the 2015 article, Mayer even questioned whether the prevention principle may be considered as *jus cogens*, meaning international “overriding” or “peremptory” norms, rendering any opposition or even “persistent objections” by States inadmissible, since its observation is necessary to sustain peace and life on earth³⁰⁸.

If this were to be, the *lex specialis* argument could not work as any rule conflicting with a peremptory norm is void according to Article 53 of the 1969 Vienna Convention, and the ILC commentary of the DARSIVA³⁰⁹. It would also render any plea of “necessity” against climate action impossible³¹⁰.

However, to be recognised as peremptory, “the norm in question should meet all the criteria for recognition as a norm of general international law, binding as such, but further that it should be recognized as having

306 Article 15 (2) PA.

307 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 224 - 229; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 165 – 171.

308 Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.

309 DARSIVA, Article 26, commentary.

310 DARSIVA, Article 26, commentary, § 4.

a peremptory character by the international community of States as a whole.”³¹¹ Does due diligence, and especially CDD, fulfil these criteria?

While Mayer eventually responded negatively to this question in 2015, a 2023 study commissioned by the European Parliament took a different view³¹²: if the *substantive* due diligence obligation is somewhat irreconcilable with the concept of a peremptory norm³¹³, as it allows for the balancing of conflicting interests, the study considers that the *procedural* due diligence contained within the Paris Agreement and customary international law may fulfil this definition. This includes the duty to “maintain and enhance over time ambitious domestic climate goals, as well as the duty to “meaningfully cooperate at the international level in a transparent way.”³¹⁴ This PhD thesis does not label those obligations as proper *procedural* obligations, as they rather constitute *substantive* obligations of conduct with some degree of appreciation. Hence, the required underpinning legal consciousness for establishing systemic mitigation due diligence as *jus cogens* may already be present.

One may ask whether it could also be the case for the substantive dimension, as the climate situation worsens further and may soon overstep the 1.5°C threshold. Shaping a CDD 1.5°C mitigation duty into a full *jus cogens* obligation may, however, be difficult in light of the other equally important and competing interests (development, job security, energy security, and financial stability). In addition, some use of fossil fuels and other products emitting GHGs is still necessary, meaning that States must still strike an appropriate balance between fossil fuels and low-carbon energies.

However, the “climate emergency or urgency findings by the COP³¹⁵ and in the preamble of the Paris Agreement³¹⁶ should require prioritising mitigation to the most feasible extent: States have to achieve their “highest possible ambition”. The latest COP 28 decision specified what it considers prioritising mitigation to be, and called for “transitioning away from fossil fuels” while not demanding the same conduct from each actor in each

311 DARSIVA, Article 26, commentary, § 5, referring to Article 53 of the Vienna Convention.

312 Brus M and others, *The Normative Status of Climate Change Obligations under International Law* (European Parliament, Policy Department for Citizens’ Rights and Constitutional Affairs, Directorate-General for Internal Policies, September 2023).

313 *Ibid.*

314 *Ibid.*, p 9.

315 COP 28 decision, § 5.

316 PA preamble, § 4.

circumstance³¹⁷. All of these developments point to gradual, but firm and steady, reinforcement of mitigation actions, perhaps ultimately turning the *substantive* CDD into a gradual *jus cogens* norm.

Thus, while CDD cannot necessarily achieve a strict *jus cogens* status in its substantive form due to the existence of strong competing interests, the universal character of CDD may make it an obligation close to *jus cogens*, being at least an *erga omnes* obligation given that they “are the concern of all States”³¹⁸. It is worth noting that the Inter-American Court of Human Rights ruled in 2025 that there is indeed a general *jus cogens* obligation not to cause “irreversible damage to the ecosystems that sustain life”³¹⁹, while the ICJ considered that CDD, including the duty to limit global warming to 1.5°C, has an *erga omnes* character³²⁰. Although these findings are somewhat different, they are actually consistent in that the IACtHR determination is on a higher level than that of the ICJ. The former considered all the environmental issues that can imperil life on Earth, while the latter focused on more specific climate-related obligations, including CDD and the mitigation duty to limit warming to 1.5°C.

1.1.4 Provisional conclusion on the existence of international CDD

This section demonstrated the existence of international CDD.

The basic due diligence obligation requires States to prevent transboundary harm if an activity is dangerous. There was an important debate – and, there is still one, to some extent – to know whether or not States must prevent climate change on the basis of general customary law since GHGs do not *directly* cause dangerous impacts or “transboundary” harm. However, climate change becomes dangerous only in the (current) context

317 COP 28, “First Global Stocktake (United Arab Emirates)”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 28; for a commentary, see Van Asselt Harro, “Historic or ‘Historic Failure’? Fossil Fuels at COP28”, *EJIL: Talk!*, 2023.

318 See, the rather concurring opinions of the ILC and Judge Serghides of the ECtHR: ILC, Draft Guidelines on the Protection of the Atmosphere, with commentaries, A/76/10, 2021, Guideline 3, Commentary § 5 (Official Records of the General Assembly, Seventy-sixth Session, Supplement No. 10); ECtHR, *Pavlov and others v Russia*, no. 31612/09, 11 October 2022, concurring opinion of Judge Serghides, § 17.

319 Inter American Court of Human Rights, Climate Emergency And Human Rights, Advisory Opinion AO-32/25, 29 May 2025, § 287 – 294.

320 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 439 – 443.

of the *accumulation* of anthropogenic GHGs in the atmosphere (i.e., it is a cumulative harm). This specificity challenges the traditional criteria concerning the applicability of due diligence. Zahar thus argued that customary international law does not require the mitigation of global warming³²¹.

However, this dissertation found consensual and legally authoritative elements showing that the collective, cumulative, diffuse and global nature of climate change are not insurmountable obstacles to establishing the applicability of general due diligence to climate change, evidenced notably by the no-harm principle in the UNFCCC preamble, declarations of individual States³²², judicial findings³²³, the 2021 ILC on report on the protection of the atmosphere³²⁴, and more recently, the ITLOS advisory opinion³²⁵.

Moreover, the due diligence duty is manifestly applicable for the following factual and scientific reasons: States *can* reduce their GHGs as they have jurisdiction over their GHGs (whether territorial or not), including by cooperating with others. Furthermore, climate-related impacts are the *physical* result of *man-made* GHGs, which cumulatively cause climate change. While global warming is not localised damage, it still represents serious and significant risks of loss and damages, for numerous legally protected

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- 321 Zahar A, “Mediated versus Cumulative Environmental Damage and the International Law Association’s Legal Principles on Climate Change”, *Climate Law*, 4(3–4), 2014; Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.
 - 322 See the declarations of Nauru, Tuvalu, Kiribati, Fiji, Independent State of Papua New Guinea concerning the UNFCCC here: <https://unfccc.int/cop5/resource/docs/cop5/inf02.htm>, last accessed 28 October 2025.
 - 323 SCOTUS, *Massachusetts et al v EPA*, opinion of the Court, 549 U. S. ____ (2007), p 20; Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 4.6 and § 5.7.5; Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020§ 12; Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 21; Constitutional Court of Germany (*Bundesverfassungsgericht*), 1 BvR 2656/18, 24 March 2021, headnotes 1 and 2; Human Rights Committee, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, *Daniel Billy et al v Australia*, CCPR/C/135/D/3624/2019, 22 September 2022, § 7.8 and 8.3. CRC, *Sacchi et al v Argentina et al*, Decision concerning France, CRC/C/88/D/106/2019, 8 October 2021
 - 324 ILC, Draft Guidelines on the Protection of the Atmosphere, with commentaries, A/76/10, Guidelines 1 in combination with 3 (Official Records of the General Assembly, Seventy-six Session, Supplement No. 10).
 - 325 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 224.

interests, including under international law, as notably evidenced by the latest IPCC reports³²⁶.

The cumulative dimension means that every person engages in a dangerous activity, as climate mitigation is a polycentric issue³²⁷. This collective dimension does not alleviate the responsibility of “systemic” actors, such as States and large companies, as the need to address the issue at all levels remains³²⁸. Consequently, all actors must do their share, even more so as systemic actors: States must regulate private persons, and large corporations must pursue all reasonable mitigation measures proactively, even in the absence of adequate regulation.

This set of facts fulfils the criteria for applicability of due diligence in the realm of climate change, among others, those set out by the ILC in its Article 1 of the Draft Articles on Prevention of Transboundary Harm. The opposite would mean that no *general* law governs climate change, a dangerous implication as such, because each State would have unlimited freedom in this respect if it were no longer bound by the climate regime. The consequence is that States must carry out their best efforts to tackle climate change mitigation by doing their part, meaning – among others – to implement effective, reasonable, updated, and appropriate measures, independently of the existence of specific climate treaties.

Furthermore, the climate regime (UNFCCC, Kyoto Protocol, Paris Agreement) does not constitute *lex specialis* since it also contains norms and principles similar to due diligence³²⁹. Indeed, the principles of highest possible ambition, common but differentiated responsibilities and respective capabilities, and the duty to set up a framework and specific mitigation measures require conduct corresponding to CDD. The climate regime merely sets out global climate goals (such as the 1.5°C goal of the Paris Agreement), general duties and principles which specify to some extent the general due diligence expectations. These climate conventions, one may argue, are the result of the collective global due diligence duty to

326 IPCC, AR 6 (2021-23), SYR; IPCC, SRI.5 (2018), SPM.

327 Ostrom E, “A Polycentric Approach for Coping with Climate Change”, Background Paper to the 2010 *World Development Report*, Policy Research Working Paper 5095, 2009.

328 See, among others, IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021.

329 ILC, DARSIIWA, with commentaries, 2001, Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10), Commentary of Article 55 on *lex specialis*, paragraph 2.

cooperate. Notable legal authors who also took part in the negotiations of the treaties share this view³³⁰. Lastly, as seen in the introduction (section 0.2), general due diligence is regularly used as a standard to interpret international treaties. Thus, given the presence of due diligence in the climate conventions and their similarities with the requirements under customary international law, the climate conventions do not derogate *general CDD*, as confirmed by the ICJ and ITLOS³³¹.

The *second* consequence of the applicability of general CDD is the potential competence of courts of law (including international ones) to adjudicate the failure to comply with general CDD³³². The courts' jurisdiction is a significant added value compared to the climate conventions, which either do not provide for judicial remedies (Paris Agreement) or whose dispute settlement provisions are not accepted by States³³³ (UNFCCC, Article 14).

Last but not least, the mitigation of global warming may constitute *jus cogens*, at least in its *procedural* dimension (i.e. measuring the risks, recognizing its ability to tackle the problem, setting a relevant framework, demonstrating publicly that one is implementing one's best efforts) due to the universal recognition of CDD and the climate regime on one hand (except, perhaps by the USA), and the scale and gravity of the problem on the other³³⁴.

1.2 Human rights applicable to climate change

Since customary international law requires protection against climate change, including by exercising due diligence, and since human rights are

330 Voigt C and Ferreira F, "Dynamic Differentiation: The Principles of CBDPRC, Progression and Highest Possible Ambition in the Paris Agreement", *Transnational Environmental Law*, 5(2), 2016; see as well, Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law*.

331 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 224; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 165 – 171.

332 Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law* § 46.

333 *Ibid*, § 29.

334 Brus M and others, *The Normative Status of Climate Change Obligations under International Law* (European Parliament, Policy Department for Citizens' Rights and Constitutional Affairs, Directorate-General for Internal Policies, September 2023) 9; ECtHR, *Pavlov and others v Russia*, no. 31612/09, 11 October 2022, concurring opinion of Judge Serghides, § 17.

endangered by global warming, the reasoning to find CDD should apply *mutatis mutandis* in the field of human rights law. Section 1.2.1 confirms the validity of the reasoning by analogy by showing that numerous authoritative bodies endorsed the view that international human rights law requires CDD. Section 1.2.2 then shows that this level of agreement also concerns the European human rights system.

1.2.1 International human rights law requiring CDD

Subsection 1.2.1.1 establishes the widely shared understanding that international human rights law requires States to exercise due diligence to comply with their duties to protect. Subsequently, subsection 1.2.1.2 points to the different authorities having unanimously recognised that climate change endangers human rights protection. Ultimately, subsection 1.2.1.3 quickly references the regulatory implications of the State's duty to protect.

1.2.1.1 A core due diligence requirement to protect human rights

As in many other international legal branches, including customary international law, the core duty in the international human rights protection system is one of due diligence (a duty to protect or a positive obligation), requiring regulations to ensure private actors do not harm human rights³³⁵. The Human Rights Committee's (HRC) general comment n°31 on "The Nature of the General Legal Obligation Imposed on States Parties to the Covenant", adopted in 2004, clearly explains the main requirements and criteria of this general obligation:

"The article 2, paragraph 1, obligations are binding on States [Parties] and do not, as such, have direct horizontal effect as a matter of international law. The Covenant cannot be viewed as a substitute for domestic criminal or civil law. However the positive obligations on States Parties to ensure Covenant rights will only be fully discharged if individuals are protected by the State, not just against violations of Covenant rights by its agents, but also against acts committed by private persons or entities

335 Krieger Heike, Anne Peters, and Leonhard Kreuzer, *Due Diligence in the International Legal Order*, Oxford University Press (2020), p 389 DOI: 10.1093/ oso/ 9780198869900.003.0021.

that would impair the enjoyment of Covenant rights in so far as they are amenable to application between private persons or entities. There may be circumstances in which a failure to ensure Covenant rights as required by article 2 would give rise to violations by States Parties of those rights, as a result of States Parties' permitting or failing to take appropriate measures or to exercise due diligence to prevent, punish, investigate or redress the harm caused by such acts by private persons or entities. States are reminded of the interrelationship between the positive obligations imposed under article 2 and the need to provide effective remedies in the event of breach under article 2, paragraph 3. The Covenant itself envisages in some articles certain areas where there are positive obligations on States Parties to address the activities of private persons or entities. For example, the privacy-related guarantees of article 17 must be protected by law."³³⁶

The HRC specified in the subsequent general comment n°36 on the right to life that due diligence is required when the conduct is *not attributable* to States but still entails a foreseeable threat to the right to life³³⁷ (see, for more details, the section on causation and attribution, section 2.2.2). In such cases, States must still adopt *reasonable* measures to prevent harm "that do not impose disproportionate burdens on them"³³⁸.

More generally, a contribution to a collective book focusing on due diligence found that due diligence is generally required to prevent all kinds of human rights violations, because of the nature of the obligation, which requires positive action "without having to guarantee success"³³⁹.

On the regional human rights level, the principle of due diligence is equally well established³⁴⁰. The Inter-American Court of Human Rights noted that "the precautionary approach is an integral part of the general

336 Human Rights Committee, General Comment No. 31, "The Nature of the General Legal Obligation Imposed on States Parties to the Covenant", CCPR/C/21/Rev.1/Add.13, 29 March 2004, § 8.

337 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 7.

338 *Ibid.*, § 21.

339 Baade B, "Due Diligence and the Duty to Protect Human Rights" in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020).

340 *Ibid.*; see as well Tran H, "Les obligations de vigilance des États parties à la Convention européenne des droits de l'homme", *Bruylant*, 2013.

obligation of due diligence.”³⁴¹ The ECtHR also mentioned due diligence as a standard to discharge the positive obligation to protect human rights, especially in environmental-related cases (see just below the section 1.2.2 on the ECHR).

The above shows the intricate links of the due diligence concept in the human rights field with that applicable in general international law, as notably laid out by the ILC’s Draft articles on Prevention of Transboundary Harm from Hazardous Activities (see also sections 0.2.1 and 0.2.2 of the introduction). Again, this development of human rights law is driven by one simple but significant concept, the need to avoid harm, which gives rise to numerous dynamic developments.

Additionally, since this dissertation already found that customary due diligence under international law applies to climate change, the same conclusion seems valid under human rights law, given that global warming also endangers human rights (see below).

1.2.1.2 Human rights endangered by climate change

Numerous UN bodies recognise that climate change is harming human rights. For instance, the Human Rights Committee (HRC) stated in the already quoted general comment n°36 that “climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life.”³⁴² The HRC did so by notably quoting the UNFCCC preamble³⁴³.

Five other UN-Human Rights Treaty Bodies (HRTB or “treaty bodies”) reinforced the HRC by stating that the Special Report of the IPCC on the consequences of global warming above 1.5°C “confirms that climate change poses significant risks to the enjoyment of the human rights”. The five committees went on and asserted that global warming harms all of the rights that their respective conventions aim to protect, including “the right to adequate food, the right to adequate housing, the right to health,

341 See IAcTHR, *Velasquez Rodriguez v Honduras*, Judgment (Merits), 29 July 1988, § 172.

342 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 62.

343 *Ibid.*

the right to water and cultural rights.”³⁴⁴ The fact that the environment (i.e., the climate) is altered as a preceding condition, which in turn affects human rights, does not pose a problem in terms of causation in the views of the Committees.³⁴⁵ They further underlined, like the IPCC, that the human rights impacts increase with vulnerabilities, disabilities and other specific conditions and that they “are already occurring at 1°C of warming and every additional increase in temperatures will further undermine the realization of rights”³⁴⁶.

On its side, the UN General Assembly (UNGA) adopted a resolution in 2022 which recognised the right to a clean, healthy and sustainable environment as a human right, in addition to finding that climate change interferes with the latter³⁴⁷.

The ICJ also confirmed in its advisory opinion on climate change that human rights law requires climate action³⁴⁸ and consistent actions with international climate law³⁴⁹.

This doctoral thesis concurs with those authoritative sources. Even Mayer, who published a long article on the restricted applicability of human rights norms to climate change because of the negative impacts of climate mitigation on human rights themselves (i.e., see his theory of narrow window of applicability), admits that global warming, as such, infringes on individual human rights³⁵⁰. Thus, it seems established beyond any reasonable doubt that States must protect humans from climate change.

344 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

345 *Ibid.*

346 *Ibid.*

347 UNGA, “The Human Right to a Clean, Healthy and Sustainable Environment”, 28 July 2022.

348 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 369 – 386.

349 *Ibid.*, § 403 – 404.

350 Mayer considers the narrow windows of applicability (see Mayer B, “Climate Change Mitigation as an Obligation under Human Rights Treaties?” (2021) 115(3) *American Journal of International Law* p 415.

1.2.1.3 States' duty to protect humans from climate change, including by regulating transnational corporations and value chains

To comply with their human rights-related duties, States must (i) protect the environment and (ii) regulate private actors, including transnational corporations, in this field.

Concerning the need to protect the environment (i), States must give due regard to the implementation of international and domestic environmental law to ensure the right to life is adequately protected³⁵¹. What precedes means that States have to comply with the obligations set out in the Paris Agreement, but also *customary* due diligence in general³⁵². Moreover, the already-mentioned joint opinions of five treaty bodies consider that States must “realize the objectives of the Paris Agreement” with respect to mitigation, adaptation, and financial flows to protect human rights, while explicitly noting the extraterritorial dimension of this requirement³⁵³. The UN General Assembly echoes the preceding positions by asserting that the State’s duty to protect human rights “requires the full implementation of the multilateral environmental agreements”³⁵⁴. As mentioned in the introduction (subsection 0.3.2), this systemic integration or harmonious interpretation ultimately aims to make the achievement of the Paris Agreement more likely, or at least avoid undermining its relevance³⁵⁵.

Regarding the need to regulate multinational corporations (ii), the Committee on Economic, Social and Cultural Rights (CESCR) stated in its 2017 General Comment n°24 that human rights protection has an extraterritorial reach, notably due to the customary due diligence obligation³⁵⁶. The CESCR stated that “the imposition of such due diligence obligations [on multinational corporations...] does not imply the exercise of extraterritorial

351 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 62.

352 *Ibid.*, § 62.

353 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

354 UNGA, “The human right to a clean, healthy and sustainable environment”, 28 July 2022.

355 See, among others, the following concurring opinion: Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023 p 237 – 249.

356 Committee on the Economic, Social and Cultural Rights, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, § 27.

jurisdiction by the States concerned”, meaning the extraterritorial reach of the due diligence obligation is compatible with the principles of State sovereignty³⁵⁷. Indeed, as long as there is a lawful and legitimate territorial basis for jurisdiction, States can regulate certain matters, even if they have an extraterritorial dimension, such as when “a) the harm or threat of harm originates or occurs on its territory; b) where the non-State actor has the nationality of the State concerned; c) as regards business enterprises, where the corporation, or its parent or controlling company, has its centre of activity, is registered or domiciled, or has its main place of business or substantial business activities, in the State concerned; d) where there is a reasonable link between the State concerned and the conduct it seeks to regulate, including where relevant aspects of a non-state actor’s activities are carried out in that State’s territory”³⁵⁸. The CESCR further argued that this extraterritorial obligation is aimed at protecting third-states and their respective individuals, in conformity with the due diligence principles of customary international law, and Articles 55 and 56 of the UN Charter, which require all Member States to take action to achieve “universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion”³⁵⁹. These findings ultimately led the CESCR to issue this general extraterritorial State obligation from the moment a “State party may influence situations located outside its territory, consistent with the limits imposed by international law”³⁶⁰.

According to General Comment n°36 of the Human Rights Committee (HRC), this general duty to regulate transnational corporations is applicable in the climate field. The HRC also explained in its General Comment n°36 that the due diligence duty requires regulating corporations and their transnational activities by referencing the UN Guiding Principles on Business and Human Rights (UNGPs), addressed in subsection 0.2.2 of the

357 *Ibid.*, § 33.

358 De Schutter O et al, “Commentary to the Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights” (2012) 34 *Human Rights Quarterly* p 1084–1169.

359 Committee on the Economic, Social and Cultural Rights, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, § 27.

360 *Ibid.*, § 28.

introduction³⁶¹. The five other UN treaty bodies also directly confirmed this obligation by pointing to the HRDD concept³⁶².

Moreover, courts of law monitoring the implementation of human rights, such as domestic courts and the ECtHR (i.e., the UN treaty bodies do not have enforcement powers³⁶³), could follow these interpretations, notably in light of the concept of harmonious interpretation and systemic integration³⁶⁴.

1.2.2 European human rights law applicable to climate change

The ECtHR judgements are particularly important since the Court's judgements are binding³⁶⁵, and since domestic courts in the European sphere have the duty to monitor the implementation of the Convention³⁶⁶. And while the ECtHR found that Article 8 requires climate mitigation in *KlimaSeniorinnen*, it remains important to succinctly explain the main underlying reasons leading to this decision.

For this purpose, subsection 1.2.2.1 notes the existence of due diligence as a concept, especially in the environmental field. Subsection 1.2.2.2 then discusses its applicability in the climate realm.

361 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 22.

362 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

363 The UN HRTB are not judicial bodies in the strict sense of the term, as the additional protocols to the various international conventions do not provide them with enforcement powers; still, they recognise their ability to interpret the conventions, and also to provide “views” by deciding individual cases (See, for example, art. 5 (4) of the Optional Protocol to the International Covenant on Civil and Political Rights, 23 March 1976). This thesis addresses enforceability in Part 2.

364 See articles 31 to 33 of the Vienna Convention on the Law of Treaties, applied by the ECHR, ICJ and ITLOS. The harmonious interpretation of the Convention with norms of international law is particularly relevant in cases dealing with the environment, as this is a global issue that concerns the entire international community.

365 See Article 46 ECHR.

366 ECtHR, *Grzęda v Poland* [GC], 2022, § 324.

1.2.2.1 General due diligence requirement to protect human rights, including in environmental-related cases

Although the ECtHR did not often use the term “due diligence” until recently, the concept was already embedded in its jurisprudence³⁶⁷. The ECtHR 1998 judgement in *Osman v United Kingdom* notably shows it was the pertinent standard to assess compliance with the Convention. In this case, the Court laid out that the State needs to take all reasonable measures to prevent foreseeable risk to human rights, including if the threat is generated by a private person, and stated that more restrictive standards of gross negligence or wilful disregard are not compatible with the Convention³⁶⁸. As usual, a breach finding with due diligence depends on the actual circumstances of the case, requiring an analysis *in concreto*³⁶⁹. All these properties equate to those of due diligence described in the introduction.

In subsequent prominent environmental cases, the ECtHR used the term due diligence explicitly. For instance, in the 2005 *Fadeyeva v Russia* case, the Court held in relation to the duty to regulate private industry that:

“it is not the Court’s task to determine what exactly should have been done in the present situation to reduce pollution in a more efficient way. However, it is certainly within the Court’s jurisdiction to assess whether the Government approached the problem with due diligence and gave consideration to all the competing interest. In this respect the Court reiterates that the onus is on the State to justify, using detailed and rigorous data, a situation in which certain individuals bear a heavy burden on behalf of the rest of the community.”³⁷⁰

In other words, although the due diligence standard provides States with a so-called “margin of appreciation”, they still need to show that they adequately regulated the industry to ultimately curb the pollution. Thereby, the Court somehow reversed the burden of proof to oversee compliance³⁷¹.

367 See concurring opinions : Tran H, “Les obligations de vigilance des États parties à la Convention européenne des droits de l’homme”, *Bruylant*, 2013; Baade B, “Due Diligence and the Duty to Protect Human Rights” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020).

368 ECtHR, *Osman v United Kingdom*, 87/1997/871/1083, 28 October 1998, §116.

369 *Ibid.*

370 ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129.

371 *Ibid.*

In the more recent environmental cases of *Cordella et al v Italy*³⁷² and *Pavlov and others v Russia*³⁷³, the ECtHR restated its approach laid out in *Fadeyeva*, which aims to assess whether the respondent State approached the issue with due diligence. This position confirms the view that due diligence is a standard of conduct against which courts can measure compliance. Moreover, in *Pavlov*, the Court added that while the duty to take reasonable and appropriate measures may leave some leeway to the States in finding the right balance between conflicting interests, it specified that this balancing exercise is subject to the judicial review of the Court³⁷⁴. In the same vein, the ECtHR recognised in *Tatar v Romania* that Article 8 implies “the primary duty to establish a legislative framework and administrative measures for the effective prevention of damage to the environment and human health”³⁷⁵. Furthermore, States have a duty to conduct environmental assessments to properly assess the environmental danger, and to disclose the results of those studies³⁷⁶, even in the presence of scientifically uncertain elements (i.e., recognition of the precautionary principle)³⁷⁷.

Almost all of those criteria equate to the due diligence criteria under customary international law (see subparts 1.1 just above and 0.2 of the introduction).

1.2.2.2 The applicable ECHR in the climate realm

Since the analysis above confirms that due diligence applies to climate change under international law, the same conclusion seems valid under human rights law, given that global warming endangers human rights and that the positive obligations of States to protect human rights also encompass due diligence. The following authorities confirm this opinion.

A number of domestic cases also established the applicability of the Convention to climate matters. They either directly based themselves on Articles 2 and 8 of the Convention (Dutch and Belgian courts) or deemed

372 ECtHR, *Cordella et al v Italy*, 54414/13 and 54264/15, January 24, 2019, § 161.

373 ECtHR, *Pavlov and others v Russia*, no. 31612/09, 11 October 2022, § 90.

374 *Ibid*, § 75.

375 ECtHR, *Tatar v Romania*, 67021/01, 6 July 2009, § 88; also referring to *Budayeva v Russia*, Nos. 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02, §§ 129-132, 20 March 2008.

376 ECtHR, *Tatar v Romania*, 67021/01, 6 July 2009, § 114; see as well, ECtHR, *Ockan v Turkey*, 46771/99, 28 March 2006, § 43

377 ECtHR, *Tatar v Romania*, 67021/01, 6 July 2009, § 120.

them relevant in the development of their opinion (see, for example, the German Constitutional Court's decision³⁷⁸). They also relied on due diligence types of norms, which are also present in the Convention system, such as the "duty of care" in *Urgenda* ("*zorgplicht*")³⁷⁹, the "special duty of care" in the German constitutional case ("*besondere Sorgfaltspflicht*")³⁸⁰, and the "*devoir de prudence et de diligence*" from Articles 1382 and 1383 of the Belgium Civil code in the *Klimatzaak* case³⁸¹.

The "Strasbourg Principles of International Environmental Human Rights Law"³⁸², elaborated by some judges of the Court³⁸³, also previously pointed to the applicability of the Convention – including the embedded due diligence notion – in climate matters³⁸⁴.

Thus, in light of these elements, and besides the fact that the living instrument doctrine and the principle of harmonious interpretation applied by the Court previously enabled the incremental development of the Court's jurisprudence in the environmental area, as the former President Spano recalled³⁸⁵, the ECtHR found itself in a position in which it was almost constrained to confirm the applicability of the Convention to climate change.

378 Constitutional Court of Germany (*Bundesverfassungsgericht*), 1 BvR 2656/18, 24 March 2021, Headline 3 and § 237; see as well § 99 for its applicability with respect to the ECHR.

379 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019.

380 Constitutional Court of Germany, 1 BvR 2656/18, 24 March 2021, Headline 3 and § 237; see as well § 99 for its applicability with respect to the ECHR.

381 Court of First Instance of Brussels (French-speaking), *Klimaatzaak*, 2015/4585/A, 17 June 2021, p 58 and 83.

382 "The Strasbourg Principles of International Environmental Human Rights Law – 2022" (2022) 13 *Journal of Human Rights and the Environment* (special issue) p 196.

383 These Principles were drafted by a group of human rights and environmental law experts who were brought together by the "Human Rights for the Planet" conference held in 2020 at the European Court of Human Rights in Strasbourg and by the said Special Issue of the *Journal of Human Rights and the Environment*. According to the editorial, the conference "gathered renowned practitioners and academic experts in the field of international environmental law and human rights; the UN High Commissioner for Human Rights; the Secretary General of the Council of Europe; the ECtHR's Presidents and judges; ambassadors".

384 "The Strasbourg Principles of International Environmental Human Rights Law – 2022" (2022) 13 *Journal of Human Rights and the Environment* (special issue) principles 34, 39 and 40.

385 Spano Robert, "Should the European Court of Human Rights Become Europe's Environmental and Climate Change Court?", *Conference on Human Rights for the Planet*, Strasbourg, 5 October 2020.

And this is what eventually happened on 9 April 2024, when the Grand Chamber of the Court eventually confirmed the applicability of the positive obligations of the Convention to climate change in *KlimaSeniorinnen v Switzerland* because of the threats to human rights posed by exceeding the 1.5°C target³⁸⁶. The Court further found resulting duties to regulate GHG emissions as expressed in the following statement:

“Accordingly, the State’s obligation under Article 8 is to do its part to ensure such protection. In this context, the State’s primary duty is to adopt, and to effectively apply in practice, regulations and measures capable of mitigating the existing and potentially irreversible, future effects of climate change. This obligation flows from the causal relationship between climate change and the enjoyment of Convention rights, as noted in paragraphs 435 and 519 above, and the fact that the object and purpose of the Convention, as an instrument for the protection of human rights, requires that its provisions must be interpreted and applied such as to guarantee rights that are practical and effective, not theoretical and illusory.”³⁸⁷

This decision will likely produce further horizontal effects between private parties as well, since general tort law covers some interests protected by human rights law, as already evidenced in the Hague Court of Appeal’s judgement in *Shell*³⁸⁸. Additionally, this primary duty extends, in principle, to extraterritorial emissions, as the ECtHR also alluded to it³⁸⁹. Moreover, the Court declared that Switzerland notably violated its positive obligation to protect Article 8³⁹⁰. One cannot exclude the possibility that the ECtHR will find further violations by other States in other cases.

386 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 436 ; 451 ; and § 558.

387 *Ibid.*, § 545 et seq.

388 Court of Appeal of The Hague, *Milieudefensie v Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.18; see as well: Van Asselt H and Savaresi A, “Corporate Climate (Un)Accountability? Landmark Shell Ruling Overturned on Appeal”, *Centre for Climate Engagement, Hughes Hall, University of Cambridge*, 13 November 2024.

389 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 287, and the partly concurring partly dissenting individual opinion of Judge Eicke, § 5.

390 *Ibid.*, § 657.

1.2.3 Provisional conclusion on the existence of human rights CDD

After having established the existence of CDD in customary international law (subpart 1.1), this subpart found that it is possible to find the existence of climate mitigation due diligence duties by analogy due to the following factors:

- Human rights protection, whether international or regional, requires due diligence³⁹¹. Especially, when States comply with their obligations to protect human rights or their positive duties, they must act with due diligence. This notion is explicitly used by both the UN treaty bodies and the ECtHR.
- Climate change represents significant risks of harm in the context of human rights, as confirmed by the IPCC reports and UN treaty bodies³⁹².
- Combining these findings enables a syllogistic conclusion that the State's human rights due diligence obligations require climate mitigation, as determined by UN treaty bodies and the ECtHR³⁹³. Those decisions extend, in principle, to extraterritorial emissions³⁹⁴ and will likely produce further horizontal effects between private parties as well, as already evidenced by the latest Hague Court of Appeal's judgement in *Shell*³⁹⁵.

Given the multi-level protection of human rights and their universal aspiration, CDD has an even more ubiquitous or universal character.

1.3 Domestic general due diligence applicable to climate change

This subpart assesses the existence of CDD in domestic comparative tort law.

391 See, among others, Human Rights Committee, General Comment No. 31, "The Nature of the General Legal Obligation Imposed on States Parties to the Covenant", CCPR/C/21/Rev.1/Add. 13, 29 March 2004, § 8; ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129.

392 See, among others, Five UN human rights treaty bodies, Joint Statement on "Human Rights and Climate Change", *op cit*, 16 September 2019; ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, see notably § 436.

393 *Ibid.*

394 *Ibid.*, § 287; See as well, the opinion of partly concurring partly dissenting opinion of Judge Eicke, § 5.

395 Court of Appeal of The Hague, *Milieudefensie v Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.18; see as well: Van Asselt H and Savaresi A, "Corporate Climate (Un)Accountability? Landmark Shell Ruling Overturned on Appeal", *Centre for Climate Engagement, Hughes Hall, University of Cambridge*, 13 November 2024.

As this thesis has indicated multiple times, Dutch courts established and consolidated CDD in their domestic private law in the *Urgenda* proceedings. A first-instance court in The Hague even replicated a similar finding against a parent company of a large multinational oil and gas group in *Milieudefensie v Shell*. Does CDD also exist in the domestic tort laws of the French, German and common-law jurisdictions?

Before assessing CDD's existence in those legal systems, section 1.3.1 briefly recalls the origins and main developments of CDD under Dutch law, as some common origins and similar features exist with the other developed countries' liability systems. Then, section 1.3.2 articulates in much more detail the applicability of general due diligence to climate change in France³⁹⁶, whereas section 1.3.3 addresses CDD in Germany, and, finally, section 1.3.4 focuses on common law jurisdictions.

1.3.1 CDD's existence in Dutch law (overview)

As with any other European tort law, Dutch tort law stems from Roman law, as well as Germanic tribal law, Grotius' writings, and the Napoleonic Code³⁹⁷.

Over the course of the 20th century, the Dutch Supreme Court elaborated on the fundamental principles and criteria of its modern duty of care, notably in the *Kelderluik* (1965) case law³⁹⁸, a classic day-to-day accident case involving one individual wrongdoer and a victim. In 2015, the first instance court in The Hague ruled in the *Urgenda* case that this doctrine of hazardous negligence was relevant to dealing with climate change and adapted the criteria accordingly:

“Understandably, the State has pointed out the relevant differences between this jurisprudence and this case. This case is different in that the central focus is on dealing with a hazardous global development, of which it is uncertain when, where and to what extent exactly this hazard will materialise. Nevertheless, the doctrine of hazardous negligence, as explained in the literature, bears a resemblance to the theme

396 Note that the term “common law” may refer in this thesis to the respective “general tort liability laws” of the assessed domestic jurisdictions.

397 Warden Lee R and Cowen D V, “Roman-Dutch Law”, *Encyclopaedia Britannica*, 10 May 2017.

398 Supreme Court of the Netherlands, *Kelderluik*, ECLI:NL:HR:1965:AB7079, 5 November 1965.

of hazardous climate change, so that several criteria stated below can be derived from hazardous negligence jurisprudence in order to detail the concept of acting negligently towards society. [...]

(i) the nature and the scope of the damage caused by climate change (ii) the knowledge and foreseeability of this damage (iii) the likelihood that dangerous climate change will manifest itself (iv) the nature of the behaviour (or the omissions) of the state and (v) the inconvenience of the precautionary measures to be taken (vi) the discretion of the State to execute its public duties – with due regard for the public-law principles, all this in light of: - the latest scientific knowledge; - the available (technical) option to take security measures, and - the cost-benefit ratio of the security measures to be taken.”³⁹⁹

Those criteria bear much resemblance to due diligence in international customary law and human rights law (see sections 0.2.1 and 0.2.2 of the introduction and Part 1.1 and 1.2 above), which is not surprising given that Grotius – an eminent Dutch lawyer – influenced both the development of Dutch and international law, including due diligence⁴⁰⁰. Interestingly, another Dutch lawyer, Roger Cox, contributed to the development of general CDD in the Netherlands and beyond. He was notably one of the lead lawyers at the origin of the *Urgenda* case and the *Shell* case. Before launching these cases, he published a book in 2011, called *Revolution Justified*, in addition to publishing articles in legal journals, laying out how he would apply the *general* duty of care to global warming⁴⁰¹. The District Court of Den Haag then accepted *Urgenda* and Cox’s arguments⁴⁰². He also predicted the spill-over effect the judgement would have⁴⁰³.

In appeal and cassation, the Dutch Court of Appeal and Supreme Court directly applied Articles 2 and 8 of ECHR and the flowing due diligence obligations instead of the domestic tort duty of care, noting, however, that

399 Den Haag District Court, *Urgenda*, C/09/456689 / HA ZA 13-1396, § 4.63.

400 Bonniticha J and McCorquodale R, “The Concept of ‘Due Diligence’ in the UN Guiding Principles on Business and Human Rights” (2017) 28(3) *European Journal of International Law* p 903.

401 Cox R, *Revolution Justified: Why Only the Law Can Save Us Now*, trans Elizabeth HD Manton (The Planet Prosperity Foundation 2012); see as well, Cox R, “The Liability of European States for Climate Change” (2014) 30(78) *Utrecht Journal of International and European Law* p 125.

402 Den Haag District Court, *Urgenda*, C/09/456689 / HA ZA 13-1396; see as well Cox R, “A Climate Change Litigation Precedent: *Urgenda Foundation v The State of the Netherlands*” (2016) 34(2) *Journal of Energy & Natural Resources Law* p 143–163.

403 *Ibid.*

the first instance court already considered the latter Convention rights⁴⁰⁴. Of course, the ECHR developments influenced the Member States domestic laws⁴⁰⁵, including Dutch tort law, notably through the doctrine of horizontal effect of the Convention⁴⁰⁶. Conversely, the Dutch jurisprudence, especially the *Urgenda* rulings, heavily influenced the ECtHR case law, notably the *KlimaSeniorinnen* ruling (i.e., the *Urgenda* judgements were a key reference all along the proceedings; for more analysis, see section 1.2.2).

Independent of the implementation of ECtHR's outcome in *KlimaSeniorinnen*, other domestic (case) laws may have already evolved in the direction of *Urgenda* or *Milieudefensie v Shell*, at least to some extent.

The next section 1.3.2 establishes in much more detail the existence of due diligence and its applicability to climate change in French tort law; section 1.3.3 does so with German liability law; and section 1.3.4 with common law jurisdictions.

1.3.2 CDD's existence in French Liability Law

This subsection shows that CDD exists in French tort law, including administrative liability law. To show this, subdivision 1.3.2.1 recalls the Roman Law and Napoleonic origins of due diligence and French law; subdivision 1.3.2.2 discusses the main evolutions of tort law; subdivision 1.3.2.3 discusses briefly the separation of private tort law with public tort law; subdivision 1.3.2.4 presents the general environmental duty of care; subdivision 1.3.2.5 addresses the recent statutory recognition regarding the due diligence obligations of parent and procuring companies of multinational corporations in the human rights and environmental area; subdivision 1.3.2.6 eventually argues that French private and public tort law apply to global warming.

404 Den Haag District Court, *Urgenda*, C/09/456689 / HA ZA 13-1396, § 4.45 – 4.46 and § 4.52.

405 As stated above, domestic courts must supervise compliance with the ECHR in their respective systems (see ECtHR, *Grzęda v Poland* [GC], no. 43572/18 2022, § 324.

406 Milieudefensie et al, *Summons to Shell*, unofficial translation of the Dutch original (2018) § 667, https://www.climatecasechart.com/documents/milieudefensie-et-al-v-royal-dutch-shell-plc-summons_6264, last accessed 20 October 2025.

1.3.2.1 The Roman law origins of due diligence in French tort law

In France, the Civil Code (Napoleonic Code⁴⁰⁷) establishes the pillars of tort liability in the following articles:

Article 1240 (former article 1382): “Any human action whatsoever which causes harm to another creates an obligation in the person by whose fault it occurred to make reparation for it.”

Article 1241 (former article 1383): “Everyone is liable for harm which he has caused not only by his action, but also by his failure to act or his lack of care.”⁴⁰⁸

Although these articles do not explicitly mention the duty of care or due diligence, or the reasonable man standard, jurisprudence and legal scholarship unanimously refer to it (*devoir de prudence* or *de diligence*, *standard de la personne raisonnable* ou, *autrefois*, “*du bon père de famille*”). They further refer to the above articles as “*le droit commun*” (common or general law), which “includes the general law of extra-contractual liability for fault under articles 1240 – 1241 [...], except where the parties made contractual arrangements during negotiations.”⁴⁰⁹ Hence, French *general* law is applicable by default, and the term is used in France to separate it from contract law and other situations specifically regulated by other provisions⁴¹⁰, such as the strict liability of parents with respect to their children (Art 1242), strict product liability (Article 1245 et seq.) etc.

The “Napoleonic Code” of 1804, one of the first and most authoritative attempts to codify civil law⁴¹¹, is the result of numerous legal contributions

407 According to the Encyclopaedia Britannica, the Napoleonic Code “was originally introduced into areas under French control in 1804: Belgium, Luxembourg, parts of western Germany, northwestern Italy, Geneva, and Monaco. It was later introduced into territories conquered by Napoleon: Italy, the Netherlands, the Hanseatic lands, and much of the remainder of western Germany and Switzerland. The code is still in use in Belgium, Luxembourg, and Monaco.” (See The Editors of Encyclopaedia, “Napoleonic Code”, *Encyclopaedia Britannica*, 14 November 2023).

408 Cartwright J, Fauvarque-Cosson B and Whittaker S, *Civil Code Translated into English*, commissioned by the Direction des affaires civiles et du sceau, Ministère de la Justice, République française 27.

409 *Ibid*, p 4.

410 See, for instance, Danis-Fatôme A, “La responsabilité civile dans la proposition de directive européenne sur le devoir de vigilance” (2022) *Recueil Dalloz* p 1107.

411 See The Editors of Encyclopaedia, “Napoleonic Code”, *Encyclopaedia Britannica*, 14 November 2023.

and traditions⁴¹², themselves very much influenced by Jean Domat's (1625 - 1696)⁴¹³ major piece « *Les loix civiles dans leur ordre naturel* » published in 1689⁴¹⁴, which attempted to codify Roman and Christian customs⁴¹⁵. The roots of the Civil Code go in fact back to Roman times, as section 0.2.2 of the introduction already indicated.

One of the first drafts of the Napoleonic Code illustrated this influence by foreseeing liability when someone was throwing out anything from a house, such as sewer water⁴¹⁶. Instead of enshrining different specific and casuistic forms of negligence into the Civil Code, its exhaustive review process by the French judicial and other public bodies led to the establishment of a principle-based approach⁴¹⁷, framed as an *ordre public* provision, meaning it has *jus cogens* character⁴¹⁸. In short, they impose an obligation of reasonable conduct, such as in Roman law ("*bon père de famille*" or *bonus pater familias* in Latin). For some eminent authors of French legal literature, the current provisions have an elegant, *universal* and open character, leaving much leeway to courts to extend (or not) liability in many different situations, which is criticised at the same time⁴¹⁹.

Either way, these common roots explain and highlight even more the similarities between the duty of care or due diligence standard enshrined in these articles and the due diligence under international customary law and

412 Drafted by specialists of the written law tradition (Tronchet, Bigot-Préameneu), and customary law of the South, including Roman law (Portalis, and Maleville), all the major courts of law and counselling bodies (including the Conseil d'Etat) and the Legislative Body (Corps Législatif) reviewed the French Napoleonic Code.

413 Descamps O, "La responsabilité dans le Code civil" (2009) *Histoire de la Justice* No 19 p 291-310; see as well Noda Y, "Jean Domat et le Code civil français. Essai sur l'influence de Domat sur le Code civil français, particulièrement sur ses dispositions relatives à la responsabilité délictuelle" (1956) 3 *Comparative Law Review* p 27.

414 Domat Jean, *Les loix civiles dans leur ordre naturel*, t. 1, 7, 8, 4, 1, Paris, David, 1713, fol. 181.

415 Descamps O, "La responsabilité dans le Code civil" (2009) *Histoire de la Justice* No 19 p 298 - 299.

416 *Ibid*, p 294 referring to Art. 17: If water or anything else which causes damage is thrown toward a passer-by from a house inhabited by several people, the person who lives in the flat from which it was thrown is solely liable for the damage. If the person who threw it was identified, he alone is liable; if he was not identified, all are jointly and severally liable. (Own translation).

417 *Ibid*, p 297.

418 *Ibid*, p 302 ; C. Cass, Civ 3 janv 1933: DH 1933. 113, 4 janv 1933 ; C. Cass, Civ 2e, 17 févr. 1955, no 55-02.810: GAJC, 11e éd., no 178; D. 1956. 17, note Esmein; JCP 1955. II. 8951, note Rodière.

419 Viney G, Jourdain P and Carval S, *Traité de responsabilité civile – Les conditions de la responsabilité*, 4th ed, LGDJ, 2013, n° 439.

human rights law (see section 0.2. and subparts 1.1 and 1.2), which protect a significant number of interests while leaving a wide margin of appreciation to the duty-bearers.

1.3.2.2 The developments and functions of French liability law

French tort law forbids negligence and requires the exercise of reasonable conduct, by complying with the standard of care or reasonable man standard, or formerly the *bon père de famille* standard⁴²⁰ (*bonus pater familias*). This standard of conduct expects people to be normally prudent, diligent, and careful, i.e., to implement adequate and to prevent foreseeable harms⁴²¹. The courts in France carry out a foreseeability analysis as they consider *in abstracto* and *in concreto* whether the defendant could reasonably anticipate that his negligence would cause some harm to someone else⁴²². These principles led to the historical liability of a company producing medicines.⁴²³ However, if the damage was not foreseeable (*imprévisible*⁴²⁴), the courts can dismiss the case for lack of fault or lack of causation⁴²⁵.

In 2017, the French Minister of Justice presented a legal reform of the Civil Code, not yet adopted, but which is worth noting, since numerous provisions endeavour to reflect the jurisprudential developments of the law or the consensus within the legal doctrine to carry out these evolutions⁴²⁶.

420 Guinchard S and Debard T, *Lexique des termes juridiques 2022-2023* (Dalloz, August 2022), p 140: « *Bon père de famille* ». See as well, Gałuska K, “Le standard juridique de bon père de famille et la symétrie entre les expressions bon père de famille et bonne mère de famille en droit français” (2017) *Roczniki humanistyczne*.

421 *Ibid*, p 140 ; and p 562 on « Imprévisibilité ».

422 Guinchard S and Debard T, *Lexique des termes juridiques 2022-2023* (Dalloz, August 2022), p 563 on « in abstracto ».

423 Cour de cassation, *Distillène* (Cass. I^{re} civ 7 Mars 2006 [2 jugements], pourvoi n 04-16.179 et n 04-16.180, Bull. civ I, n 142 et n 143; RTD civ 2006, p 565).

424 Guinchard S and Debard T, *Lexique des termes juridiques 2022-2023* (Dalloz, August 2022), p 562.

425 According to Guinchard Serge, Debard Thierry, *Lexique des termes juridiques 2022-2023*, Dalloz, Août 2022, p 162.

426 Urvoas J-J, *Projet De Réforme De La Responsabilité Civile*, 13 March 2017 ; see as well the commentary of Mekki M, “Le projet de réforme du droit de la responsabilité civile: maintenir, renforcer et enrichir les fonctions de la responsabilité civile” (2016) p 2.

Firstly, the reform project proposes a simpler phrasing of the already mentioned articles 1241 and 1242. It explicitly integrates the word “diligence” (including in French):

Article 1241: “A person is liable for damage caused by his fault.

Article 1242: “A breach of a legal prescription or a failure to observe the general duty of care or diligence constitutes a fault.” (In French: “*devoir général de prudence ou de diligence*”).

In addition, the reform project admits partial and collective causation (or rather contribution) to seek proportionate responsibility in the case of bodily harm (art 1240⁴²⁷). This proposal reflects former well-known reform projects⁴²⁸. It furthermore aims to codify the jurisprudential notion of loss of opportunity or loss of chance, i.e. proving a cause of action to recover partially a damage, when the contribution to it was partial or uncertain (*préjudice de perte de chance*)⁴²⁹. Note, in this respect, that the case law of the “*affaire du siècle*” (i.e., *Notre affaire à tous et al v France*) recognises collective and cumulative causation in the climate realm⁴³⁰, which should also be relevant for the development of the civil tort liability law⁴³¹.

Concerning preventative legal avenues, the reform project does include a general legal avenue “to prevent the harm or to put an end to the unlawful disturbance to which the plaintiff is exposed” (Article 1266)⁴³², akin to the former reform proposal Catala of the Civil Code⁴³³. Some preventative actions are possible under the *de lege lata*, but are restricted to certain circumstances: a 1970 reform of the Civil code enabled courts to issue preventative measures such as seizure to protect private and family

427 *Ibid*, see proposed Articles 1239 and 1240.

428 See Art. 1347 - 1348 and 1378 of Catala P, *Avant-Projet de Réforme du Droit des Obligations (Articles 1101 à 1386 du Code civil) et du Droit de la Prescription (Articles 2234 à 2281 du Code civil): Rapport à Monsieur Pascal Clément, Garde des Sceaux, Ministre de la Justice* (22 September 2005).

429 Urvoas J-J, *Projet De Réforme De La Responsabilité Civile*, 13 March 2017, Article 1238.

430 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 34.

431 See concurring opinion : Mekki M, “Peut-on repenser la responsabilité à l’aune du devoir de vigilance, pointe avancée de la compliance” in M-A Frison-Roche (dir), *L’obligation de Compliance* (Daloz, coll. “Régulations & Compliance”, 2024).

432 Urvoas J-J, *Projet De Réforme De La Responsabilité Civile*, 13 March 2017, Article 1266.

433 See projet Catala (Article 1369-1), *op cit*.

life⁴³⁴; a 1975 reform of the procedural code reinforced interim measures in summary proceedings⁴³⁵, a 2008 provision enabled the prevention of bodily harm⁴³⁶; and the 2016 reform of the Civil Code enshrined the ability to prevent ecological harm⁴³⁷. A general preventative avenue, available in normal proceedings, may therefore be useful. However, such reform may not be necessary for the climate context, as the administrative court of Paris already admitted injunctive relief in the climate case *Notre affaire à tous et al v France*, notably based on the need to prevent ecological harm⁴³⁸.

Furthermore, the European Directive on Corporate Sustainability Due Diligence (CSDDD), adopted in June 2024, aims to ensure, especially through its Article 29 on civil liability, the incorporation into general domestic tort law of the principle of shared responsibility or multiple authors – hence, including cumulative causation – and general injunctive relief measures⁴³⁹. However, this directive is subject to political renegotiation in 2025. Numerous provisions could be modified or even deleted, including the one on civil liability.

1.3.2.3 French administrative rules on State liability include due diligence

The strong separation of powers principle incorporated by the French Revolution in 1789 barred civil courts from citing the State or any other public person as a defendant in a legal case (see “*Loi des 16-24 août 1790 sur l’organisation judiciaire*”, especially Article 13, which is still in force). Administrative law, however, evolved in France in 1882 with the *Blanco* jurisprudence, thereby dismissing the applicability of the above Civil Code articles, creating another legal branch, namely “public law”⁴⁴⁰. Meanwhile, state responsibility in France is mainly organised by case law, akin to common law jurisdictions. However, administrative courts often

434 Article 9 Code civil.

435 Art. 835 (ancien 809) Code de procédure civile.

436 Art. 16-2 Code civil.

437 Article 1252 du Code civil.

438 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), N°1904967, 1904968, 1904972, 1904976/4-1, (second decision), 14 October 2021, Article 2.

439 See, notably Article 22 (3) and (5) CSDDD.

440 Tribunal des conflits, *Blanco*, 8 févr. 1873.

draw inspiration from Civil Code provisions or even directly apply them⁴⁴¹, including Articles 1240 et 1241 (general law, see 1.3.2.1 above). Administrative courts also recognise State responsibility for failure to prevent risks in cases of wrongful omission or insufficient protection of rights, including when legislative measures must be adopted for this purpose⁴⁴².

The ECHR is furthermore directly applicable before the administrative judge, meaning that the due diligence standards flowing from the conventions equally apply⁴⁴³. The ECtHR also has jurisdiction to review State policies to make sure they do not infringe on human rights, even negligently (see section 1.2.2 above). Hence, numerous, if not all, forms of possible State negligence are recognised, showing in turn a large recognition of *general* due diligence in French public liability law⁴⁴⁴.

Administrative courts can also issue injunctions to prevent or cease the harm, including in full liability cases (*plein contentieux*), as recognised by the *Conseil d'Etat* in 2015⁴⁴⁵. Before that jurisprudence, administrative courts did not allow injunctions to stop or prevent *damage* to avoid interference in the management of the French administration, a conception that was in line with the traditional, stringent views on the separation of powers⁴⁴⁶. Should this mean that administrative courts can now compel the State to remedy preventively defective legislation? This will remain for some time an open question, as there is no case law in this respect. In the climate case *affaire du siècle*, the Paris administrative court merely forced the State to enact additional measures to comply with its former GHG

441 Sauvé J-M, “Le dualisme juridictionnel : synergies et complémentarité” (Speech, Cycle approfondi d’études judiciaires 2016/2017 ‘L’autorité judiciaire dans l’État’); Plessix B, *L’utilisation du droit civil dans l’élaboration du droit administratif* (PhD thesis, Panthéon-Assas 2003).

442 See, for instance, Supreme Administrative Court of France (Conseil d’Etat), *Ministre de l’emploi et de la solidarité c/ Consorts Thomas*, n° 241152, 3 mars 2004. See as well, Aguila Y, “Petite typologie des actions climatiques contre l’État” (2019) *AJDA* 1853.

443 Sauvé J-M, “Les 60 ans de la Convention européenne de sauvegarde des droits de l’homme et des libertés fondamentales”, *Colloque organisé par l’Université de Paris 3 Sorbonne Nouvelle, Sénat*, 9 avril 2010.

444 The Administrative Supreme Court (Conseil d’Etat) concurs with this position, see its commentary of the Blanco case: Conseil d’Etat, “Commentary of ‘Tribunal des conflits, 8 février 1873, Blanco’”, in *Les grandes décisions du Conseil d’Etat et du Tribunal des conflits*, 8 February 2019, <https://conseil-etat.fr/decisions-de-justice/jurispudence/les-grandes-decisions-depuis-1873/tribunal-des-conflits-8-fevrier-1873-blanco>, last accessed 19 October 2025.

445 Supreme Administrative Court of France (Conseil d’Etat), 27 July 2015, no. 367484; *AJDA*, 2015, p 2277, note by Alix Perrin.

446 Rouquette R, *Petit traité du procès administratif 2018/19* (Daloz 2018) § 322.211.

reduction objectives set in its regulatory act (*décret*); it was not intended to remedy any defects in legislation.

1.3.2.4 The French general environmental duty of care and the possibility of seeking preventative measures through injunctive relief

In 2005, the French lawmakers adopted the French Environmental Charter with the constitutional law n° 2005-205 of 1er March 2005, setting out various rights, duties and principles in environmental matters. The Environmental Charter has a constitutional value, meaning it is at the top of the French hierarchy of norms. The Constitutional Council subsequently derived in its 2011 *Michel Z* decision a general obligation of environmental vigilance from articles 1 and 2 of the French Environmental Charter⁴⁴⁷. This obligation is the environmental pendant of the general duty of care in tort law. According to Franck Terrier, former President of the Third Civil Chamber of the Court of Cassation:

“[A]s interpreted by the decision of the Constitutional Council of April 8, 2011, the Charter imposes not only on the public authorities and the administrative authorities but also on every person an obligation of vigilance, each being required to answer for the environmental damage that may result from his or her activity, and the right to sue for damages may not be restricted under conditions that distort its scope. Once these principles have been established, it is up to the judges to give them life.”⁴⁴⁸

The Cassation Court recently gave life to this general duty in the so-called “*Dieselgate*” case, involving contractual obligations of the producer (Volkswagen) with respect to the consumer⁴⁴⁹. More generally, one may request enforcement of the obligation of environmental vigilance in the event of risk of damage, or if damage occurs⁴⁵⁰. This perspective is perfectly consist-

447 Constitutional Council of France (Conseil Constitutionnel), n° 2011-116 QPC of 8 April 2011.

448 Neyret L and Martin G J (dirs), *Nomenclature des préjudices environnementaux* (LGDJ 2012) preface Terrier F, p 2.

449 Cour de Cassation, n° V 23-23.869, 24 septembre 2025.

450 Foucher K, “La première application de la Charte de l’environnement par le Conseil constitutionnel dans le cadre de la QPC : de l’inédit, de l’inutile et du flou” (2011) *A.J.D.A.* p 1158.

ent with the recently introduced articles 1246-47 and 1252 of the Civil Code, which respectively provide a right to compensation for environmental harm⁴⁵¹ and to enforce reasonable measures to prevent or stop it⁴⁵². While the latter means that ecological risks may be prevented by way of litigation without the occurrence of a proper injury⁴⁵³, note that in 2012, French courts, including the Court of Cassation, recognised that a “pure” ecological loss *can* be recoverable in the famous *Total Erika oil spill* case, caused by a boat of TotalEnergies’s subsidiaries, for facts dating back to 1999⁴⁵⁴. Thus, the case law already provided the legal basis for asking compensation for ecological harm even before the legislative reform in 2016.

1.3.2.5 The law on the Duty of Vigilance of parent and procuring companies in human rights and environmental matters

France adopted in 2017 a law to impose a “Duty of Vigilance on Parent and Procuring Companies”, obliging them to identify and prevent serious related human rights and environmental harms resulting from the subsidiaries and suppliers’ activities.

The Duty of Vigilance Law refers to the general articles of civil tort law (i.e., Articles 1240 and 1241 of the Civil Code) to establish liability⁴⁵⁵. Since these articles require a duty of prudence, or due diligence, courts must apply civil liability mechanisms and find a causal link between the

451 Article 1246 Civil code (current version – own translation): “Any person responsible for ecological damage is obliged to compensate for it.” Article 1247 Civil code (current version – own translation): “Ecological damage consisting of non-negligible harm to the elements or functions of ecosystems or to the collective benefits derived by man from the environment may be compensated in accordance with the conditions laid down in this Title.”

452 Article 1252 Civil code (current version – own translation): “Independently of the compensation for the ecological damage, the judge, seized of a request to this effect by a person mentioned in article 1248, may prescribe reasonable measures to prevent or stop the damage”.

453 Trébulle François-Guy, “La consécration de l’accueil du préjudice écologique dans le Code civil”, *Énergie – Environnement – Infrastructures*, LexisNexis JurisClasseur, November 2016; Mekki M, “Peut-on repenser la responsabilité à l’aune du devoir de vigilance, pointe avancée de la compliance” in M-A Frison-Roche (dir), *L’obligation de Compliance* (Dalloz, coll. “Régulations & Compliance”, 2024).

454 Cour de cassation, crim., *Erika*, n° 10-82-938, 25 septembre 2012.

455 Article L225-102-5 du Code de commerce, créé par la loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d’ordre .

lack of vigilance and the damage to establish liability. There is additional consistency between the Duty of Vigilance Law and Article 1240 Civil Code due to the conceptual similarities: the latter already contains a duty of care as shown above (i.e., *devoir de prudence* or *devoir de diligence*, see subdivision 1.3.2.1). Hence, the Duty of Vigilance Law does not constitute any *lex specialis derogat legi generali*. Both rules coexist, and the former only specifies that general law imposes a duty of care on parent and procuring companies to avoid harm to others and the environment potentially caused by subsidiaries and suppliers – an opinion that the case law recently confirmed⁴⁵⁶.

Despite the legislative intervention to establish the Duty of Vigilance Law, it seems arguable that these duties could also have emerged from the incremental evolution of case law, notably based on general due diligence. Firstly, Ruggie drew from the ubiquitous general due diligence concept (stemming from Roman law) to bring together human rights and due diligence (see section 0.2.2 of the introduction). The precise purpose of the Duty of Vigilance Law is to enshrine these principles in French law⁴⁵⁷. Prior to the adoption of this law, the aforementioned Catala⁴⁵⁸ and Terré Civil Code Reform Projects also sought to introduce such a duty. But the case law has already required parent companies to carry out due diligence. For example, in the *Total Erika* case⁴⁵⁹, the Court of Cassation found the parent company guilty of a lack of monitoring of the safety of an oil tanker chartered by a subsidiary. The Court of Cassation held Total liable for the resulting oil spill because the company had previously pledged to prevent any damage caused by its subsidiary, but failed to do so (i.e., the Court based its decision on Total's personal and voluntary commitment to inspect the tanker). Notwithstanding this specific circumstance (the voluntary commitment), this case may show more generally that a parent company must prevent damage if it is aware of the risk of damage and is in a position to exercise control and influence; otherwise, it can be held accountable. Moreover, in a considerably less well-known case, the Court

456 See a similar opinion by the Paris Court of Appeal in the *Total Climate* case stating that the Duty of Vigilance Law “did not create a special liability regime” (Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 23).

457 Proposition De Loi n°2578 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre, Exposé des motifs, p 4, § 1.

458 See the proposed Article 1360 Civil Code.

459 Cour de cassation, crim., *Erika*, n° 10-82-938, 25 septembre 2012.

of Cassation found a parent company liable for having taken “harmful decisions” for the subsidiary based on articles 1240 and 1241 of the Civil Code⁴⁶⁰.

As to causation, its demonstration faces substantial difficulties due to the conflicting *in solidum* principle, which requires full compensation for the damage. However, in cases where the dominant company’s contribution to the damage is only minimal or difficult to estimate, the French courts can still hold the parent company liable for causing a “loss of chance” or “loss of opportunity”⁴⁶¹. This concept allows, in principle, the establishment of a causal link between the lack of vigilance and the resulting damage, even if it is indirect, weak or even difficult to determine. It may thus have an advantage, for the applicant who does not have to demonstrate an extremely precise causal link⁴⁶².

At least three climate cases against parent companies of transnational corporations rely on the Duty of Vigilance and the compensation of the ecological harm or the corresponding loss of chance (*perte de chance*)⁴⁶³, making these cases CDD ones.

1.3.2.6 General due diligence certainly applicable to climate matters, including between private persons

In the “*Affaire du siècle*” case, the Administrative Court of Paris established the State’s liability for contributing to global warming, as this constitutes ecological harm (*préjudice écologique*).⁴⁶⁴ The Court inferred a duty from the State’s ratification of international climate conventions and the

460 Cour de cassation, soc., *Sofarec*, n° 13-15.573, 8 juillet 2014.

461 Danis-Fatôme A, “La responsabilité civile dans la proposition de directive européenne sur le devoir de vigilance” (2022) *Recueil Dalloz* p 1107.

462 See, among others, Cour de cassation, Civ 1 re, 14 oct. 2010, n o 09-69.195, P I, n o 200, préc ; C. Ruellan, art. préc., n os 27 et 35 ;

463 Case summary and documents of *Notre Affaire à Tous and Others v Total*: https://www.climatecasechart.com/document/notre-affaire-a-tous-and-others-v-total_85ea; Case summary and documents of *Notre Affaire à Tous Les Amis de la Terre, and Oxfam France v BNP Paribas*: <https://climatecasechart.com/non-us-case/notre-affaire-a-tous-les-amis-de-la-terre-and-oxfam-france-v-bnp-paribas/>; See Case of *Envol Vert et al v Casino*: -Case summary and complaint: <https://climatecasechart.com/non-us-case/envol-vert-et-al-v-casino/>, last accessed 28 October 2025.

464 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, n°1904967, 1904968, 1904972, 1904976/4-1, § 16.

adoption of domestic legislative and regulatory targets⁴⁶⁵. Additionally, it acknowledged the existence of a *general* duty to fight climate change and limit global warming to 1.5°C. However, the Court found no breach on this basis⁴⁶⁶. Instead, it held that liability arose from the State's failure to respect its own 2015-2018 GHG budget⁴⁶⁷. Consequently, the Court enjoined the State to compensate for exceeding its GHG carbon budget 2015-2018 by ensuring that emissions would come below this budget before the end of 2022⁴⁶⁸. Since not only the State contributes to global warming, but primarily private persons, civil courts should similarly consider contributions by private parties to ecological harm as unlawful, particularly if a breach of a legal obligation, such as CDD, can be established⁴⁶⁹.

Furthermore, in *Grande-Synthe*, the Administrative Supreme Court found that the State was not on track to achieve the legislative 2030 GHG reduction target of -40% compared to 1990⁴⁷⁰. This failure constituted an "*excès de pouvoir*" (*ultra-vires*, i.e., an unlawful conduct)⁴⁷¹. This decision of the Conseil d'Etat further shows the acceptability of using tort law principles in the climate realm.

Since both private and public persons must comply with due diligence in order to avoid liability under French law, and given that global warming threatens numerous legal interests protected under this jurisdiction, it is reasonable to assume that CDD applies there, based on the above findings. However, as no final decision has yet been made in climate cases against private companies, it is impossible to rely on any fully confirmed and consolidated authority in this area at this stage. Still, on 18 June 2024, the Paris Court of Appeal ruled that a CDD case against TotalEnergies was admissible. This means that claimants have standing to request multinational actors to comply with CDD included in the Duty of Vigilance Law and the general obligation of environmental care⁴⁷². This decision

465 *Ibid.*, § 21.

466 *Ibid.*, § 32.

467 *Ibid.*, § 31.

468 Administrative Court of Paris, *Notre affaire à tous et al v France*, 14 October 2021 (second decision), Article 2.

469 See concurring opinion : Mekki M, "Peut-on repenser la responsabilité à l'aune du devoir de vigilance, pointe avancée de la compliance" in M-A Frison-Roche (dir), *L'obligation de Compliance* (Dalloz, coll. "Régulations & Compliance", 2024).

470 Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020.

471 *Ibid.*

472 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19 - 22: "The purpose of the action brought is to enjoin TotalEner-

should likely mean that corporate human rights and environmental due diligence require, in principle, climate mitigation⁴⁷³; however, the extent of this obligation will be debated during the proceedings on the merits.

Furthermore, corporate practices tend to confirm the existence of CDD. Indeed, at least 25 transnational companies address climate mitigation matters in their vigilance plans, including TotalEnergies and BNP Paribas; note that both companies are sued in cases based on CDD⁴⁷⁴. In those documents, TotalEnergies has set out a “vision of a Net Zero TotalEnergies in 2050, together with society”⁴⁷⁵; and BNP Paribas has committed to aligning its objectives with the 1.5°C goal of the Paris Agreement objectives⁴⁷⁶. These elements demonstrate an attempt by multinational corporations to show compliance with the CDD duty.

Additionally, the European Directive on Corporate Sustainability Due Diligence Directive (CSDDD), adopted definitively in 2024, sets out similar *procedural* and *substantive* CDD obligations, including a duty to establish climate transition plans in Article 22⁴⁷⁷. However, this climate provision

gies to include in its due diligence plan measures to identify the risks associated with the emission of GHGs that cause global warming and to reduce them through actions to be taken at the level of the activities of its group entities and those of its subcontractors, activities that take place in different parts of the world [...]. As global warming affects the entire planet, the purpose of the action is to publish and implement measures likely to help reduce this phenomenon and its harmful consequences on a worldwide scale. It follows that the action taken is in the global public interest [...]. The interest of the associations Notre Affaire à Tous, Sherpa and Zéa in taking action is not contested. [...] These associations will therefore be deemed admissible in their action”. (Own translation).

473 See concurring opinions of the legal literature: Trébulle François-Guy, “Responsabilité et changement climatique : quelle responsabilité pour le secteur privé ?”, *Énergie – Environnement – Infrastructures*, no 8–9, August–September 2018, Lexis Nexis, p 26 ; see furthermore, Rochfeld J, “Sur l’apport de la loi vigilance en matière environnementale et climatique” in Mougeolle P and Chaigneau A (eds), *Entreprises et Communs* (La Revue des droits de l’homme 2020); Mekki M, “Peut-on repenser la responsabilité à l’aune du devoir de vigilance, pointe avancée de la compliance” in M-A Frison-Roche (dir), *L’obligation de Compliance* (Dalloz, coll. “Régulations & Compliance”, 2024).

474 For a comparative review, see Notre Affaire à Tous, *Benchmark de la vigilance climatique des multinationales* (2023).

475 TotalEnergies, *Document d’enregistrement universel 2021* p 166.

476 BNP Paribas, *Document d’enregistrement universel et rapport financier annuel 2022* p 700.

477 See CSDDD - Corporate Sustainability Due Diligence Directive (“Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence”).

was surprisingly removed in December 2025, a legislative amendment which was confirmed at the beginning of 2026⁴⁷⁸. This political reform, adopted in a context in which the Trump administration exercised pressure on the EU institutions to remove this provision, alongside fossil fuel producers such as Exxon and TotalEnergies⁴⁷⁹, seems inconsistent with the State CDD duty to regulate corporate actors under international and human rights law⁴⁸⁰, but also with the non-regression principle, recognised both in the Treaties and in the CSDDD⁴⁸¹.

Thus, despite the removal of Article 22 CSDDD, these developments still suggest the applicability of general liability law to climate change, as well as the corresponding recognition of *general* CDD in France. Accordingly, this dissertation concludes that general due diligence applies to climate matters⁴⁸² and requires a 1.5°C limitation given the previous court findings.

478 See Council of the EU, Council and Parliament strike a deal to simplify sustainability reporting and due diligence requirements and boost EU competitiveness (Press release, 9 December 2025), <https://www.consilium.europa.eu/en/press/press-releases/2025/12/09/council-and-parliament-strike-a-deal-to-simplify-sustainability-reporting-and-due-diligence-requirements-and-boost-eu-competitiveness/>. See the consolidated Directive here: Directive (EU) 2026/470 of the European Parliament and of the Council of 24 February 2026 amending Directives 2006/43/EC, 2013/34/EU, (EU) 2022/2464 and (EU) 2024/1760 as regards certain corporate sustainability reporting requirements and certain corporate sustainability due diligence requirements (Text with EEA relevance).

479 Leth D O, The secretive cabal of US polluters that is rewriting the EU's human rights and climate law, *SOMO*, 3 December 2025.

480 See the concurring opinion by more than fifty Professors of Law: Wetzer T et al, Legal Scholars: "Abandoning Article 22 CSDDD Risks Policy Incoherence and Litigation Risk", 23 November 2025 Letter-from-legal-scholars-on-Art.-22-CSDDD.pdf.

481 Article 191 (1) Treaty on the Functioning of the EU obligates Member States of the EU to pursue progress regarding the protection of the environment and human health; hence, any regression should be prevented. Article 1 (2) CSDDD also provides for a similar principle, while noting that the 2026 version of the Directive was modified in a manner to combat the emergence of climate obligations through the incremental development of domestic (case) laws.

482 See, for concurring opinions: Trébulle François-Guy, "Responsabilité et changement climatique : quelle responsabilité pour le secteur privé ?", *Énergie – Environnement – Infrastructures*, no 8–9, August–September 2018, Lexis Nexis, p 26; Rochfeld J, "Sur l'apport de la loi vigilance en matière environnementale et climatique" in Mougeolle P and Chaigneau A (eds), *Entreprises et Communs* (La Revue des droits de l'homme 2020); see also Danis-Fatôme A and Hoffschir N, "La loi sur le devoir de vigilance rendue inefficace par le juge – Observations sous Tribunal judiciaire de Paris, 5e ch., 2e sect., 6 juillet 2023, n° 22/03403, Total Energies" (2023) *Revue des sociétés* p 793, § 26.

Lastly, while CDD seems manifestly applicable in France today, it should also be the case historically. Indeed, the French Cassation Court has previously recognised that the vigilance obligation (due diligence) extends to uncertain scientific elements, even facts dating back to the 1970s⁴⁸³.

Finally, note that in Belgium, the Court of Appeals of Brussels interpreted in the *Klimatzaak* case the “*devoir de prudence et de diligence*” or the “*standard du bon père de famille*” from Articles 1382 and 1383 of the Belgium Civil code as requiring a CDD duty to limit global warming to 1.5°C from the State (note that the Belgium Civil Code stems from the Napoleonic Code and that its Articles 1382 and 1383 correspond to Articles 1240 and 1241 of the French Civil code, recently renumbered, as previously discussed)⁴⁸⁴. More concretely, the Court mandated a 55% reduction by 2030 compared to 1990 in this case, which it considered the minimum necessary for an EU Member State in light of the so-called “European Climate Law” of 2021 that imposes this reduction target⁴⁸⁵. In Belgium, no separation between private and public law occurred like in France; therefore, the *general* due diligence of the Napoleonic Code remains applicable to the State (see subdivision 1.3.2.3 above). However, since these articles also apply to private persons, it is likely that the Belgian Courts’ reasoning extends to them as well. Additionally, this ruling is relevant for the French context, given the shared legal foundations in both countries.

1.3.3 CDD’s existence in German tort law

Subsection 1.3.3.1 outlines the ground principles of German tort duty of care and the common Roman law, highlighting the similarities between the function of due diligence in German law and in Dutch and French tort law. Subsection 1.3.3.2 describes how the German State *can* be held accountable under tort liability and constitutional law. Subsection 1.3.3.3 explains that

483 Cour de cassation, *Distilbène* (Cass. 1re civ 7 Mars 2006 [2 jugements], pourvoi n° 04-16.179 et n° 04-16.180, Bull. civ I, n° 142 et n° 143; RTD civ 2006, p. 565, obs. P. Jourdain; 1st esp. D. 2006, IR p. 812, and the NDLR.

484 Court of First Instance of Brussels (French-speaking), *Klimaatzaak*, 2015/4585/A, 17 June 2021, p. 58 and 83.

485 Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023, p. 107, § 203 referring to “Regulation (EU) 2021/1119 of The European Parliament And Of The Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’)”.

German law permits the preventive enforcement of due diligence, including through injunctions. Subsection 1.3.3.4 addresses the latest developments in legislation and case law in the realm of multinational accountability. Subsection 1.3.3.5 finds that the general due diligence under tort, human rights and constitutional law in Germany is applicable to climate change, including very likely between private actors. Subsection 1.3.3.6 briefly touches upon the question of whether there is a need to find a breach of CDD as a legal duty to enforce climate action.

1.3.3.1 Roman origins and basic structures of the German tort duty of care

In Germany, the general due diligence obligation is labelled *Sorgfaltspflicht*, *Verkehrssicherungspflicht* or *Verkehrspflicht* and stems from section (or article) 823 (1) of the German Civil Code (*Bürgerliches Gesetzbuch* - BGB):

“Section 823 Liability in damages

(1) A person who, intentionally or negligently, unlawfully injures the life, body, health, freedom, property or another right of another person is liable to make compensation to the other party for the damage arising from this.

(2) The same duty is held by a person who commits a breach of a statute that is intended to protect another person. If, according to the contents of the statute, it may also be breached without fault, then liability to compensation only exists in the case of fault.”⁴⁸⁶

Although the terms “duty of care” or “due diligence” are not explicitly mentioned in the quoted provisions above, German commentators and courts unanimously confirmed the concept’s existence, accepted as customary law⁴⁸⁷. Everyone has a duty of care when creating a danger that could harm others⁴⁸⁸. While section 823 (2) opens up the possibility of relying on specific statutes and duties of care to hold someone accountable, the “customary” duty of care of section 823 (1) can already fulfil this *function*⁴⁸⁹. Courts remain the main developers of this duty. Hence, the duty of care in

486 See the official translation of the BGB online: https://www.gesetze-im-internet.de/englisch_bgb/, last accessed 28 October 2025.

487 Spindler G, *Beck-online Großkommentar, BGB* § 823, 1 November 2022 § 99.

488 *Ibid* § 98.

489 *Ibid*, § 257; see as well Staudinger A, “§ 823” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 62.

Germany belongs to the “common”, “customary” or “general” branch of the German legal system, as is the case in France (see subsection 1.3.2.1 above) and the Anglo-American legal systems (see subsection 1.3.4.1 below).

Before the adoption of the BGB at the beginning of the 20th century, the Roman law *Lex Aquila* partly governed, or at least influenced German tort law⁴⁹⁰. The German Civil Code was adopted in 1896, almost an entire century after the adoption of the Napoleonic Civil Code, which also applied in some Western regions of Germany⁴⁹¹.

In any case, the principles of tort liability for damages are very similar to those of general law in France and the Netherlands, as well as to human rights law and international law. These principles rest on three common pillars:

– *Rechtswidriger Eingriff* – i.e., the unlawful encroachment:

The unlawful encroachment on protected rights means that certain interests (*Rechtsgüter*) must be harmed. According to Section 823 BGB, these are “life, body, health, freedom, property or another right of another person”. These interests overlap with the first generation of human rights. Additionally, some dangerous and harmful conduct can be classified as objectively unlawful according to the case law (so-called “*Gefährdungshaftung*” – see subdivision 1.3.3.6)⁴⁹².

However, pure monetary losses (*reine Vermögensschäden*), for instance, cannot give rise to a duty to provide compensation under German tort law, as in English law⁴⁹³. While the concept of *Rechtswidrigkeit* (unlawfulness) focuses mainly on the harm caused, it also encompasses the conduct giving rise to it⁴⁹⁴.

– *Verschulden* – i.e., breach of a duty:

This criterion assesses the extent to which someone breached negligently or wilfully a standard of care (*Verkehrssicherungspflichten* – which may be lit-

490 Wagner G, BGB § 823 Schadensersatzpflicht, *Münchener Kommentar zum BGB*, 8th ed, 2020 § 1. See concurring opinion: Rheinstein M, Glendon M A and Carozza P, “Civil Law” *Encyclopaedia Britannica* (4 August 2023) <https://www.britannica.com/topic/civil-law-Romano-Germanic>, last accessed 15 January 2024.

491 See: The Editors of Encyclopaedia, “Napoleonic Code”, *Encyclopaedia Britannica*, 14 November 2023.

492 Wagner G, BGB § 823 Schadensersatzpflicht, *Münchener Kommentar zum BGB*, 8th ed, 2020 § 7.

493 *Ibid*, § 423.

494 *Ibid*, § 5.

erally translated as a “duty to secure interrelations and traffic with others”) or a specific duty enshrined in a statute⁴⁹⁵. The general standard of care is an open norm (akin to the “reasonable person” standard in France and in common law (formerly “*bonus pater familias*”) and its breach depends on the concrete facts of the case (i.e., *Tatbestand*), therefore requiring an *in concreto* assessment by courts to find breach⁴⁹⁶. Negligence may not only be the result of action, but of omission as well⁴⁹⁷.

– *Kausalität* – i.e., causation:

To hold someone accountable, there is a need to prove a causal link “with probability bordering on certainty”⁴⁹⁸. According to the German Civil Federal Supreme Court (*Bundesgerichtshof*), “a degree of certainty is sufficient that would silence doubts of a prudent, conscientious and life-experienced assessor”⁴⁹⁹. Thus, 100% scientific certainty is not required (see more elaboration in this respect in Subpart 2.2 on causation).

In any case, given the similarities between these tort-related principles and international law, human rights liability law and French law, it is reasonable to assume that German tort due diligence applies to climate-related issues (see subsection 1.3.3.5 below for a more detailed analysis in this respect).

1.3.3.2 State responsibility under the German Civil Code (Amtshaftung)

Section 839 BGB, which concerns liability of civil servants, is modelled after section 823 (basic tort law), and, therefore, includes liability for negligence⁵⁰⁰. The principle of the standard of the “average official” (“*pflichtgetreuten Durchschnittsbeamten*”) applies, which is similar to the reasonable

495 Staudinger A, “Vorbemerkung zu §§ 823–853” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2022), § 1 – 4.

496 Wagner G, BGB § 823 Schadensersatzpflicht, *Münchener Kommentar zum BGB*, 8th ed, 2020 § 26.

497 *Ibid*, § 60. See as well: Staudinger A, “§ 823” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 61.

498 Wagner G, BGB § 823 Schadensersatzpflicht, *Münchener Kommentar zum BGB*, 8th ed, 2020 § 70.

499 German Supreme Court (*Bundesgerichtshof*), VI ZR 259/06, 8 July 2008 (NJW 2008, 2846), § 22.

500 See here the official translation of the German Civil Code BGB, https://www.gesetz-e-im-internet.de/englisch_bgb/, last accessed 28 October 2025.

person standard of care (*bonus pater familias*, *personne raisonnable*). If the plaintiff also invokes section 34 of the German Constitution⁵⁰¹ as a complementary legal basis, section 839 BGB becomes applicable to the State as a legal person⁵⁰². Other legal bases exist to ground State liability, for instance, when the State carries out expropriations or other acts which bear a similar effect. The applicability of those articles in climate matters is conceivable, according to some authors of the literature⁵⁰³.

The German constitution also protects human rights, including those of the ECHR⁵⁰⁴, by setting out duties to protect (*Schutzpflichten*), and granting individuals the ability to file constitutional cases against the State⁵⁰⁵, including to challenge legislative insufficiencies. Legislation is, under some circumstances, required to fulfil the duty to protect and to achieve a certain level of protection. However, under the German constitution, only the lawmaking Parliament has the power to balance fundamental rights against each other according to the concept of the “*Vorbehalt des Gesetzes*” – i.e., the reservation of the law⁵⁰⁶ (see subpart 2.3 on redressability, addressing more specifically the separation of powers).

In the German Constitutional case concerning the Climate Protection law, the Court established that some provisions of the latter Law infringe the Constitution⁵⁰⁷, ultimately showing that constitutional *general* CDD exists in Germany (see subsection 1.3.3.5 below for a more detailed analysis in this respect).

501 See here the official translation of the Basic Law of Germany (*Grundgesetz*), https://www.gesetze-im-internet.de/englisch_gg/, last accessed 28 October 2025.

502 Staudinger A, “§ 839 Haftung bei Amtspflichtverletzung” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 10.

503 Saurer J and Purnhagen K, “Klimawandel vor Gericht – Der Rechtsstreit der Nichtregierungsorganisation ‘Urgenda’ gegen die Niederlande und seine Bedeutung für Deutschland” (2016) *ZUR* p 21; Deutscher Bundestag, Wissenschaftliche Dienste, *Rechtliche Grundlagen und Möglichkeiten für Klima-Klagen gegen Staat und Unternehmen in Deutschland*, 2016, p 15.

504 See, among others, the fundamental and human rights in Art 1 – 3, and Art 12 and 14 of the *Grundgesetz*.

505 To claim an infringement of individual constitutional rights, see the conditions under art 90 – 93 *Bundesverfassungsgerichtsgesetz - BVerfGG*.

506 See Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, Headline 5; see as well § 260 and 262.

507 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

1.3.3.3 The possibility of seeking preventative enforcement of due diligence, including through injunctions

German law rather provides for corrective and reparatory actions after damage has occurred (with the aim of providing compensation) but also injunctive reliefs in some cases (*Unterlassungs- und Beseitigungsansprüche, bzw. einstweilige Verfügungen, oder Leistungsklage bzw. Verpflichtungsklage*). According to some authors of the literature, the ability to issue injunctions stems from the Roman action of *actio negatoria* or *quasinegatoria*⁵⁰⁸. Section 1004 BGB sets out the main tort criteria in tort to request an injunction. In principle, it requires interference with protected interests, meaning some sort of damage must have arisen, but the threat of damage may suffice in some cases⁵⁰⁹.

“Section 1004 Claim for removal and injunction

(1) If the ownership is interfered with by means other than removal or retention of possession, the owner may require the disturber to remove the interference. If further interferences are to be feared, the owner may seek a prohibitory injunction.

(2) The claim is excluded if the owner is obliged to tolerate the interference.”

According to the jurisprudence, section 1004 is also applicable if the interests protected by the traditional tort basis of Section 823 BGB – namely, life, body, health, freedom, property or another right – are infringed⁵¹⁰. As paragraph 2 indicates, courts may reject an injunction if the claimant has to tolerate a preexisting interference (i.e., if it is not disproportionate, and where a court needs to strike a balance between competing interests⁵¹¹).

With regard to climate-related case law, numerous civil courts in Germany have declared climate-related injunction requests admissible in prin-

508 Staudinger A, “Vorbemerkung zu §§ 823–853” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2022), § 10.

509 *Ibid.*, § 11.

510 Deutscher Bundestag, Wissenschaftliche Dienste, Rechtliche Grundlagen und Möglichkeiten für Klima-Klagen gegen Staat und Unternehmen in Deutschland, 2016 referring to “Palandt-Sprau, BGB, 74. Aufl. 2015, Einf v § 823 Rdnr. 27”; Staudinger A, “Vorbemerkung zu §§ 823–853” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2022), § 10.

511 German courts did so in the climate cases against carmakers: see Landgericht Braunschweig, *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023; Landgericht Stuttgart, *Mercedes (or Daimler) case*, 13.9.2022 – 17 O 789/2.

ciple, but have not yet granted them on the merits. For example, the Court of Appeal of Hamm ruled that the climate adaptation case of *Lliuya v RWE* was admissible⁵¹² and that private actors could be held liable, provided that evidence could show that the harm was caused by climate change⁵¹³. Additionally, the first instance court of Braunschweig admitted a mitigation case against Volkswagen but rejected it on the merits (note that there is, though, an appeal pending before the Supreme Court)⁵¹⁴. This pattern of admissibility in principle without substantive outcomes raises questions about the extent to which *general* CDD can be addressed in Germany (see subpart 2.3).

The German constitution also enables seeking the judicial review of State acts (legislation, court decisions or any act of public authority) in cases of constitutional violations. As already mentioned, the Constitutional Court obliged the lawmaker to rectify some parts of its Climate Protection Law, showing the recognition of *constitutional* CDD in Germany (see the judgment's analysis on redressability aspects in subdivision 2.3.2.3 below)⁵¹⁵.

1.3.3.4 The Supply Chains Act and the case law on the liability of parent and procuring companies

The recent Supply Chains Act imposes a due diligence obligation (*Sorgfaltspflicht*) on procuring companies to oversee their supplies⁵¹⁶. Since this statute does not foresee any explicit application in climate matters, it is uncertain whether the “Office for Economic Affairs and Export Control” (BAFA⁵¹⁷), the public administrative body in charge of its enforcement, could apply it to climate-related facts⁵¹⁸. If the enforcement body deems that this Act does not apply to climate, civil liability law could take over, as

512 Court of Appeal of Hamm, (Oberlandesgericht, hereafter: OLG Hamm), *Saül Luciano Lliuya v RWE*, Az. 5 U 15/17, 30 Nov 2017.

513 Court of Appeal of Hamm, *Saül Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025.

514 Court of First Instance of Brunswick (Landgericht Braunschweig), *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023, see especially p 12 and 15.

515 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

516 Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten, 16 Juli 2021, Bundesgesetzblatt Jahrgang 2021 Teil I Nr. 46, ausgegeben zu Bonn am 22. Juli 2021.

517 In German: Bundesamt für Wirtschaft und Ausfuhrkontrolle (BAFA).

518 See for a concurring opinion: Verheyen R, “Das Lieferketten-Sorgfaltspflichtengesetz: Auslegung der Umweltsorgfaltspflichten und Ansätze zur praktischen Umsetzung”, *Umweltbundesamt*, 2024 p 35–36.

Section 3 (3) and 11 (1) of the Act states that: “A breach of the obligations under this Act shall not give rise to any civil liability. Any civil liability established independently of this Act shall remain unaffected.”

Nonetheless, this PhD arrives at the conclusion that climate change is indirectly covered by the Supply Chains Act, which requires companies to “exercise due diligence in their supply chains” to prevent “human rights risks”. Since climate change endangers human rights as established above (see subpart 1.2), applicability to global warming should be possible. The Supply Chains Act also requires due diligence when there is a sufficient probability of a violation of one of the following prohibitions”, including “air pollution, harmful noise emission or excessive water consumption, which a) significantly impairs the natural basis for the preservation and production of food, b) denies a person access to safe drinking water, c) impedes or destroys a person's access to sanitary facilities, or d) harms the health of a person.”⁵¹⁹ As air pollution is covered by the statute, and because GHG emissions significantly impair the environment and the health of persons, one should be able to reaffirm its application to climate issues⁵²⁰.

However, the applicability of the German Supply Chains Act to climate change still requires an interpretative effort by the BAFA. As a non-independent public enforcement body, the BAFA may be reluctant to take this step and may argue that it does not know what to do or how to do it. While an affected person may request BAFA to initiate an investigation if their rights are violated or threatened by a company's failure to comply with its due diligence obligations⁵²¹, the interpretation by a court may be necessary (perhaps a higher court, even the Supreme Court, given the presence of difficult questions of principle).

Note that the Supply Chains Act authorises affected parties to launch civil proceedings in cases of “serious harm”, including with the assistance of

519 Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten, 16 Juli 2021, Bundesgesetzblatt Jahrgang 2021 Teil I Nr. 46, ausgegeben zu Bonn am 22. Juli 2021, Section 2 (2) (9).

520 See the case law from the US Supreme Court which could ground such an interpretation: SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007). See as well: Verheyen R, “Das Lieferketten-Sorgfaltspflichtengesetz: Auslegung der Umweltsorgfaltspflichten und Ansätze zur praktischen Umsetzung”, *Umweltbundesamt*, 2024 p 35–36.

521 Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten, 16 Juli 2021, Bundesgesetzblatt Jahrgang 2021 Teil I Nr. 46, ausgegeben zu Bonn am 22. Juli 2021, Artikel 14.

NGOs or trade unions⁵²². NGOs will certainly do everything within their power to convince BAFA or courts to take action on climate matters under this Act. Their case *could* have been eased with the European legislative developments, which introduced a duty to establish a transition plan to show compatibility with the 1.5°C duty under the CSRD and the CSDDD, whose transposition may replace or complement the Supply Chains Act⁵²³. However, as already noted in subdivision 1.3.2.6, Article 22 CSDDD has been removed through the “Omnibus” legislative amendment.

In any case, like the French law, the German Supply Chains Act does not constitute *lex specialis* derogating the German *legi generali* since it also explicitly provides for the applicability of the BGB (see just above, subdivision 1.3.2.5). Moreover, the Parliament adopted the German Supply Chains Act to implement the UNGPs⁵²⁴, which was originally based on the Roman law due diligence concept, akin to the French lawmakers, as section 0.2.2 of the introduction explained. Hence, there is no conflict between *general* due diligence and the *specific* corporate due diligence of the Supply Chains Act; rather, they apply in tandem.

In parallel to this Statute, the development of the case law shows some possibilities of seeking the responsibility of parent and procuring companies under tort law, besides the German Company Law (*Aktiengesetz*)⁵²⁵.

522 *Ibid.*, Artikel 11.

523 See CSRD – Corporate Sustainability Reporting Directive (Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting), see especially Article 1 amending article 19a (2) (a) (iii) and 29a (2) (a) (iii) of Directive 2013/34/EU; See CSDDD – Corporate Sustainability Due Diligence Directive (“Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence”), see especially Article 22. Subsection 2.3.2.3 addresses in more detail those European legislation.

524 Gesetzentwurf der Bundesregierung, Entwurf eines Gesetzes über die unternehmerischen Sorgfaltspflichten in Lieferketten, Drucksache 19/28649, 19. Wahlperiode, 19.04.2021, p 2: „Die Anforderungen sind international anschlussfähig und orientieren sich am Sorgfaltsstandard („due diligence standard“) der VN-Leitprinzipien, auf dem der Nationale Aktionsplan basiert.“

525 See, among others, German Supreme Court (*Bundesgerichtshof* (BGH)), Urteil vom 7.10.1975 – VI ZR 43/74; Wesche P and Ebert I, “Die UN-Leitprinzipien für Wirtschaft und Menschenrechte und Zugang zu Abhilfe – Ansätze für eine konsensorientierte Erweiterung der zivilrechtlichen Klagemöglichkeiten in Deutschland”, *Business and Human Rights Resource Center*, 2016 p 6 – 7; Wesche P and Saage-Maaß M, “Holding Companies Liable for Human Rights Related to Foreign Subsidiaries and Suppliers before German Civil Courts: Lessons from Jabir and Others

Plaintiffs have brought climate cases against large German carmakers on the basis of German tort law, relying on tort law, especially the duty of care under § 823 (1) BGB and the nuisance cause of action under § 1004 BGB⁵²⁶. So far, the first instance courts dismissed these cases, on merits grounds, deeming that claimants must tolerate infringements caused by defendants' GHG emissions⁵²⁷. While this opinion did not exclude the applicability of tort law to climate change in general, the first instance argued that the specific regulations (notably from the EU) already require the defendant to reduce its GHG emissions, rendering any judicial intervention through tort law unnecessary⁵²⁸.

1.3.3.5 General due diligence applicable to climate change, including between private persons

A prominent author in the field of German civil law literature (Wagner) denied the applicability of the BGB to climate change, primarily due to the cumulative character of climate change: "Converting the resulting global risk into tortious due diligence obligations of individual domestic operators of emission sources seems neither possible nor appropriate."⁵²⁹ More recently, he even argued that "there is no individual obligation to limit one's own CO₂ emissions to the level that corresponds to the per capita share of the residual emissions available to achieve the 1.5 to 2 degree target"⁵³⁰.

The German Federal Constitutional Court seems to have contradicted this author. In its important decision on the German Climate Protection Act issued in 2021, the Court stated that the right to life and the right to private and family life are affected by climate change, including by the German government's conduct. To justify this, the Court noted that its

v KiK", *Human Rights Law Review*, 2016 p 377-379; Saage-Maaß M, *Arbeitsbedingungen in der globalen Zulieferkette: Wie weit reicht die Verantwortung deutscher Unternehmen?* (Friedrich Ebert Stiftung November 2011).

526 See, for instance: *Barbara Metz (Deutsche Umwelthilfe e.V.) v Bayerische Motoren Werke (BMW) AG*, 21. September 2021. Similar complaints were brought against Volkswagen, Daimler, and Wintershall.

527 Court of First Instance of Brunswick (Landgericht Braunschweig), *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023, see especially p 12 and 15.

528 *Ibid*, p 19 - 20.

529 Wagner G, *BGB § 823 Schadensersatzpflicht*, *Münchener Kommentar zum BGB*, 8th ed, 2020 § 1055.

530 *Ibid*, § 1190.

case law and that of the ECtHR include protection against impairment by environmental pollution. In this regard, the Court explicitly referred to the following authorities of the ECtHR, being *Öneryildiz v Turkey*, *Budayeva and Others v Russia*, and *Cordella and Others v Italy*. It subsequently asserted that those rights also protect against climate-related threats⁵³¹. Furthermore, the Court found that Article 20 of the German constitution, which protects future generations and the environment, imposes a special duty of care on the lawmaker⁵³², and that the absence of specific and sufficiently ambitious GHG reduction targets for the period after 2030 violates this provision⁵³³. Consequently, the Court found these rights are applicable in climate matters.

Following the decision of the German Constitutional Court, applicants attempted to invoke this case law by bringing general tort claims against the largest car manufacturers in Germany⁵³⁴. However, the first instance court of *Braunschweig* argued in the case against Volkswagen that the European lawmakers already intervened specifically in the context of automotive vehicle emission standards, already requiring the defendant to reduce its GHGs⁵³⁵. Furthermore, the *Braunschweig* court stated that private due diligence cannot be more demanding than the State's duty to protect⁵³⁶. As the Constitutional Court had not previously identified a breach of the State's duty to protect, the State regulation of automotive vehicles can, in turn, not be in breach of this duty either⁵³⁷, nor can applicants request that private companies go beyond this based on general tort due diligence (see, for additional analysis, subsection 2.3.3.3).

As to the Stuttgart court, it similarly found that the EU lawmaker already intervened by implementing the EU regulation that sets emissions standards and ultimately forbids the sale of combustion cars by 2035⁵³⁸.

531 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 99.

532 *Ibid*, Headline 2.

533 *Ibid*, Headline 4.

534 See, for instance: *Barbara Metz (Deutsche Umwelthilfe e.V.) v Bayerische Motoren Werke (BMW) AG*, 21. September 2021. Similar complaints were brought against Volkswagen, Daimler, and Wintershall.

535 Court of First Instance of Brunswick (Landgericht Braunschweig), *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023, see especially p 19 - 20.

536 *Ibid*, p 18.

537 *Ibid*, p 26.

538 *Ibid*, § 25.

Nevertheless, these decisions do not rule out the applicability of *general* CDD if no specific law exists. Since no specific law, such as the CSDDD, explicitly governed the climate responsibility of parent companies of multinational corporations, it still seems arguable that tort law remained applicable in this context. In its final decision on the *RWE* case, the Hamm Court of Appeal gave a concurring opinion, arguing that general tort provisions remained applicable, even if other rules apply (note, however, that the Court ultimately dismissed this case due to evidentiary issues)⁵³⁹.

In any case, it cannot be ruled out that the judicial intervention by a higher court, as in the former proceedings against the State, leads to other outcomes. For example, the proceedings against the German State firstly failed before the first instance⁵⁴⁰, but then succeeded before the Constitutional Court⁵⁴¹.

1.3.3.6 No wrongful conduct needed to enforce CDD?

The German complaints against the private actors even invoke the “*Gefährdungshaftung*”, a form of objective liability for endangerment⁵⁴².

As stated above, while, in principle, the three tort liability pillars must generally be met to establish liability (*Verschulden Rechtswidrigkeit, Kausalität*), an exception exists in cases of unlawful endangerment, as is the case in France⁵⁴³, and under common law countries⁵⁴⁴. Under these “strict liability” or “liability without fault” regimes, it is not necessary to establish

539 Court of Appeal of Hamm, *Saül Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025, p 60 – 65.

540 See Administrative Court of Berlin, *Family farmers v Germany*, (VG 10 K 412.18), 31 October 2019.

541 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

542 For instance: Complaint in the case of *Deutsche Umwelthilfe e.V. v Bayerische Motoren Werke (BMW) AG* (2021) p 8-9, https://admin.climatecasechart.com/wp-content/uploads/non-us-case-documents/2021/20210920_14541_petition.pdf, last accessed 20 October 2025.

543 See, for instance : « la responsabilité sans faute du fait d'autrui », « les troubles du voisinage », « le régime des produits défectueux ». Some claimants argue in France that article 1252 of the French Civil Code also does not require the demonstration of wrongful conduct.

544 See, for instance the public and private nuisance legal bases, used in climate litigation in the USA.

the unlawfulness of the defendant's conduct or its fault⁵⁴⁵. The same applies to Section 1004 of the German Civil Code (the legal basis of the RWE case) and to the product liability regime⁵⁴⁶. Consequently, once the applicant has established the objective wrongfulness, the onus is on the defendant to exculpate itself, which some may interpret as a reversal or at least an alleviation of the burden of proof⁵⁴⁷.

However, the applicability of the objective liability figure *Gefährdungshaftung* requires, in principle, a *direct* infringement (*unmittelbarer Eingriff*) in the protected rights⁵⁴⁸. In cases of indirect infringements (*mittelbare Eingriffe*), establishing a breach of the standard of care is necessary according to notable authors of the legal literature⁵⁴⁹. It seems difficult to argue that climate harms *directly* interfere with the rights of individual persons since the contribution to global warming is cumulative, a “drop in the ocean” as some describe it⁵⁵⁰.

In any case, as it may still be necessary to prove a breach of the standard of care – or at least strategically wiser for the applicants at this stage of uncertainty –, German courts do not necessarily have to deal with each case individually if certain facts are acknowledged⁵⁵¹. This would enable plaintiffs to rely on argumentative patterns similar to the “objective unlawfulness”. For instance, since it is scientifically established that GHGs contribute to the aggravation of global warming, and therefore, endanger furthermore the interests protected by section 823 BGB, it could be argued

545 Staudinger A, “Vorbemerkung zu §§ 823–853” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2022), § 6.

546 The German Product Liability Law (*Produkthaftungsgesetz*) stems from Council Directive 85/374/EEC of 25 July 1985 on the approximation of the laws, regulations and administrative provisions of the Member States concerning liability for defective products (see the first recital).

547 Staudinger A, “§ 823” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 185.

548 Wagner G, *BGB § 823 Schadensersatzpflicht, Münchener Kommentar zum BGB*, 8th ed, 2020 § 7.

549 *Ibid.*, § 7; see as well Staudinger A, “§ 823” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 75.

550 Direct infringements in climate cases may only occur in legal systems that protect the environment and label anthropogenic global warming as a corresponding harm, as is the case in France in the *Notre Affaire à Tous et al v France* case (see subsection 2.3.1.1), which is not the case in Germany; or if non-physically climate-related climate harms occur, such as financial harms linked to the energy transition (for instance, fiduciaries which wrongfully managed climate-related financial risks).

551 Staudinger A, “§ 823” in Schulze and others (eds), *Bürgerliches Gesetzbuch, Nomos Kommentar* (11th edn, Nomos 2021), § 63.

that an *unreasonable* contribution to global warming is *objectively* unlawful⁵⁵². The German Court of Appeals in Hamm also delivered a concurring opinion in this respect, arguing that in the climate realm, causation is physically linear despite the indirect nature of the infringement and the numerous causation chains⁵⁵³. The question in this context is then what is reasonable, and what is not⁵⁵⁴.

Subpart 2.3 on redressability assesses in much more detail the criterion of reasonableness, as well as the requests which must remain justiciable⁵⁵⁵.

1.3.4 CDD's existence in common law (Anglo-American)

Subsection 1.3.4.1 illustrates the Roman law origins of the duty of care in common law, its initial modern case laws, and its fundamental components. Subsection 1.3.4.2 discusses how the due diligence concept may be, theoretically, enforced in common law jurisdictions. Subsection 1.3.4.3 addresses the conditions to hold the government accountable under British and American law. Subsection 1.3.4.4 showcases the development of the duty of care in the field of multinational corporations in the UK, certainly the most advanced jurisdiction in this field in terms of case law, and its potential expansion in the other common-law countries, like the USA. Finally, subsection 1.3.4.5 argues that the general tort duty of care in common law applies to climate change.

552 See corresponding opinion argued in the summons in *Deutsche Umwelthilfe v Bayerische Motoren Werke* (BMW) AG, 2021, p 7.

553 Court of Appeal of Hamm, *Saül Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025, p 56.

554 Court of First instance of Stuttgart (Landgericht Stuttgart), 13.9.2022 – 17 O 789/2, § 25; Court of First instance of Brunswick (Landgericht Braunschweig), *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023.

555 Business freedom is a protected right in art 12 and 14 GG; or in the French constitution, and the European Treaties (See for instance Article 16 of the Charter Of Fundamental Rights Of The European Union, 2012/C 326/02, Preamble: “Article 16, Freedom to conduct a business: The freedom to conduct a business in accordance with Union law and national laws and practices is recognised.”)

1.3.4.1 The origins and basic functions of the duty of care in common law

In common law jurisdictions, including in the USA, the concept of the duty of care⁵⁵⁶ exists in tort law⁵⁵⁷, as in civil and international law systems.

Roman law has also influenced common law countries⁵⁵⁸. The main difference between common law and civil law jurisdictions is that the latter is derived from judicial decisions, whereas the former is based on statutory law⁵⁵⁹. In reality, however, the statutory foundations of civil law jurisdictions are quite vague and general, and their laws also undergo incremental development through jurisprudence, particularly with regard to their respective duties of care. In this regard, the differences do not seem significant.

Nonetheless, tort liability in common law countries developed with court decisions, instead of legislative interventions. Incrementally, common-law courts “found”⁵⁶⁰ the laws of negligence, including the “duty of care”, or “vigilance”, or “diligence” outside of any contractual relationship as early as 1916⁵⁶¹ or even 1852⁵⁶² in the State of New York, especially by the prominent judge Cardozo. This development followed in 1932⁵⁶³ in English and Scots

556 According to a dictionary of common law definitions, “Care means watchful attention, prudence, diligence. Care is the opposite of negligence or carelessness and the amount of care to be exercised in a particular situation is determined by standard of conduct which may be expected from a person in that situation”, see <https://www.la.w.cornell.edu/wex/care>, last accessed 28 October 2025.

557 For the leading authority in jurisdictions governed by British jurisdictions, see UK House of Lords, *Caparo Industries Plc v Dickman* [1990] 2 AC 605, 08 February 1990; for American jurisdictions, see the second and third restatement of torts.

558 British Institute for International and Comparative Law et al, “Study on due diligence requirements through the supply chain”, Final report, European Commission, January 2020, p 158. See as well Lewis A D E, Kiralfy A R and Glendon M A, “Common Law” (2023) *Encyclopedia Britannica*.

559 See as well definition of “common law” by the Cambridge online dictionary <https://dictionary.cambridge.org/dictionary/english/common-law>, last accessed 28 October 2025.

560 Cassell D, “Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence” (2016) *Business and Human Rights Journal* p 188.

561 New York Court of Appeals (Cardozo J.), *MacPherson v Buick Motor Co*, 217 NY 382, 24 January 1916. See also: New York Court of Appeals, *Palsgraf v Long Island Railroad Co.*, 248 N.Y. 339, 162 N.E. 99 (1928).

562 New York Court of Appeals, *Thomas v Winchester*, 6 N.Y. 397 (1852), July 1852.

563 UK House of Lords, *Donoghue v Stevenson*, [1932] AC 562, 26 May 1932.

law (in a previous case in 1883, only one judge out of three recognised the duty of care⁵⁶⁴).

In the UK, the leading case law on the duty of care is the *Caparo* case, which set out the three main criteria to develop the duty in novel cases: i) the damage must be foreseeable⁵⁶⁵; ii) a relation of “proximity” or “neighbourhood”⁵⁶⁶ shall exist between the parties; and iii) it must be fair, just and reasonable to impose a duty of care⁵⁶⁷. In principle, a duty of care can be imposed with respect to actions and omissions, while the criteria concerning omissions may be more restrictive⁵⁶⁸.

Since the foreseeability and proximity criteria refer to the standard of care and to causation, they bear some resemblance to the French and German concepts of fault (*faute*; *Verschulden*) and causality.

The fair, just and reasonable conditions of the UK jurisprudence⁵⁶⁹ are, as such, more specific criteria which do not necessarily exist in civil law traditions. However, it goes without saying that judges in other countries also aim to achieve justice by seeking fair and just outcomes. The reasonableness criterion is also present in civil law countries through the standard of the reasonable man standard or *bonus pater familias* (see above), which notably refers to the admissible conduct in light of the circumstances of the case. Furthermore, this criterion can also imply a best effort obligation or obligation of means, depending on the level of control over the source of the harm⁵⁷⁰. In any case, as with other legal systems, these criteria give the

564 *Heaven v Pender*, [1883] 11 Q.B.D. 503.

565 According to a dictionary of legal definitions, “Foreseeability asks how likely it was that a person could have anticipated the potential or actual results of their actions”, see: <https://www.law.cornell.edu/wex/foreseeability>, last accessed 28 October 2025.

566 Lord Atkin introduced the condition of “neighbourhood” in the *Donoghue* case to introduce a “succinct yet workable concept [...which is also] simple, straightforward, yet containing moral and humanitarian overtones” (see Murphy J P, “Evolution of the Duty of Care” (1980) 30 *DePaul Law Review*. Note that the 10 commandments of the bible also use this word (translated to “prochain” in French or “Nächste” in German).

567 UK House of Lords, *Caparo Industries Plc v Dickman* [1990] 2 AC 605, 08 February 1990.

568 UK House of Lords, *Bourhill v Young* [1942] UKHL 5, 05 August 1942 at p 88; For US case law, see New York Court of Appeals (Cardozo J.), *MacPherson v Buick Motor Co*, 217 NY 382, 24 January 1916; or New York Court of Appeal, *H. R. Moch Co. v Rensselaer Water Co.* - 247 N.Y. 160, 159 N.E. 896 (1928).

569 Note that the Canadian duty of care jurisprudence also foresees the public policy criterion.

570 For a concurring view, see Parance B and Groulx E, “Regards croisés sur le devoir de vigilance et le duty of care” (2018) 1 *Journal du droit international (Clunet)*.

courts significant discretion to settle cases and develop the duty of care in law.

It is important to note that some authors of the legal literature⁵⁷¹ and Lord Bridge, a former judge of the UK House of Lords (thereafter, the UKHL, which was the former UK Supreme Court), criticised the vagueness and the subjectivity of the *Caparo* factors:

“[I]t is implicit in the passages referred to that the concepts of proximity and fairness embodied in these additional ingredients are not susceptible of any such precise definition as would be necessary to give them utility as practical tests, but amount in effect to little more than convenient labels to attach to the features of different specific situations which, on a detailed examination of all the circumstances, the law recognises pragmatically as giving rise to a duty of care of a given scope.”

In order to limit the amount of discretion to the judges and a potential widespread uncontrolled development of the duty of care, the majority in *Caparo* gave a preference to analogies and the importance of the precedent by referring to the opinion of Judge Brennan of the High Court of Australia:

“Of course, if foreseeability of injury to another were the exhaustive criterion of a prima facie duty to act to prevent the occurrence of that injury, it would be essential to introduce some kind of restrictive qualification — perhaps a qualification of the kind stated in the second stage of the general proposition in *Anns* [1978] AC 728. I am unable to accept that approach. It is preferable, in my view, that the law should develop novel categories of negligence incrementally and by analogy with established categories, rather than by a massive extension of a prima facie duty of care restrained only by indefinable ‘considerations which ought to negative, or to reduce or limit the scope of the duty or the class of person to whom it is owed.’”

Thereby, the UKHL seemed to favour the incremental development rather than a principle-based approach⁵⁷², once considered by the UKHL in the

571 For a concurring view, see Professor Cassel D, Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence, *Business and Human Rights Journal*, 21 April 2016, p 194.

572 UK House of Lords, *Anns v Merton London Borough Council*, 73 [1978] AC 751–2: “[T]he position has now been reached that in order to establish that a duty of care arises in a particular situation, it is not necessary to bring the facts of that situation within those of previous situations in which a duty of care has been held to exist.

1978 *Anns v Merton London Borough Council* case, but later abandoned by the UK courts afterwards (although it is still followed by the Canadian jurisprudence). Professor Doug Cassel concurs with this view concerning the manner in which common law evolves, both concerning the creation of new causes of action⁵⁷³, and the application of the duty of care or other laws to new situations, referring again to the opinion of Justice Cardozo:

“Generally it is the nature of the common law to move slowly and by accretion; swift and massive movements are not impossible, but they are relatively rare.’ (Note 66: Benjamin N Cardozo, *The Nature of the Judicial Process* (New Haven: Yale University Press, 1921, p 24). More common is a far lesser step: judicially recognizing new applications of existing principles or precedents.”⁵⁷⁴

Nevertheless, common-law courts can also establish and develop general common law if there is a need to do so, particularly if lawmakers have not created any rule, as recognised by the US Supreme Court in the climate case *American Electric Power Company v Connecticut*:

“Environmental protection is undoubtedly an area “within national legislative power,” one in which federal courts may fill in “statutory interstices,” and, if necessary, even “fashion federal law.” *Id.*, at 421–422. As the Court stated in *Milwaukee I*: “When we deal with air and water in their ambient or interstate aspects, there is a federal common law.”⁵⁷⁵

Thus, given the existence of a tort duty of care in common law countries, it should also apply to climate change, as it does in other legal systems.

Rather the question has to be approached in two stages. First one has to ask whether, as between the alleged wrongdoer and the person who has suffered damage there is a sufficient relationship of proximity or neighbourhood such that, in the reasonable contemplation of the former, carelessness on his part may be likely to cause damage to the latter—in which case a prima facie duty of care arises. Secondly, if the first question is answered affirmatively, it is necessary to consider whether there are any considerations which ought to negative, or to reduce or limit the scope of the duty or the class of person to whom it is owed or the damages to which a breach of it may give rise.”

573 A cause of action is “the grounds (such as violation of a right) that entitle a plaintiff to bring a suit”, see <https://www.merriam-webster.com/dictionary/cause%20of%20action>, last accessed 28 October 2025.

574 Cassel D, “Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence” (2016) *Business and Human Rights Journal* p 189.

575 SCOTUS, *American Electric Power Company v Connecticut*, 564 U. S. ____ (2011), p 6.

1.3.4.2 The possibility of seeking preventative enforcement of due diligence through injunctions

Common law courts regularly issue injunctions to prevent “private or public nuisances”⁵⁷⁶, which typically involve encroachment of private properties or public land. In the relatively recent nuisance case called *Coventry*, the UK Supreme Court stated “that the *prima facie* position is that an injunction should be granted, so the legal burden is on the defendant to show why it should not.”⁵⁷⁷

In their book on Tort Law, Simon Deakin and Zoe Adams state that, according to the *Miller v Jackson* case, an injunction “applies to intentional or continuing acts, so it has no application to negligence”⁵⁷⁸. However, they do not explain why the law of negligence could not encompass continuing acts. This is problematic to some degree, as a CDD breach is usually committed over a period of time (see Part 3 on historical ongoing responsibility). Furthermore, although the Court denied the injunction in *Miller v Jackson*, this does not set a precedent for the general impossibility of providing injunctions in negligence cases, as the Court’s reasoning appears to be restricted to the specific circumstances of this case.

The nuisance cause of actions provides an avenue to litigate environmental issues⁵⁷⁹. Therefore, this avenue could be used alongside negligence to bring a climate claim, as has been done in the USA in over a dozen cases against multiple carbon majors⁵⁸⁰, or as in New Zealand in the *Smith v Fonterra* case. Interestingly, the New Zealand Supreme Court deemed the *Smith* case admissible in 2024 and further argued that nuisance and negligence laws have similar criteria⁵⁸¹.

576 Deakin S and Adams Z, *Markesinis and Deakin’s Tort Law* (8th edn, Oxford University Press 2019) p 434–437.

577 UK Supreme Court, *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014, § 121.

578 Deakin S and Adams Z, *Markesinis and Deakin’s Tort Law* (8th edn, Oxford University Press 2019) p 871 referring to *Miller v Jackson* [1977] QB 966, 680 (per Lord Donning MR).

579 Deakin S and Adams Z, *Markesinis and Deakin’s Tort Law* (8th edn, Oxford University Press 2019) p 447.

580 Sabin Center for Climate Change Law, *Global Climate Litigation Report 2020 Status Review* (UN Environment Programme 2020) p 22.

581 Supreme Court of New Zealand, *Smith v Fronterra et al*, SC 149/2021 [2024] NZSC 5, 2024, § 172 - 175.

It is, however, unclear whether the nuisance cause of action requires the demonstration of a breach of duty of care⁵⁸². While courts sometimes require it, nuisance cases primarily focus on the damage caused by the nuisance itself, rather than on wrongful conduct. An author in the literature heavily criticised the nuisance causes of actions for their lack of dogmatic definition and their confusion surrounding the need to establish negligent conduct or not⁵⁸³. In that sense, the nuisance law is similar to Section 1004 of the German Civil Code (BGB), which also allows for injunctions to stop harm to property (or other legal interests of Section 823 BGB) and which does not, in principle, require a breach of a duty of care.

The international arbitral award in the *Trail Smelter* case further illustrates the confusion between negligence and nuisance, and the uncertainty over whether a breach of the standard of care is necessary to prove nuisance⁵⁸⁴. In fact, while the award quoted decisions of the US Supreme Court on nuisance, it was based on the international due diligence rule of not causing harm to other States⁵⁸⁵. This confusion may stem from misunderstandings surrounding the notions of duty of care or due diligence. Since they can apply to unregulated activities, some lawyers do not consider them to be a legal obligation, but rather a purely voluntary standard. Nonetheless, the whole purpose of the duty of care is to regulate lawful activities.

In any case, injunctions are possible under common law, either by relying on the nuisance cause of action or negligence. Given the uncertainty around the need to demonstrate a breach of a standard of care, it seems strategically wiser for the plaintiffs to do so should the Court deem its demonstration necessary, including in nuisance cases.

1.3.4.3 The development of the duty of care of parent companies in the UK case law

The UK courts have significantly developed the law of negligence in the context of cases directed against parent companies of multinational groups.

582 Deakin S and Adams Z, *Markesinis and Deakin's Tort Law* (8th edn, Oxford University Press 2019) p 439.

583 Merrill T W, "Is Public Nuisance a Tort?" (2011) 4(2) *Journal of Tort Law*.

584 *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941).

585 *Ibid*, p 1965.

If parent companies control their subsidiaries and determine the implementation of their policies, or if they have superior knowledge, courts can impose a duty of care on them, even if the harm was ultimately caused by foreign subsidiaries, and even if it occurred overseas (see consolidated case law in this respect: *Connelly v RTZ Plc*⁵⁸⁶, *Lubbe v Cape Plc*⁵⁸⁷, *Chandler v Cape Plc*⁵⁸⁸, *Lungowe v Vedanta*⁵⁸⁹, *AAA v Unilever Plc*⁵⁹⁰, *Okpabi and others v Royal Dutch Shell Plc and another*⁵⁹¹. The UK Supreme Court notably recently affirmed that:

“Even where group-wide policies do not of themselves give rise to such a duty of care to third parties, they may do so if the parent does not merely proclaim them, but takes active steps, by training, supervision and enforcement, to see that they are implemented by relevant subsidiaries. Similarly, it seems to me that the parent may incur the relevant responsibility to third parties if, in published materials, it holds itself out as exercising that degree of supervision and control of its subsidiaries, even if it does not in fact do so. In such circumstances its very omission may constitute the abdication of a responsibility which it has publicly undertaken.”⁵⁹²

Cassel, Professor of law in the USA, stated that these legal developments in the UK could also occur in other common law jurisdictions, including in the USA, since the duty of care factors are similar, if not the same⁵⁹³. While he referenced the case law of the Supreme Court of California to support his point, this thesis shares in principle his view by referring to the aforementioned Cardozo opinions.

Furthermore, Cassel argues that “[t]he time is ripe for common law courts to enforce the now widely recognized human rights responsibilities

586 UK House of Lords, *Connelly v RTZ Plc* [1998] AC 854, 24 July 1997, § 27.

587 UK House of Lords, *Lubbe and Ors v Cape Plc* [2000] UKHL, 20 July 2000, § 17.

588 UK Court of Appeal (London), *Chandler v Cape Plc* [2012] EWCA Civ 525, 25 April 2012, § 80.

589 UK Supreme Court, *Lungowe v Vedanta*, [2019] UKSC 20, 10 April 2019, § 53.

590 UK Court of Appeal, *AAA v Unilever Plc & Anor*, [2018] EWCA Civ 1532, 04 July 2018, § 37.

591 UK Supreme Court, *Okpabi and others v Royal Dutch Shell Plc and another*, [2021] UKSC 3, 12 February 2021, refers to *Lungowe v Vedanta* (§ 53 quoted just above); see as well § 147.

592 UK Supreme Court, *Lungowe v Vedanta*, [2019] UKSC 20, 10 April 2019, § 53 and 88.

593 Cassell D, “Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence” (2016) *Business and Human Rights Journal* p 199.

of business enterprises to exercise human rights due diligence.”⁵⁹⁴ While this dissertation believes this would be a welcome development, it must be stressed that HRDD as developed by John Ruggie in the UNGPs (see introduction) is still different from the common law duty of care to various degrees, as (i) HRDD concerns all human rights not only rights protected by tort-law ; (ii) HRDD must in principle be exercised constantly towards all subsidiaries and suppliers even if no relation of proximity exists as interpreted by the UK courts. The main difference is that HRDD expects some degree of diligence in proportion to the degree of control or mere influence, whereas, for UK courts, “control is just a starting point”. More precisely:

“The issue is the extent to which the parent did take over or share with the subsidiary the management of the relevant activity (here the pipeline operation). That may or may not be demonstrated by the parent controlling the subsidiary. In a sense, all parents control their subsidiaries. That control gives the parent the opportunity to get involved in management. But control of a company and de facto management of part of its activities are two different things. A subsidiary may maintain de jure control of its activities, but nonetheless delegate de facto management of part of them to emissaries of its parent.”⁵⁹⁵

To reconcile HRDD and the tort duty of care, Cassel proposes to “hold parent companies responsible only for the foreseeable consequences of their own failures to exercise due diligence with regard to the enterprises over which they have control or effective leverage.”⁵⁹⁶ Either way, the existing duty of care of parent companies bears similarities with HRDD and the *general* due diligence forms from civil law countries⁵⁹⁷. The similarity might increase in the future or receive legislative validation through new statutory duties, as in France, Germany or on the EU level (see, respectively, the French Duty of Vigilance Law, the German Supply Chains Act, and the CSDDD mentioned in the preceding subsections).

594 *Ibid*, 180.

595 UK Supreme Court, *Okpabi and others v Royal Dutch Shell Plc and another*, [2021] UKSC 3, 12 February 2021, § 147.

596 Cassel D, “Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence” (2016) *Business and Human Rights Journal* p 181.

597 Parance B and Groulx E, “Regards croisés sur le devoir de vigilance et le duty of care” (2018) 1 *Journal du droit international (Clunet)*.

1.3.4.4 Discussion of climate-related case law

1.3.4.4.1 In the UK

In the UK, tort law formerly governed State responsibility.

However, since the UK enacted the 1998 Human Rights Act, which transposed the Convention Rights in the domestic system, it created a contained regime that limits the ECtHR's influence on the common law and prevents substantive adaptations of the duty of care to the requirements set by the ECtHR⁵⁹⁸. Still, the ECHR remains applicable in the UK, including the due diligence standard to oversee compliance with the positive obligations of the Court⁵⁹⁹.

In addition, judicial reviews are possible in the UK, similar to *ultra vires* legal recourse in other European jurisdictions, such as the *recours en excès de pouvoir* in France. These reviews may result in an order to quash (annulment) if the authorities have erred in law.

For example, in the climate case *Friends of the Earth UK, Client Earth, and Good Law v UK*, the applicants succeeded in establishing that the UK authorities failed to implement Sections 13 and 14 of the UK Climate Change Act⁶⁰⁰. Consequently, the High Court of London granted the requested declaratory order (i.e., the claimants did not seek a quashing order in this case). While the applicants also submitted violations of the ECHR, as they are allowed to do so in judicial proceedings, the court ruled that it was preferable to wait for the outcome of the pending climate cases before the ECtHR rather than establish domestic standards that departed too heavily from the incremental development of Strasbourg case law (see

598 Cassell D, "Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence" (2016) *Business and Human Rights Journal* p 195 referring to *Chief Constable of the Hertfordshire Police v Van Colle* [2009] 1 AC 225 paras 82 (Lord Hope) and 136 (Lord Brown). Also see: Stoyanova V, "Common Law Tort of Negligence as a Tool for Deconstructing Positive Obligations under the European Convention on Human Rights", *The International Journal of Human Rights*, 24(5), 2020, pp 632–655.

599 For more analysis on this issue, see, among others, Stoyanova V, "Common Law Tort of Negligence as a Tool for Deconstructing Positive Obligations under the European Convention on Human Rights", *The International Journal of Human Rights*, 24(5), 2020, pp 632–655.

600 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 20 and 279.

subpart 3.3 on redressability for expanded discussion in this regard⁶⁰¹). More generally, regarding the binding effect of the ECHR, a declaration of incompatibility may be issued if legislation violates the ECHR⁶⁰². However, quite surprisingly, these declarations do not bind the UK authorities⁶⁰³. Otherwise, British courts can issue mandatory orders and injunctions based on domestic law⁶⁰⁴.

It is not possible to infer clear analogical applicability of the tort of negligence or other causes of action from the successful climate case in the UK (*Friends of the Earth, Client Earth and Good Law Project v UK*⁶⁰⁵). This application for judicial review succeeded thanks to findings regarding breaches of *specific* statutory provisions⁶⁰⁶. The applicants did not need to fulfil any conditions relating to the duty of care in negligence cases: they did not need to show the foreseeability of the harm, nor the proximity between the parties (or causation), nor the reasonableness of the duty. Moreover, the judge dismissed the plea concerning the applicability of the ECHR. Thus, this judgment does not permit analogical reasoning to establish the existence of *general* CDD under tort or human rights law in the UK.

However, this case does not provide any opposite evidence either. In reality, since the UK adopted the Climate Change Act – the legal basis of the abovementioned successful case – to comply with the Paris Agreement and the UNFCCC, and more broadly with international *general* CDD, it is reasonable to conclude that the legislator attempted to implement CDD in the UK, as this dissertation postulated in the introduction (see the difference between *general* and *specific* CDD laid out in section 0.1 and 0.4.1).

601 *Ibid*, § 261 - 279.

602 Judiciary For England And Wales, The Administrative Court: Judicial Review Guide 2021, July 2021, p 65, § 12.6.1.

603 *Ibid*, p 65, 12.6.4.

604 *Ibid*, p 66, § 12.6.1.

605 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 13

606 More specifically, the Court recognised a failure to comply with the duty to “prepare such proposals and policies” to meet the carbon budgets which have been set under the CCA 2008 (section 13), and a failure to report to the Parliament in this regard; see High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022.

Furthermore, in light of the ECtHR's climate decision in *KlimaSeniorinnen*, it will be necessary to assess whether the domestic measures comply with the Court's standards. It will be equally interesting to consider the influence of the international advisory opinions of the ITLOS and the ICJ on British courts.

1.3.4.4.2 In the USA

In the USA, the federal government – and/or its agencies – may be held accountable in tort.

The first-ever climate case, which also succeeded, was in the USA in the 2007 *Massachusetts v EPA* case, in which the Supreme Court ruled that the EPA has a duty to regulate GHGs. Since the Clean Air Act obliges the EPA to regulate air pollutants if they endanger the public health or welfare, the Court found that the EPA must decide whether GHGs do constitute this kind of threat⁶⁰⁷. The reasoning following which the EPA must protect the public, including the plaintiffs, against climate-related harm, also seems valid for any other private persons in a position to influence significant volumes of GHGs, since they do not have the right to harm others either. Therefore, this reasoning equally alludes to a *general* CDD recognition in the USA.

However, in *American Electric Power Company v Connecticut*, the US Supreme Court asserted that the Clean Air Act displaces federal tort law⁶⁰⁸, meaning that it is a *lex specialis* (this case is discussed in more detail in section 2.3.1). Nevertheless, *general* tort law and due diligence remain in principle the basic rule applicable by default, meaning that all other areas not regulated by the Clean Air Act should remain under their scope, such as parent companies' responsibility over worldwide GHG emissions. Despite this potential and theoretical applicability of due diligence to climate change under those circumstances, there is little hope that the US federal justice system will recognise *general* CDD, particularly since Trump's first mandate⁶⁰⁹.

607 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007).

608 SCOTUS, *American Electric Power Company v Connecticut*, 564 U. S. ____ (2011).

609 Totenberg N, "The Supreme Court is the most conservative in 90 years", *NPR*, July 2022.

Actually, even before Trump's first term in office, other federal courts had previously deemed cases against numerous private corporations based on federal tort law to be nonjusticiable due to the political question doctrine⁶¹⁰.

In other climate cases based on the US Federal Constitution and its corresponding human rights dimensions, plaintiffs have been equally unsuccessful so far. In *Juliana v USA*, some plaintiffs relied on constitutional provisions mandating the federal government and lawmakers to protect life and property (the Fifth and Fourteenth Amendments to the Constitution⁶¹¹, similar to the legal bases relied on in *Urgenda*). The Court of Appeals dismissed their case for lack of redressability, in the sense of lack of judicial authority to grant the desired measures, due to their far-reaching but also non-consensual nature (see section 2.3.2 for further information)⁶¹². The US Supreme Court declined to hear this case. The chances of another suit of this kind succeeding at the federal US level seem rather low, even with a "reasonable" interpretation of *general* CDD in line with international consensus, as long as the SCOTUS composition remains as "conservative" as it was in 2024⁶¹³. This view is supported by the SCOTUS decision in *Dobbs v Jackson*, in which the Court upheld a state law despite it conflicting with its previous interpretations of the Constitution and the doctrine of precedent (so-called *stare decisis*), a pillar of common law.⁶¹⁴ This decision, in addition to *West Virginia v EPA*, shows the willingness of the SCOTUS to grant the lawmaking bodies final authority on important societal issues, including climate mitigation.

Having said that, the US federal courts can still, in theory, provide for judicial review to ensure the authorities' actions are not "arbitrary,

610 Court of Appeal for the Ninth Circuit of the United States, *Native Village of Kivalina v ExxonMobil et al*, No. 09-17490, D.C. No. 4:08-cv-01138-SBA, 21 September 2012.

611 The use of the "due process clause" by the plaintiffs is similar to the duty of care or due diligence. Tracing this parallel and proximity of the terms under US constitutional law was also done by authors of the legal literature: Crowell J, "Duties of Care and the Constitution: A Negligence Model of Individual Rights" (2003) 21(2) *Yale Law & Policy Review* p 493. The plaintiffs in *Juliana* also relied on the principle of the "public trust" doctrine imposing on the State the obligation to protect natural resources and the atmosphere, see for further analysis: Blumm MC and Wood MC, "No Ordinary Lawsuit: Climate Change, Due Process, and the Public Trust Doctrine" (2017) 67 *American University Law Review* 101.

612 Court of Appeal for the Ninth Circuit of the United States, *Juliana et al v USA*, No. 18-36082 D.C. No. 6:15-cv-01517-AA, 17 January 2020, Opinion of the Court.

613 Totenberg N, "The Supreme Court is the most conservative in 90 years", *NPR*, July 2022.

614 SCOTUS, *Dobbs et al v Jackson et al*, 597 U. S. ____ (2022).

capricious, . . . or otherwise not in accordance with law.”⁶¹⁵ In a US climate case directed against the EPA’s actions, the Court of Appeals concluded that the 2019 *Affordable Clean Energy* Rule of the Trump Administration, replacing the Obama administration’s *Clean Power Plan* was, for example, a “fundamental misinterpretation’ of the Clean Air Act⁶¹⁶. However, as already pointed out just above, this case and others ended up before the US Supreme Court in 2022 in *West Virginia v EPA*. The Supreme Court rather found that Obama’s *Clean Power Plan* contravenes the “major questions” doctrine, which obliges the legislator to step in, as the Court considered the Statute not sufficiently clear to provide the EPA (i.e. federal regulator) with a mandate of this kind (see subpart 2.3 on the redressability)⁶¹⁷. Nevertheless, it is important to acknowledge the somewhat contradictory nature of the US Supreme Court’s recent jurisprudence, given that it ruled in the 2007 Massachusetts case that the EPA had a duty to position on the issue of whether or not GHGs are dangerous pollutants.

In any case, the situation in US federal courts does not prevent climate lawsuits from being filed in US state courts, including based on state tort law, provided the claims are not displaced by *lex specialis* on the federal or state level. At the time of writing this thesis, there were thirty climate lawsuits seeking the responsibility of private companies, especially oil and gas companies, for deception and misleading statements, which were still pending in US state courts⁶¹⁸. These lawsuits could arguably fall under the *general* CDD category. One state-level supreme court recognised its jurisdiction without further limitation, and the US federal Supreme Court, SCOTUS, will review one of these decisions. Furthermore, in December 2024, the Supreme Court of Montana granted a climate-related request in the *Held v Montana* case⁶¹⁹. It will be interesting to see how those US state courts will position themselves on climate, especially after the international law clarifications by the ICJ, among others.

615 See, for instance, the Clean Air Act’s provisions: 42 U. S. C. §7607(b)(1).

616 Court of Appeals for the District of Columbia, *American Lung Association v EPA*, No. 19-1140, January 19, 2021.

617 SCOTUS, *West Virginia et al v EPA*, 597 U. S. ____ (2022); Court of Appeals for the District of Columbia, *American Lung Association v EPA*, No. 19-1140, January 19, 2021, p 146.

618 Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2023 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2023) p 4.

619 See Supreme Court of The State of Montana, *Held et al v Montana et al*, DA 23-0575, 18 December 2024.

Despite some courts currently being reluctant to provide climate protection, this subsection shows that *general* due diligence norms enshrined in tort law, human rights law, or the respective constitutions should – in theory – apply to climate and public and private actors to mitigate climate change in common law countries, particularly if no specific legislation is in place. Furthermore, since *specific climate legislation* is merely a form of implementation of *general* CDD, it *theoretically* needs to comply with *general* CDD enshrined in constitutional CDD⁶²⁰ (including human rights) and international law⁶²¹, given the hierarchy of norms. It will be interesting to see how the recent unanimous international advisory opinions of the ITLOS and ICJ can influence the position of US courts, which have asserted that climate action and mitigation are legal questions, and that States have a due diligence duty to limit global warming to 1.5°C⁶²².

1.3.4.4.3 In other common-law countries

In Ireland, the Supreme Court granted a climate-related case against the State to remedy statutory breaches⁶²³. However, it dismissed the claims based on human rights. And there were no tort law claims.

Beyond those case laws in the UK and USA, the Supreme Court of New Zealand declared a general tort law climate case admissible in 2024, in

620 Note however that federal Courts dismissed the *Juliana v USA* case based on general CDD enshrined in the US Constitution (right to life and property, akin to Urgenda). While this dismissal was certainly due to certain particular aspects of the interpretation of general CDD by the plaintiffs (see its analysis in subsection 2.3.2.2.), the prospects of success of such a type of case, even with more reasonable interpretation of general CDD, remain very low in US federal courts as long as the SCOTUS composition remains as “conservative” as nowadays, as notably evidenced by its decision in *Dobbs v Jackson* in which the Court gave prevalence to a state law which breached its own (former) interpretation of the Constitution concerning the right to abortion.

621 See, notably, ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, see especially: § 405: “Their implementation depends on the relevant domestic legal system and allows for the exercise of discretion. However, States do not have absolute discretion with respect to the action that is required.”

622 ITLOS, *Advisory Opinion on Climate Change and International law*, 21 May 2024, § 104; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 38 – 43.

623 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020.

which it found a potential existence of *general* CDD in this case⁶²⁴. This case is even more interesting since the respondent is a private party. One cannot exclude that other common-law courts may consider and follow similar reasoning.

In Canada, the Court of Appeal required the State in *Mathur v Ontario* to comply with human rights in 2024⁶²⁵, which the Supreme Court declined to review in 2025.⁶²⁶ This case also shows the recognition of *general* human rights CDD by Canadian courts.

On the other hand, the Federal Court of Australia held in 2025 that the law of negligence does not capture climate action, due to the political nature of the questions involved:

“The Commonwealth did not and does not owe Torres Strait Islanders the alleged duty of care concerning the setting of emissions reduction targets. For the reasons given in detail earlier, that duty of care cannot or should not be imposed or imputed because it would be both inappropriate and impractical for the Court to pass judgment on the reasonableness of the Commonwealth’s actions concerning the setting of emissions reduction targets. That is because they involve issues of high or core government policy and political judgment which properly fall within the province of the elected representatives and executive government of the day, not the judicial arm of government.”⁶²⁷

This latter case shows that there is still no clear unified trend in climate case-law in common-law countries. However, the ingredients are there to trigger evolutions in the direction of finding due diligence norms applicable to climate change.

1.3.4.4.4 Interim conclusion

While the developments in Part 1 demonstrate that the concept of due diligence manifestly applies to climate change in all the legal systems as-

624 Supreme Court of New Zealand, *Smith v Fronterra et al*, SC 149/2021 [2024] NZSC 5, 2024.

625 Court of Appeal of Ontario, *Mathur v Ontario*, 2024 ONCA 762, 2024.

626 Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2025 Snapshot* (Grantham Research Institute on Climate Change and the Environment, LSE 2025) p 26.

627 Federal Court of Australia, *Pabai v Commonwealth of Australia*, (No 2) [2025] FCA 796, 2025, § 977.

sessed so far (international law, human rights law, civil law systems), this dissertation considers, at this stage of the demonstration, that the same should be true of common law jurisdictions.

Nonetheless, case law developments in those jurisdictions are more complex and ambiguous than in French or German law. In fact, despite some successful climate cases based on *specific* Statutes in the USA, Ireland, and Great Britain, the courts in those countries still refuse to apply the general duty of care to climate change, due to the *lex specialis* rule or the political feature of climate action. The reluctance of common-law courts to grant mitigation requests on the basis of *general* CDD makes the assertion regarding the existence of *general* CDD somewhat speculative⁶²⁸.

However, the effect of the *lex specialis* rule is limited. It does not rule out the application of general due diligence norms where no specific legislation exists. Moreover, human rights and international jurisprudence should influence the domestic courts' positions. The ECtHR's decision in *KlimaSeniorinnen v Switzerland* clearly affirms that the State's conduct in climate mitigation concerns is subject to the Court's judicial review. The ECtHR decisions bind the UK and Ireland. Moreover, both the ICJ and ITLOS affirmed that climate action falls within their competences, as they are legal matters requiring States to exercise due diligence obligations, which can lead to secondary obligations in case of non-compliance. Although these opinions do not bind domestic law, the due diligence legal bases interpreted by international courts bear much resemblance to the domestic tort duties of care. It will therefore be interesting to see whether these opinions influence the stance of certain common law courts.

Either way, beyond this deductive reasoning from existing climate judgements, the next subdivision analyses the applicability of the *general* common law duty of care to climate matters in greater theoretical depth.

1.3.4.5 Discussion of general CDD's applicability based on the duty of care criteria

To discuss the applicability of CDD in a more theoretical way, this subdivision follows the so-called "*Caparo*" factors (applicability criteria found

628 For an opinion agreeing on the applicability of the duty of care in the climate context, see Varvastian Samira and Kalunga Felix, "Transnational Corporate Liability for Environmental Damage and Climate Change: Reassessing Access to Justice after *Vedanta v Lungowe*", *Transnational Environmental Law*, 2020, pp 16–21.

in the *Caparo* case, being i) foreseeability, ii) proximity, and iii) neighbourhood). While climate-related damages are now clearly foreseeable (see introduction and above, subsection on international law), it is debatable whether there is a relation of “proximity” or “neighbourhood” between climate-related victims and greenhouse gas contributors.

According to the foundational case law for negligence, there is a constant neighbourhood relationship between a manufacturer and a consumer, irrespective of whether the product was sold by the manufacturer or not (see *Donoghue v Stevenson* and *Thomas v Winchester*). These rulings mean that a consumer who is a victim of a defective product will remain in a neighbourhood relationship with the manufacturer, even if the product was passed on to a distributor and a storekeeper before reaching the ultimate consumer. This example shows that there is no need for the parties to be in geographical proximity, but rather there needs to be a foreseeable causal link⁶²⁹.

Beyond the special relationship between a manufacturer and a consumer, “[w]hile there is authority for the proposition that one owes a duty to the world at large to refrain from conduct creating an unreasonable risk of injury to others”⁶³⁰, there can be no “liability in an indeterminate amount for an indeterminate time to an indeterminate class” according to the New York Court of Appeal (presided by Justice Cardozo) in *Ultramares*. Correspondingly, a company auditor is not responsible for the loss incurred by new investors if they rely on its auditing reports for an investment decision in a new company. Remarkably, the leading case law on the duty of care in the UK (*Caparo*) involved similar facts and produced similar legal findings. In *Moch*, the NY Court of Appeal (Cardozo) ruled that a water utility company is not liable for property damage caused by fire if the fire was caused by external factors, despite the plaintiff's allegations that the fire could have been extinguished with normal, adequate water pressure⁶³¹. In the USA, the Second Restatement of Torts (codification attempts of the case law) states more generally “that there was no general duty to exercise reasonable care with regard to another if that exercise involved the necessity of taking

629 See for concurring opinion: Cassell D, “Outlining the Case for a Common Law Duty of Care of Business to Exercise Human Rights Due Diligence” (2016) *Business and Human Rights Journal* p 199, referring to *Donoghue v Stevenson*, 581.

630 *Stevenson* Harvey G, *Law of Negligence in the Atlantic States*, 1954.

631 New York Court of Appeal, *H. R. Moch Co. v Rensselaer Water Co.* - 247 N.Y. 160, 159 N.E. 896 (1928).

positive action.”⁶³² There are however exceptions to this rule⁶³³, if there is a special relationship, as omissions may also characterise breaches of the duty of care, including in the relationship between a parent and a subsidiary, as seen above in subdivision 1.3.4.3.

In the situation of climate change, there are no previous contractual arrangements; every GHG aggravates further climate change and globally contributes to climate-related harms. Clearly, one climate-related victim cannot sue all GHG contributors to receive compensation for obvious practical reasons. However, various climate-related plaintiffs could ensure that everyone – especially the systemic actors such as States and business enterprises – enact the appropriate measures to adequately mitigate climate change as it benefits the world at large. So, is it possible to seek injunctive relief against one or more GHG contributors under common law?

The question of whether – or, rather, the extent to which – common-law courts may issue injunctions to cease climate misconduct is complex. As discussed above, it is unclear whether the law of negligence covers ongoing activities such as GHG emissions and allows for injunctions⁶³⁴. In any case, the nuisance cause of action allows for injunctions and applies to environmental matters alongside continuing harmful conduct over time. Therefore, climate applicants should be able to claim a nuisance alternatively to negligence to ensure tort law applies. The Supreme Court of New Zealand admitted in 2024 a tort case against private companies based on those two laws⁶³⁵. Other common-law courts may follow similar reasoning.

Regarding the conditions for granting injunctions, the UK Supreme Court stated in the 2014 nuisance *Coventry* case, “that the *prima facie* position is that an injunction should be granted, so the legal burden is on the defendant to show why it should not.”⁶³⁶ The question is whether the injunction is a more adequate, fair and just remedy than damages, declaratory relief, or the dismissal of the claims. Furthermore, in previous non-climate cases, British courts have denied a mandatory injunction if providing compensation for the potential damage is less expensive for the

632 Section 314 of Topic 7 entitled “Duties of Affirmative Action”.

633 Murphy J P, “Evolution of the Duty of Care” (1980) 30 *DePaul Law Review* p 157.

634 Van Boom W H, “Comparative Notes on Injunction and Wrongful Risk-Taking”, *Maastricht Journal of European and Comparative Law*, 17(1), 2010, p 16.

635 Supreme Court of New Zealand, *Smith v Fronterra et al*, SC 149/2021 [2024] NZSC 5, 2024, § 172 - 175.

636 UK Supreme Court, *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014, § 121.

respondent⁶³⁷. Finally, according to a comparative lawyer, British courts grant a court order if it is implementable and if there is a prospect of serious and irreversible harm, whether it is imminent or ongoing.⁶³⁸

In the realm of climate change, it is necessary to limit global warming as much as possible in order to remain on a habitable planet and to minimise loss and damage. According to the IPCC, “hard adaptation limits” will increase if warming further increases⁶³⁹. Moreover, further GHG reductions are urgent to avoid crossing the 1.5°C threshold, which is almost imminent and would have extremely serious consequences. Either way, mitigation remains an overarching priority, even if the 1.5°C threshold is exceeded. These scientific findings support the granting of the injunction.

Furthermore, everybody needs to mitigate global warming. This principle that everyone needs to do their part concords with the physical and mathematical reality of every emission reduction count, even if one contribution does not seem significant in proportion. This tenet has been recognised by the US Supreme Court in *Massachusetts*⁶⁴⁰, the Dutch Supreme Court in *Urgenda*⁶⁴¹, the German Constitutional Court with respect to its climate law⁶⁴², or the Hague District Court with respect to a private company, *Shell*⁶⁴³.

British courts also engage in a balancing of interests, including by considering the rights of the public, to make sure the injunction does not curtail the rights of others⁶⁴⁴. More precisely, the UK Supreme Court considers whether the activity potentially affected by the injunction is lawful, permitted by public authorities, and/or even beneficial to the public⁶⁴⁵.

637 Van Boom W H, “Comparative Notes on Injunction and Wrongful Risk-Taking”, *Maastricht Journal of European and Comparative Law*, 17(1), 2010, p 16 referring to *Redland Bricks Ltd. v Morris*.

638 *Ibid*, p 14 – 15.

639 IPCC, AR 6, WG II, SPM, § B.3, B.5 and C.3.

640 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007), p 22.

641 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 6.3.

642 Constitutional Court of Germany, 1 BvR 2656/18, 24 March 2021, § 99.

643 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49.

644 Lord Justice Cumming-Bruce stated in *Miller v Jackson* that “[t]here is authority that in considering whether to exercise a judicial discretion to grant an injunction the court is under a duty to consider the interests of the public.” ; *Kennaway v Thompson* [1981] QB 88; *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014, § 125; Van Boom W H, “Comparative Notes on Injunction and Wrongful Risk-Taking”, *Maastricht Journal of European and Comparative Law*, 17(1), 2010, p 16.

645 UK Supreme Court, *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014, § 125.

This balancing act poses a particular challenge in climate cases, as many, if not all, emitting activities, ranging from industrial activities to the use of automotive vehicles, are already regulated by public bodies, allowed or even promoted and to some extent beneficial to the public. These factors present significant challenges when it comes to devising any *specific* substantive injunction in the climate realm that is adequate, reasonable, and proportionate. In contrast, procedural injunctions are manifestly easier to grant (i.e. implementing best efforts in line with due diligence to adequately tackle mitigation; see Subpart 2.3 on redressability for a detailed analysis of redressable injunctive remedies in climate-related cases).

As for monetary compensation, providing this remedy against one or some of the actors would only partially and minimally redress the harm. Following the principles of shared responsibility, the respondent should only be held accountable in proportion to their share of responsibility; otherwise, the consequences would be disproportionate and thus unfair. This means that the respondent will only remedy the harm in proportion to their share of liability. If the court only grants compensation without an injunction to mitigate climate change, it would not prevent the respondent from contributing further to the aggravation of the harm, which would be largely unsatisfactory. Consequently, monetary compensation should only be awarded alongside an injunction to mitigate.

Consequently, while this PhD cannot express a firm opinion on the prospect of issuing injunctions based on *general* CDD due to the absence of favourable court judgements in the common law jurisdictions, the preceding analysis shows that the conditions for applying due diligence to climate change are theoretically met. Thus, the law of torts in common law countries should move in this direction, especially in jurisdictions where no *specific* legislation exists or where existing legislation is inadequate.

1.3.5 Provisional conclusion and comparative notes on the existence of CDD in the various domestic jurisdictions

Having analysed the applicability of due diligence to climate change in international and human rights law, Subpart 1.3 concludes that *general* CDD also exists in the domestic laws – especially tort law – of the Netherlands, France, Germany and common-law countries for the following main reasons.

Beyond pursuing an identical *function* – i.e. avoiding harm – tort liability laws in the assessed developed countries’ systems (France, Germany, common law countries) stem from Roman law⁶⁴⁶. Although civil law jurisdictions are based on codification and common law countries on case law, there are no significant differences between the two types of legal system in terms of extracontractual tort responsibility. In fact, the civil code provisions concerning *general* tort liability law in France⁶⁴⁷ and Germany⁶⁴⁸ are as unspecific and general as the common law principles⁶⁴⁹. Additionally, while all jurisdictions use their own labels to some extent to refer to due diligence, it is worth noting that they all encompass the duty of care or due diligence obligation (*devoir de prudence* or *devoir de vigilance* in French law and the *Sorgfaltspflicht* or *Verkehrssicherungspflicht* in German law), which ultimately requires prevention.

More precisely, all domestic duties require the exercise of reasonable conduct in accordance with the standard of care or reasonable man standard (previously referred to as *bonus pater familias*, or *bon père de famille* in French-speaking jurisdictions). This standard requires the implementation of adequate and proportionate measures to prevent foreseeable harms (*prévisibilité*, *Vorhersehbarkeit*). Even if the notion of foreseeability is not explicitly mentioned in the statutory provisions under French and German law, the courts of those countries still use it and carry out a foreseeability and proximity analysis. They assess *in abstracto* and *in concreto* whether the defendant could have reasonably anticipated that their negligence would cause harm to protected interests. In other words, if the damage was not foreseeable, the courts can strike out the case due to a lack of fault or causation. Also, as in international public law and human rights law, the *general* due diligence criteria under the assessed domestic laws leave a margin of discretion for the courts and the duty bearers due to their openness and vagueness.

Another important shared feature is the fact that the duties of care in those jurisdictions are part of the “common”, “customary” or “general” branches of their legal systems, meaning they apply by default. In other

646 See, notably, Smit L et al, “Study on Due Diligence Requirements through the Supply Chain – Final Report”, *BIICL, Civic Consulting, LSE, European Commission (Directorate-General for Justice and Consumers)*, January 2020 p 158.

647 Article 1240 (former article 1382) and Article 1241 (former article 1383) of the French Civil Code.

648 Section 823 of the German Civil Code BGB.

649 In the UK, the leading case law on the duty of care is the *Caparo* case (UK House of Lords, *Caparo Industries Plc v Dickman* [1990] 2 AC 605, 08 February 1990).

words, these *general* due diligence requirements apply when there is no *specific* law, an important characteristic, ultimately meaning that there is no “legal void” or “legal gap”.

As to the duty bearers, beyond private persons, public actors – including the States – also have to comply with due diligence under general liability tort laws⁶⁵⁰, domestic constitutional provisions, and/or human rights law. Examples of human rights provisions containing due diligence types of norms include the Fifth and Fourteenth Amendment of the US Constitution, the ECHR and the direct applicability of the Convention in France⁶⁵¹ and Germany⁶⁵², or the Human Rights Act of the UK.

Moreover, the law in continental Europe and the UK (see, for example, *Lungowe v Vedanta*⁶⁵³) imposes due diligence obligations on parent and procuring companies with respect to their subsidiaries and suppliers to avoid harm (especially serious human rights violations) and environmental destruction⁶⁵⁴.

As to the protected interests, which may constitute “injuries” if they are violated (*Rechtswidriger Eingriff*, *dommage et/ou préjudice*), they may slightly differ between jurisdictions. However, all legal systems protect basic human interests, such as life, bodily integrity, liberty, family and privacy, and property. Since those interests overlap with human rights, and since they are endangered by global warming, the reasoning developed above under human rights law (and international law) regarding their applicability

650 See, among others, Section 839 BGB for Germany; and the following case law for France, creating French administrative courts in charge of overseeing liability claims against the State (Tribunal des conflits, Blanco, 8 févr. 1873)

651 Sauvé J-M, “Les 60 ans de la Convention européenne de sauvegarde des droits de l’homme et des libertés fondamentales”, *Colloque organisé par l’Université de Paris 3 Sorbonne Nouvelle, Sénat*, 9 avril 2010.

652 To claim an infringement of individual constitutional rights, see the conditions under art 90 - 93 *Bundesverfassungsgerichtsgesetz - BVerfGG*.

653 See, for instance, the following case law: UK Supreme Court, *Lungowe v Vedanta*, [2019] UKSC 20, 10 April 2019, § 53.

654 See, among other things, French Duty of Vigilance Law (LOI n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d’ordre), the German Supply Chains Act (*Gesetz über die unternehmerischen Sorgfaltspflichten in Lieferketten*, vom 16. Juli 2021), the CSDDD (Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence), the General Comment n°24 of the CESCR (CESCR, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017).

to climate change can be applied *mutatis mutandis* to domestic tort law. In addition, while the French jurisdiction covers pure ecological harms (*préjudice écologique*)⁶⁵⁵, as it does in international law at least since 2018⁶⁵⁶, German tort law and common law jurisdictions protect personal interests in cases of environmental damages, akin to human rights legal systems⁶⁵⁷.

Courts in these countries also have the power to issue injunctions or court orders requiring a minimum level of protection for individual applicants under tort law⁶⁵⁸ and the environment⁶⁵⁹, and/or based on the respective constitutions or human rights⁶⁶⁰.

In light of these characteristics and the previous findings regarding the dangers of global warming to environmental, social and personal interests (see subpart 1.1 and 1.2), it seems reasonable to conclude that *general* due diligence also applies to climate change under the assessed domestic laws. It requires public and private entities – including parent companies of multinationals – to address climate change. This opinion is supported by concurring case law outcomes. While there are no cases acknowledging the applicability of *general* due diligence to both public and private actors, such as in the *Urgenda* and *Shell* cases, the outcomes in Germany, France, and common-law countries come already very close:

- The German Constitutional Court found that the ECHR and Art. 20a of the German constitution, which establishes a special duty of care according to the Court, apply to climate change in order to protect individuals and future generations from climate-related harms and serious liberty infringements by state mitigation measures⁶⁶¹. While climate lawsuits

655 Cour de cassation, crim., *Erika*, n° 10-82-938, 25 septembre 2012 ; see as well Article 1246 of the French Civil Code (current version).

656 See the ICJ ruling in *Certain activities carried out by Nicaragua in the border area (Costa Rica v Nicaragua)*, 2 February 2018.

657 Deakin S and Adams Z, *Markesinis and Deakin's Tort Law* (8th edn, Oxford University Press 2019), p 447.

658 Common law courts regularly issue injunctions to prevent “private or public nuisances” (see Deakin S and Adams Z, *Markesinis and Deakin's Tort Law* (8th edn, Oxford University Press 2019), p 434 – 437; UK Supreme Court, *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014).

659 In France, it is notably possible to request enforcement of reasonable measures to prevent or stop environmental damage, see Article 1252 Civil Code.

660 The French Law on the Duty of Vigilance and the European Directive CSDDD foresee remedies such as injunctive relief to enforce compliance with the respective obligations and human rights protection.

661 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021.

against private actors in Germany have led to the recognition of the relevance of specific legislation (EU automotive regulations), civil courts have not excluded the applicability of *general* CDD in the absence of specific law⁶⁶².

- In France, the Paris Administrative Court acknowledged that the State has a *general* duty to tackle climate change in *Notre affaire à tous et al v France*, though it ultimately found only a breach of specific law⁶⁶³. Given that the legal basis used in the latter case also applies to private actors (ecological harm – see articles 1246 – 1252 Civil code), and given that the Paris Court of Appeal admitted a CDD case against the parent company of the multinational group TotalEnergies⁶⁶⁴, it is possible to infer that CDD also applies to companies, as they integrate themselves climate change in their Duty of Vigilance plans.
- In Belgium, which also relies on the Napoleonic Civil Code, the Brussels Court of First Instance and Court of Appeal considered that tort duty of care and the ECHR imposed on the State a duty to reduce GHGs adequately⁶⁶⁵.
- While the climate cases against States in the UK⁶⁶⁶ and the USA⁶⁶⁷ succeeded on the basis of *specific* laws, one cannot rule out that *general* CDD would be recognised in the future, if no specific legislation were in place, or if the existing legislation were inadequate. Additionally, the Supreme Court of New Zealand declared a case against private actors admissible, thereby opening up a recognition of the existence of *general* CDD in a common-law country (other common-law courts may well consider and apply it too)⁶⁶⁸.

662 See, for instance, Court of First instance of Stuttgart (Landgericht Stuttgart), 13.9.2022 – 17 O 789/2, § 25; Court of First instance of Brunswick (Landgericht Braunschweig), *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023.

663 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1.

664 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19 – 22.

665 Court of First Instance of Brussels (French-speaking), *Klimaatzaak*, 2015/4585/A, 17 June 2021, Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2021.

666 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 13

667 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007).

668 Supreme Court of New Zealand, *Smith v Fronterra et al*, SC 149/2021 [2024] NZSC 5.

1.4 Interim conclusion on CDD's existence

Given the above, *general* due diligence applies to climate change in almost all assessed legal systems. Other important legal scholars have also reached this conclusion⁶⁶⁹, and highly authoritative judicial bodies confirmed this finding in their respective legal systems in 2024-25, such as the Grand Chamber of the ECtHR, the ITLOS, and the ICJ.

The opposite would mean that no *general* law governs climate change, a dangerous implication. Under such a hypothesis, each State or private corporation would have unlimited freedom in the absence of climate treaties or domestic legislation.

However, the recognition of a *general* CDD in the USA, one of the most important jurisdictions in terms of climate change mitigation, is limited to *specific* laws, which are now subject to restrictive interpretations by the SCOTUS. This state of affairs constitutes a fragmentation of the transnational recognition of CDD.

Nonetheless, it is worthwhile to recall here that international customary law obligates each State individually to mitigate climate change, including the USA⁶⁷⁰.

Thus, this thesis identified two main results in the first part. The first is that public and private actors must make their best individual efforts to tackle climate mitigation, meaning – among others – measuring and reducing GHGs, reporting publicly about these measures and cooperating with others, among other things. The second consequence of the applicability of *general* CDD is the potential competence of courts of law (including international ones) to adjudicate climate cases, based on the failure to comply with *general* CDD norms. The courts' adjudication powers are a significant added value compared to the climate conventions. In fact, the Paris Agreement does not provide for specific judicial remedies, and States do not widely accept the UNFCCC dispute settlement provisions in Article 14.

669 See, among others, the Expert Group on Global Climate Obligations, which established the following: Expert Group on Global Climate Obligations, *The Oslo Principles on Global Climate Change* (Eleven International Publishing, 2015); see as well: Expert Group on Climate Obligations of Enterprises, *The Principles on Climate Obligations of Enterprises* (Eleven International Publishing, 2018).

670 ICJ, *Obligations of States in respect of Climate Change*, Advisory opinion, 23 July 2025; ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024.

2 The extent of CDD's enforceability

As established in Part 1, due diligence – as a primary duty⁶⁷¹ – applies to climate change, incidentally establishing the potential jurisdiction of courts in this respect. However, due to the vagueness of the concept, some authors, such as Mayer and Van Asselt, argue that due diligence is hardly enforceable through litigation⁶⁷². In fact, if nobody can determine what due diligence concretely requires, one could argue that it has no binding force, in other words, that it is not enforceable. Conversely, another common criticism of CDD is that it is dangerous as it may lead to creative, misleading and ultimately arbitrary interpretations⁶⁷³.

This part examines this issue in more detail by studying the extent to which litigators can enforce particular interpretations of CDD in jurisdictions other than the Netherlands, especially in the French, German, American, English, and international legal systems.

To do so, this thesis relies on the standing test of the US courts, as it provides the most exhaustive and structured framework to assess the extent to which particular interpretations of *general* due diligence are admissible in court. While it may seem surprising that a non-US lawyer uses the standing criteria of the US jurisdiction to assess the extent of the “enforceability” of CDD for comparative purposes, it is worthwhile noting that these criteria, or their functions, are widely shared among jurisdictions to assess the admissibility, justiciability or enforceability of the claims. Indeed, if other jurisdictions use different labels (see below), and or test causation at the merits stage instead of admissibility, the fact that the US criteria or their

671 Pursuant to the introduction of this thesis, due diligence is a primary duty which constantly apply and require a reasonable conduct to prevent harm to others. Secondary obligations arise in principle when the primary duties are breached. According to some authors, including the members of the ILC, due diligence can also be considered as being part of secondary obligations (see Aust HP and Feihle P, “Due Diligence in the History of the Codification of the Law of State Responsibility” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020)).

672 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*; see as well Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law*.

673 See the introduction (section 0.4.2).

functions are common to many – if not all legal systems – enables them to be also used for this comparative law assessment.

More precisely, under the US standing criteria, a plaintiff must show three distinct elements, namely “that it has suffered a concrete and particularized injury that is either actual or imminent, that the injury is fairly traceable to the defendant, and that it is likely that a favorable decision will redress that injury”⁶⁷⁴. Said differently, a claimant must establish:

- an “injury”, which must be “concrete and particularized”;
- causation, as “the injury is fairly traceable to the defendant”;
- and redressability, by showing that “a favorable decision will redress that injury”.

Adequately claiming an injury and causation are common criteria among jurisdictions, at least in the assessed legal systems of this thesis. However, causation largely overlaps with the merits, and is in certain jurisdictions rather assessed at this stage. More generally, the issues pertaining to admissibility and the merits are “closely bound up” in climate cases according to the ECtHR⁶⁷⁵.

As for the “redressability” requirement, it may be an unfamiliar term in other legal systems. While the notion has an equivalent in French, it is only used in fiscal law (redressement judiciaire ou fiscal). Still, the French standing concept “of *“intérêt à agir”*”⁶⁷⁶, the ECtHR’s notion of “manifestly

674 Based on Article III of the US Constitution, the Supreme Court of the United States (SCOTUS) recognised in its 1992 *Lujan* case that the standing analysis encompasses issues of causation and redressability (see, notably SCOTUS, *Lujan v Defenders of Wildlife*, 504 U.S. 555, 560 (1992)).

675 For example, in *KlimaSeniorinnen*, the ECtHR recognised that the issues relating to admissibility and the merits are “closely bound up”, which justified their examination together in one judgement (see ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 458 of the judgement). This stance illustrates the difficulty of clearly delineating these issues in climate cases.

676 The French notion “*intérêt à agir*” – commonly translated as standing – analyses how the applicant is “affected in his rights and interests by the act whose legality he challenges [...] and the advantage that the plaintiff would obtain from the judge’s recognition of the validity of his claim” (see Guinchard S and Debard T, *Lexique des termes juridiques 2022-2023* (Dalloz, August 2022)). This definition clearly shows that testing “*intérêt à agir*” goes beyond merely focusing on the injury. The latter definition requires the applicant to show that the defendant is the cause of the harm and that the Court can provide an advantage to the claimant. Therefore, the French admissibility stage also encompasses causation and redressability.

ill-founded"⁶⁷⁷ and the UK term of "arguability"⁶⁷⁸ also encompass some form redressability analysis at the admissibility stage. More generally, the concept of "justiciability" of the claims, which is contained in the US redressability analysis, may be more familiar to the European legal systems. In any case, the notion of redressability and its corresponding equivalents in other legal systems significantly overlap with the merits, making this analysis particularly important.

In light of what precedes, the US standing requirements are well-suited to assess the enforceability of various CDD interpretations in comparative case-law. Thus, Part 2 is structured as follows.

The first subpart 2.1 discusses the ability to demonstrate standing in the context of general and special due diligence claims. In the context of *general* liability claims (or *general* due diligence), it is necessary to establish a climate-related injury, requiring the precise demonstration of a concrete and particularised harm as an individual, as an NGO, or as a representative of collective interests, such as local, regional public authorities. This issue is the subject of much debate in all general CDD cases, as the global and cumulative climate context brings entirely new questions to the fore.

The second subpart 2.2 examines the extent to which Courts accept establishing a causal link between GHGs and an injury. It also assesses the acceptance of the concept of partial responsibility, as no State or corporate group can be held entirely and exclusively responsible for climate change, not even the largest individual emitters. Moreover, this subpart encompasses attribution, since the notion of causation requires assessing which conduct or which GHGs of one actor cause or contribute to global warming. As direct emissions from one actor are generally negligible (even for States whose "territorial emissions" are not "direct" emissions), it is

677 Registry of the ECtHR, "Practical Guide on Admissibility Criteria", 30 April 2022 § 285 and 286: "any application will be considered "manifestly ill-founded" if a preliminary examination of its substance does not disclose any appearance of a violation of the rights guaranteed by the Convention, with the result that it can be declared inadmissible at the outset without proceeding to a formal examination on the merits (which would normally result in a judgment). The fact that the Court, in order to conclude that an application is manifestly ill-founded, sometimes needs to invite observations from the parties and enter into lengthy and detailed reasoning in its decision does nothing to alter the "manifestly" ill-founded nature of the application (*Mentzen v Latvia* (dec.))."

678 In British administrative law, claimants must show they have an arguable case with a realistic prospect of success on all grounds (see Judiciary For England And Wales, The Administrative Court: Judicial Review Guide 2021, July 2021, § 9.1.3. – 9.2.1).

necessary to seek responsibility for indirect and/or even extraterritorial emissions of public and private actors.

The third subpart 2.3 analyses the redressability of the climate lawsuits. As noted above, this subpart overlaps significantly with the issues dealt with on the merits. It assesses the enforceability of CDD in light of the political nature of the requests and their justiciability, the separation of powers, business freedoms, and the need to rely on consensual elements.

2.1 Injuries and legal interests to act: towards a subtle consolidation, mixing individual and collective components

Whether or not a situation constitutes “harm” or an “injury” is not always clear-cut, as it depends on the context, including how much one’s interest is legally protected or how far the obligations stretch. In the context of CDD claims, the common issues as to claiming an admissible injury are as follows: do plaintiffs need to demonstrate that specific, individual harm has *already* arisen? Also, is the overstepping of the 1.5 threshold necessary to demonstrate specific individual harm? Or can plaintiffs rely on the general danger that climate change represents to claim the enforcement of CDD? Additionally, is it possible to request mitigation in a preventive manner when the actual harm may only materialise at a later stage? If so, how certain must the materialisation of the harm be predicted?

Plaintiffs use various ways in domestic law to claim systemic CDD. Depending on the legal system, its historical development of the right to file a claim and the protected legal interests, some climate plaintiffs are individuals, while others are environmental organisations, or local public authorities (e.g. municipalities, regions, states). This subpart is structured as follows:

Section 2.1.1 discusses the initial opinions in favour of standing, such as those of the US Supreme Court in *Massachusetts* (2007) and the Dutch Courts in *Urgenda* (2015-19). It also assesses the key opposing opinions, such as those expressed by the Court of Justice of the EU in *Carvalho* (2020) and the Swiss courts in *KlimaSeniorinnen* (2019).

Section 2.1.2 considers case laws from different European jurisdictions that unanimously allow standing in cases that rely on the implementation of CDD in specific legislation (*Friends of the Irish Environment v Ireland*, 2020; *Grande-Synthe v France*, 2020; *Client Earth v UK*, 2021).

Section 2.1.3 argues that the demonstration of an injury in the context of a claim based on general due diligence is increasingly accepted when plain-

tiffs assert collective rights, such as environmental harms (*Notre affaire à tous v France*, 2021), or individual rights in conjunction with collective ones (German Constitutional Court case, 2021, ECtHR, *KlimaSeniorinnen*, 2024).

2.1.1 The initial fluctuating case law concerning the recognition of the injury in general CDD cases

Subsection 2.1.1.1 addresses the two pioneering successful model climate cases, *Massachusetts* and *Urgenda*, which blazed a path for many more similar cases. Despite these two cases, two other supreme courts issued different outcomes (see the Court of Justice of the EU in *Carvalho* and the *Klimaseniorinnen* case before the Swiss Supreme Court). Subsection 2.1.1.2 analyses those two opinions.

2.1.1.1 The recognition of standing in the first successful CDD cases

In *Massachusetts*, the legal base of the case, the Clean Air Act, is a *specific legislation*⁶⁷⁹. Consequently, this decision could have been addressed in the next section on cases relying on *specific* legislation. Nevertheless, the reasoning about standing remains relevant in this section on *general* CDD, since the US Supreme Court relied on the standing criteria of Article III of the US Constitution (injury, causation, and redressability), which require demonstrating certain things by going way beyond a typical “judicial review” in *ultra vires* terms (*recours en excès de pouvoir*), where only the State’s wrongful conduct is assessed.

Thus, subdivision 2.1.1.1.1 elaborates on how the US Supreme Court addressed climate-related standing in *Massachusetts*. In turn, subdivision 2.1.1.1.2 analyses how the Dutch courts recognised the claimants’ injury in the *Urgenda* decisions.

679 It gives the EPA the authority to tackle environmental matters and the possibility for third parties to review its conduct if it is acting contrary to the statutory provisions, see 42 U. S. C. §7607(b)(1).

2.1.1.1.1 The pioneering discussion in *Massachusetts v EPA*

In *Massachusetts*, the US Supreme Court applied the traditional standing test under Article III of the US Constitution, which requires a finding of injury. However, the US Congress allowed anyone under the Clean Air Act (CAA) to review the EPA's conduct. Thus, the US Supreme Court slightly accommodated the injury criterion:

“a litigant to whom Congress has “accorded a procedural right to protect his concrete interests,” *id.*, at 572, n. 7— here, the right to challenge agency action unlawfully withheld, §7607(b)(1)—“can assert that right without meeting all the normal standards for redressability and immediacy,” *ibid.* When a litigant is vested with a procedural right, that litigant has standing if there is some possibility that the requested relief will prompt the injury-causing party to reconsider the decision that allegedly harmed the litigant.”⁶⁸⁰

Given this *specific* procedural right, the conditions in *Massachusetts* depart from those of a general liability case, in which the three conditions under Article III must be met in full (injury, causation, redressability). This distinction is important when assessing other US cases, such as the *Juliana v USA* case (see the corresponding analysis of this case subsection 2.1.3.1 concerning injury, and 2.3.2.2 concerning redressability). However, the US Supreme Court still addressed many important questions of principle in *Massachusetts* that remain relevant today in *general* liability cases, where an injury, a causal link and a justiciable request must be presented.

As a non-US lawyer, it is necessary to keep in mind that the composition of the SCOTUS changed significantly during Trump's first term in office as President⁶⁸¹. Back in 2007, the Supreme Court had a balanced representation of so-called “conservative” and “progressive” judges. However, this changed when Trump nominated three strongly conservative judges during his first term⁶⁸².

680 SCOTUS, *Massachusetts et al v EPA*, 549 U. S. ____ (2007), Opinion of the Court, p 14.

681 Totenberg N, “The Supreme Court is the most conservative in 90 years”, *NPR*, July 2022.

682 The President of the USA, who stems from a specific political party, nominates judges from SCOTUS, and therefore tends to pick judges deciding in favour of their views. This nomination procedure has a well-known impact on how SCOTUS decides, as some judges are rather conservative or progressive. The Court is now

Given this new conservative majority, the US Supreme Court could be inclined to overturn the *Massachusetts* ruling for three main reasons. Firstly, the previous conservative wing of the Court contested the majority's reasoning in *Massachusetts*. Secondly, the current conservative majority overturned the well-known 1973 decision *Roe v Wade* (410 U. S. 113) concerning abortion rights, thereby establishing novel and exceptional criteria for setting aside the doctrine of the precedent (so-called *stare decisis*), which is a pillar of the reliability, authority, and legal certainty of decisions provided by courts, especially apex courts⁶⁸³. Thirdly, the current US Supreme Court restricted EPA's regulatory powers in *West Virginia et al v EPA*⁶⁸⁴ one day after overturning *Roe v Wade*. Therefore, a reversal of *Massachusetts* by the SCOTUS itself cannot be excluded⁶⁸⁵. In this context, the Court's arguments in favour of *Massachusetts*' standing, as well as the dissenting opinions of Chief Justice Robert (who is still Chief Justice) and Justice Scalia, remain relevant and timely.

As in other climate cases, the debate focused on the conditions to assert the injury: are GHGs, which cause global harm, compatible with the concept of standing? Is an injury caused by an *accumulation* of contributions admissible (note that this issue overlaps with causation)? The majority said yes, but the dissenting conservative said no⁶⁸⁶.

Regarding the more specific issues and the ability of *Massachusetts* and other states to bring environmental cases, the former majority observed that US states are not litigants like individuals. A long line of case law shows the legitimate interest of US states as "quasi-sovereigns" in protecting their citizens from transboundary air pollution⁶⁸⁷. Thus, the Supreme Court concluded that US states have a long-standing right to file environmental claims at the federal level.

Given this well-established right, the Supreme Court found that states have "special solicitude" to challenge EPA's decisions. Chief Justice Roberts criticised this finding, arguing that "[i]t is not at all clear how the Court's

composed of 6 conservative judges out of 9 (see Totenberg N, "The Supreme Court is the most conservative in 90 years", *NPR*, July 2022).

683 SCOTUS, *Dobbs et al v Jackson et al*, 597 U. S. ____ (2022).

684 SCOTUS, *West Virginia et al v EPA*, 597 U. S. ____ (2022).

685 Clark L, "Three Climate Rules Threatened by the Supreme Court's EPA Decision", *Scientific American*, 7 July 2022.

686 SCOTUS, *Massachusetts et al v EPA*, 549 U. S. ____ (2007), Opinion of the Court, p 13.

687 SCOTUS, *Georgia v Tennessee Copper Co*, 206 U. S. 230, 237 (1907).

“special solicitude” for Massachusetts plays out in the standing analysis, except as an implicit concession that petitioners cannot establish standing on traditional terms.” However, this is not entirely accurate, as the Supreme Court did state that Massachusetts’ special solicitude was derived from a combination of its general interest in protecting its citizens, its authority to regulate GHGs (including in the automotive sector), and its procedural right to challenge EPA decisions⁶⁸⁸. Does this special solicitude mean that non-state actors such as individuals or NGOs would have no standing, as CJ Roberts suggests in his conclusion?⁶⁸⁹ This thesis doubts this, since Congress has recognised to anyone a “procedural right to challenge the rejection of its rulemaking petition as arbitrary and capricious” in the Clean Air Act⁶⁹⁰.

After having lowered standing requirements for Massachusetts, the Court considered that sea-level rise already occurred in the 20th century⁶⁹¹, including on Massachusetts territory, which remains unchallenged by the EPA. The Court concluded that Massachusetts “alleged a particularized injury in its capacity as a landowner.”⁶⁹²

That being said, the Court argued that Massachusetts was facing “a *risk of harm*”, which was at times considered both “actual” and “real”, and at others “remote” or “imminent”. In any case, the harm involved was considered “catastrophic”. While these descriptions seem contradictory, they illustrate the complexity and the multifaceted character of climate-related harms. The majority further observed that scientific reports indicated a “strong consensus” that global warming would generally worsen over time, without knowing, though, with certainty the extent of the aggravation, especially regarding sea-level rise, potentially rising by 20 to 70 centimetres by the year 2100⁶⁹³. The Court quoted a statement of a state official who “believe[d]” that irreversible losses could occur and that remediation costs could be very high⁶⁹⁴.

Once again, Chief Justice (CJ) Roberts severely criticised these aspects of the decision. He argued that the petitioner’s evidence did not show with certainty that the harm would occur, observing that the “computer

688 *Massachusetts*, Opinion of the Court, p 16 – 17.

689 *Massachusetts*, Dissenting Opinion of CJ Roberts, p 15.

690 *Massachusetts*, Opinion of the Court, p 16.

691 *Ibid*, p 18.

692 *Ibid*, p 19 - 20.

693 *Ibid*, p 18.

694 *Ibid*, p 20.

modeling program has a conceded average error of about 30 centimeters and a maximum observed error of 70 centimeters.”⁶⁹⁵ Concerning the time horizon of hundred years before the sea level rise might affect Massachusetts coastline, CJ Roberts deemed this distance incompatible with the requirements of imminence and immediacy. He, however, conceded that the concept of “imminence” in standing doctrine is “somewhat elastic”⁶⁹⁶. He further contended that “the very concept of global warming seems inconsistent with this particularization requirement. Global warming is a phenomenon “harmful to humanity at large”.⁶⁹⁷ He argued that the particularisation criterion is crucial, and that the judiciary cannot step in if it is not met⁶⁹⁸. It is interesting to note for comparative purposes that the Court of Justice of the EU and the Swiss courts shared this view (see below, the commentary on the *Carvalho* case, and the *Klimaseniorinnen* case).

If CJ Roberts’ interpretation eventually prevails in a possible overturn of Massachusetts, would this mean that nobody could satisfy the injury requirements due to i) the worldwide effects of climate change, and ii) the potential residual scientific uncertainties regarding the extent and occurrence of the harm? Would this mean that even small island States would not have standing, even though they might be entirely wiped out by sea level rise and other climate-related impacts?

Concerning criterion i), the majority of the US Supreme Court’s in *Massachusetts* relied on Justice Kennedy’s concurring opinion in *Lujan* (i.e., the case which defined the current US standing criteria) to emphasise that standing cannot be dismissed simply because the harm affects many persons: “it does not matter how many persons have been injured by the challenged action, the party bringing suit must show that the action injures him in a concrete and personal way.” Justice Kennedy also noted that “many persons [can suffer] mass fraud or mass tort situations”⁶⁹⁹, which does not prevent them from litigating those issues, for example, through a class action. Hence, from that angle, the particularisation requirement does not appear to be an insurmountable obstacle.

Concerning ii), global warming increased and science developed since the *Massachusetts* judgement issued by the US Supreme Court in 2007. According to the most recent IPCC report on “Impacts, Adaptation and Vul-

695 *Massachusetts*, Dissenting Opinion of CJ Roberts, p 8.

696 *Ibid*, p 9.

697 *Ibid*, p 7.

698 *Ibid*, p 7.

699 SCOTUS, Opinion of the Court, *Lujan*, 504 U. S. 555 (1992), p 572.

nerability”, man-made climate change already caused widespread *loss and damage* to people and nature⁷⁰⁰, a finding delivered *with high confidence* (i.e., this degree of confidence is important⁷⁰¹). This scientific recognition should be sufficient to show that climate change has already caused harm in general. At COP27 and COP28, the international community of States even acknowledged that climate change has already led to loss and damage⁷⁰².

Moreover, the IPCC asserts that if global warming exceeds the threshold of 1.5°C, it would “cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans (very high confidence)”. Furthermore, the IPCC recalls that “[n]ear-term actions that limit global warming to close to 1.5°C would substantially reduce projected *losses and damages* related to climate change in human systems and ecosystems, compared to higher warming levels, but cannot eliminate them all (very high confidence).”⁷⁰³

Regarding sea level rise specifically, the IPCC also attributed this slow onset process to man-made climate change *with high confidence*⁷⁰⁴ and asserted it will accelerate in the future⁷⁰⁵. The IPCC stressed that sea level rise exposes a billion people to this issue and poses an *existential threat* to some small islands and low-lying coastal areas⁷⁰⁶. Thus, the IPCC has demonstrated that, by 2021, all human settlements on the coastline will be impacted globally, including those in Massachusetts. Clearly, this constitutes a mass tort. Should US justices deem this global situation incompatible with the particularisation requirement of Article III injury?

700 IPCC, AR6 (2021-23), WG II, SPM, 2022, pp 7 – 8.

701 See IPCC, SRI.5, Section 1.7, p 77: “This report relies on the IPCC’s uncertainty guidance provided in Mastrandrea et al (2011) and sources given therein. Two metrics for qualifying key findings are used: Confidence: Five qualifiers are used to express levels of confidence in key findings, ranging from very low, through low, medium, high, to very high. The assessment of confidence involves at least two dimensions, one being the type, quality, amount or internal consistency of individual lines of evidence, and the second being the level of agreement between different lines of evidence. Very high confidence findings must either be supported by a high level of agreement across multiple lines of mutually independent and individually robust lines of evidence or, if only a single line of evidence is available, by a very high level of understanding underlying that evidence. Findings of low or very low confidence are presented only if they address a topic of major concern.”

702 See, for instance, COP 28 Decision, § 15.

703 IPCC, AR6 (2021-23), WG II, SPM, 2022, § B.3

704 *Ibid*, § B.3

705 *Ibid*, p 13.

706 *Ibid*, p 15.

This hypothesis seems unlikely. In any case, small islands are considerably more exposed than others due to their particular natural location and vulnerabilities, and should retain standing in this respect either way⁷⁰⁷.

In terms of timing, some small islands are already threatened in their existence nowadays or in the midterm due to additional climate-related impacts, such as tropical cyclones, groundwater shortages and food insecurity⁷⁰⁸. As to low-lying coasts, they should face “existential threats” after 2100.⁷⁰⁹

To conclude this subdivision, it is, of course, impossible to know whether Chief Justice Roberts would now consider that some persons could fulfil his standing requirements laid out in *Massachusetts*. Nonetheless, considering the climate-related impacts laid out by the IPCC, shows that there are now many potential injuries that plaintiffs could claim, even under the CJ Roberts criteria. In fact, compared to 2007, scientific observations have progressed considerably today, and the climate-related impacts have become much harsher. These developments seem to render many critiques of CJ Roberts in its *Massachusetts* opinion obsolete. The Supreme Court may soon have the opportunity to redefine climate-related standing, as some pending climate cases against private actors might reach its jurisdiction in the near future⁷¹⁰.

707 As a side note, a suit filed by small Pacific island States should be admissible even as a subject of international law, see the “General exceptions to the jurisdictional immunity of a foreign state” - 28 U.S. Code § 1605.

708 IPCC, AR6 (2021-23), WG II, 2022, chapter 14, p 4 - 5. Note, however, that the IPCC insists on the combination of vulnerabilities of coastlines that are exposed not only to sea level rise, but also to flood and storm-induced damage, including damage due to cyclones, storm surges and sea level rise; tropical cyclones; and groundwater shortages and food insecurity for small islands, etc. These types of damage may result from “cascading impacts and multiple vulnerabilities that are not necessarily directly connected to climate change”, which makes establishing causation more difficult.

709 IPCC, AR6 (2021-23), WG II, 2022, chapter 13, p 4.

710 In the *Juliana* case, the District Court and the Court of Appeals of the Ninth Circuit considered that the individual plaintiffs – young persons exhibiting different exposures to climate-related harms such as familial separation due to water scarcity – satisfied the injury criterion on Article III, but failed with respect to redressability. The US Supreme Court did not, however, examine the case; it only dismissed reviewing it. See United States Court of Appeals For The Ninth Circuit, *Juliana et al v USA*, No. 18-36082 D.C. No. 6:15-cv-01517-AA, 17 January 2020, p 18.

2.1.1.1.2 Urgenda: Availability of the general human rights avenue to claim CDD

The *Urgenda* decision was the first systemic mitigation case to result in the State being found responsible for failing to meet its “duty of care” or CDD. This case triggered a wave of similar cases worldwide⁷¹¹.

The Dutch judges held that the plaintiff *Urgenda*, a foundation under Dutch law, could represent the collective and individual interests of its members via a class action within the meaning of Article 3:305 of the Dutch Civil Code, in order to claim adequate protection of the right to life and privacy of its members⁷¹².

The Dutch State argued, similarly to the EPA or CJ Roberts in *Massachusetts*, “that the ECHR ‘only guarantees individual rights’ and does not protect ‘society as a whole.’”⁷¹³ It thus questioned the Hague Cassation Court to know whether the ECHR is compatible with a class action claim pursuant to Article 3:305a DCC?⁷¹⁴

The Supreme Court found that Articles 2 and 8 protect the population as a whole⁷¹⁵. To justify the finding that climate change endangers the rights protected by Articles 2 (right to life) and 8 (right to private and family life), the Dutch Supreme Court referred to the ECtHR jurisprudence. It noted first that the ECtHR apply these provisions in the environmental context, including when there is “merely” a violation risk that may only materialise in the longer term⁷¹⁶. The Court, moreover, explained that the ECtHR expanded the meaning of the terms associated with the characterisation of the risk of harm – “real and immediate” and “genuine and direct” – to include risks occurring in the medium to long term⁷¹⁷. Concerning Article 2, the Dutch Court cited *Öneryildiz*, *Budayeva* and *Kolyadenko* to show

711 According to Setzer and Higham, more than 81 cases were built on the foundations of *Urgenda* in 2023 (see Setzer J and Higham C, *Global Trends in Climate Change Litigation: 2023 Snapshot* (Grantham Research Institute and Centre for Climate Change Economics and Policy, LSE 2023), p 3).

712 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019.

713 Procurator General of The Supreme Court Of The Netherlands, Opinion, *Urgenda*, 19/00135, 13 September 2019, § 3.28

714 See Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, table of contents, and § 5.9.1-5.9.3.

715 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 2.3.2 and § 3.3.

716 *Ibid*, § 5.2.2 and 5.2.3.

717 *Ibid*, § 5.2.2.

that its protection applies from the moment the risks are known, even if the harm does not immediately occur⁷¹⁸. Regarding Article 8, the Court quoted *Taşkin* and *Tătar* to demonstrate that a period of twenty to fifty years may elapse between the knowledge of the risk's existence and its materialisation⁷¹⁹. Therefore, there is no need to establish the existence of a harm that has already occurred. Risks of harm, including those that may occur in the future, are sufficient grounds to claim the enforcement of due diligence.

Next, the Dutch Court acknowledged that man-made climate change is scientifically established by referencing the main results of the IPCC AR 5 report (published in 2014)⁷²⁰. The Court also recalled the applicability of the precautionary principle in the context of Articles 2 and 8 ECHR and specified that the materialisation of harm can remain uncertain to a certain extent⁷²¹. It is also worth noting that the State did not contest Urgenda's standing as far as it represents "the current generation of Dutch nationals against the emission of greenhouse gases in Dutch territory". Per the Hague Court of Appeals, "it is entirely plausible that the current generation of Dutch nationals, in particular but not limited to the younger individuals in this group, will have to deal with the adverse effects of climate change in their lifetime if global emissions of greenhouse gases are not adequately reduced." Indeed, the fact that an entire generation may be harmed by climate change does not affect its justiciability:

"5.3.1. The protection afforded by Articles 2 and 8 ECHR is not limited to specific persons, but to society or the population as a whole. [endnote 14 of the judgement: With regard to Article 2 ECHR, see, inter alia, ECtHR 12 January 2012, no. 36146/05 (*Gorovenky and Bugara/Ukraine*⁷²²), para.

718 ECtHR, *Öneryildiz v Turkey*, no. 48939/99, 30 November 2004, paras 98-101, ECtHR, *Budayeva et al v Russia*, 20 March 2008, no. 15339/02, § 147-158; and ECtHR, *Kolyadenko et al v Russia*, no. 17423/05, 28 February 2012, § 165 and 174-180.

719 ECtHR, *Taşkin et al v Turkey*, 10 November 2004, no. 46117/99, paras. 107 and 111-114, and ECtHR, *Tătar v Romania*, no. 67021/01, 27 January 2009, § 89-97.

720 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, Part 2.

721 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.2.3.

722 *Gorovenky and Bugara v Ukraine* were about the regulation of police firearms and the ECtHR stated at § 32 that the positive obligation of Article 2 grants "general protection to society [covering] a wide range of sectors [... and which will] arise in the context of any activity".

32, and ECtHR 13 April 2017, no. 26562/07 (*Tagayeva et al v Russia*⁷²³), para. 482. With regard to Article 8 ECHR, see, inter alia, ECtHR 26 July 2011, no. 9718/03 (*Stoicescu/Romania*⁷²⁴), para. 59] The latter is for instance the case with environmental hazards. [endnote 15: See ECtHR 10 January 2012, no. 30765/08 (*Di Sarno et al v Italy*⁷²⁵), para. 110 and ECtHR 24 January 2019, no. 54414/13 (*Cordella et al v Italy*⁷²⁶), para. 172.] In the case of environmental hazards that endanger an entire region, Articles 2 and 8 ECHR offer protection to the residents of that region.⁷²⁷

The above passage, merely relying on the ECtHR case law, is a clear departure from the particularisation and distinctiveness requirements as conceived by CJ Roberts in its dissenting opinion in *Massachusetts* (see subdivision 2.1.1.1.1)⁷²⁸.

Additionally, despite the fact that *Urgenda* was filed in 2013, before the adoption of the Paris Agreement, the Dutch courts still considered it necessary to avoid the overstepping of 2°C. They noted in particular that the EU issued in 1996 a communication saying that warming beyond 2°C would be dangerous. The international community agreed with this stance by 2009 in the COP 13 decision “Copenhagen Accord”. In light of what precedes, the Dutch courts considered the 2°C global warming limit as the threshold to avoid dangerous climate change. They furthermore acknowledged that re-inforced climate action is necessary to still be able to achieve this target⁷²⁹.

723 *Tagayeva et al v Russia* was about terrorist attacks and the ECtHR recalled at § 482 the principle that the “positive obligation may apply [...] also in cases raising the obligation to afford general protection to society”.

724 *Stoicescu v Romania* was about the public health and safety issue caused by stray dogs in Romania.

725 *Di Sarno et al v Italy* was about the collection, treatment, and disposal of waste that the ECtHR considered as “hazardous activities” and concluded that “the State had been under a duty to adopt reasonable and appropriate measures capable of safeguarding the right of those concerned to a healthy and protected environment [requiring a] duty of care”.

726 *Cordella et al v Italy* was about the industrial emissions of a steel plant which endangered “the health of the applicants and, more generally, that of the entire population residing in the areas at risk”.

727 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.3.1.

728 See the summary and court documents of *KlimaSeniorinnen* before Swiss courts here: <http://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-parliament/>, last accessed 28 October 2025.

729 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 2 and § 4.6.

The Dutch courts also noted that, since 2015, international law and science evolved, leading to the recognition of the rather aspirational 1.5°C target in the PA⁷³⁰. The Supreme Court also noted the scientific findings published by the IPCC “special report on 1.5°C” in 2018, showing the multiple grave risks of breaching this target⁷³¹. The Dutch Supreme Court concluded that the consideration of these elements “necessitates a greater reduction in greenhouse gas emissions than is necessary for a target of no more than 2°C”⁷³². Therefore, despite the absence of direct legal force of the PA’s LTTG, the fact that the injury – or the risk of injury – increases with the overstepping of the 1.5°C and 2°C thresholds enables them to be made enforceable in Dutch domestic law.

2.1.1.2 The explicit dismissal of climate human rights standing by some courts

Subdivision 2.1.1.2.1 deals with the dismissals of the *Carvalho* case by the CJEU, while subdivision 2.1.1.2.2 addresses the rejection of the *Klimasenioren* case by the Swiss courts.

2.1.1.2.1 The particularisation requirement of the Court of Justice of the EU in *Carvalho*

The *Carvalho* case was a systemic mitigation case, building on the *Urgenda* case in the EU courts. The case sought the upward revision of GHG reduction targets and was brought by 36 individuals from ten different families working in the agricultural and tourism sectors. There was also a Swedish NGO of young indigenous Sami people⁷³³.

730 As already mentioned multiple times, especially in Part I, the Paris Agreement lays out in its Article (2) (a) a somewhat more ambitious objective as presented in the introduction of “well below 2°C” and aspirationally 1.5°C, adding “that this would significantly reduce the risks and impacts of climate change”.

731 The IPCC namely recognised in its SR1.5 SPM that “Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.” See IPCC, SR1.5, SPM, § B5.

732 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 7.2.8.

733 General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019, § 1.

Contrary to the class action standing conditions in the Netherlands, applicants – including NGOs⁷³⁴ – must show how they are individually and uniquely affected under the EU judicial system rules⁷³⁵. The General Court emphasised that the alleged rights infringement must necessarily be distinct from the rest of the population, according to Article 263 (4) of the Treaty on the Functioning of the European Union (TFEU)⁷³⁶ and the relevant settled *Plaumann* case law, specifying the standing criteria under this legal avenue⁷³⁷. While the Court recognised that climate change will certainly affect everyone to some extent, it ruled that the claimants had not demonstrated that they would suffer unique harm:

“It is true that every individual is likely to be affected one way or another by climate change, that issue being recognised by the European Union and the Member States who have, as a result, committed to reducing emissions. However, the fact that the effects of climate change may be different for one person than they are for another does not mean that, for that reason, there exists standing to bring an action against a measure of general application. As can be seen from the case law cited in paragraph 48 above, a different approach would have the result of rendering the requirements of the fourth paragraph of Article 263 TFEU meaningless and of creating locus standi for all without the criterion of individual concern within the meaning of the case law resulting from the judgment of 15 July 1963, *Plaumann v Commission* (25/62, EU:C:1963:17), being fulfilled.”⁷³⁸

The CJEU subsequently confirmed the General Court's finding⁷³⁹. As the analysis of CJ Roberts' dissent in *Massachusetts* shows, the distinctiveness

⁷³⁴ *Ibid*, § 51.

⁷³⁵ *Ibid*, § 46.

⁷³⁶ Article 263 (4) TFEU: “Any natural or legal person may, under the conditions laid down in the first and second paragraphs, institute proceedings against an act addressed to that person or which is of *direct and individual concern* to them, and against a regulatory act which is of direct concern to them and does not entail implementing measures.”

⁷³⁷ CJUE (25/62, EU:C:1963:17): “Persons other than those to whom a decision is addressed may only claim to be *individually concerned* if that decision affects them by reason of certain attributes which are *peculiar* to them or by reason of circumstances in which they are *differentiated from all other persons* and by virtue of these factors *distinguishes them individually* just as in the case of the person addressed.” (I italicised the relevant passage).”

⁷³⁸ General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019.

⁷³⁹ CJEU, *Carvalho et al v EU*, C-565/19 P, 25 March 2021, § 67 – 80.

or uniqueness requirement seems to constitute an insurmountable hurdle to overcome in climate matters, except perhaps for small islands, as found above (see subdivision 2.1.1.1.1).

The applicants in the *People's Climate case* also challenged this criterion with regard to the right to an effective remedy under Article 47 of the Charter of Fundamental Rights, but the Courts of the EU retorted that this article does not confer an unconditional right to directly lodge a claim before the supranational courts of the EU⁷⁴⁰. The courts added that the Treaty on the Functioning of the EU (TFEU) has set up an exhaustive system of judicial review procedures to ensure the legality of EU acts⁷⁴¹. The General Court elaborated on that point by stating that it is possible to refer questions to the Courts of the EU for a preliminary ruling according to Article 267 TFEU. In other words, the Court suggested that plaintiffs should have used this avenue as they were not in a position to fulfil the standing criteria for a direct claim against the EU institutions before the EU courts⁷⁴². To do that, the applicants should have filed an application with a national court by way of which they could have referred a question about the validity of the acts of the EU to the supranational Courts.

Yet, the claimants contended that “a number of factors make it structurally impossible to obtain an effective remedy through the national courts, having regard, in particular, first, to the inadmissibility of a request for a preliminary ruling concerning the validity of the legislative package regarding greenhouse gas emissions”. The CJEU dismissed this ground of appeal without providing a specific justification⁷⁴³. Nevertheless, seeking a preliminary ruling from the CJEU about the validity of the legislative climate-related targets does not seem impossible. On the contrary, numerous domestic courts declared different climate cases admissible. It could have been, therefore, possible for the applicants in *Urgenda*, *Grande-Synthe*, *Affaire du siècle*, or the *Irish case* to refer a question for a preliminary ruling to the EU Courts. The “public rapporteur” (general advocate) of the French Administrative Supreme Court (*Conseil d'Etat*) even asserted

740 General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019, § 52; CJEU, *Carvalho et al v EU*, C-565/19 P, 25 March 2021, § 77.

741 General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019, § 53; CJEU, *Carvalho et al v EU*, C-565/19 P, 25 March 2021, § 68.

742 General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019, § 53.

743 CJEU, *Carvalho et al v EU*, C-565/19 P, 25 March 2021, § 62 and 80.

that this option had not been pursued by the claimants, despite it being available⁷⁴⁴.

Hence, the CJEU did not identify any violation of the right to an effective remedy, as set out by Article 47 of the Charter of Fundamental Rights.

The *Carvalho* case shows that the highest court of the EU did not adapt the criterion of particularisation in the context of direct liability actions regarding climate change. It found that judicial review of EU acts is possible through preliminary ruling, which could provide a means of contesting the EU's overall target in a systemic manner.

2.1.1.2.2 The dismissal of climate-related human rights claims in Klimaseniorinnen by Swiss courts

While the Swiss courts in *KlimaSeniorinnen* similarly upheld the relevance of the distinction criterion, like the EU courts⁷⁴⁵, their findings are not as easily comparable due to the different personal characteristics of the applicants. In *KlimaSeniorinnen*, applicants were elderly women who requested GHG reduction measures in line with the Paris Agreement.

Although these women might currently be more affected than others due to their age, the Swiss Federal Supreme Court responded, with respect to their basic rights to life and private and family life, that “the appellants – like the rest of the population – are not affected by the alleged omissions with sufficient intensity in the rights invoked in terms of Art. 25a APA.”⁷⁴⁶ This finding related to the time at which the Court issued its judgement: the Court believed that no one could be considered a victim or potential victim under Article 34 of the European Convention on Human Rights (ECHR).⁷⁴⁷

Moreover, the Court believed that overstepping the Paris temperature goal of well below 2°C was timing wise too remote to affect the applicants⁷⁴⁸. Although the Court did not explicitly say so, the applicants would perhaps not be affected by such a level of warming in their lifetime. The particular situation of these elderly women, who are living in a time when it

744 Stéphane Hoynck (*rapporteur public* of the *Conseil d'Etat*), *Grande-Synthe*, 19 November 2020, p 6 of the document filed by the *Conseil d'Etat*, available on-line on Ariane web.

745 Federal Supreme Court of Switzerland, *KlimaSeniorinnen*, 1C_37/2019, 5 May 2020.

746 *Ibid*, § 5.5.

747 *Ibid*, § 5.4.

748 *Ibid*, § 5.3.

is still possible to adapt to milder levels of warming, including heat waves, may mean that they lack individual standing, in contrast to younger people, who will have to face harsher climate impacts in the future.

Subsequently, the ECtHR Grand Chamber re-examined this case and confirmed that the individual applicants do not have victim status, but that the association or NGO *KlimaSeniorinnen* established *locus standi*. This latter decision departs from Swiss jurisprudence, which does not recognise standing for environmental NGOs in principle. For more analysis of the ECtHR decision, see subdivision below 2.1.3.5⁷⁴⁹.

Addendum clarification: Before the ECtHR issued its decision in *KlimaSeniorinnen* on 9 April 2024, this thesis had argued that the ECtHR *could* reach a different conclusion concerning the standing of the Swiss elderly applicants, given that it was considered likely from a scientific perspective that the global 1.5°C threshold would be overstepped before 2026, albeit temporarily⁷⁵⁰. The IPCC has also established that exceeding the 1.5 threshold is likely in the near term⁷⁵¹. Moreover, given the *Urgenda* decision⁷⁵² and the existence of some ECtHR rulings on the possibility of vindicating human rights even in cases of widespread public harm, this dissertation argued that the ECtHR may declare the particularisation requirement incompatible with the Convention. However, the ECtHR reached a slightly different conclusion: it did not grant victim status to the individual applicants, but instead granted standing to the NGO. This means that the Swiss court will need to adapt its standing requirements with respect to climate mitigation, but not with respect to individuals (subdivision below 2.1.3.5).

2.1.2 The widespread acceptance of claims based on specific climate legislation

Three court cases in three different jurisdictions show the increasing acceptance by courts to provide standing to physical or legal persons in order to oversee compliance with GHG reduction objectives enshrined in *specific* legislation. Those developments were made possible thanks to preexisting judicial review mechanisms, and despite the absence of associated *specific* enforcement mechanisms *per se*, and despite dismissing human-rights-based CDD. The section is structured as follows:

Subsection 2.1.2.1 analyses the admissibility of the applicant NGO in *Friends of the Irish Environment v Ireland*. Subsection 2.1.2.2 deals with the

749 *Ibid.*

750 WMO, “New Climate Predictions Increase Likelihood of Temporarily Reaching 1.5 °C in Next 5 Years”, Press Release No. 27052021, 27 May 2021.

751 IPCC, AR 6, WG III, SPM, 2022, p 7.

752 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.3.1.

Grande Synthe case settled by the French Administrative Supreme Court (*Conseil d'Etat*). Subsection 2.1.2.3 discusses the outcomes of some English cases that granted standing in claims based on the *specific implementation of general CDD*.

2.1.2.1 The successful ultra vires case brought by Friends of the Irish Environment

In a climate case decided in 2020, the Supreme Court of Ireland granted the NGO Friends of the Irish Environment's application for a judicial review. The Court ruled that the government had failed to properly implement the Climate Action and Low Carbon Development Act 2015, thereby acting *ultra vires*. Meanwhile, the Court rejected the constitutional and ECHR human rights claims due to a lack of standing in this respect.

Similarly to the UK (see below, subsection 2.1.2.3 on the UK cases), anyone can request judicial review in Ireland of a public body if their individual interests are directly and adversely affected. In addition, NGOs can litigate the inadequate implementation of environmental legislation if they "have been promoting environmental protection for 12 months in respect of relevant matters"⁷⁵³. Accordingly, in *Friends of the Irish Environment v Ireland*, "the standing argument raised by the Government did not apply to the *ultra vires* part of the case for it was accepted that Friends of the Irish Environment had standing to raise those issues."⁷⁵⁴

However, the standing of NGOs is limited. The Chief Justice of the Court, who wrote the opinion on behalf of the Court, concluded that NGOs cannot, in principle, have *locus standi* if they assert human or environmental rights of a constitutional or conventional nature, such as the ECHR, as they are not individual persons:

"FIE [Friends of the Irish Environment], as a corporate entity which does not enjoy in itself the right to life or the right to bodily integrity, does not have standing to maintain the rights based arguments sought to

753 See the website of the government about procedural information concerning the judicial review: https://www.citizensinformation.ie/en/environment/buildings_and_structures/judicial_review_in_planning_and_environmental_matters.html, last accessed 29 October 2025.

754 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020, § 5.32.

be put forward whether under the Constitution or under the ECHR. I also conclude that it has not been shown that it is necessary to allow FIE [Friends of the Irish Environment] to have standing under the exception to the general rule, which arises in circumstances where refusing standing would make the enforcement of important rights either impossible or excessively difficult.”⁷⁵⁵

Concerning the exceptions to the general rule that the Court mentioned, it considered that the applicant NGO, which was pleading in favour of future generations and current generations against future threats⁷⁵⁶, could not be assimilated with that of some plaintiffs having previously successfully vindicated the rights of an unborn child⁷⁵⁷. The Supreme Court argued that Friends of the Irish Environment had not provided any satisfying explanation “why these proceedings could not have been brought in the ordinary way by persons who would undoubtedly enjoy the right to life and the right to bodily integrity on which reliance is placed.”⁷⁵⁸

The Court also rejected the argument that the Irish Environment’s position was akin to that of an NGO which had filed a case on behalf of prisoners with psychiatric disorders facing extremely vulnerable living conditions who were adversely affected by systemic treatment deficiencies⁷⁵⁹. The Supreme Court argued that the NGO did not show that persons affected by climate change “were among the most vulnerable and disadvantaged members of society”, in a similar position to that of prisoners. Overall, the Irish Supreme Court argued that the applicant NGO failed to explain why it had “launched these proceedings and why individual plaintiffs have not commenced the proceedings, or sought to be joined.”⁷⁶⁰

Nonetheless, this case shows that NGOs can still litigate a lack of implementation of climate policies by invoking *specific* laws and the *ultra vires* mechanisms. Moreover, the Irish Supreme Court left open the question of whether individuals asserting fundamental rights could have standing. However, due to the ECtHR *KlimaSeniorinnen* judgement, the Irish Supreme Court will now have to accept climate-related claims brought by NGOs.

⁷⁵⁵ *Ibid.*, § 9.4.

⁷⁵⁶ *Ibid.*, § 5.23 and § 13 of the High Court Judgement ([2019] IEHC 747, 19 September 2019).

⁷⁵⁷ *Ibid.*, § 7.13

⁷⁵⁸ *Ibid.*, § 7.22.

⁷⁵⁹ *Ibid.*, § 7.15 – 7.17.

⁷⁶⁰ *Ibid.*, § 7.18

2.1.2.2 The confirmation of the *ultra vires* avenue in the French Grande-Synthe case

In the *Grande-Synthe* case, the French Administrative Supreme Court (*Conseil d'Etat*) found that the French State is not on track to meet its own GHG reduction objectives. Applicants launched directly with the Supreme Court. Filing a recourse directly with the Supreme Court is possible under certain conditions in *ultra vires* proceedings⁷⁶¹, called in French “*recours en excès de pouvoir*”, close to the judicial review process in Ireland or the UK⁷⁶².

Regarding standing, the applicants in *Grande-Synthe* did not have to demonstrate a proper injury, but only a direct, certain, and specific interest⁷⁶³. In this case, the Court considered that the municipality of Grande-Synthe met these conditions:

“the municipality of Grande-Synthe claims, without being seriously challenged on this point, that because of its immediate vicinity to the coast and the physical characteristics of its territory, it is exposed in the medium term to high and increased risks of flooding, an increase in episodes of severe drought, resulting not only in a reduction and deterioration of water resources but also significant damage to built areas, in light of the geological characteristics of the soil’. While the tangible consequences of climate change are not likely to have their full effect on the municipality’s territory until 2030 or 2040, the inevitable nature of such effects, in the absence of effective measures being taken quickly to prevent the causes thereof and in light of the time frame for the implementation of public policies in this area, is sufficient to justify the *necessity of immediate action* to this end. Consequently, the municipality of Grande-Synthe, in light of its level of exposure to the risks resulting from the phenomenon of climate change and their *direct and certain impact* on its situation and the interests for which it is responsible, has a *legitimate interest* that entitles it to seek to quash the implied decisions at issue; the argument put forward by the Minister in support of his application to strike out, namely that the effects of climate change are likely to affect the interests

761 See Article R311-1 du Code de justice administrative.

762 Judiciary For England And Wales, The Administrative Court: Judicial Review Guide 2021, July 2021, § 1.7.2.

763 See the opinion of the General Advocate of the *Conseil d'Etat* (S. Hoynck, *rappporteur public*), p 2.

of a significant number of municipalities, is not sufficient to cast doubt on said interest.”⁷⁶⁴

It is noteworthy that the finding of the Supreme Administrative Court regarding the standing of the city bears numerous resemblances to the US Supreme Court finding concerning Massachusetts in the case of the same name (see above). The framing of both cases is also very similar, as Grande-Synthe and Massachusetts, respectively, challenged the inadequate implementation of legislation. On a further comparative note, the general advocate (*rapporteur public*) emphasised that the French jurisprudence has never expected stringent standing requirements such as those of the Court of Justice of the European Union (citing the *Plaumann* ruling) or German Courts, especially concerning the particularisation or distinctiveness of the harm⁷⁶⁵.

The *Conseil d'Etat* also admitted the cities of Paris and Grenoble as interveners in support of the applicants' requests, on similar grounds to Grande-Synthe. The Court observed that “the Paris region and Grenoble urban areas have been identified by the French National Observatory on the effects of climate change as having a very high index for exposure to climate risks”⁷⁶⁶. In addition, it also accepted the intervening environmental associations Notre affaire à tous, Oxfam France, Greenpeace France, and Fondation pour la Nature et l'Homme⁷⁶⁷. NGOs whose statutes seek to protect the environment are traditionally entitled to pursue corresponding lawsuits in France.

The Supreme Administrative Court, however, rejected the claim of the mayor of Grande-Synthe Damien Carême, despite the fact that “his current home is in an area likely to be subject to flooding by 2040”⁷⁶⁸. According to the general advocate, who provided further reasons to dismiss Carême's claim, it is uncertain that he will be affected by global warming since his residence is not his property, and the exposure risk to sea-level rise of his

764 Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020, para 3.

765 See the opinion of the General Advocate of the *Conseil d'Etat* (S. Hoyneck, *rapporteur public*), p 3 and 12.

766 Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020, para 5.

767 *Ibid*, para 6.

768 *Ibid*, para 4.

house is more remote timing-wise than to the city⁷⁶⁹. The Court further stated that the citizen capacity of the mayor does not provide him with sufficient grounds to ask for judicial review either. Manifestly, the Court attempted to strike a balance between the traditional French standing requirements and the nature of climate change by avoiding the creation of a climate *actio popularis* for individuals. However, since everyone will be affected by global warming in some way or another, and since systemic climate mitigation claims focus on greenhouse gas reductions, which benefit society at large, legal *actio popularis* in the realm of climate mitigation should be allowed. This is also in line with the *erga omnes* finding by the ICJ, meaning that all subjects of international law can pursue litigation to request compliance with *mitigation* rules (only)⁷⁷⁰.

Nevertheless, when reviewing this case in 2024, the Grand Chamber of the ECtHR decided that the Supreme Administrative Court had correctly denied the *locus standi* of the former mayor of the city, Damien Carême⁷⁷¹. While theoretically sticking to its *actio popularis* rule, it still provided an important exception to it by granting environmental associations such as KlimaSeniorinnen *locus standi*.

2.1.2.3 The latest successful specific CDD case in the UK

The UK courts issued three judgements on systemic climate mitigation. They dismissed two systemic climate applications filed by the NGO Plan B Earth and some individuals, but granted the *ultra vires* part of the lawsuit filed by the non-profits Friends of the Earth UK, Client Earth, and Good Law⁷⁷².

As in Ireland and France, anyone in the UK can request a judicial review if they demonstrate “a sufficient interest”⁷⁷³ in the resolution of the case, which requires showing that one is directly and adversely affected by the

769 See the advisory opinion of the General Advocate of the Supreme Administrative Court (S. Hoyneck, *rapporteur public*), p 3.

770 ICJ, *Obligations of States in respect of Climate Change*, Advisory opinion, 23 July 2025, § 441 – 443.

771 ECtHR, *Carême v France*, no. 7189/21, 9 April 2024.

772 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, 18 July 2022, [2022] EWHC 1841 (Admin).

773 Judiciary For England And Wales, *The Administrative Court: Judicial Review Guide* 2021, July 2021, § 6.3.2.1.

public body's conduct⁷⁷⁴. If the claimant is a legal person, such as an NGO or association, then it must act in the public interest, for example, in the realm of the protection of the environment and show expertise in the subject matter of the case⁷⁷⁵. If ECHR rights are relied upon, then the claimant must show victim status as defined by the British Human Rights Act 1998 and the ECtHR case law.

Besides, claimants must show at the standing stage that they have an arguable case with realistic prospects of success. They must also establish that they are seeking reliefs that would provide them with advantages⁷⁷⁶, but these aspects concern more redressability issues (see subpart 2.3 on redressability). In this respect, the first *Plan B* case was precisely dismissed because of the absence of "arguable" arguments.

Regarding the more recent *Plan B Earth* case filed in 2021, the main rejection grounds were the absence of a manifest error of appreciation (see subpart 3.3. on redressability) and victim status. Given that the first claimant – Plan B – is not a natural person, the High Court considered that it cannot rely on individual human rights. As to the other individual claimants, the Court deemed they could not show any immediate risk to their lives or family lives⁷⁷⁷. Some claimants also relied on Articles 8 and 14 ECHR (prohibition of discrimination), arguing they "have family members who live outside the UK in regions of the world that may be affected more profoundly, and/or sooner, by climate change"⁷⁷⁸. The High Court responded that these family members do not fall into the ambit of the ECHR term "family life" of the applicants as they are not "spouses, parents and minor children"⁷⁷⁹. The second claimant also alleged to suffer from "mental health problems [... which] makes her unwilling to have children",⁷⁸⁰ alleging thereby an Article 8 ECHR violation. The High Court did not specifically dismiss this anxiety claim; it only stated that the general risk of harm to the global community cannot be sufficient to establish victim status in relation to Article 2 ECHR⁷⁸¹.

774 *Ibid.*, § 6.3.2.4.

775 *Ibid.*, § 6.3.2.5.

776 *Ibid.*, § 9.1.3. – 9.1.4.

777 High Court of London, *Plan B Earth et al v The Prime Minister et al*, 21 December 2021, [2021] EWHC 3469 (Admin), § 6 and 78.

778 *Ibid.*, § 63.

779 *Ibid.*, § 67.

780 *Ibid.*, § 71.

781 *Ibid.*, § 78.

The claimants eventually lodged an application with the ECtHR⁷⁸². However, the Grand Chamber of the ECtHR dismissed in its first climate judgments similar climate anxiety claims in the *Duarte Agostinho v 32 States* and *Carême v France* case. In the former case, the Court deemed that the applicants could not establish victim status due to a lack of evidence⁷⁸³. In the latter case, the Court argued that allowing climate anxiety claims could breach its long-standing rule on the inadmissibility of *actio popularis*⁷⁸⁴.

In contrast to these non-successful cases, the High Court of London recently granted the judicial review application brought by Friends of the Earth UK, Client Earth, and Good Law⁷⁸⁵, which was similar to the Irish and French cases. However, the High Court of London dismissed the human rights claims of the NGO Good Law and the individual claimant who joined the Good Law application⁷⁸⁶, stating it is preferable to wait for the outcome of the pending climate cases before the ECtHR than elaborate domestic standards departing too heavily from the incremental development of the Strasbourg case law⁷⁸⁷ (see section on redressability for expanded discussion in this regard)⁷⁸⁸.

782 See case summary of *Plan B Earth and others v UK*: <http://climatecasechart.com/non-us-case/plan-bearth-and-others-v-united-kingdom/>, last accessed 28 October 2025.

783 ECtHR, *Duarte Agostinho v Portugal and 32 other States*, n° 39371/20, 9 April 2024, § 229.

784 ECtHR, *Carême v France*, no. 7189/21, 9 April 2024, § 84.

785 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022.

786 *Ibid*, § 261 – 265.

787 *Ibid*, § 272 referencing the famous case *Al-Skeini v Secretary of State for Defence* [2008] AC 153 at [106] to justify this stance: “There seems to me, indeed, a greater danger in the national court construing the Convention too generously in favour of an applicant than in construing it too narrowly. In the former event the mistake will necessarily stand: the member state cannot itself go to Strasbourg to have it corrected; in the latter event, however, where Convention rights have been denied by too narrow a construction, the aggrieved individual can have the decision corrected in Strasbourg”.

788 This issue concerns redressability. Indeed, lower courts often deem it necessary to wait for the opinion of a higher or a supreme court before settling a dispute. For example, in Germany, the lower court of Berlin exercised some restraint with respect to standing issues by admitting the difficulty of resolving those and allowing applicants to appeal its decision (see below subsection on the German cases). The intervention of the German Constitutional Court eventually settled those. In France, the *Grande-Synthe* decision of the Administrative Supreme Court influenced the outcome of the “*affaire du siècle*” case before the Paris Court of the first instance.

In light of the ECtHR's final judgement in *KlimaSeniorinnen*, the British Courts should now admit climate-related mitigation claims brought by an NGO under Article 8 ECHR and review the State's conduct against the substantive CDD obligations set out by the Grand Chamber (see subsection 2.3.2.5). Note, however, that the British Parliament was, until recently, discussing the draft "Bill of Rights" to replace the Human Rights Act 1998. The Bill aimed to give domestic courts the authority to ignore or set aside Strasbourg case law⁷⁸⁹.

2.1.3 The increasing admissibility of claiming individual injuries in conjunction with collective rights to open up the general CDD avenue

This section discusses the recognition of standing in *general* CDD cases, as recognised under tort law, human rights law, constitutional law, and general international law. In those circumstances, claimants must demonstrate both a breach of due diligence norms and a proper injury. This section focuses on the harm and argues that courts are increasingly adapting the traditionally individual standing criteria to the context of global warming, a collective and global harm. Eased by the worsening of global warming and the progress of science, courts find different ways to establish injuries, drawing from the individual and collective dimensions of the harm. This section is structured more precisely as follows.

Subsection 2.1.3.1 discusses how the injury of the individual plaintiffs was recognised in the *Juliana v USA* case. Subsection 2.1.3.2 deals with the possibility of relying in France on the legal concept of the ecological injury, which is a collective interest. Subsection 2.1.3.3 examines the German Constitutional Court decision, which shows the possibility of claiming an individual injury in conjunction with collective and environmental interests in order to devise a climate claim. Subsection 2.1.3.4 swiftly takes note of the UN-Human Rights Treaty Bodies' opinion. Subsection 2.1.3.5 discusses the considerable jurisprudential evolution of the ECtHR decision in its *KlimaSeniorinnen* decision, which granted standing to the association instead

And in the UK, the British courts preferred to defer to the ECtHR if it requires leaps in the case law development. Within the ECtHR, the Grand Chamber can, in some cases, be directly competent for resolving important questions of principles, like in the pending climate cases or for issuing advisory opinions, according to Protocol 16.

789 For more information on this possibility, see Gentile G, "The Bill of Rights Bill and the Damages of UK's Unilateralism" (2022) *VerfBlog*.

of the individual applicants, as climate change poses massive human rights risks to the entire population, but not the applicants. Subsection 2.1.3.6 briefly discusses developments in the realm of general international law.

2.1.3.1 The recognition of individual climate-related injuries in *Juliana*

In *Juliana et al v USA*, submitted in 2015, the young plaintiffs argued that they had already been personally harmed by global warming. The US courts found standing with respect to injury, but the Court of Appeals of the Ninth Circuit only found injuries and causation, not redressability⁷⁹⁰. Thus, since the demonstration of the injury was – in theory – successful, this case is, to a certain extent, interesting for the purposes of this section, which focuses on the harm.

Notably, the Court of Appeals stated that “some plaintiffs claim concrete and particularized injuries” and that they “have presented evidence that climate change is affecting them now in concrete ways”⁷⁹¹. The Court of Appeals furthermore quoted Massachusetts to recall that ““it does not matter how many persons have been injured” if the plaintiffs’ injuries are “concrete and personal.””⁷⁹² The collective dimension of global warming, or the fact that the “harm is widely shared does not necessarily render it a generalized grievance.”⁷⁹³ Thus, the Court of Appeal found that the collective dimension of global warming does not mean that establishing individual and personal injuries is impossible.

While the Court did not elaborate more on these issues, particularly the scientific evidence, it is worth noting that other courts have agreed that (imminent) injuries were already occurring around 2015, when global warming reached approximately the 1°C threshold. For example, in *Urgenda* (2019), the Supreme Court of the Netherlands recognised that it is “possible that dangerous climate change will occur even with less global warming [than 1.5°C] and a lower concentration of greenhouse gases, for example, because a tipping point is reached or because ice melts at a higher rate”⁷⁹⁴. Additionally, five UN-Human Rights Treaty Bodies stated

790 United States Court of Appeals For The Ninth Circuit, *Juliana et al v USA*, No. 18-36082 D.C. No. 6:15-cv-01517-AA, 17 January 2020, p 18.

791 *Ibid*, p 18 – 19.

792 *Ibid*, p 19.

793 *Ibid*, p 19.

794 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 7.2.10.

in 2019 that “adverse impacts on human rights are already occurring at 1°C of warming and every additional increase in temperatures will further undermine the realization of rights”⁷⁹⁵.

Moreover, the AR6 report of the IPCC, published between 2021-23, reveals that global warming – reaching approximately 1.2°C by 2022 – caused loss and damages, including “some irreversible impacts as natural and human systems are pushed beyond their ability to adapt (high confidence).”⁷⁹⁶ Thus, adaptation becomes critical, in addition to reinforced mitigation.

This state of affairs provides numerous possibilities to find climate-related injuries in law, as the following subsection shows.

2.1.3.2 The possibility of relying on the ecological injury in France to claim general due diligence

In *Notre affaire à tous et al v France*, the Paris Administrative Court of first instance recognised that recent levels of warming have already disrupted the atmosphere’s functions, thereby harming the environment and justifying legal action to protect it:

“With regard to the existence of ecological damage:

16. It follows from the investigation, and in particular from the latest special reports published by the Intergovernmental Panel on Climate Change (IPCC), in which France actively participates and to which it contributes 15% of the funding, and to whose conclusions it subscribes, that the steady increase in the Earth’s average global temperature, which has now reached 1°C above pre-industrial levels, is mainly due to anthropogenic greenhouse gas emissions. This increase, which is responsible for changes in the atmosphere and its ecological functions, has already led to, among other things, the acceleration of the melting of continental ice and permafrost and the warming of the oceans, resulting in sea level rise, which is accelerating. This phenomenon is combined with an increase in the frequency and severity of extreme weather events, ocean acidification and damage to ecosystems, which have serious and irreversible consequences for human activities such as fishing and farming, as well as for water resources, and lead to increasing risks of food insecurity

795 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

796 IPCC, AR6 (2021-23), WG II, SPM B.1.

and degradation of water resources, human health and economic growth [...]. This work also shows that every half degree of additional global warming significantly increases the associated risks, particularly for the most vulnerable ecosystems and populations [...]. In view of all these factors, the ecological damage claimed by the applicant associations must be regarded as established.⁷⁹⁷

This court decision was made possible by the previous recognition of the pure ecological loss in French law, first through case law (see the *Total Erika* case, 2012⁷⁹⁸), and then through its incorporation into the French Civil Code. Indeed, Articles 1246 and 1247 of the Civil Code provide the right to claim compensation for ecological harm, while Article 1252 grants courts the authority to enforce reasonable measures to prevent or stop the environmental damage. Any person with a legitimate interest may claim such a cause of action.

Furthermore, the Paris Court recognised that global warming also infringes the objectives of environmental NGOs and thereby constitutes a non-pecuniary injury to them (*“préjudice moral”*). NGOs traditionally had the right to seek redress for pure ecological injuries in France by claiming a breach of their statutes⁷⁹⁹.

Both types of injury (ecological and moral) differ greatly from personal injury, as they relate to nature or the NGO's objectives and can affect numerous people simultaneously. In any case, the concept of pure ecological injury logically facilitates the establishment of standing in environmental and climate matters, but it is a legal concept recognised only in some countries⁸⁰⁰. For example, the German jurisdiction and common law jurisdictions do not provide for this possibility.

797 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 16 (own translation).

798 In 2012, French courts, including the Court of Cassation, recognised that the pure ecological loss is recoverable in the famous *Total Erika oil spill* case, caused by a boat of TotalEnergies's subsidiaries, for facts dating back to 1999 (Cour de cassation, crim, *Erika*, n° 10-82-938, 25 septembre 2012). Thus, the case law already provided the legal basis for asking for compensation for ecological harm.

799 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 10 – 15 and § 40 – 45. See, more generally, Torre-Schaub M, *Le préjudice moral*, SERDEAUT, 2008.

800 The recognition of the concept of pure ecological damage is currently limited to certain countries, including France, Italy and Romania, while the moral damage of

2.1.3.3 The admissible German constitutional complaint based on individual and collective rights

In the German *general* CDD cases against the State, the question of individual injury was also very much debated. The Constitutional Court eventually resolved it in favour of the applicants.

In the first German systemic mitigation case, which was decided in 2019, the Berlin Administrative Court left open the question of whether the individual applicants had a legal interest because the GHG reduction target and measures of the State were deemed sufficient to safeguard fundamental rights. In this case, the applicants were eleven individuals from three farming families alongside Greenpeace. They challenged Germany's failure to achieve its 2020 GHG reduction objective. As the 2020 target had not been enshrined in legislation and the instrument was not enforceable, the Berlin court rejected the application. The Court did this at the admissibility stage, indicating that this *manifest lack of fault* overlapped with the merits.

With regard to the recognition of the injury, the Berlin Court stated that the individual claimants, "owners of the three organic farms, are particularly concerned by climate change", noting at the same time that the increase in droughts and heat waves affects the whole population. The president of the Court orally conceded during the hearing that he struggled to resolve this issue, and the judgment granted the applicants the right to appeal, suggesting that it should have been decided by a higher court.

Rather than appealing, the applicants decided to join pending constitutional proceedings against the German Climate Law, adopted in 2019, shortly after the Berlin Court issued its ruling, which introduced GHG reduction targets for 2030 and 2050. Note that in Germany, it is possible to directly challenge legislative provisions before the Constitutional Court according to Article 93 (1) 4a Basic Law if there are allegations of infringements of basic rights. Three separate constitutional complaints had already been brought by various German NGOs and individuals, besides individuals from Bangladesh and Nepal. The applicants in the Berlin proceedings therefore lodged their own complaint directly with the Federal Constitutional Court (BVerfG) in Karlsruhe.

environmental associations is also recognised in Belgium and Italy; see for more information, Vignon-Barrault A, "Les préjudices écologiques – Rapport de synthèse", in Patrice Jourdain (dir), *La responsabilité environnementale : Recueil des travaux du Groupe de Recherche Européen sur la Responsabilité civile et Assurance (LSB. GRERCA)*, Bruylant, 2018, p 163.

The Constitutional Court held in March 2021 that the claims of individuals are admissible⁸⁰¹, but not those of the NGOs who claimed to be “advocates of nature”⁸⁰², since “[t]he Basic Law and constitutional procedural law make no provision for this kind of standing” for NGOs.⁸⁰³ Even Article 20a of the German Basic Law⁸⁰⁴, which imposes on the lawmaker “a special duty of care” in relation to the environment and climate matters according to the Court⁸⁰⁵, does not grant any rights to nature, nor NGOs or individuals. While acknowledging that environmental protection may be more effective if NGOs could take legal cases, the Court noted – in a manner close to the US Supreme Court conservative wing – that “the Constitution has not been amended by the legislator to provide for such a possibility.”⁸⁰⁶ Still, the German Constitutional Court decision opens up a path for addressing environmental harms, by indirectly relying on Article 20a of the Basic Law, provided that individual rights are also violated. This human rights-based approach to environmental protection could advance access to justice in Germany. Although the Constitutional Court specified that this solution merely concerned its constitutional proceedings⁸⁰⁷, German lower courts will likely consider this opinion when dealing with other environmental and climate-related cases in the future.

The admissibility of environmental claims was an important procedural issue, because, unlike in France, civil society – and especially NGOs – were not entitled to request judicial review of the State’s public policies in Germany⁸⁰⁸. Under the terms of Article 1 (1) of the German law on environ-

801 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 96 – 135.

802 *Ibid.*, § 136.

803 *Ibid.*

804 Article 20a of the German Basic Law, entitled “Protection of the natural foundations of life and animals” provides: “Mindful also of its responsibility towards future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.”

805 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, headnotes 2 (a) and (b), and § 229 and 237.

806 *Ibid.*, § 136

807 *Ibid.*, § 110.

808 France recognises the invocability of “pure ecological injuries”. While a person with a legal interest must invoke it, this can be done by an environmental NGO. Furthermore, the standing of a local authority, such as a municipality, to claim climate-related harm has yet to be tested in Germany, despite this type of interest having been recognised in France (*Grande-Synthe*) and the USA (*Massachusetts*).

mental legal remedies (*Umwelt-Rechtsbehelfsgesetz*), NGOs can only initiate environmental proceedings in certain specific cases. Although the *Protect* case law of the CJEU offers environmental associations an additional remedy, it remains limited to situations in which European law is not observed, as long as it concerns objective European law and not subjective rights. This Constitutional Court's decision might render the access to justice in Germany more compatible with Article 9 (3) of the Aarhus Convention, which obliges State Parties to grant access to justice in environmental matters to any member of the public⁸⁰⁹. However, the persistent refusal to provide NGOs with such a right remains problematic in relation to the Aarhus Convention, and the ECtHR's recent climate jurisprudence in *KlimaSeniorinnen* (see subsection just below).

Regarding the more precise reasons why the Constitutional Court admitted *locus standi* of the individual complainants, the Court noted that its own case law and the ECHR jurisprudence include protection against impairment by environmental pollution by referring, among others, to the following authorities of the ECtHR (citing *Öneryildiz v Turkey*, *Budayeva and Others v Russia*, *Cordella and Others v Italy*). The Court subsequently asserted that this protection extends to climate-related threats⁸¹⁰ and concluded that the applicants' human rights were "presently, individually and directly affected"⁸¹¹. Furthermore, the Court *specified* that the complainants do not need to differentiate themselves from the entire population, in contrast to the legal avenue before the CJEU, citing the *Carvalho* cases⁸¹².

The Court also deemed that "[t]he complainants [...] who live in Bangladesh and in Nepal also have standing."⁸¹³ Even if the Court rejected

More generally, in France and the USA, municipalities and states traditionally play a role in defending their local environment in court.

809 Article 9 (3) of the Aarhus Convention lays out: "3. In addition and without prejudice to the review procedures referred to in paragraphs 1 and 2 above, each Party shall ensure that, where they meet the criteria, if any, laid down in its national law, members of the public have access to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities which contravene provisions of its national law relating to the environment."

810 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 99.

811 *Ibid.*, § 108 – III.

812 *Ibid.*, § 111.

813 *Ibid.*, § 101.

their claims on the merits, this finding is significant for the development of extraterritorial jurisdiction and obligations⁸¹⁴.

More broadly, this decision had and could have additional influence beyond Germany, as the Karlsruhe opinions are highly respected, especially at the European level⁸¹⁵.

The German Constitutional Court further innovated in the context of transnational climate litigation⁸¹⁶ by ruling that the plaintiffs' constitutional freedoms⁸¹⁷ are endangered due to the *likely* insufficient 2030 GHG reduction target⁸¹⁸. In the eyes of the Court, harsher and disproportionate GHG reduction measures may be necessary after 2030 in order to achieve the 2050 legislative climate neutrality target and compensate for the 2030 shortfall (i.e., the 2050 target represents for the Court an admissible concretisation of the mandate contained in Article 20a Basic law)⁸¹⁹. This means that climate change was already jeopardising the constitutional "intertemporal guarantees of freedom" at the time of the proceedings⁸²⁰. The Court also

814 While the ECtHR also considered the German Constitutional Court decision, it did not establish extraterritorial jurisdiction as requested by the applicants in *Duarte Agostinho*; hence, it still did not introduce any significant change to its case-law regarding the territorial character of the application of the Convention (see ECtHR, *Duarte Agostinho v Portugal and 32 other States*, n° 39371/20, 9 April 2024, § 65).

815 It is questionable whether the decision by the German Constitutional Court could induce a jurisprudential change by the CJEU since the standing criteria in Germany are similar to those of the CJEU, according to the French public rapporteur (see the advisory opinion of Hoynck Stéphane, *rapporteur public* at the French Supreme Administrative Court, p 12). Regarding the ECtHR, however, it did not fully agree with the opinion of the German Constitutional Court, as it found that the NGO KlimaSeniorinnen had standing, rather than the individual applicants. In any case, it is worth recalling that the facts of these cases were, of course, different (see subsection 2.1.3.5 regarding this decision).

816 Aust HP, "Climate Protection Act Case, Order of the First Senate" (2022) 116(1) *American Journal of International Law* p 150-157; Krämer-Hoppe R, "The Climate Protection Order of the Constitutional Court of Germany and the North-South Divide" (2022) *German Law Journal*, Cambridge; note moreover that only one constitutional complaint raised the violation claim of individual liberties, see Constitutional Court of Germany, Climate Protection Law, 1 BvR 2656/18, 24 March 2021, § 116 – 135.

817 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 116 – 135.

818 *Ibid.*, § 117.

819 *Ibid.*

820 *Ibid.*, § 130.

stated that the complainants' liberties were individually affected, except those living in Nepal and Bangladesh⁸²¹.

Last but not least, the Court believed that the objective of the German climate law, which was aiming for a limitation of global warming to well below 2°C, in line with the PA's LTTG, did not endanger any constitutionally protected human rights, "at least not at present"⁸²². However, by the time this dissertation was completed in 2025, this position had become somewhat isolated, as the ECtHR, the ITLOS and the ICJ had found that best efforts must be made to achieve the 1.5°C objective.

2.1.3.4 The findings of UN Human Rights Treaty Bodies (UN-HRTB)

As already noted above, in a joint statement in 2019, five UN-Human Rights Treaty Bodies (UN-HRTB) found that global warming endangers human rights. More precisely, they stated that "adverse impacts on human rights are already occurring at 1°C of warming and every additional increase in temperatures will further undermine the realization of rights"⁸²³.

Then, in a specific case, the Committee on the Rights of the Child found in 2021 in *Sacchi et al v Argentina*, that the applicant children, including Greta Thunberg and many others from other regions of the world, had established victim status on a *prima facie* basis:

"In the specific circumstances of the present case, the Committee notes the authors' claims that their rights under the Convention have been violated by the respondent States parties' acts and omissions in contributing to climate change and their claims that said harm will worsen as the world continues to warm. It notes the authors' claims to have been personally affected by: smoke from wildfires and heat-related pollution has caused some of the authors' asthma to worsen, requiring hospitalizations; that the spread and intensification of vector-borne diseases has also impacted the authors, resulting in some of the authors contracting malaria multiple times a year or contracting dengue fever and chikungunya; that the authors have been exposed to extreme heat waves causing serious threat to the health of many of the authors; that drought is

821 *Ibid*, § 132.

822 *Ibid*, § 211.

823 Five UN human rights treaty bodies, Joint Statement on "Human Rights and Climate Change", *op cit*, 16 September 2019.

threatening the water security for some of the authors; that some of the authors have been exposed to extreme storms and flooding; that the subsistence level of life is at risk for the indigenous authors; that due to the rising sea level the Marshall Islands and Palau are at risk of becoming uninhabitable within decades; and that climate change has affected the mental health of the authors, some of whom claim to suffer from climate anxiety. The Committee considers that, as children, the authors are particularly impacted by the effects of climate change, both in terms of the manner in which they experience such effects as well as the potential of climate change to affect them throughout their lifetime, in particular if immediate action is not taken. Due to the particular impact on children, and the recognition by States parties to the Convention that children are entitled to special safeguards, including appropriate legal protection states have heightened obligations to protect children from foreseeable harm. 10.14 Taking the abovementioned factors into account, the Committee concludes that [...] the authors have *prima facie* established that they have personally experienced a real and significant harm in order to justify their victim status.”⁸²⁴

Nonetheless, the Committee on the Rights of the Child ultimately rejected the case for non-exhaustion of domestic remedies, given that other domestic cases were pending and had been partly granted, as in France and Germany⁸²⁵.

Additionally, in 2022, the Human Rights Committee found that the inhabitants of the Torres Islands, located in the Australian Pacific, face several types of acute dangers, and can therefore request adaptation measures from the Australian State:

“the Committee observes that the authors – as members of peoples who are the longstanding inhabitants of traditional lands consisting of small, low-lying islands that presumably offer scant opportunities for safe internal relocation – are highly exposed to adverse climate change impacts. It is uncontested that the authors’ lives and cultures are highly dependent on the availability of the limited natural resources to which they have access, and on the predictability of the natural phenomena that surround them. The Committee observes that in light of their limited resources

824 Committee on the Rights of the Child, *Sacchi et al v Argentina et al*, Decision concerning France, CRC/C/88/D/106/2019, 8 October 2021, § 10.13 - 10.14.

825 *Ibid.*, § 10.15 – 10.20.

and location, the authors would likely be unable to finance adequate adaptation measures themselves, on an individual or community level, to adjust to actual or expected climate and its effects in order to moderate harm. The Committee therefore considers that the authors are among those who are extremely vulnerable to intensely experiencing severely disruptive climate change impacts. The Committee considers, based on the information provided by the authors that the risk of impairment of those rights, owing to alleged serious adverse impacts that have already occurred and are ongoing, is more than a theoretical possibility.”⁸²⁶

Overall, these opinions show that individual climate-related harms can be established, especially in circumstances where individuals are particularly vulnerable and exposed to global warming.

2.1.3.5 The confirmation by the ECtHR of the ability of NGOs to claim climate-related risks

In the *KlimaSeniorinnen* case, handed down by the Grand Chamber of the ECtHR, the Court granted standing to the association based on Article 8 ECHR, while dismissing the victim status of the individual applicants⁸²⁷.

More precisely, the ECtHR recognised that climate change harms human rights⁸²⁸. However, in the eyes of the Court, the individual applicants did neither achieve to demonstrate that they were, indeed, *personally and directly affected* nor that there was a “pressing need” to ensure their particular protection⁸²⁹. Hence, the Court agreed to some extent with the Swiss domestic courts concerning the individual claimants’ standing (see subsection 2.1.1.2.2). One cannot exclude the possibility that the Court dismissed those claims to prevent an almost infinite number of compensation requests for losses and damages related to global warming.

However, the Grand Chamber granted the association *Klimaseniorinnen* *locus standi* since it was “defending the rights and interests of individuals

826 Human Rights Committee, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication, No. 3624/2019, CCPR/C/135/D/3624/2019, 22 September 2022, § 7.10.

827 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 458 – 537.

828 *Ibid.*, § 431 – 436.

829 *Ibid.*, § 458 – 537, and § 487 – 488 and 531.

against the threats of climate change in the respondent State", including those of its members (who are also individual applicants)⁸³⁰.

By doing so, the Grand Chamber has introduced a significant exception to the *actio popularis* rule, although the Court recalled that it "must be mindful of the fact that its own approach cannot result in an acceptance of *actio popularis* which, as a matter of principle and established case law, is not provided for in the Convention system."⁸³¹ To prevent the admissibility of proper *actio popularis*, the ECtHR imposed certain conditions on the legal recourse brought before itself, by excluding the possibility of filing an "abstract complaint about a general deterioration of the living conditions of people without considering its impact on a particular person or group of persons."⁸³² The Court laid down more specific conditions in § 502 for recognising *locus standi* of NGOs, which must be:

"(a) lawfully established in the jurisdiction concerned or have standing to act there; (b) able to demonstrate that it pursues a dedicated purpose in accordance with its statutory objectives in the defence of the human rights of its members or other affected individuals within the jurisdiction concerned, whether limited to or including collective action for the protection of those rights against the threats arising from climate change; and (c) able to demonstrate that it can be regarded as genuinely qualified and representative to act on behalf of members or other affected individuals within the jurisdiction who are subject to specific threats or adverse effects of climate change on their lives, health or well-being as protected under the Convention."⁸³³

Despite those conditions, which are, at the end of the day, not *that* strict, the Court added that the associations does not need to show "that those [individuals] on whose behalf the case has been brought would themselves have met the victim-status requirements for individuals in the climate-change context".⁸³⁴ These conditions give NGOs a significant advantage when it comes to establishing standing before the ECtHR.

The Court used comparative law arguments to justify the evolution of its jurisprudence, and notably observed that a significant number of European countries recognise "public interest litigation", notably cases initiated by

830 *Ibid*, § 523, and more broadly, § 521 – 526.

831 *Ibid*, § 501.

832 *Ibid*, § 500.

833 *Ibid*, § 502.

834 *Ibid*, § 502.

NGOs. Furthermore, the Aarhus Convention, to which all the Member States of the Council of Europe are (almost) part of, requires judicial systems to open their doors to NGOs in environmental matters⁸³⁵.

The ECtHR also found that NGOs are better placed to advocating in the field of climate-related issues due to the partly collective and intergenerational nature of the problem: “collective action through associations or other interest groups may be one of the only means through which the voice of those at a distinct representational disadvantage can be heard and through which they can seek to influence the relevant decision-making processes.”⁸³⁶ With regard to climate more specifically, the Court argued that NGOs are as well better equipped than individuals to handle the factual and legal complexities of climate-related cases, given the need for “significant financial and logistical resources and coordination”⁸³⁷. The Court concluded that “the proper administration of justice” justifies granting standing to an NGO for climate-related human rights harms⁸³⁸.

Lastly, the Court considered that the association could only invoke Article 8 ECHR since neither the individual applicants nor the NGO could demonstrate any “real and imminent” risk to life, which is necessary to open the protection of Article 2 ECHR, which “cannot operate *in abstracto*”⁸³⁹. Thus, although the Grand Chamber recognised that global warming – including heat waves – endangers the right to life on a certain abstract level⁸⁴⁰, it ultimately decided that Article 8 already applies in circumstances of serious environmental risk that expose individuals to potential infringements of their private and family life⁸⁴¹.

835 *Ibid*, § 490 – 501.

836 *Ibid*, § 489.

837 *Ibid*, § 497.

838 *Ibid*, § 523.

839 *Ibid*, § 511 – 513.

840 *Ibid*, § 510: “Thus, the IPCC has found (*with medium confidence*) that anthropogenic climate change, particularly through increased frequency and severity of extreme events, increases heat-related human mortality. Other scientific studies have also found that heatwaves have caused tens of thousands of premature deaths in Europe since 2000. In this context, the IPCC has also found (*with high confidence*) that populations at “highest risk” of temperature-related morbidity and mortality include older adults, children, women, those with chronic diseases, and people taking certain medications”.

841 *Ibid*, § 518.

2.1.3.6 Potential injuries under general international law

In 2018, the ICJ recognised in the *Costa Rica – Nicaragua* case that environmental damage, in the form of pure ecological loss, can constitute a cause of action, akin to French jurisdictions⁸⁴².

In its 2025 advisory opinion on climate change, the ICJ confirmed that global warming may take the form of different significant environmental harms⁸⁴³. Global warming is also an ecological damage *per se*, since the ICJ found that it “is causing significant harm to the *climate system* and *other parts of the environment*.”⁸⁴⁴ Thus, as the climate system is part of the environment, any State should be able to claim its protection. As to the other concrete environmental injuries related to global warming, they need to be established *in concreto* in individual cases, the ICJ argued⁸⁴⁵. Nonetheless, the ICJ rightly noted that global warming impacts will escalate, with every increment, and related loss and damages, and will be higher for 1.5°C and even higher for 2°C. In other words, the ICJ quoted the IPCC, which “concluded with high confidence that “[w]arming of 1.5°C is not considered ‘safe’ for most nations, communities, ecosystems and sectors and poses significant risks to natural and human systems”⁸⁴⁶.

These findings are in line with the judgement of the Paris Administrative Court, which, in 2021, determined that the levels of warming at the time were already harming the atmosphere and therefore constituted an ecological injury. They are further compatible with the ILC commentary on guideline 2 of the Draft Guidelines on the Protection of the Atmosphere, which states that “climate change and depletion of the ozone layer are the two principal concerns leading to atmospheric degradation”.

842 ICJ, *Certain activities carried out by Nicaragua in the border area (Costa Rica v Nicaragua)*, 2 February 2018; See Kerbrat Y and Maljean-Dubois S, “La contribution en demi-teinte de la CIJ au droit international de l’environnement dans les affaires Costa-Rica - Nicaragua” (2018) *Droit de l’environnement* n°4, LexisNexis p 1133–1154.

843 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 274 – 279.

844 *Ibid*, § 274 (among others). Note that the terminology “*climate system* and *other parts of the environment*” was used multiple times by the ICJ and was part of the questions posed to it by the UNGA.

845 *Ibid*, § 278.

846 *Ibid*, § 44 – 49.

In addition, as climate change infringes human rights, which can be enforced by states to protect individuals in international cases⁸⁴⁷, States could also use these rights as a legal basis before the ICJ or any other international court. The ICJ confirmed this option in its advisory opinion⁸⁴⁸.

Lastly, the ICJ even confirmed that mitigation rules have an *erga omnes* character as they concern all States⁸⁴⁹, a position already endorsed by the ILC⁸⁵⁰ and notable authors of the legal literature⁸⁵¹. The category of *erga omnes*, originally established by the ICJ in the *Barcelona Traction* judgement of the ICJ⁸⁵², means that every State can institute mitigation litigation under international law to protect the climate system, as every State has “an objective interest for the respect of legality”⁸⁵³.

2.1.4 Provisional conclusion on standing regarding injury

Demonstrating standing in relation to injury is one of the traditional Gordian knots in climate litigation, which still inflames the debate before court bodies. Yet, despite the controversies, courts tend to increasingly grant standing in climate-related cases, particularly in cases based on *specific* legislation, but also in *general* CDD.

Notably, there seems to be a unanimous transnational trend towards establishing standing by relying on *specific* laws. For example, in the 2003-07 *Massachusetts v EPA* case, the US Supreme Court granted standing to the state of Massachusetts to sue the US Environmental Protection Agency

847 ICJ, *Ahmadou Sadio Diallo (Republic of Guinea v Democratic Republic of the Congo)*, Merits, Judgment, I.C.J. Reports 2010; ICJ, *Barcelona Traction, Light and Power Company, Limited*, Judgment, I.C.J. Reports 1970, § 33 – 34.

848 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 372 – 393.

849 *Ibid.*, § 439 – 444.

850 ILC, Draft Guidelines on the Protection of the Atmosphere, with commentaries, A/76/10, Guideline 3, Commentary § 5 (Official Records of the General Assembly, Seventy-six Session, Supplement No. 10).

851 See, notably: Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 28.

852 ICJ, *Barcelona Traction, Light and Power Company, Limited*, Judgment, I.C.J. Reports 1970, § 33.

853 See concurring opinion: Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 5.

(EPA) for failing to regulate GHGs⁸⁵⁴. In 2019, the Irish Supreme Court allowed the NGO *Friends of the Irish Environment* to seek the establishment of a more consistent plan in line with the statutory net zero 2050 goal⁸⁵⁵. In 2020, the French Administrative Supreme Court (*Conseil d'Etat*) recognised the legal interest of a municipality to ensure the State is on track to meet its 2030 reduction target⁸⁵⁶, akin to the *Massachusetts* case. Eventually, a court in England awarded *locus standi* to NGOs to ensure the concrete measures are credible enough to achieve the reduction objectives⁸⁵⁷.

Other courts have dismissed some climate-related human rights claims entirely between 2019 and 2021 (i.e. legal *general* CDD), such as the Court of Justice of the EU in *Carvalho*⁸⁵⁸, and the Swiss Courts in *Klimaseniorinnen*⁸⁵⁹, and the English courts' decisions in *Plan B and others v UK*⁸⁶⁰. Thus, these courts have shown some resistance to recognising *general* CDD.

However, in other cases involving *general* CDD, including more recent judgements, courts have ultimately recognised violations of pre-existing rights, particularly human rights, when the framing of the violation reflects individual interests and the global and collective nature of climate change. As some of these opinions were delivered by supreme and supranational courts, they may ultimately prevail:

- In the 2015/19 *Urgenda* case, numerous individual applicants introduced with the Urgenda foundation a “class action” and convinced the Court

854 SCOTUS, *Massachusetts et al v EPA*, 549 U. S. ____ (2007), Opinion of the Court, p 14 – 17.

855 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020, § 5.32.

856 Supreme Administrative Court, *Grande-Synthe*, n° 427301, 19 November 2020, para 3.

857 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, 18 July 2022, [2022] EWHC 1841 (Admin).

858 CJEU, *Carvalho et al v EU*, C-565/19 P, 25 March 2021; see as well, General Court of the EU, *Carvalho et al v EU*, T-330/18, 8 May 2019.

859 Supreme Court of Switzerland, *KlimaSeniorinnen*, IC_37/2019, 5 May 2020.

860 Administrative High Court of Justice of London, *Plan B Earth et al v UK Secretary of State for Business, Energy and Industrial Strategy*, [2018] EWHC 1892 (Admin), 20 July 2018; High Court of London, *Plan B Earth et al v The Prime Minister et al*, 21 December 2021, [2021] EWHC 3469 (Admin); Court of Appeals, *Plan B. Earth & Others v The Prime Minister & Others*, CA-2021-003448, 18 March 2022.

that overstepping the 2°C target is so dangerous that it requires judicial intervention to ensure that the State limits warming to this level⁸⁶¹.

- In 2020, a US federal court of appeals partially recognised the injuries of young individuals in the *Juliana v USA* case. Nonetheless, the case was deemed not redressable (see subsection 2.3.2.2)⁸⁶².
- In early 2021, the French Paris Administrative Court recognised that global warming constitutes an ecological injury. The court added that the damage was evident based on the scientific evidence available at the time of the proceedings and that the consequences would be more severe if the temperature increase exceeded 1.5°C⁸⁶³.
- In 2021, the German Constitutional Court unanimously accorded standing to national and foreign individuals in a case aimed at protecting their individual human rights, including their basic freedoms, alongside those of future generations⁸⁶⁴.
- Some UN-HRTB have also found that individuals are exposed to human rights risks since the 1°C threshold was exceeded. Furthermore, the Committee on the Rights of the Child found *prima facie* victim status in cases filed by certain children⁸⁶⁵, whereas the Human Rights Committee granted standing to inhabitants of an island in Australia facing sea-level rise⁸⁶⁶.
- The ECtHR ruled that an NGO could file climate lawsuits to enforce the duty to limit warming to 1.5°C in the *Klimaseniorinnen* case, but rejected the individual applicants⁸⁶⁷.

861 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 5.2.1. – 5.3.1.

862 See United States Court of Appeals For The Ninth Circuit, *Juliana et al v USA*, No. 18-36082 D.C. No. 6:15-cv-01517-AA, 17 January 2020, p 18.

863 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 10 – 15 and § 40 – 45.

864 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 99 – 101.

865 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

866 Human Rights Committee, *Torres Islands case (Daniel Billy et al v Australia)*, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, CCPR/C/135/D/3624/2019, 22 September 2022.

867 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 458 – 537.

These different outcomes certainly blazed a path for the ICJ, which found in its 2025 advisory opinion that all States could claim enforcement of general CDD obligations due to their *erga omnes* character⁸⁶⁸.

2.2 Causation and attribution: embracing the specificities of climate change and the possibility of doing its share

Responsibility or liability depends on the acknowledgement of causation, i.e. whether a certain event or conduct can give rise to an injury. This criterion is certainly universally shared in any liability cases, and may be relevant at either the merits phase, or the admissibility and standing stage, depending on when and how it is assessed. According to the US criteria on Article, causation is an intrinsic element of the “standing” test as laid out at the beginning of Part 2. Since this thesis follows these criteria to test the enforceability of CDD, this subpart focuses on the causal link between the injury and the physical event at the source of the harm, independently of whether the latter is “redressable” or not⁸⁶⁹. This subpart is structured as follows.

Section 2.2.1 demonstrates that courts can recognise causation by relying on climate science and by embracing the global and cumulative nature of the phenomenon. Section 2.2.2 shows how due diligence can require the adoption of prevention measures even when certain events cannot be attributed to a specific author, such as the emissions from private actors to the State or so-called “scope 3” emissions to corporations (i.e., indirect emissions).

868 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 439 – 444. Some authors, including the author of this thesis, could argue that this development was foreseeable, see Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 5.

869 As an additional preliminary methodological note concerning this section and the next one on redressability, it is important to note that the SCOTUS typology of the US constitutional standing requirements in Article III considers that often “the questions of causation and redressability overlap” (see *Massachusetts*, Dissenting Opinion of CJ Roberts, p 9).

2.2.1 Establishing the causal link between man-made GHGs and global warming

In climate litigation, establishing causation seems an obvious obstacle. Can it be convincingly argued that the individual emissions of public or private actors are the *direct* and *certain* cause of global warming, and, by extension, of the specific climate-related injury in question?

Firstly, while GHGs do appear to be the unequivocal cause of global warming nowadays, the lack of absolute certainty has long been used as an argument against regulating them. Furthermore, the concrete detrimental impacts of global warming are still the object of significant research, which generally forms the second main part of the causal link. Moreover, each time a climate-related event occurs, the question of its attribution to global warming arises. In light of this, the aim of this section is to answer two questions: From what point in time has it been necessary to mitigate global warming in light of the due diligence duties? And how has the evolution of science affected the main requirements over time?

Secondly, climate change is a diffuse and cumulative type of harm over time: GHGs, especially carbon dioxide (CO₂) have a long-lasting warming effect by remaining in the atmosphere for hundreds of years. However, the GHGs of a single player are not enough to deregulate the climate, even considering the present and historical emissions of the USA, which account for around 20% of global emissions. The current level of warming has only appeared through the accumulation of GHGs over *time* and *space*. Anthropogenic climate change is therefore a diffuse and cumulative phenomenon, which is the antithesis of the concept of *direct* cause. Many lawyers, among others, Chief Justice Roberts of the US Supreme Court, argued that the features of climate change are simply irreconcilable with the pillars of legal responsibility, especially causation⁸⁷⁰. In his dissent in *Massachusetts*, he argued more precisely that the petitioners had not established causation – contrary to the findings of the majority – and that their “true goal for this litigation may be more symbolic than anything else.”⁸⁷¹ So, are climate action initiatives doomed to failure or ineffectiveness, even in the event of success?

Subsection 2.2.1.1 examines how the level of uncertainty in physical climate science has evolved over time, in order to determine when it became feasible to establish a causal relationship between anthropogenic GHGs

870 *Massachusetts*, Dissenting Opinion of CJ Roberts.

871 *Ibid*, p 13.

and *dangerous* global warming, as well as its main detrimental effects. Subsection 2.2.1.2 shows that the judicial authorities adopted the concept of shared responsibility when examining climate-related claims in the different assessed legal systems (i.e., international law, human rights law, and domestic comparative tort law).

2.2.1.1 The foreseeability of man-made climate-related harms despite the scientific uncertainties⁸⁷²

The causal link between *anthropogenic* GHGs and *dangerous* global warming has been the subject of significant scientific research and controversy over time, and still is to a certain extent today. Indeed, the US President Trump's statements resonate in this respect, calling global warming a hoax in 2024⁸⁷³. Such discussions also affect the legal reasoning, particularly with regard to establishing causation and the foreseeability of the harm.

In the climate context, causation rests on two main links. The first part concerns the physical causal link between man-made GHGs and global warming, and the second part relates to the dangers triggered by climate change, i.e., its concrete harmful effects. Although this causal chain is made up of two parts, causation in the climate area cannot be considered direct, strictly speaking, but it is still "linear"⁸⁷⁴.

The scientific understanding surrounding these elements has evolved significantly over time. While they are to a great extent undeniable nowadays by any reasonable person, dangerous global warming was already foreseeable to a certain extent by the 1960s. However, it is unsettled as to precisely when a CDD duty to mitigate global warming was established, the precise requirements over time, and the potential breaches. Part 3 provides complementary analysis in this respect.

Thus, to conclude this succinct subsection, the IPCC and international community agree and recognise that there is no scientific uncertainty any-

872 This subsection relies on the findings of Part 3 of this thesis to elaborate the argument on causation.

873 Schonhardt S, "Why Trump's 2nd withdrawal from the Paris Agreement will be different", *Politico*, November 2024.

874 See, among others, ILC, Protection of the atmosphere, Draft guidelines on the protection of the atmosphere, A/76/10, Guidelines 1(c) and 2, including the commentary § 5). The opinion of the ILC was confirmed by ITLOS (§ 178) and the ICJ (§ 278) in their respective advisory opinions. See, furthermore, Court of Appeal of Hamm, *Sàul Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025, p 54.

more as to the causal relationship between GHGs and man-made climate change due to the evolution of science and the increased manifestation of climate impacts. In light of this, no court nowadays can *reasonably* dismiss a forward-looking mitigation case due to uncertain causation, at least concerning the first links of the causal chain. Additionally, the impacts of global warming are increasingly well established and recognised today. However, plaintiffs may still face two types of difficulties: firstly, attributing injuries to climate change, as this depends on the concrete circumstances of the case⁸⁷⁵; and secondly, showing at what point a CDD duty emerged in light of the foreseeability of the risks, and at what point it could have been breached, and by which actors. Again, Part 3 aims to respond in much more detail to these latter questions.

2.2.1.2 Judicially embracing the shared responsibility principles

The subsection above showed that global warming and its deleterious consequences became increasingly foreseeable over time, likely requiring CDD, as set out just above. The legal conditions for establishing causation with regard to individual attribution or the recognition of shared responsibility principles must now be examined.

While the global and cumulative character pose difficult issues, the consolidating prevailing opinion recognises the possibility of accommodating climate change in the traditional principles around causation. In fact, courts recognised the basic tenet that any GHG emissions *contribute to* and *aggravate* global warming.

For example, the US Supreme Court recognised already in 2007 in *Massachusetts* that the “EPA’s refusal to regulate such emissions “contributes” to Massachusetts’ injuries”⁸⁷⁶ even though the USA’s automotive sector (i.e., the focus of the challenge in this case) represented “only” 4 per cent of global emissions. While the finding by the US Supreme Court majority

875 See, in particular, the final decision issued in the RWE case, in which the Court of Appeal of Hamm, dismissed the case seeking monetary compensation because the court expert was unable to prove that the claimant was facing a specific climate-related threat (Court of Appeal of Hamm, *Sàul Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025).

876 SCOTUS, *Massachusetts et al v EPA*, opinion of the Court, 549 U. S. ____ (2007), p 20.

in *Massachusetts* was heavily criticised by the conservative judges in the minority⁸⁷⁷, the US Supreme Court still found causation.

The Dutch courts recognised in 2015-19 in *Urgenda*⁸⁷⁸ on their end that “[e]very emission of greenhouse gases leads to an increase in the concentration of greenhouse gases in the atmosphere”. Despite the far smaller contribution of Dutch emissions to the world’s total (0.38% of annual global emissions), the Dutch courts still concluded that the Netherlands is *contributing* to the worsening of global warming and the resulting human rights risks. Accordingly, the Dutch State bears individual responsibility, a finding consistent with the principle of “common but differentiated responsibility” under international law⁸⁷⁹, and the customary rule that a *plurality* of States may be responsible in relation to the same wrongful act⁸⁸⁰. This joint responsibility obliges the State to “do its share”; i.e. to reduce its own GHGs in order to achieve the common global 2°C objective.

In its ruling on the *Grande-Synthe* case, the French Supreme Court cited the principles of international law relating to common but differentiated responsibility, which, in its view, establish France’s own recognition of its shared responsibility⁸⁸¹. However, the *Conseil d’Etat* did not need to address causation *per se*, since the purpose of the *recours en excès de pouvoir* is merely to review the legality of the administration’s conduct.

The Paris Administrative Court had to do so in *Notre affaire à tous* and *others v France* and found that:

“The *failure* to respect the trajectory it has set itself to achieve these objectives would result in additional greenhouse gas emissions, which will accumulate with the previous ones and will produce effects throughout

877 The Chief Justice of the Court stated that the scientific uncertainty combined with the relatively minor share of the USA’s automotive sector make “the connection [to the plaintiff’s injuries (sea-level rise)] far too speculative to establish causation”, see SCOTUS, *Massachusetts*, Dissenting Opinion of CJ Roberts, p 9 – 11. The significant opposition of the Chief Justice and three other judges illustrate the controversy in this respect. Furthermore, SCOTUS may still overrule this judgement, as discussed above in subdivision 2.1.1.1.1.

878 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 4.6 and § 5.7.5.

879 *Ibid*, § 5.7.2.

880 *Ibid*, § 5.7.6 referencing paragraph 8 of the commentary of Article 47 ILC Draft Articles on Responsibility States for Internationally Wrongful Acts (DARSIWA).

881 Supreme Administrative Court (Conseil d’Etat), *Grande-Synthe*, n° 427301, 19 November 2020, § 12.

the lifetime of these gases in the atmosphere, i.e. approximately 100 years, thus *aggravating* the ecological damage claimed”⁸⁸².

The collective nature of the invoked damage – the ecological loss – may have eased the demonstration of causation, as it is conceived as an alteration to the global ecological functions of the atmosphere. In other words, there was no need to make a link between global warming and precise climate-related impacts in France. However – in theory – this link could be easily established with the lens of human rights risks, for instance. In any case, the Court still had to recognise that France had *partially contributed* to this harm, which it eventually did: “the State must be regarded as responsible [...] for *part* of the ecological damage”⁸⁸³.

The German Constitutional Court also embraced the concept of individual contributory causation to global warming in the *German Climate Protection Act* case. Specifically, it recognised that the international dimension of the German constitutional provision obliges the State to fight climate change:

“As an obligation to take climate action, Art. 20a of the Basic Law has an *international* dimension. The fact that no state can resolve the problems of climate change on its own due to the global nature of the climate and global warming does not invalidate the national obligation to take climate action. Under this obligation, the state is compelled to engage in internationally oriented activities to tackle climate change at the global level and is required to promote climate action within the international framework. The state cannot evade its responsibility by pointing to greenhouse gas emissions in other states.”⁸⁸⁴

In its full opinion, the Court further elaborated on the principle of shared responsibility by asserting that the interdependency between the international and national level necessarily leads to domestic obligations, as “it must avoid creating incentives for other states to undermine this cooperation”. Conversely, Germany must “strengthen international confidence”, particularly by taking coordinated action within the framework of a treaty,

882 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 21 and 31.

883 *Ibid.*, § 34.

884 Constitutional Court of Germany (*Bundesverfassungsgericht*), 1 BvR 2656/18, 24 March 2021, headnote 2 (c).

as climate action is about credibility and “mutual trust”⁸⁸⁵. This opinion corroborates the hypothesis of this PhD following which ensuring compliance with the duty to do one’s part counteracts the free-riding issue, which undermines trust, and ultimately climate action.

In Belgium, the Brussels Courts of First Instance and of Appeal also argued that “the global dimension of global warming cannot excuse Belgium from doing its part”⁸⁸⁶.

Lately, the ECtHR confirmed in April 2024 in *KlimaSeniorinnen* the causal relationship between the GHG emissions of one State and the human rights-related harms, further arguing that the classic but strict standards to determine causation (i.e., *conditio sine qua non* or the “but-for” cause) do not apply in the climate context. In fact, to determine State responsibility, the ECtHR also relied on the principles of customary international law, i.e., the CBDR and the possibility of holding an individual State to account even in the case of a plurality of authors⁸⁸⁷. Thus, the obligation for the State is restricted to doing its part⁸⁸⁸. The failure to perform it only causes a corresponding *loss of opportunity* to remain unharmed, since “what is important, and sufficient to engage the responsibility of the State, is that reasonable measures which the domestic authorities failed to take could have had a real *prospect* of altering the outcome or mitigating the harm”⁸⁸⁹ (for more analysis on this case in light of the redressability angle, see subdivision 2.3.2.5.2).

Some courts have also recognised causation in corporate climate cases. Notable examples include the Dutch courts in *Milieudefensie v Shell*⁸⁹⁰. The Court of Appeal notably recognised that:

“companies like Shell, which contribute significantly to the climate problem and have it within their power to contribute to combating it, have an obligation to limit CO2 emissions in order to counter dangerous climate change, even if this obligation is not explicitly laid down in (public law) regulations of the countries in which the company operates. Companies

885 *Ibid.*, § 203. See as well, Aust HP, “Climate Protection Act Case, Order of the First Senate” (2022) 116(1) *American Journal of International Law* p 150-157.

886 Court of First Instance of Brussels, *Klimatzaak*, p 107, § 181.

887 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 443.

888 *Ibid.*, § 439.

889 *Ibid.*, § 444. Note that the French version is more explicit concerning the notion of loss of chance.

890 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49.

like Shell thus have their own responsibility in achieving the targets of the Paris Agreement.”⁸⁹¹

Furthermore, by ruling that the claims are admissible and that the applicants have standing in *Notre Affaire à Tous et al v TotalEnergies*, the Court somewhat touched upon causation aspects, albeit without confirming the existence of a legal obligation:

“The purpose of the action brought is to enjoin TotalEnergies to include in its due diligence plan measures to identify the risks associated with the emission of GHGs that cause global warming and to reduce them through actions to be taken at the level of the activities of its group entities and those of its subcontractors, activities that take place in different parts of the world [...]. These associations will therefore be deemed admissible in their action.”⁸⁹²

Lastly, the ICJ confirmed in its 2025 advisory opinion that the customary international law principle pertaining to “*plurality* of responsible States” enables the responsibility of individual States for climate-related harms to be sought, despite factual difficulties in determining the extent of the corresponding breach⁸⁹³.

Thus, legal courts increasingly accept adapting the causation pillar in climate lawsuits, as it is scientifically established with certainty that anthropogenic GHGs cause global warming and that the failure of one specific actor contributes to global harm. On the contrary, the diffuse character in terms of time and the cumulative character of the causal relationship do not create insurmountable obstacles.

2.2.2 Establishing causation, or rather “contribution” of individual actors

Subsection 2.2.2.1 shows that due diligence is a legal basis that enables the establishment of State legal responsibility, even for acts and omissions that are not directly attributable to them, such as the GHG emissions of private actors. Subsection 2.2.2.2 argues that due diligence can also be used to

891 Court of Appeal of The Hague, *Milieudefensie v Shell*, 12 November 2024, § 7.27.

892 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19-22.

893 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 429 – 430.

establish corporate responsibility for indirect emissions (so-called scope 2 and 3 emissions).

2.2.2.1 The existence of due diligence duties requiring the regulation of private actors and extraterritorial emissions⁸⁹⁴

Subdivision 2.2.2.1.1 shows that states have a general due diligence obligation to regulate the activities of private actors, even if these activities are carried out abroad and cannot be directly attributed to the states in question. Subdivision 2.2.2.1.2 demonstrates that under the climate conventions, due diligence requires action to extend significantly beyond territorial emissions.

2.2.2.1.1 The general State duty to regulate private actors and extraterritorial events

Most of the GHGs stem from private persons. Those emissions are not *directly* attributable to States. Nonetheless, due diligence still requires States to regulate emissions from private actors.

Under international law, the ICJ also ruled that due diligence requires the regulation of private actors to prevent genocide in the *Bosnian Genocide* case. Accordingly, a State must do everything within its power to prevent such harm caused by private parties, i.e., it is a best effort obligation. Nonetheless, a State would only be held accountable in the case of negligence, i.e., breach of due diligence by not adequately regulating or influencing private persons⁸⁹⁵.

The International Law Commission confirmed the existence of such an obligation of conduct to protect the environment⁸⁹⁶ and the atmosphere, requiring best efforts, and the regulation of private actors:

“Significant adverse effects on the atmosphere are caused, in large part, by the activities of individuals and private industries, which are *not nor-*

894 This subsection relies on the findings of Part I to elaborate this analysis.

895 ICJ, *Bosnian Genocide case*, Judgment, I.C.J. Reports 2007, § 430.

896 ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 5 Commentary, § 3 (p 156).

mally attributable to a State. In this respect, due diligence requires States to “ensure” that such activities within their jurisdiction or control do not cause significant adverse effects. This does not mean, however, that due diligence applies solely to private activities since a State’s own activities are also subject to the due diligence rule. It is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators, to safeguard the rights of the other party. It also requires taking into account the context and evolving standards of both regulation and technology. Therefore, even where significant adverse effects materialize, that does not necessarily constitute a failure of due diligence. Such failure is limited to the State’s *negligence* to meet its obligation to take all appropriate measures to prevent, reduce or control human activities where these activities have or are likely to have significant adverse effects. The States’ obligation “to ensure” does not require the achievement of a certain result (obligation of result) but only requires the *best available good faith efforts* so as not to cause significant adverse effects (*obligation of conduct*).⁸⁹⁷

Lately, both the ITLOS and ICJ have confirmed the above interpretation of the ILC with full authority in their respective advisory opinions, and even argued that due diligence in the climate context should be interpreted as a *stringent* obligation of conduct⁸⁹⁸.

In the field of human rights law, the HRC has also asserted that due diligence is required even if certain events or conduct are not *directly* attributable to the State, but still entail a foreseeable threat to the right to life, such as when they are caused by private actors⁸⁹⁹. In such cases, States must adopt reasonable measures to prevent harm, but they cannot be obliged to achieve the desired result, especially if the necessary measures would “impose disproportionate burdens on them”⁹⁰⁰. As with international law,

897 ILC, Chapter IV Protection of the atmosphere, draft guidelines on the protection of the atmosphere, A/76/10, Article 3 commentary, § 6.

898 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024 § 236; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 282 and 428.

899 Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 7.

900 *Ibid.*, § 21.

due diligence in human rights law is merely an obligation of conduct. The HRC also confirmed that this obligation applies to climate change.

Similarly, the ECtHR held that States must regulate the private industry by exercising due diligence in the 2005 *Fadeyeva v Russia* case⁹⁰¹. While States have a so-called “margin of appreciation”, they still need to show that they adequately regulated the industry to ultimately curb the pollution. The Grand Chamber of the ECtHR also applied this approach in its *KlimaSeniorinnen* judgement of 9 April 2024⁹⁰².

Furthermore, various human rights bodies generally consider these regulatory duties to be applicable extraterritorially, if the State “may influence situations located outside its territory, consistent with the limits imposed by international law”⁹⁰³. This reasoning also applies to climate change and extraterritorial GHG emissions, including “embedded emissions” – i.e. emissions linked to the consumption of goods produced overseas⁹⁰⁴, emissions linked to financial flows⁹⁰⁵, or emissions linked to parent companies of multinational corporations⁹⁰⁶. Indeed, in all these circumstances, states have the authority to regulate these matters if they are linked to their territories. In this respect, the Maastricht Principles on Extraterritorial Obligations detailed the conditions under which States can intervene:

“a) the harm or threat of harm originates or occurs on its territory; b) where the non-State actor has the nationality of the State concerned; c) as regards business enterprises, where the corporation, or its parent or controlling company, has its centre of activity, is registered or domiciled, or has its main place of business or substantial business activities, in the State concerned; d) where there is a reasonable link between the State concerned and the conduct it seeks to regulate, including where relevant aspects of a non-state actor’s activities are carried out in that State’s territory; e) where any conduct impairing economic, social and cultural

901 ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129.

902 ECtHR, *KlimaSeniorinnen*, no. 53600/20, 9 April 2024, § 435.

903 CESCR, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, § 28.

904 ECtHR, *KlimaSeniorinnen*, no. 53600/20, 9 April 2024, § 287 – 288; see as well the individual opinion of Judge Tim Eicke, § 4.

905 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

906 Ibid; see as well, Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 22.

rights constitutes a violation of a peremptory norm of international law. Where such a violation also constitutes a crime under international law, States must exercise universal jurisdiction over those bearing responsibility or lawfully transfer them to an appropriate jurisdiction.”⁹⁰⁷

Having said that, the control that States have over territorial emissions is not necessarily the same as the control they have over extraterritorial emissions. Indeed, the emission reduction levers are not the same, meaning that the expectations may be different, and remain proportionate depending on the leverage one actor has over each respective type of emission.

In any case, given the ubiquity of due diligence, also existing in domestic law, as shown in Subpart 1.3, CDD could “close accountability gaps”⁹⁰⁸ and ensure some level of legal responsibility, even when the conduct is not directly attributable to a State, or when the emissions are partly occurring in other States.

2.2.2.1.2 The borderless obligations of the Climate Conventions

Although there are consensual standards to account for territorial emissions, the climate conventions also set out rules with extraterritorial effects.

Regarding territorial emissions, the IPCC published specific accounting guidelines in 2006 for emissions stemming directly from the States’ territories⁹⁰⁹. The international community validated these methods through the COP decisions⁹¹⁰. While neither the IPCC guidelines nor the COP decisions are legally binding, States have widely adopted these reporting mechanisms. This *opinio juris*, combined with this widely shared State

907 De Schutter O et al, “Commentary to the Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights” (2012) 34 *Human Rights Quarterly* Principle 25.

908 See, for a concurring opinion: Krieger H and Peters A, “Due Diligence and Structural Change in the International Legal Order” in Krieger H, Peters A and Kreuzer L (eds), *Due Diligence in the International Legal Order* (Oxford University Press 2020) p 365 – 368, and 389.

909 IPCC, “Guidelines for National Greenhouse Gas Inventories”, Institute for Global Environmental Strategies, 2006, Vol. 1: General Guidance and Reporting.

910 Decision 18/CMA.1, ‘Modalities, Procedures and Guidelines for the Transparency Framework for Action and Support Referred to in Article 13 of the Paris Agreement’ (19 March 2019), UN Doc. FCCC/PA/CMA/2018/3/Add.2 <<https://unfccc.int/documents/193408>> accessed 12 January 2022, para 20: ‘Each Party shall use the 2006 IPCC Guidelines, and shall use any subsequent version or refinement of the IPCC guidelines.’

practice, has likely turned these scientific standards into customary international law.

Although this accounting system does not expect countries to report on extraterritorial emissions, due to double-counting issues, the UNFCCC and the PA do not limit the scope of State responsibility to territorial emissions. In fact, alongside the global LTTG, the Paris Agreement also sets out a correlated target on finance flows, to make them “consistent with a pathway towards low greenhouse gas emissions and climate resilient development”⁹¹¹. While no provision specifies that Article 2 (1) (c) on financial flows encompasses extraterritorial emissions, this can be inferred logically, given that financial flows are largely borderless by their very nature. Moreover, Articles 4 (5) and 9 to 11 stipulate that developed states must support developing countries for mitigation and adaptation purposes through climate finance, capacity building, and technology transfer. These provisions form part of a global cooperation system and may also be interpreted as a form of an extension of the responsibility of developed countries to ensure that global and overseas emissions in developing countries are curbed.

In any case, neither the PA nor the UNFCCC explicitly limit the responsibility of State parties to their domestic territorial emissions. This openness is consistent with due diligence, which is not restricted to territorial emissions or direct emissions.

Thus, despite the overlapping responsibilities over GHG emissions (i.e., emissions generally arise in one territory and are linked to other States in an extraterritorial manner), due diligence still requires different States to reduce them. The double-counting rule does not apply in the context of substantive mitigation duties.

2.2.2.2 The indirect emissions caused by corporations and their ability to reduce them

In numerous climate cases against oil and gas majors, claimants are asking for a reduction in corporate direct and indirect emissions, so-called “scope 1, 2, and 3 emissions”.⁹¹² However, the respondents deny any obligation

911 Article 2 (1) Paris Agreement.

912 Note that some US-American local public authorities such as Oakland and San Francisco filed lawsuits against numerous large oil & gas companies and seek thereby compensation for climate-related harms: <http://climatecasechart.com/case/>

relating to their indirect emissions, particularly those arising from the combustion of their fossil fuel products (scope 3), on the grounds that these emissions cannot be *attributable* to them.

Scope 3 emissions constitute one of the three perimeters originally developed by the GHG Protocol, a multi-stakeholder initiative originally composed of NGOs, experts, and corporate groups (including BP and Shell as oil and gas majors⁹¹³), which devised these three emission scopes to account for and report on the full carbon footprint of corporate groups⁹¹⁴. More precisely, the GHG Protocol established the following types of emissions:

- Scope 1, emissions stemming *directly* from companies' activities⁹¹⁵;
- Scope 2, *indirect* emissions linked to the energy consumed on the operated sites⁹¹⁶;
- Scope 3, all other *indirect* emissions, for example, those linked to sold products, or the financial activities of banks and insurance companies.⁹¹⁷

As the above definitions make it clear, the indirect emissions of one company (scope 2 or 3) are the direct emissions (scope 1) of another person. For example, the scope 3 of an oil and gas company can be the scope 1 of an electric utility. Additionally, regarding emissions released in the automotive sector, they involve the scope 3 emissions of car manufacturers, the scope 3 of oil and gas companies, and the scope 3 of financial players, among others. Akin to the State due diligence obligations, which require the regu-

people-state-california-v-bp-plc-oakland/, last accessed 28 October 2025. See below and the glossary for the definition of “scope 1”, “scope 2” and “scope 3” emissions.

913 The “GHG Protocol” initially established these three emission scopes; see the original report: World Resources Institute and World Business Council for Sustainable Development, “The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition”, 2014.

914 The GHG accounting should include all controlled subsidiaries to reflect the full carbon footprint of the corporate groups, see the GHG Protocol report, op cit. p 17 – 18.

915 Scope 1 emissions are very high for coal power plant operators, the concrete, iron and steel industry, air transport carriers and others.

916 Regarding scope 2, the more a company conducts activities intense in energy, the more it releases scope 2 emissions if its energy supply is coming from a third party.

917 Scope 3 emissions are particularly significant in the automotive, oil & gas, and financial industries, since their products generally have a high ‘carbon intensity’ (cf carbon intensity is the average rate of GHGs of a given product, such as vehicles, hydrocarbons, or financial products of a bank). See the various scope 3 categories: <https://ghgprotocol.org/scope-3-technical-calculation-guidance>, last accessed 28 October 2025.

lation of private persons despite the absence of direct attribution possibility (see above, subsection 2.2.2.1), due diligence should require corporations to regulate indirect scope 2 and 3 emissions.

The contrary would mean that individual actors are only responsible for direct emissions, although they can also mitigate indirect emissions. This would create accountability gaps and contradict due diligence principles⁹¹⁸, which require adequate and proportionate prevention as soon as someone knows – or should have known – that they are contributing to causing harm, as shown in Part 1. Indeed, due diligence in international customary law⁹¹⁹ and in the UNGPs⁹²⁰ requires prevention if the harm is caused by another person. For example, States must regulate private actors' emissions, even though these are not their direct emissions. Since the scope 1, 2 and 3 methodology is well known and widely shared, and since companies can also reduce these emissions, it is reasonable to infer that due diligence requires their reduction, even if the scope 2 and 3 emissions of some actors are the scope 1 emissions of others.

This situation of multiple and overlapping responsibilities is, by the way, similar to the obligations incumbent on a parent or procuring company in relation to *any* damage that may occur in its value chain (beyond climate-related harm). In those situations, individual obligations are imposed on all the individual different actors, ranging from the subsidiaries and contractors to the economically dominant parent company⁹²¹. While the actions of the subsidiaries or the subcontractors are not directly attributed to the parent company, the latter still holds legal obligations in this respect, as it is linked to those emissions, and has some leverage to reduce them. It is precisely the situation that the business and human rights laws aim to regulate. Ultimately, in the climate realm, it is arguable that multiple overlapping responsibilities are conducive to global GHG reductions, as

918 See, for a concurring opinion: Krieger H and Peters A, "Due Diligence and Structural Change in the International Legal Order" in Krieger H, Peters A and Kreuzer L (eds), *Due Diligence in the International Legal Order* (Oxford University Press 2020) p 365 – 368, and 389.

919 ICJ, *Bosnian Genocide case*, Judgment, I.C.J. Reports 2007, § 430.

920 UNGPs, Guideline 14 and 17; Ruggie J (Special Representative of the Secretary-General of the United Nations), *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, HR/PUB/12/02, United Nations, 2012, response to Question 12

921 See, for concurring opinion, Mekki M, "Peut-on repenser la responsabilité à l'aune du devoir de vigilance, pointe avancée de la compliance" in M-A Frison-Roche (dir), *L'obligation de Compliance* (Dalloz, coll. "Régulations & Compliance", 2024) § 18.

multiple actors share the responsibility for reducing the same emissions by using their own specific leverage.

It is worthwhile to recall here that the duty to reduce scope 1, 2 and 3 emissions in line with the “shared responsibility” principles was also confirmed by Dutch courts in *Milieudefensie v Shell* judgments⁹²². In an admissibility ruling, the Paris Court of Appeal gave concurring observations, authorising applicants to seek judicial review by the company, which has a potential CDD duty of vigilance with regard to climate matters⁹²³.

Additionally, it is important to note that recent corporate climate standards also expect companies to reduce their scope 1, 2 and 3 emissions in line with the internationally agreed temperature objectives, such as the 2022 UN Race to Zero criteria⁹²⁴, the 2022 UN High-Level Expert Group (HLEG) Report⁹²⁵, the 2023 update of the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct⁹²⁶, the 2023 ISO Net Zero Guidelines⁹²⁷, the 2023 interpretation of the UN Working Group on UNGPs⁹²⁸. These voluntary and soft law instruments underline the possibility of reducing scope 1, 2 and 3 emissions and should inform the conduct expected of corporations under their due diligence obligations. They further demonstrate the reasonableness of this conduct, a position with which the Hague Appeals Court notably concurred (see below).

A brief overview and comparison of *specific* legislation also indicates that it is possible to impose GHG reduction obligations on scope 1, 2 and 3 emissions. Indeed, some laws require companies to report and cut their

922 See subsection 2.2.1.2 above. See especially, District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49-50; Court of Appeal of The Hague, *Milieudefensie v Shell*, 12 November 2024, § 7.27.

923 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19 – 22.

924 Race to Zero, Interpretation Guide, Expert Peer Review Group, Version 2.0, June 2022.

925 UN UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities, “Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions”, 2022, p 17: “Non-state actors must have short-, medium- and long-term absolute emissions reduction targets and, where

926 OECD, “Guidelines for Multinational Enterprises on Responsible Business Conduct”, 2023, p 41-42.

927 ISO, “Net Zero Guidelines: Accelerating the Transition to Net Zero”, IWA 42:2022(E), § 5.

928 Working Group on the issue of human rights and transnational corporations and other business enterprises, “Information Note on Climate Change and the Guiding Principles on Business and Human Rights”, June 2023, § 16 – 17.

direct and indirect emissions, which correspond to the emissions covered by the scope 1, 2 and 3 methodology, even if this terminology is not used.

– Implicit regulations of scope 1 emissions:

The EU ETS requires industrial facilities to reduce their scope 1 emissions within the EU⁹²⁹. Similar regulations also exist in other countries, such as Canada and California⁹³⁰. Some US regulations also require GHG reductions (see, among others, the EPA rules which are influential despite their instability). Legislation in Germany⁹³¹ requires furthermore ceasing the burning of coal, which impacts the scope 1 obligations of power plants and other industrial actors. The UK imposes a significant additional carbon tax on industrial actors in addition to the ETS mechanism⁹³².

– Implicit Regulations of Scope 2 and 3 emissions:

The EU and the USA have introduced GHG standards for automotive vehicles, which impact the scope 3 emissions of carmakers⁹³³. Furthermore, the EU requires fuel suppliers to reduce their scope 3 emissions (e.g. Fuel Quality Directive, Renewable Directive⁹³⁴). The EU also requires Member States to ensure that new buildings are well insulated and use 'nearly zero-energy' by the end of 2020⁹³⁵, thereby impacting the scope 3 emissions of building constructors. Some legislation restricts or forbids the development of new fossil fuel mines, affecting the scope 3 emissions of fossil fuel developers (such as oil and gas companies)⁹³⁶. Both the USA and the EU

929 Directive 2003/87/EC.

930 California Environmental Protection Agency, "Overview of ARB Emissions Trading Program", 2 September 2015, https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/guidance/cap_trade_overview.pdf, last accessed 28 October 2025.

931 See full official name in German of the Act: Gesetz zur Reduzierung und zur Beendigung der Kohleverstromung und zur Änderung weiterer Gesetze (Kohleausstiegsgesetz), Gesetz vom 08.08.2020 - Bundesgesetzblatt Teil I 2020 Nr. 37 13.08.2020 S. 1818.

932 Hirst D et Keep M, "Carbon Price Floor (CPF) and the price support mechanism", *Research Briefing*, House of Commons Library, 8 January, 2018.

933 Section 202 (a) (1) of the American Clean Air Act 1963; Regulation (EU) 2023/851 amending Regulation (EU) 2019/631.

934 See Article 7 a (2) of the Directive 2009/30/EC on the Fuel Quality. See Article 25 of Directive 2018/2001/EU on the promotion of renewable energy.

935 See EU Directive 2010/31; Art 9 (3) (c) of the corresponding Directive even recommends to use renewable energy if the building is not self-sufficient.

936 Loi n° 2017-1839 du 30 décembre 2017 mettant fin à la recherche ainsi qu'à l'exploitation des hydrocarbures et portant diverses dispositions relatives à l'énergie et à l'environnement. Also see the commentary regarding the New Zealand ban by:

require impact assessments on the environment before planning and implementing any significant industrial project. If the latter project may lead to significant direct and indirect GHG emissions, the company carrying out the project must seek alternatives to avoid or reduce them⁹³⁷. Recently, the UK Supreme Court⁹³⁸ and the European EFTA Court⁹³⁹ confirmed that the environmental impact assessment regulations must cover the indirect emissions resulting from the oil combustion in the case of new production projects (scope 3).

The above examples show that the lawmakers impose not only mitigation obligations with respect to direct scope 1 GHG emissions but also indirect scope 2 and 3 obligations. These laws specifically demonstrate that reductions in scope 1, 2 and 3 emissions can be required, and that general due diligence obligations should therefore also require this.

These are the ideas behind the recent European legislation. In 2022, the EU enacted the European Corporate Sustainability Reporting Directive (CSRD), which explicitly requires companies to establish transition plans aimed at reducing the scope 1, 2 and 3⁹⁴⁰. Prior to the adoption of the CSRD, which reformed the Non-Financial Reporting Directive (NFRD) 2014/95⁹⁴¹, the EU had already mandated the disclosure of general information on climate. The 2019 non-binding Guidelines of the European Commission (2019/C 209/01) were the first to recommend using the scope 1, 2 and 3 typology to issue the climate information. Then, in 2024, the EU even enacted the Corporate Sustainability Due Diligence Directive (CSDDD), turning the duty to implement transition plans on scope 1, 2

Abraham-Dukuma MC and others, “The Limits of the Offshore Oil Exploration Ban and Agricultural Sector Deal to Reduce Emissions in New Zealand” (2020) 14(2) *Carbon and Climate Law Review (CCLR)*.

937 See Annex I (f) (g) and (h) of Directive 2001/42 and Article 3 of Directive 2011/92 and Annex IV of Directive 2014/52 that amends Directive 2011/92; see also similar requirements of article 5 (3) (c) and (d) of Directive 2011/92/EU.

938 UK Supreme Court, *Finch v Surrey et al*, [2024] UKSC 20, 20 June 2024.

939 EFTA Court, *Greenpeace Norway v Norwegian State*, Case E-18/24, 21 May 2025 (i.e., the European Free Trade Association (EFTA) Court is responsible for some contentious cases regarding European regulations also applying to Norway, Iceland, which is not a Member State of the EU).

940 Article 29 (b) CSRD (Directive EU 2022/2464 [...] as regard corporate social responsibility, 14 December 2022).

941 The Supplement on reporting climate-related information (2019/C 209/01) accompanies Directive 2014/95/EU amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups (both are called hereinafter ‘NFRD Climate Guidelines’).

and 3 emissions into a substantive and enforceable obligation⁹⁴². While Article 22 CSDDD was eventually removed in 2026 in the context of the “Omnibus” legislative amendment, these regulatory developments still indicated, at least for some time, a strong political consensus on creating legal responsibility over the reporting and reduction of scope 1, 2 and 3 emissions. It is now questionable whether rolling back Article 22 was lawful (see subsection 2.3.3.5).

Overall, in light of the above, a duty to cut scope 1, 2 and 3 emissions seems reasonable on the basis of *general* due diligence.

2.2.3 Provisional conclusion on causation

Establishing causation is entirely possible in judicial cases as due diligence obligations require public and private actors to do their share individually, despite the actions of others, including if certain emissions are not directly attributable to them (indirect and extraterritorial GHGs).

More precisely, section 2.2.1 showed that courts can establish causation based on *general* due diligence for the following two reasons.

Firstly, climate science, as reviewed by the IPCC in AR6 (2021-23), unequivocally establishes the link between man-made GHGs and dangerous global warming. As a result, no court *today* can reasonably dismiss a climate case on the grounds of alleged scientific uncertainties about the first part of the causal link (i.e. anthropogenic GHGs and global warming). Additionally, official governmental reports and studies in which the fossil fuel industry was involved had already indicated climate-related risks in the 1960s to 1980s. These findings were *probably* enough from a causation point of view to trigger CDD's applicability – at least its *procedural* dimension (i.e., deepen the research into the causes of warming and the potential mitigation techniques)⁹⁴³.

Secondly, courts are increasingly accepting climate-related cases and the corresponding principle of collective but individual responsibility, also

942 Directive EU 2024/1760 of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859.

943 See notably: Charney et al (National Research Council), Carbon Dioxide and Climate: A Scientific Assessment, (1979), The National Academies Press 1979, Forward, p viii <http://nap.nationalacademies.org/12181>; Proceedings, World conference, Toronto, Canada June 27-30, 1988: the changing atmosphere : implications for global security, p 296.

known as “shared responsibility”, which requires each actor to do their share⁹⁴⁴. Consequently, the courts do not consider whether one actor alone can cause climate change. Instead, they look at the extent to which one *contributes* to the *aggravation* of global warming. For example, in the 2007 *Massachusetts* case, the US Supreme Court found causation even though the US automotive sector, which is subject to a duty to be regulated by the EPA, emits only 4% of annual worldwide GHGs⁹⁴⁵. Similarly, the Dutch Courts established in *Urgenda* the responsibility of the Netherlands despite contributing only 0.38% per year to global emissions⁹⁴⁶. In addition, the French State was found liable in the *Notre Affaire à Tous* case for exceeding its own GHG reduction targets⁹⁴⁷. On its end, the German Constitutional Court ruled that targets must be in line with the Paris Agreement to preserve trust in international negotiations⁹⁴⁸. Recently, the Grand Chamber of the ECtHR held in *KlimaSeniorinnen* that the failure to do its share causes a violation of the Convention, and specified that the classic causation tests, i.e. the *but for* test or *conditio sine qua non* principle, are not adapted to the climate context⁹⁴⁹. Courts applied similar reasoning in corporate climate cases, especially in the *Shell* case⁹⁵⁰ and, in the context of an admissibility judgement, in the *TotalEnergies* case⁹⁵¹. The ICJ has also recently acknowledged that linking GHGs to specific climate-related injuries is possible⁹⁵².

Next, in section 2.2.2, this thesis demonstrated that it is possible to establish individual causation (or, more accurately, *contribution*) by not only attributing direct emissions, but also indirect and extraterritorial GHGs.

944 See, notably, Nollkaemper A et al, “Guiding Principles on Shared Responsibility in International Law” (2020) 31(1) *European Journal of International Law* p 15 – 72.

945 SCOTUS, *Massachusetts et al v EPA*, opinion of the Court, 549 U. S. ____ (2007), p 20.

946 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 4.6 and § 5.7.2 and 5.7.5.

947 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 21 and 31.

948 Constitutional Court of Germany, 1 BvR 2656/18, 24 March 2021, headnote 2 (c) and § 203.

949 ECtHR, *Klimasenioren v Switzerland*, no. 53600/20, 9 April 2024, § 444.

950 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49.

951 Court of Appeal of Paris, *Notre affaire à tous et al v TotalEnergies*, n° RG 23/14348, 18 June 2024, p 19 – 22.

952 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 429 – 430.

State due diligence requires the regulation of private actors, including in the climate field⁹⁵³. This maxim means that States take responsibility for the indirect emissions of private actors, a widely shared interpretation, most lately by the ICJ in its advisory opinion on climate. Additionally, human rights case law and the international climate conventions do not limit this obligation to GHGs emitted directly within State territories; they also require action to be taken against extraterritorial emissions as well, such as import-based emissions⁹⁵⁴; emissions from multinational companies⁹⁵⁵ and financial flows⁹⁵⁶. More generally, the climate conventions do not limit the responsibility of State parties to their domestic territorial emissions. On the contrary, they require developed countries to support developing countries in various ways⁹⁵⁷.

Lastly, corporate due diligence requires the reduction of direct, indirect and transnational emissions (known as scope 1, 2 and 3 emissions), given the companies' ability to do so, and their broad acceptance of the scope 1, 2 and 3 methodology. The Dutch courts recognised the merits of this reasoning in the *Shell* case. The European lawmaker even established substantive CDD obligations in Article 22 CSDDD, before finally removing them for political reasons in 2026 through the Omnibus amendments (i.e., this amendment may be incompatible with CDD under international law, human rights law, European law; see subsection 2.3.3.5). Other pieces of legislation have already imposed GHG reduction targets on private actors for both direct and indirect emissions, despite not mentioning the notion of scope 1, 2 and 3⁹⁵⁸. For example, the UK Supreme Court and the EF-

953 See, notably, ILC, Draft articles on Prevention of Transboundary Harm from Hazardous Activities, Text adopted by the ILC at its fifty-third session in 2001 (A/56/10), Article 5 Commentary, § 3 (p 156); ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024 § 236; Human Rights Committee, General Comment n°36, CCPR/C/GC/36, 3 September 2019, § 21-22; Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019; ECtHR, *Fadeyeva v Russia*, no. 55723/00, 30 November 2005, § 128 – 129; ECtHR, *KlimaSeniorinnen*, no. 53600/20, 9 April 2024, § 435 – 436.

954 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 287; see as well, the individual opinion of partly concurring partly dissenting opinion of Judge Eicke, § 5.

955 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

956 Article 2 (1) PA.

957 See Articles 4 (5) and 9 to 11 of the PA.

958 See, among others, Section 202 (a) (1) of the American Clean Air Act 1963; Regulation (EU) 2023/851 amending Regulation (EU) 2019/631. See Article 7 a (2) of

TA Court have recently confirmed that environmental impact assessments must cover scope 3 emissions relating to oil projects.

2.3 Redressing CDD violations while providing discretion

Defendants have raised in climate cases⁹⁵⁹ the argument of lack of redressability or justiciability in (almost) every high-profile case so far by claiming a violation of the principle of the separation of powers, or a lack of justiciability of the requests (see the methodological introduction of part 3 on the definition of the notions of redressability and the other standing criteria). For example, in the USA, federal courts dismissed a prominent systemic case against the federal government called *Juliana* on those grounds, as they considered the political branch to be the only competent authority to deal with the requests of the plaintiffs⁹⁶⁰.

Additionally, in climate cases, redressability is intrinsically bound to causation and injury. It also relates to difficult factual problems, such as the “free riding” and “carbon leakage”⁹⁶¹ issues, which are characterised by the assumption that some do not do their share, or the fact that one’s climate actions will be replaced by another actor, leading to the maintenance of the *status quo* and business as usual.

This subpart dives deeper into these issues by assessing how courts grant or reject CDD requests, and on which criteria. This assessment eventually enables a better understanding of the extent to which an *ambitious* interpretation of CDD is enforceable. More precisely, it seeks to understand whether courts accept enforcing best efforts to limit warming to 1.5°C by

Directive 2009/30/EC on the Fuel Quality. See Article 25 of Directive 2018/2001/EU on the promotion of renewable energy. See EU Directive 2010/31; Art 9 (3) (c) of the corresponding Directive even recommends using renewable energy if the building is not self-sufficient.

959 Climate cases in the sense of legal proceedings requesting climate action (mitigation, adaptation, finance, loss and damages), see this PhD glossary. Thus, respondents or defendants in those cases are either public or private actors, allegedly not complying with CDD.

960 See Court of Appeal for the Ninth Circuit of the United States, *Juliana et al v USA*, No. 18-36082 D.C. No. 6:15-cv-01517-AA, 17 January 2020, Opinion of the Court. While the opinion stems from an Appeals Court and not from the SCOTUS, this decision is the final one in this prominent case as SCOTUS refused to review it.

961 See section 0.3.2 of the introduction, which further explains the problem, and the definition of the terms free-riding and “carbon leakage” in the glossary of this thesis.

doing their fair share, as the hypothesis of this PhD seeks to understand. Thus, this subpart is structured as follows:

Section 2.3.1 assesses domestic case laws that restrict the enforceability of the State's climate mitigation measures to *specific* legislation. Section 2.3.2 examines domestic and regional case law that has enforced *general* CDD against States. Section 2.3.3 analyses the judicial and legislative developments on corporate CDD, based on both *general* and *specific* CDD, which are very similar in this field. Section 2.3.4 looks at the redressability indications of *general* CDD that the ICJ and the ITLOS provide in their respective advisory opinions.

2.3.1 Enforcing specific State mitigation requirements while rejecting general CDD

As the judiciary is in principle entitled to apply the law, courts have opened different windows to enforce *specific* legislation. This section is structured as follows.

Subsection 2.3.1.1 focuses on the redressability aspects of the three decisions issued by the US Supreme Court in climate cases. Subsection 2.3.1.2 addresses the remedy awarded provided in the Irish case. Subsection 2.3.1.3 analyses the French decisions that enforced the GHG reduction targets. Subsection 2.3.1.4 examines the redressability aspects of some decisions issued by UK courts.

2.3.1.1 The intervention of the US Supreme Court limited to specific CDD

The US Supreme Court pioneered climate litigation and has so far issued three main climate-related judgements. Subdivision 2.3.1.1.1 assesses the redressability aspects of the *Massachusetts* ruling, which found that plaintiffs can request the EPA to regulate GHGs. Subdivision 2.3.1.1.2 examines the subsequent decision in *American Electric Power Company v Connecticut* of 2010, which determined that the EPA's regulatory powers pre-empt federal tort law. Subdivision 2.3.1.1.3 eventually looks at the more recent *West Virginia et al v EPA* (2022) decision, which restricted EPA's powers.

2.3.1.1.1 The pioneering redress in Massachusetts

The debate on redressability in *Massachusetts* was as productive and novel as those under the other standing criteria: a thin majority sided in favour of the redressable claims. It notably found that “[a] reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere”, and that climate-related risks “would be reduced to some extent if petitioners received the relief they seek”⁹⁶².

As already mentioned previously in the subparts above on this case, the minority issued strong dissenting opinions in this case. Chief Justice Roberts especially did not mince his words concerning the majority, who asserted that “[t]he mismatch suggests that petitioners’ true goal for this litigation may be more symbolic than anything else. The constitutional role of the courts, however, is to decide concrete cases—not to serve as a convenient forum for policy debates.”⁹⁶³ CJ Roberts furthermore noted that 80 per cent of global GHG emissions originate outside the USA and that:

“developing countries such as China and India are poised to increase greenhouse gas emissions substantially over the next century,” ante, at 23, so the domestic emissions at issue here may become an increasingly marginal portion of global emissions, and any decreases produced by petitioners’ desired standards are likely to be overwhelmed many times over by emissions increases elsewhere in the world.”

The problem addressed here by CJ Roberts partly refers to the development of so-called Global South countries, and the issue of the substitution of emissions (also called *carbon leakage*, see the glossary). Firstly, the fundamental right of developing countries to economic and social development cannot be withheld, and it is necessary to accept some increase in emissions as long as there are no decarbonisation techniques available. However, if the USA *decarbonises* by replacing its fossil fuel systems with low-carbon technologies, its emissions will be reduced in a sustainable manner. Furthermore, these decarbonisation techniques should likely spread to other countries due to the manifest and shared interest in implementing them worldwide, as they would reconcile economic development and climate mitigation.

962 SCOTUS, *Massachusetts et al v EPA*, opinion of the Court, 549 U. S. ____ (2007), p 23.

963 *Massachusetts*, Dissenting Opinion of CJ Roberts, p 13.

CJ Roberts took note of this argument by quoting the petitioner's declarations: "[i]f the U. S. takes steps to reduce motor vehicle emissions, other countries are very likely to take similar actions regarding their own motor vehicles using technology developed in response to the U. S. program". However, he rejected this argument for reasons of uncertainty and cost, arguing that nobody knows what the other countries may do, and that new technologies are generally more expensive⁹⁶⁴. While CJ Roberts' argument may have had more merit in 2007 due to the lower availability of decarbonisation options at that time, and the need to invest at first, clean energy and electric cars are significantly cheaper and more affordable in 2025, thanks to the significant technical progress in this respect in China. This appears somewhat ironic when one considers that developed States such as the USA pioneered them (see part 3), which now pose substantial competition and geopolitical issues to the latter countries. Additionally, there is nowadays an acute climate emergency, which requires the quickest energy transition possible to achieve the universal LTTG, but is difficult to implement because of these geopolitical tensions.

In any case, CJ Roberts concluded that even if the EPA can reduce global emissions, it can *hypothetically* only do a "little bit", and not entirely redress or prevent the harm from occurring⁹⁶⁵. Although one can only agree with CJ Roberts on the relative uncertainty of the redress and its partial character, it is also necessary to remember that one given actor can, in any case, only do *its (very limited) share*. It cannot solve climate mitigation alone.

Despite CJ Roberts' position, the US Supreme Court majority ultimately granted the relief requested by Massachusetts. However, as noted above in subdivision 2.1.1.1.1 above, given that the majority has become substantially more conservative since Trump's first election, a reversal of the principles found in *Massachusetts* cannot be excluded.

2.3.1.1.2 Applying the *lex specialis* rule in *American Electric Power Company v Connecticut*

Additionally, in the 2011 decision *American Electric Power Company v Connecticut*, which was issued unanimously four years later than *Massachusetts*, the US Supreme Court concluded that the EPA is better placed to regulate GHG emissions than federal judges, who are constrained to a case-by-case

964 *Ibid*, p 12 – 13.

965 *Ibid*.

approach, and not equipped with the necessary scientific and expert knowledge.

“It is altogether fitting that Congress designated an expert agency, here, EPA, as best suited to serve as primary regulator of greenhouse gas emissions. The expert agency is surely better equipped to do the job than individual district judges issuing ad hoc, case-by-case injunctions. Federal judges lack the scientific, economic, and technological resources an agency can utilize in coping with issues of this order. See generally *Chevron U. S. A. Inc. v Natural Resources Defense Council, Inc.*, 467 U. S. 837, 865–866 (1984). Judges may not commission scientific studies or convene groups of experts for advice, or issue rules under notice-and-comment procedures inviting input by any interested person, or seek the counsel of regulators in the States where the defendants are located. Rather, judges are confined by a record comprising the evidence the parties present.”⁹⁶⁶

The US Supreme Court added that the system of common law remedies is not suited to the issue of regulating the industry, since first-instance court decisions are not binding on other courts⁹⁶⁷. In the Court’s view, the piecemeal approach of climate tort litigation may lead to different and inconsistent solutions, at least until the appeal courts or the Supreme Court decides. Since uniformisation of the law seems crucial to ensure equal and fair rules for all, including industrial actors, the Supreme Court may have had a point.

While the need for last instance court interventions is important to provide an authoritative judgement, judicial bodies should at least uphold the basic CDD principles, i.e., making best efforts to limit warming as much as possible. As soon as such a principle-based judgement is issued, as the ICJ recently did at the international level in its advisory opinion, the basic law on mitigation (or CDD) should not change anymore. The only judgments that can be issued afterwards may concern the concrete due diligence requirements of a given actor, and whether they have complied with them. It should be noted, however, that CDD allows for significant flexibility in implementation by imposing an obligation of means, which facilitates its wide-scale establishment (see subpart 0.2 of the introduction).

966 SCOTUS, *American Electric Power Company v Connecticut*, 564 U. S. ____ (2011), p 14.

967 *Ibid.*, p 14 – 15.

Nonetheless, the US Supreme Court dismissed the plaintiffs' proposition that one specific lawsuit may regulate all significant industrial actors in one single case by setting a precedent that could be replicated in other cases⁹⁶⁸. The Court considered that this avenue "cannot be reconciled with the decision-making scheme Congress enacted", i.e., the Clean Air Act, which it previously interpreted in *Massachusetts* as providing the authority for the EPA to intervene⁹⁶⁹. This outcome may make sense concerning the GHG emissions falling under the scope of the Clean Air Act (e.g. automotive sector, industrial sector). However, there is no specific legislation or regulation in the USA that addresses the reduction of indirect and extraterritorial emissions of multinational companies. These latter "statutory gaps" should imply the applicability of federal tort law (*general* CDD). Therefore, it may still be possible to request that US courts enforce basic due diligence standards (i.e. require the pursuit of best efforts to mitigate climate change in line with the international consensus) against the parent companies of multinational corporations, which remain unregulated in the USA⁹⁷⁰.

2.3.1.1.3 Limiting the judicial review of the Clean Air Act

In 2021, the Court of Appeals for the 2nd Circuit "vacated" (i.e., annulled) the Trump administration's "deregulation" in *American Lung Association v EPA*⁹⁷¹, which had previously replaced the 2014 Clean Power Plan under Obama with the 2019 Affordable Clean Energy Rule. The Court of Appeals deemed it to be contrary to the legislative provisions of the Clean Air Act, which requires the EPA to regulate GHGs, as the US Supreme Court found in *Massachusetts*.

More precisely, the Court of Appeals for the 2nd Circuit recalled that a political consensus exists between Republican and Democratic administrations on the fact that coal-fired power plants are the largest source of emissions in the USA and that the EPA has an obligation to establish the "best system of emission reductions" under section 111 of the Clean Air

968 *Ibid*, p 15.

969 *Ibid*, p 15.

970 See, additionally, section 2.3.2 and 2.3.3, addressing the adoption of the CSDDD and the KlimaSeniorinnen judgement, which impose these duties on private and public actors.

971 Court of Appeals for the District of Columbia, *American Lung Association v EPA*, No. 19-1140, January 19, 2021, v p 16.

Act⁹⁷². It then concluded that the new 2019 Affordable Clean Energy Rule, replacing the Obama administration's Clean Power Plan, is not only a major environmental step backwards in practice but also a "fundamental misinterpretation" of the Clean Air Act. Said differently, the Court agrees that the EPA's new regulations, which slow down the reduction of emissions, are "arbitrary and capricious", a classic standard of American administrative law, applicable within the realm of the Clean Air Act. Although this ruling only concerns energy production, it demonstrates that a *certain* judicial review of climate policy is possible in the USA based on the statutory provisions of the Clean Air Act.

However, this positivist approach, which relies on *specific* texts, remains precarious. In fact, its potential in terms of enforcing adequate mitigation ambition is unclear. It is probably insufficient in light of the conservative majority in the Supreme Court. In *American Lung Association v EPA*, a partly concurring and dissenting opinion expressed uncertainty as to whether the Obama administration's former *Clean Power Plan* complied with the Supreme Court's "*major questions doctrine*", as phrased in the USA, which requires the US Congress to issue a clear mandate to independent federal agencies such as the EPA when they adopt regulations of significant importance⁹⁷³. The Supreme Court had previously suspended the entry into force of the Clean Power Plan in 2016 on those grounds⁹⁷⁴, which the Trump administration exploited to justify its "deregulation".

As the political controversies in Congress were too intense to adopt any climate targets in the USA through the political avenue, the only option left to the Obama administration was to delegate the authority to regulate GHGs to the EPA, on the basis of the Clean Air Act. The problem with respect to the "major questions doctrine" lies, among other things, in the fact that the Clean Air Act does not explicitly regulate GHGs; instead, it only requires regulating "polluting emissions". As discussed previously, the US Supreme Court decided in *Massachusetts* that it indeed requires the EPA to regulate climate-related pollutants, but it left full leeway to the EPA to do so. For example, it did not prescribe the EPA to follow a specific ambition,

972 See 42 U.S. Code § 7411.

973 SCOTUS, *West Virginia et al v EPA*, 597 U. S. ____ (2022), Opinion of the Court, p 20.

974 See Supreme Court Order 577 U.S. of 9 February 2016 in *West Virginia et al v EPA* (<http://climatecasechart.com/case/west-virginia-v-epa/>). According to an article by a recognised expert, the Court's decision was one of the most damaging to the environment in decades: Gerrard M, "The Supreme Court Stay of the Clean Power Plan and the Paris Pledges" (2016) *Climate Law*, Sabin Center Blog.

such as the 1.5°C or 2°C target, or to achieve a certain emission reduction percentage etc. Thus, lawyers argue that there is significant uncertainty concerning the actual mandate of the EPA.

In light of these circumstances, the well-known Sabin Center for Climate Change Law at Columbia University suggested a new regulation with greater legal certainty to the then-newly elected Biden Administration in 2020⁹⁷⁵. The Sabin Center was right in advising the government this way since the US Supreme Court's 2022 ruling in *West Virginia v EPA* indeed concluded that the 2014 Clean Power Plan Rule, enacted under Obama, infringed the constitutional major question doctrine. Note that in another case concerning the tobacco industry (*FDA v Brown & Williamson Tobacco Corp.*, 529 U. S. 120 (2000)), which also had significant implications for the US American economy, the US Supreme Court invalidated the FDA's agency's regulatory powers, stating that only the legislature has the authority in this regard⁹⁷⁶.

Given the difficulties in finding a sufficiently ambitious political compromise in Congress, the US Supreme Court's position is problematic in terms of climate action and ensuring compliance with *general* CDD, notably in international and human rights law. Indeed, while it could still invalidate the rule because of the major questions doctrine, it should also compel at the same time the government to find a solution in favour of climate mitigation and the goal of the Paris Agreement, by leaving a margin of appreciation, like the European Courts did, given the difficulty in finding consensus in Congress (see, notably, the German Constitutional Court's ruling assessed in subsection 2.3.2.3 and the ECtHR judgement in *KlimaSeniorinnen* analysed in subsection 2.3.2.5). However, the US Supreme Court merely invalidated the EPA's climate rules⁹⁷⁷.

Despite this ruling, the Biden Administration still managed to enact the first legislation specifically aimed at reducing GHG emissions in the USA. The 2022 Inflation Reduction Act "would reduce U.S. GHG emissions by 33% to 40% by 2030 compared to 2005 levels"⁹⁷⁸. While this is to some

975 Burger M and Metzger DJ, "Climate Reregulation in a Biden Administration" (Sabin Center for Climate Change Law, Columbia Law School 2021) p 17 – 18.

976 SCOTUS, *Massachusetts et al v EPA*, 549 U. S. ____ (2007), p 8 – 9.

977 SCOTUS, *West Virginia et al v EPA*, 597 U. S. ____ (2022), Opinion of the Court, p 31.

978 US Congressional Research Service, *Inflation Reduction Act of 2022 (IRA): Provisions Related to Climate Change*, updated 26 October 2023.

extent praised as significant progress⁹⁷⁹, it still falls far short of the USA's fair share⁹⁸⁰. Nonetheless, even though Congress reached a bipartisan agreement to adopt the Inflation Reduction Act, the second Trump administration ordered the termination of funding stemming from it, which is the subject of further contentious cases⁹⁸¹.

2.3.1.2 The Irish Supreme Court's enforcement of specific due diligence

In 2020, the Supreme Court of Ireland granted the application for judicial review of the NGO Friends of the Irish Environment (FIE). The Court ruled that the government had failed to properly implement the Climate Action and Low Carbon Development Act 2015, thereby acting *ultra vires*. More precisely, it deemed that the absence of specific measures to achieve the "objective of zero net carbon emissions by 2050" to be unlawful⁹⁸². The Chief Justice of the Court, who drafted the opinion, stated:

"the 2015 Act, and in particular s.4, requires a sufficient level of specificity in the measures identified in a compliant plan that are required to meet the National Transitional Objective [NTO] by 2050 so that a reasonable and interested person could make a judgement both as to whether the plan in question is realistic and as to whether they agree with the policy options for achieving the NTO which such a plan specifies. The 2015 Act as a whole involves both public participation in the process leading to the adoption of a plan but also transparency as to the formal government policy, adopted in accordance with a statutory regime, for achieving what is now the statutory policy of meeting the NTO by 2050. A compliant plan is not a five-year plan but rather a plan covering the full period remaining to 2050. While the detail of what is intended to

979 Lashof D, "What is the Biden Administration Doing to Fight Climate Change?", *World Resources Institute*, 2024; see as well, Webb Romany M et al, Implementing the Inflation Reduction Act: Progress to Date and Risks from a Changing Administration, September 2024.

980 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, "National 'Fair Shares' in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law" (2021) 21(8) *Climate Policy* p 18.

981 Magill K, Trump administration ordered to resume IRA funding, *Manufacturing Dive*, 16 April 2025.

982 Supreme Court of Ireland, *Friends of the Irish Environment v The Government of Ireland*, 31 July 2020, § 4.1, 4.3 and 6.18.

happen in later years may understandably be less complete, a compliant plan must be sufficiently specific as to policy over the whole period to 2050.”⁹⁸³

This judgement shows that *specific* legislation aimed at implementing *general* CDD (CDD in international customary law, human rights law, tort law, etc) is enforceable in Ireland. However, the Court rejected the constitutional and ECHR human rights claims due to lack of standing (i.e., the NGO Friends of the Irish Environment could not argue the violation of personal rights, such as human rights as a legal person in the eyes of the court – see 2.1.2.1 above), but it left open the question of whether or not the ECHR imposes tackling climate change, by leaving the matter to the ECtHR⁹⁸⁴. In light of the ECtHR's 2024 decision in *KlimaSeniorinnen*, *general* CDD linked to human rights should now be redressable in Ireland as well (see subdivision 2.3.2.5.2).

While this subdivision will not further analyse whether the specific legislative framework of Ireland suffices, it is clear that its objective of achieving carbon neutrality by 2050 is not enough, according to the fair share assessments⁹⁸⁵. Hence, significant doubts exist about the adequacy of the Irish-specific legislation.

2.3.1.3 The enforceability of specific mitigation targets in France and the rejection of general CDD

Subdivision 2.3.1.3.1 shows that the French Supreme Court enforced *specific* legislation but excessively deferred to the lawmakers' will, thereby hindering the enforcement of the intrinsically dynamic *general* CDD principles. Lastly, Subdivision 2.3.1.3.2 demonstrates that the Paris Administrative Court found a *general* CDD obligation, which is theoretically enforceable, without finding a corresponding breach, though in this specific case.

983 *Ibid.*, § 9.2.

984 *Ibid.*, § 5.18.

985 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 18. See as well, Hare William et al, Achieving the 1.5°C Limit of the Paris Agreement: An Assessment of the Adequacy of the Mitigation Measures and Targets of the Respondent States in Duarte Agostinho v Portugal and 32 other States, Climate Analytics, 7 January 2022, p 94.

2.3.1.3.1 An excessive deferral to the lawmakers' will by the Supreme Court, hindering the enforcement of general CDD

In France, the Administrative Supreme Court (*Conseil d'Etat*) acknowledged the possibility of evaluating the overall sufficiency of specific mitigation measures against climate-related targets enshrined in the legislation and, if necessary, prescribing additional measures⁹⁸⁶. More precisely, the Supreme Court established that the State had been at fault for *not being on track* to achieve its *legislative 2030* target. In other words, not implementing credible measures fit to achieve its *target* becomes a violation of the law. This violation can be redressed in court.

However, the French courts restricted their jurisdiction to overseeing compliance with the reduction targets of *specific* legislation and regulations, in order to remain ultimately faithful to their stringent views on separation of powers, requiring them to look at the will of the legislator⁹⁸⁷. In the view of the General Advocate Hoynck, this case was about “interpreting the provisions of the applicable law in line with the will of the legislator to implement the Paris Agreement.”⁹⁸⁸ Still, the Supreme Court somewhat developed the law because the Constitutional Council (*Conseil constitutionnel*) had previously stated that legislation setting out targets is *non-binding* due to its “*programmatic*” nature, including the French climate target specifically⁹⁸⁹. Hence, despite this development, the potential

986 In the event of a failing trajectory, the Court can enjoin the State to correct its GHG reduction curve on various grounds; see Article L. 911-1 of the Code of Administrative Justice for the *ultra-vires* framework (judicial review, *excès de pouvoir*); see the CE ruling of 27 July 2015, no. 367484 for the possibility of the Court in so-called “full-liability” cases (*plein contentieux*) prescribing an injunction. In addition, the Civil Code, from which the administrative judge regularly draws inspiration from these principles (as the Paris TA did in the case of the century), has, since the adoption of the Biodiversity Act no. 2016-1087, authorised the institution of proceedings for the exclusive purpose of preventing and putting an end to ecological damage (see art. 1252 of the Civil Code).

987 See Hoynck S, in *Grande-Synthe* (Administrative Supreme Court (Conseil d'Etat), *Grande-Synthe v France*, n° 427301, 19 November 2020), p 17 – 18. See furthermore, the following statement of the former Chair of the Court: Lasserre B (Vice-président du Conseil d'Etat), “Regards croisés du Conseil d'Etat et de la Cour de cassation: L'environnement – les citoyens, le droit, les juges” (Cour de cassation, 21 May 2021). See furthermore subsection 1.3.2.3 above addressing this point in French administrative law.

988 *Ibid* (Hoynck S).

989 *Ibid*, p 12 - 14.

encroachment on the separation of powers is low or even non-existent with the approach the Conseil d'Etat took in *Grande-Synthe*, since the court refused to consider whether it would be appropriate to increase ambition under *general* CDD considerations. It needs to be noted that France's goal of reducing its territorial emissions by 40% compared to 1990 is well below the indications of what is fair by the scientific assessments⁹⁹⁰.

Nonetheless, the *Conseil d'Etat* cited some elements which could have led to the recognition of *general* CDD. For example, it stressed that the IPCC reports highlight a "worsening of climate risks". However, it stopped short of finding the *need* to limit global warming to 1.5°C. It has clearly resisted doing so because this would have certainly required it to order the legislator to increase its 2030 target, which would have conflicted with its conception of the separation of powers.

Furthermore, the Supreme Court rejected the claims to "make climate priority mandatory" and to prohibit any measure likely to increase GHG emissions on constitutional grounds. In the *Conseil d'Etat's* view, this would have required the intervention of the legislature. Such an option "falls outside the *jurisdiction* of the administrative courts"⁹⁹¹. While the applicants may have framed the request in another manner, it seems clear that the court did not want to go beyond the enforcement of *specific* legislation.

Additionally, the *Conseil d'Etat* even refused to enforce the updated European target of -55% GHG reduction by 2030 compared to 1990 for procedural reasons, which may appear quite formalistic. In fact, in the preliminary decision issued in late 2020, the Supreme Court mentioned the back then imminent legislative enhancements to the EU's GHG reduction targets⁹⁹², and the relevance of the Paris Agreement in interpreting the applicable provisions⁹⁹³. However, it left aside the option to enforce the enhanced European target. In its third decision on the renewal of the injunction in 2023, the Supreme Court noted that the -55% reduction goal has become a fully applicable European legislation (regulation) since 2021, but it still confined the enforcement proceeding to the -40% target for 2030.

990 See, for instance the fair share indications concerning France by CAT authors and the law Professor Rajamani: See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, "National 'Fair Shares' in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law" (2021) 21(8) *Climate Policy* p 18.

991 Administrative Supreme Court of France, *Grande-Synthe v France*, n° 427301, 19 November 2020, § 2.

992 *Ibid.*

993 *Ibid.*, point 12.

The Conseil d'Etat's deference to the will of the *French* lawmaker did not facilitate compliance with the enhanced European targets, which require being on track as soon as possible.

In any case, even if the Supreme Court had enforced the EU enhanced 2030 target, it would still have been insufficient in relation to the fair share indications⁹⁹⁴. The European Scientific Advisory Council on Climate Change, an official body established by the European Climate Law, confirmed the insufficiency of the EU's reduction pathway and therefore recommended increasing ambition, including for 2030⁹⁹⁵. It will be interesting to see whether and how the 2024 ECtHR decision in *KlimaSeniorinnen* and the 2025 ICJ advisory opinion can make these issues justiciable before the French Courts.

2.3.1.3.2 Despite establishing a general CDD obligation, no breach finding in the *Notre affaire à tous* case

Shortly after the Conseil d'Etat's decision, the Paris Administrative Court found that overstepping the carbon budget applicable for the 2015-2018 period is unlawful in the case of *Notre Affaire à Tous et al v France*⁹⁹⁶.

This decision extended the Supreme Court's rulings, which did not characterise the regulatory carbon budget set by a regulatory act (*décret*) as binding. Instead, the Supreme Court considered that overstepping the 2015 – 2018 budget merely highlights a lack of credibility⁹⁹⁷. In that regard, the Paris administrative court further restricted the government's leeway.

The Paris Administrative Court's judgment further differs from that of the *Conseil d'Etat* as it established the existence of a *general* obligation to fight against climate change based on the ECHR and the domestic provisions of the Environmental Charter associated with the French Constitution. In the Court's view, the ratification of the climate treaties (UNFCCC, Paris Agreement), which include the principle of common but differentiat-

994 See the arguments presented in subdivision 2.3.1.3.2.

995 European Scientific Advisory Board on Climate Change, "Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030–2050", 15 June 2023 p 15.

996 Administrative Court of Paris, *Notre affaire à tous et al v France* (« affaire du siècle »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 33 and 34.

997 See the first and second decision: Administrative Supreme Court, *Grande-Synthe v France*, n° 427301, 19 November 2020, § 15 - 16; and the second decision issued on 1 July 2021, § 5.

ed responsibility, and the adoption of various domestic climate laws, show a tacit recognition by the State of its ability and willingness to act against climate change⁹⁹⁸. In this respect, the Paris Administrative Court's position is similar to *Urgenda* and the other *general* CDD cases (see the next section 2.3.2).

Nonetheless, the Paris Administrative Court did not find any breach of *general* CDD despite the low ambition concerning the 2030 target, requiring the French State to reduce its emissions by 40%. According to the IPCC, GHGs need to be reduced by around 45% by 2030 compared with 1990 on a *global scale* in order to align with the 1.5°C trajectory⁹⁹⁹. France must even take the lead under the climate conventions as a developed country. Thus, being in line or even below the global average range cannot be compatible with the fair share principles, linked to equity and CDBRR of the same conventions. Instead, fair share studies, including those with a legal dimension, find that France should be carbon neutral by 2030¹⁰⁰⁰. Moreover, the 2030 target was adopted by France in 2015, and it has not enhanced it since. This stagnation seems to contradict the principle of progression enshrined in Article 4 (3) of the PA. Nevertheless, the applicants did not raise these points¹⁰⁰¹, which may explain perhaps why the Paris Administrative Court found that “the claimants did not establish that the inadequacy of those commitments directly caused the environmental damage relied on.”¹⁰⁰²

This finding does not mean, though, that the *general* CDD duty found by the Administrative Court is not redressable. In any case, the new EC-

998 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 18 to 21; see, as well, the opinion of the public rapporteur Amélie Fort-Besnard also recognised the validity of the analysis relating to the existence of the general obligation to combat climate change, while inviting the Administrative Court of Paris to refrain from ruling in this respect, given the failure to comply with the objectives set by the legislature, which constituted a sufficient breach of the law

999 see IPCC, SR 15, SPM, § C.1.

1000 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 18.

1001 See the full submissions of the NGOs in *Notre affaire à tous et al v France* (« *affaire du siècle* »), p 54–59: <https://laffairedu siecle.net/wp-content/uploads/2019/05/Argumentaire-du-M%C3%A9moire-compl%C3%A9mentaire.pdf>, last accessed 28 October 2025.

1002 Administrative Court of Paris, *Notre affaire à tous et al v France* (« *affaire du siècle* »), 3 February 2021, N°1904967, 1904968, 1904972, 1904976/4-1, § 32.

tHR judgement in *KlimaSeniorinnen* should enable the enforcement of *general* CDD (see subsection 2.3.2.5), and the ICJ advisory opinion should strengthen this possibility.

2.3.1.4 The redressability of general due diligence and specific legislation in the UK

The UK courts handled at least three systemic mitigation cases, and only one of those was successful¹⁰⁰³. Like in Ireland, claimants must show at the admissibility stage that they have an *arguable* case with realistic prospects of success, and that the requested redress would provide them with advantages¹⁰⁰⁴. These conditions are also similar to the redressability condition under the US standing criteria. This subsection is structured as follows. Subdivision 2.3.1.4.1 explains the dismissal of the first *Plan B et al* case launched in 2017, which did not fulfil the due diligence requirements in terms of scientific underpinning. Subdivision 2.3.1.4.2 analyses the reasons why the second *Plan B et al* case also failed, and whether British courts rightly defer to the validity of the domestic specific legislation, the Climate Change Act. Subdivision 2.3.1.4.3 shows that the specific CDD claims worked in a third climate-related case filed by three different NGOs (FoE, Good Law Project and Client Earth).

2.3.1.4.1 The failure of the first *Plan B* case due to the lack of consensual scientific elements

In 2018, the British courts rejected the first *Plan B et al* case, which contended that the government must increase the ambition of its 2050 target to limit warming to 1.5°C in light of the Paris Agreement.

According to the information provided by the judgment, the claim did not rely on consolidated and consensual scientific elements, such as IPCC reports, although it is a necessary feature of due diligence, which only requires taking measures if it is scientifically founded (see the criteria in the introduction, notably in section 0.2.1).

1003 Administrative High Court of Justice of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, 18 July 2022, [2022] EWHC 1841 (Admin).

1004 Judiciary For England And Wales, *The Administrative Court: Judicial Review Guide 2021*, July 2021, § 9.1.3. – 9.1.4.

More precisely, the problem was that Plan B requested the government to set out a 1.5°C ambition, but before the IPCC published its Special Report on 1.5°C (SRI.5)¹⁰⁰⁵. While the Paris Agreement already recognised in its LTTG the objective of pursuing efforts to limit warming to 1.5°C, the serious risks associated with the exceedance of the 1.5°C threshold were only scientifically clearly established from the SRI.5 onwards. Therefore, it was only after the publication of this report that it became reasonable to claim that warming must not exceed 1.5°C¹⁰⁰⁶. Prior to this, numerous scientists and legal experts had taken the view that the target of well below 2°C was the most relevant one, given the historical focus of the COP on this target, the wording of the Paris Agreement, and the corresponding scientific evidence mainly focusing on this target¹⁰⁰⁷. After the SRI.5 publication, however, legal bodies and the international community strengthened their focus on the 1.5°C goal, resulting in a widely shared due diligence best-efforts obligation to limit warming to 1.5°C¹⁰⁰⁸, as the ICJ has also recognised it in its recent 2025 advisory opinion¹⁰⁰⁹.

Plan B made another bold claim, following which the scientific advice provided by the official scientific body of the UK in this respect – the Committee on Climate Change – was irrational, and, thus, unlawful too. The Committee had previously refrained from advising the government to revise its 2050 target in October 2016, despite finding that “[t]o stay close to 1.5°C CO₂ emissions would need to reach net zero by the 2040s.”¹⁰¹⁰ While the UK was aiming for an 80% reduction in 2050 compared to 1990, the UK scientific body insisted on the need to ramp up short-term action in order to keep open a possible revision of the long-term ambition

1005 The application for judicial review was filed in June 2018, whereas the SRI.5 was published in October 2018.

1006 For more details, see section 3.3.3 of this thesis, which sets out the evolution of the science, the international policies, and the reception by the courts.

1007 See Part 3 of this thesis which lays out the evolution of the science, policies, and legal requirements over time.

1008 Fore, more details, see the concurring findings in section 3.3.3; see, more precisely, the COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 4, 25 – 28. “21. Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C and resolves to pursue efforts to limit the temperature increase to 1.5 °C”.

1009 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 224; see the analysis of this opinion in this regard in subdivision 2.3.4.2.2.

1010 Administrative High Court of Justice of London, *Plan B Earth et al v UK Secretary of State for Business, Energy and Industrial Strategy*, [2018] EWHC 1892 (Admin), 20 July 2018, § 21.

upwards later on. Given the lack of clear scientific consensus on the need to limit warming to 1.5°C, but the established need to already increase climate action in the short term, either way, this recommendation did not sound unreasonable as such.

The Court concluded that it was *not* “arguable that the Secretary of State’s refusal to amend the 2050 target is an unlawful exercise of his discretion”¹⁰¹¹ since “the executive has a wide discretion to assess the *advantages* and *disadvantages* of any particular course of action”¹⁰¹². While the ECtHR confirmed in *KlimaSeniorinnen* that governments benefit from a wide margin of appreciation as to the overall approach, it also stated that it must implement consistent measures to achieve global objectives (see subdivision 2.3.2.5.2). The Court, moreover, dismissed the claim that the Committee on Climate Change had “misunderstood” the Paris Agreement¹⁰¹³. The Court of Appeal confirmed the judgment in 2019.

In light of the above, it is clear that the British courts did not disregard the main CDD requirements. Instead, Plan B has not met the necessary ingredients to render its claim redressable.

2.3.1.4.2 The failure of the Second Plan B case, given the merits of the specific UK legislation

Regarding the more recent *Plan B Earth et al* case, filed in 2021¹⁰¹⁴, the claimants again argued that the UK had failed to align with the Paris Agreement’s 1.5°C objective¹⁰¹⁵. They alleged that this failure leads to human rights breaches under the Human Rights Act 1998 (implementing the ECHR in the UK – corresponding to *general* CDD), and the Climate Change Act (corresponding to *specific* CDD claims)¹⁰¹⁶.

The courts dismissed this second case of Plan B, mainly because of i) a lack of willingness to recognise *general* CDD in human rights law, and ii) an absence of a manifest error of appreciation. While one must keep in

1011 *Ibid*, § 43.

1012 *Ibid*, § 49.

1013 Administrative High Court of Justice of London, *Plan B Earth et al v UK Secretary of State for Business, Energy and Industrial Strategy*, [2018] EWHC 1892 (Admin), 20 July 2018, § 44 – 46.

1014 Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin)

1015 *Ibid*, § 3.

1016 *Ibid*, § 3.

mind that this case was the NGO's second attempt, which made similar requests to the first dismissed case, and which may have suffered from an additional lack of standing concerning injury¹⁰¹⁷, British courts *partly* erred in law, and in factual analysis, by not prompting a more detailed analysis of the sufficiency of the specific legislation against the *general* CDD requirements.

More precisely, the courts reasoned that the Paris Agreement had not been incorporated into domestic law, and therefore, it could not be enforced¹⁰¹⁸. This argument is widely shared among domestic courts, which agree on the lack of direct effect of the Paris Agreement. However, many apex courts rightly consider that the Agreement's provisions need to be taken into account for interpretative purposes (see, among others, *Grande-Synthe*¹⁰¹⁹; *Urgenda*¹⁰²⁰; and the ECtHR in *KlimaSeniorinnen*¹⁰²¹, and the ICJ in its respective advisory opinion¹⁰²²).

Nevertheless, the British courts were wrong to refuse to seek compliance with the Paris Agreement through the ECHR, or rather, to take it into account¹⁰²³. Indeed, the claimants proposed, in reality, to consider the agreement for interpretative purposes¹⁰²⁴. Thus, in this regard, the British Courts manifestly erred in law. They should have at least recalled, for

1017 The ECtHR even dismissed the application to review the case for reasons related to victim status according to the summary of the case provided by the Sabin Center's climate case chart (*Plan B. Earth and Others v United Kingdom*, <https://climatecaschart.com/non-us-case/plan-bearth-and-others-v-united-kingdom/>, last accessed 28 October 2025).

1018 Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin), § 25.

1019 Administrative Supreme Court (Conseil d'Etat), *Grande-Synthe v France*, n° 427301, 19 November 2020, § 12.

1020 While the Dutch first instance court only considered the "reflex effect" of the climate conventions; the Court of Appeal and Supreme Courts further considered the Paris Agreement's provisions; see subsection 2.3.2.1.

1021 See: ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 456.

1022 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 287.

1023 Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin), § 53.

1024 The Court of Appeal indeed specified that the claimants' argument that "the Paris Agreement temperature limit of 1.5oC [should only be seen] as evidence of the international consensus on what must be done to avoid intolerable risks to life and to family life [...] is a distinction without a difference in substance" (see Court of Appeals, *Plan B. Earth & Others v The Prime Minister & Others*, CA-2021-003448, 18 March 2022, § 4 – 5).

example, that section 8 on setting carbon budgets of the Climate Change Act refers to the need to comply with the UK's international obligations, and hence, indirectly, the Paris Agreement. It is worth noting that this is an indication of the willingness of specific UK legislation to be compatible with international conventions, including general CDD, which ultimately demonstrates that there is a broad consensus that specific CDD must comply with general CDD due to the hierarchy of norms, as set out in the introduction.

Moreover, the British courts dismissed the ECHR claims due to the previous lack of corresponding climate jurisprudence of the ECtHR at that time. They disregarded the *Urgenda* case due to their alleged lack of knowledge of the Dutch constitutional context¹⁰²⁵. In essence, they considered that the *specific* domestic legislation, the UK Climate Change Act, should be the legal reference point for determining whether the government had acted lawfully¹⁰²⁶. In the view of this doctoral dissertation, these arguments were insufficiently justified with regard to *general* CDD, and may have constituted a violation of the fundamental right to a legal recourse under Article 13 of the ECHR. In fact, the *KlimaSeniorinnen* judgement of the ECtHR confirmed that human rights require adequate protection against climate change, as did the ICJ in its recent advisory opinion. In light of these developments, the British courts should have prompted an analysis of whether the *specific* UK legislation was sufficient, since the latter must comply with *general* CDD, existing in international law, human rights law and tort law, etc.

While the courts clearly erred in developing the law, did they also err in applying the UK Climate Change Act (i.e., *specific* legislation)? In this regard, the London High Court noted that the government fulfilled all the relevant procedural obligations laid out in this Act (i.e., setting targets, laying out concrete policies, submitting reports to Parliament, and considering the reports of the Committee on Climate Change). The judge further ruled that “[d]isagreement with the merits of those proposals and policies (etc.) does not give rise to an arguable case that there has been a breach of the statutory duties.”¹⁰²⁷ In the same vein, the Court recalled that “the State

1025 Court of Appeals, *Plan B. Earth & Others v The Prime Minister & Others*, CA-2021-003448, 18 March 2022.

1026 Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin), § 54 – 58.

1027 *Ibid*, § 34.

enjoys a wide margin of appreciation in matters of that kind"¹⁰²⁸ and that it is not arguable that a legal and administrative framework has not been put in place in response to the threats posed by climate change."¹⁰²⁹ While this reasoning does not seem entirely wrong, as it overlaps to some extent with the finding of the ECtHR *KlimaSeniorinnen* (which found though that there is a reduced margin of appreciation in the "setting of the requisite aims and objectives"¹⁰³⁰), it was still necessary to delve deeper into the factual issues raised by Plan B to assess the adequacy of the UK Climate Change Act.

The courts further recognised that the Committee on Climate Change had criticised the Government notably for not being on track to net zero by 2050 in most sectors. Nonetheless, in the view of the Court, these critiques "on the generality of the measures or lack of measures adopted by the Defendants does not make this a suitable case, or an arguable case, for judicial review". Instead, it noted that at the same time, "the 2008 Act is working as Parliament intended"¹⁰³¹. These elements show difficulties in relying on the Climate Change Act as a *specific* CDD to ensure the effectiveness of the climate mitigation measures, since not being on track is considered by French courts and the ECtHR to be unlawful. However, other claimants were successful in another case by framing a breach slightly differently (see the subdivision 2.3.1.4.3 just below).

Additionally, if one takes a step back, the net zero goal for 2050 was adopted on 27 June 2019, representing an increase in ambition from the contested -80% reduction goal in the first *Plan B* case¹⁰³². The application for judicial review of Plan B was filed in early 2021 and decided at the end of the same year. Given these short time periods and the fact that the government had to deal with the crisis caused by the COVID-19 pandemic in the meantime, it may seem reasonable that it takes some time to adjust the precise carbon budgets and corresponding measures until 2050. At the end of the day, the ECtHR requires the State to show that it is "in the process of complying, with the relevant GHG reduction targets" as laid out in *KlimaSeniorinnen*¹⁰³³.

1028 *Ibid*, § 50.

1029 *Ibid*, § 58.

1030 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 543.

1031 Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin), § 36.

1032 *Ibid*, § 49.

1033 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 550.

To conclude, the UK Court of Appeals considered the Act to be sufficient, as it also foresees the adequate involvement of the Parliament, in a manner compatible with the separation of powers¹⁰³⁴. It is true that the *specific* legislation of the UK does not seem *blatantly* insufficient if it is compared to the ECtHR *KlimaSeniorinnen* requirements, but further analysis is needed to determine the full implications of this comparison. It notably remains necessary for a court to examine whether the UK satisfies the requirement to set out a domestic ambition that aims to match its 1.5°C fair share¹⁰³⁵.

2.3.1.4.3 The Friends of the Earth et al case, a successful specific CDD case

In contrast to the unsuccessful cases launched by Plan B, the High Court of London granted the application for judicial review brought by Friends of the Earth UK, Client Earth, and Good Law¹⁰³⁶, in a similar fashion to the Irish and French case *Grande-Synthe*. The High Court of London recognised that the UK authorities had failed to implement Sections 13 and 14 of the UK Climate Change Act, which oblige the government to prepare proposals to *achieve* the carbon budgets¹⁰³⁷ and to report to Parliament how it intends to achieve its climate goals.

More precisely, the Court sided with the applicants in its claims that the proposed measures would not fully achieve the emission reductions for the

1034 Court of Appeals, *Plan B. Earth & Others v The Prime Minister & Others*, CA-2021-003448, 18 March 2022: “this is not a matter for the courts of this country, in our constitutional context. The fact is that the Government and Parliament take the view that the 2008 Act is sufficient. Others (such as these Claimants) disagree. As the Judge observed, that debate is very much a matter for debate in the democratic forum and is not for the courts.”

1035 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 18.

1036 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022.

1037 See section 13 of the UK Climate Change Act: “Duty to prepare proposals and policies for meeting carbon budgets : (1) The Secretary of State must prepare such proposals and policies as the Secretary of State considers will enable the carbon budgets that have been set under this Act to be met. (2) The proposals and policies must be prepared with a view to meeting— (a) the target in section 1 (the target for 2050).”

sixth carbon budget, valid for the period 2033 – 2037, by a margin of 5%¹⁰³⁸. The Court also ruled that the government had failed to explain the issue to Parliament in a transparent manner¹⁰³⁹.

Furthermore, the Court granted a declaratory relief instead of a quashing order since the applicants recognised that the remainder of the government's policies were "commendable". A quashing order would have cancelled all the government policies¹⁰⁴⁰; however, with a declaratory order, the government remains free to remedy the unlawfulness as it deems appropriate¹⁰⁴¹. This is another example illustrating the tendency of courts to leave a margin of appreciation when it comes to redressing CDD shortcomings.

However, the High Court of London again dismissed the human rights claims of the NGO Good Law and the individual claimant who joined the NGO's application¹⁰⁴², stating that it is preferable to wait for the outcome of the pending climate cases before the ECtHR than to elaborate domestic standards that could depart too heavily from the incremental development of the Strasbourg case law¹⁰⁴³. However, the UK authorities, including its judicial bodies, will have to review their position following the ECtHR outcome in *KlimaSeniorinnen*, as it consolidated the need to ensure that *specific* legislation complies with *general* CDD¹⁰⁴⁴.

1038 *Ibid*, § 16 and 221.

1039 *Ibid*, § 16 and 260.

1040 Judiciary For England And Wales, The Administrative Court: Judicial Review Guide 2021, July 2021, p 64, § 12.3: "A quashing order quashes, or sets aside, a challenged decision. The consequence of a quashing order is that the challenged decision does not have legal force or effect."

1041 *Ibid*, § 12.5.2: "A declaration does not have any coercive effect. This means that it cannot be enforced."

1042 High Court of London, *Friends of the Earth, Client Earth, Good Law Project v Secretary of State for Business, Energy, and Industrial Strategy*, [2022] EWHC 1841 (Admin), 18 July 2022, § 261 – 265.

1043 *Ibid*, § 272 referencing the following passage of the *Al-Skeini v Secretary of State for Defence* [2008] AC 153 at [106] to justify this stance.

1044 Provided that the proposed replacement of the Human Rights Act 1998 with the draft "Bill of Rights" will not give domestic courts the authority to set aside Strasbourg case law. For more information on this possibility, see Gentile G, "The Bill of Rights Bill and the Damages of UK's Unilateralism" (2022) *VerfBlog*, DOI: 10.17176/20220719-233624-0.

2.3.1.5 Intermediate conclusion

The enforcement of the obligations and GHG reduction targets provided in the *specific* legislation is one task courts can take over when addressing CDD. Granting this relief may provide more effectiveness to the adopted legislative or executive measures by ensuring their implementation without infringing on the separation of powers. However, this framework of judicial intervention does not allow questioning the overall sufficiency of the *specific* statutes. Indeed, as the comparative case law analysis above shows, courts have granted claims based on the *specific* mandates of the legislation, but rejected attempts to seek judicial review of their overall sufficiency against *general* CDD criteria.

Concerning the US case laws (subsection 2.3.1.1): Although the US Supreme Court pioneered climate action through case law in 2007, by requiring the EPA to regulate GHGs in *Massachusetts*, it subsequently ruled in *American Electric Power Company v Connecticut* (2010) that the applicability of federal tort law is pre-empted by the EPA's authority. More recently, in *West Virginia v EPA*, the Court's conservative majority significantly restricted the EPA's powers by deferring the question of whether or not the EPA can mandate a transition to other low-carbon energy to the US Congress. The Court did this without setting any objective for the latter, such as the need to find an outcome compatible with the temperature objective of the Paris Agreement, which is problematic since the USA is not exhibiting adequate efforts to meet its fair share.

In Ireland (subsection 2.3.1.2), the Supreme Court agreed to enforce *specific* CDD, but left open the question of the applicability of *general* CDD based on human rights. While this thesis did not seek to analyse whether the specific legislative framework of Ireland suffices, it still noted that Ireland's legislative carbon neutrality objective by 2050 does not meet the 1.5°C fair share ambition of developed countries. Consequently, there is a presumption of an overall deficiency in Ireland's mitigation efforts.

In France (subsection 2.3.1.3), courts monitored compliance with the GHG reduction targets and carbon budgets enshrined in the *specific* legislation and regulation, but they did not question compliance with overall *general* CDD requirements. For example, the Administrative Supreme Court (*Conseil d'Etat*) consciously refrained from calling the validity of the specific legislation into question by giving precedence to the choice of the lawmaker over *general* due diligence requirements. As to the French administrative court of Paris, it recognised a *general* CDD obligation, with-

out finding a corresponding breach, due to the lack of arguments from the applicants' side, despite the manifest insufficiencies of France's ambition with respect to its 1.5 fair share.

In the UK (subsection 2.3.1.4), courts handled three systemic mitigation cases and only accepted to enforce *specific* legislation. More precisely, in the first case, the NGO Plan B did not meet the *general* due diligence requirements, requiring the use of the best available scientific evidence. The second *Plan B* case raised more difficult questions: while the British courts dismissed the case because of the alleged validity of the *specific* legislation, their refusal to recognise *general* CDD and oversee the sufficiency of the *specific* legislation is criticisable. Lastly, the last climate-related case, filed by three different NGOs (FoE, Good Law Project and Client Earth), shows that the enforcement of *specific* legislation ultimately worked. Nonetheless, the UK is – like other countries – still far away from exhibiting domestic ambition matching its 1.5°C fair share.

Given the manifestly insufficient ambition of developed countries, it is crucial that some form of *general* CDD remains applicable to remedy shortcomings in *specific* legislation. Additionally, showing the pre-existence of *general* CDD could lead to the establishment of corresponding historical shortcomings, as Part 3 of this thesis shows.

2.3.2 The increasing possibility of redressing general CDD against States by providing leeway

While some courts awarded the requested reliefs in *general* CDD cases against States, they also stressed that they must carry out this task with restraint to respect the separation of powers. To better understand the redressability conditions for awarding requests based on *general* CDD, this section carries out a comparative case-law analysis and is structured as follows:

Subsection 2.3.2.1 discusses the conditions that Dutch courts deemed necessary to meet in order to set by way of injunction the precise GHG reduction target. Subsection 2.3.2.2 analyses the reasons for the failure of the *Juliana et al v USA* case on the redressability front. Subsection 2.3.2.3 dives into the justiciability conditions laid out by the Administrative Court of Berlin and the German Constitutional Court. Subsection 2.3.2.4 briefly examines the Brussels Courts' decisions in *Klimatzaak*, which confirmed the validity of the reasoning in *Urgenda*. Subsection 2.3.2.5 eventually assesses

the ECtHR decisions by providing an analysis before and after the Grand Chamber judgments of 9 April 2024, especially the *KlimaSeniorinnen* case.

2.3.2.1 The enforceable target in *Urgenda* due to the scientific consensus and the State recognition of the necessity to reduce emissions by 25%

One of the most debated questions in the *Urgenda* case was whether the applicants' request infringed the principle of the separation of powers. While the government has a margin of discretion, the courts emphasised that their role is to ensure compliance with the rule of law and the limits within which the State is obliged to comply. All Dutch courts concluded that the State had failed to ensure the minimum level of protection guaranteed by the tort duty of care and the positive obligations of the ECHR¹⁰⁴⁵ (in short, the *general* CDD).

To arrive at this result, the judges relied in particular on the fourth report of the IPCC in 2007, which demonstrates the serious risks of warming above 2°C. The judges concluded that exceeding this limit is “dangerous”, in line with the scientific and COP findings back then. Even the EU recognised the need to limit warming to 2°C from 1996 onwards¹⁰⁴⁶.

To avoid exceeding the 2°C limit, the IPCC's 2007 report shows that developed countries must reduce emissions by 25% to 40% by 2020 compared with 1990 levels. The COP in Bali and in Durban then recognised the necessity of achieving such an ambition¹⁰⁴⁷. Between 2007 and 2011, the EU aimed to reduce emissions by 30% by 2020 compared to 1990, *provided* that the international community aligned itself with this level of ambition¹⁰⁴⁸. However, since other States did not pursue a 2°C compatible ambition, the European texts were revised downwards in 2011, and ultimately only provided for a 20% reduction, which implied a 14 to 17% for the Netherlands¹⁰⁴⁹. The Dutch courts then observed that this latter reduction was not compatible with the 2°C pathway for a developed country such as “the Netherlands [which] is one of the countries with very high per capita

1045 District Court of The Hague, *Urgenda v Netherlands*, C/09/456689 / HA ZA 13-1396, 2015, p 1; Court of Appeal of The Hague, *Urgenda*, *op.cit.*, § 67.

1046 See point 7.2.8 of the judgment of the Dutch Supreme Court, *op cit.*

1047 District Court of The Hague, *Urgenda op.cit.*, § 4.24.

1048 See points 7.2.6. and 7.3.1 of the judgment of the Dutch Supreme Court, *op cit.* District Court of The Hague, *Urgenda op.cit.*, § 4.25.

1049 District Court of The Hague, *Urgenda op cit*, § 4.25.

emissions of greenhouse gases"¹⁰⁵⁰. These passages clearly show that global equity and fairness considerations shaped the courts' reasoning.

The Court of First Instance considered that this incompatibility was contrary to the requirements of the tort *duty of care*¹⁰⁵¹. Since Member States have the right to introduce "reinforced measures" at the national level in environmental matters, under Article 193 of the Treaty on the Functioning of the European Union (TFEU), and as recalled by the EU climate regulation¹⁰⁵², the court found that the domestic tort duty of care must require greater protection. In this sense, the Dutch general *duty of care* does not overrule *specific* climate legislation of the EU; it merely reinforces it to ensure it pursues an adequate level of protection, in line with *general* CDD. Similar reasoning has been used by the Court of Appeal and the Supreme Court, which based their injunctions on articles 2 and 8 of the ECHR¹⁰⁵³.

Concerning the separation of powers, the Dutch Supreme Court¹⁰⁵⁴ argued that the injunction did not violate this fundamental principle of democratic constitutional systems, as long as the judges *limit* their control over the political branches of government and follow the "common ground" method, which requires finding consensual elements to interpret human rights provisions¹⁰⁵⁵:

"In determining the State's minimum obligations, the courts must observe restraint, especially if rules or agreements are involved that are not binding in themselves. It is therefore only in clear cut cases that the courts can rule, on the grounds referred to above in 6.3-6.5, that the State has a legal obligation to take measures."¹⁰⁵⁶

Some authors argue that the Courts' injunctions to reduce emissions by 25% were merely based on a target which was accepted by the EU and,

1050 Dutch Supreme Court, *Urgenda*, ECLI:NL:HR:2019:2006, 19/00135, 20 December 2019, § 2.3.2 and/or I § 7.3.4.

1051 District Court of The Hague, *Urgenda*, *op cit*, § 4. 54 et seq.

1052 See paragraph 17 of the preamble to Decision (EU) 406/2009 on Effort sharing.

1053 Unlike the District Court, the higher courts considered that the *Urgenda* association could rely directly on the ECHR despite its status as a legal person. In any event, these two bases led to the same result, namely the recognition of an obligation to reduce greenhouse gases emanating from its territory in order to prevent dangerous anthropogenic disruption of the climate system.

1054 Dutch Supreme Court, *Urgenda*, *op cit*.

1055 ECtHR, *Demir and Baykara v Turkey*, no. 34503/97, 12 November 2008.

1056 Dutch Supreme Court, *Urgenda*, *op cit*, § 6.6.

by extension, the Netherlands¹⁰⁵⁷. Nevertheless, this stance plays down the interpretative effort of the Dutch courts: Firstly, the indication of a 25% reduction seems to have concerned all developed countries, meaning that courts could have inferred the absence of respective individual obligations to contribute at that specific level¹⁰⁵⁸. Secondly, as recalled above, the EU explicitly rejected the original 30% reduction target in the scenario in which no other countries followed a similar ambition. Thus, the Dutch Courts still went far beyond merely applying a voluntary GHG reduction target. They determined the standard of conduct in climate mitigation matters. They further established that this standard can be more stringent than the mandates of *specific* laws by considering scientific indications and political commitments. Given this interpretative effort, some authors have criticised the Dutch Courts' decisions for providing overly creative rulings that go beyond interpretation, and are ultimately arbitrary¹⁰⁵⁹.

The Dutch judges emphasised that they had confined themselves to ordering a *limited* increase in the 2020 target, i.e., -25% compared to 1990¹⁰⁶⁰, pointing out that this was the lowest IPCC value for the 2°C target. They added that they had not prescribed the specific type of measure to be adopted, leaving the government with some discretion to comply. The courts also saw no collusion with the separation of powers, even if compliance with the injunction required the adoption of legislative measures. In this respect, the Supreme Court referred to Dutch judicial precedents demonstrating that courts have the capacity to remedy a normative deficiency¹⁰⁶¹. Hence, the judicial restraint exercised by the Dutch courts, which obliges them to find consensual elements in science and policy to provide

1057 See, for example: Maljean-Dubois S, "The No-Harm Principle as the Foundation of International Climate Law" in *Debating Climate Law* (2021) p 3 - 4.

1058 See the argument in this sense: Zahar A, "The Urgenda Appeal Decision and the Argument from Physical Necessity", 2018, <https://ssrn.com/abstract=3285076>.

1059 *Ibid*; see as well Mayer B, "The State of the Netherlands v Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018)" (2019) 8(1) *Transnational Environmental Law*; Mayer B and van Asselt H, "The Rise of International Climate Litigation" (2023) *RECIEL* p 8.

1060 Before 2011, a 30% reduction was provided for in European regulations, see ECLI:NL:HR:2019:2006, Hoge Raad, 19/00135, 12/20/2019, pp 4-5. "Furthermore, the order which the Court of Appeal issued to the State was limited to the lower limit (25%) of the internationally endorsed, minimum necessary reduction of 25- 40% in 2020."

1061 Dutch Supreme Court, *Urgenda*, ECLI:NL:HR:2019:2006, Hoge Raad, 19/00135, 12/20/2019, § 8.2.3 - 8.2.7.

redress, fundamentally restricts judicial interventions when reviewing compliance with *general* CDD.

So, is the Urgenda-type outcome unique to the Netherlands, or is it shared among legal systems? So far, both the Brussels Court of Appeal and the ECtHR in *KlimaSeniorinnen* have recognised, in an *ex-post* manner, that a 25% reduction was necessary by 2020 compared to 1990¹⁰⁶². However, with regard to the forward-looking injunctions, only the Brussels Court of Appeal has issued a precise, clear-cut enhanced reduction order, mandating that the State reduce its GHG by 55% by 2030 compared to 1990. As the injunction was based on the target in the European Climate Law¹⁰⁶³, it also contains *specific* CDD elements (see the corresponding subsection below 2.3.2.4). In contrast, the remedy granted by the ECtHR leaves Switzerland with considerably more discretion regarding the level of ambition¹⁰⁶⁴. This outcome is certainly due to the lack of an adequate legislative target for Switzerland for 2030, and the lack of consensus regarding what developed countries must do. In any case, the ECtHR's approach is more in line with what courts can do, according to a commentary on *Urgenda* by Mayer¹⁰⁶⁵.

In any case, despite all the innovative and ambitious thinking brought by the *Urgenda* case, its substantive results are not a *panacea* either for the following reasons: Firstly, it did not comprehensively address State responsibility in climate mitigation matters, as it omitted to consider extraterritorial emissions and financial flows, among other things. Secondly, the 25% reduction figure by 2020 is the *lowest* point in a range consistent with a 2°C scenario, not 1.5°C¹⁰⁶⁶. Thirdly, the Bali Box, which provided the scientific

1062 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 569.

1063 Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737; 2022/AR/891, 30 November 2023.

1064 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 550 – 574 and § 657.

1065 See section 0.4.3 of the introduction referring to Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023 p 249; Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law*; Mayer B, “The State of the Netherlands v Urgenda Foundation: Ruling of the Court of Appeal of The Hague (9 October 2018)” (2019) 8(1) *Transnational Environmental Law*.

1066 See also Liston G, “Enhancing the Efficacy of Climate Change Litigation: How to Resolve the ‘Fair Share Question’ in the Context of International Human Rights Law” (2020) 9(2) *Cambridge International Law Journal*, p 248 quoting Robiou du Pont Y and Meinshausen M, “Warming assessment of the bottom-up Paris Agreement emissions pledges”, *Nature Communications* 9 (2018) 4810.

and evidentiary basis for the injunction, caused many controversies before and after the judgement, including in developing countries where it was considered too onerous for them¹⁰⁶⁷ (see section 3.2.3 for more information and analysis concerning the “Bali-Box”). Fourthly, Mayer even argued that *Urgenda* had not led to any concrete GHG reductions worldwide, and that it may have caused a political backlash against climate mitigation within the population¹⁰⁶⁸.

2.3.2.2 The dismissed *Juliana v USA* case due to justiciability concerns and non-consensual requests

The *Juliana* case, which was brought in 2015 by twenty-one young citizens against the federal government, was based on fundamental rights derived from the Constitution, in particular the right to life and property (as set out in the Fifth and Fourteenth Amendments to the Constitution¹⁰⁶⁹), which require due diligence.

The plaintiffs requested the Court to compel the government to draw up an *immediate* and *comprehensive* plan to switch from fossil fuels to non-carbon fuels, with the aim of limiting any further increase in the global temperature and returning it to below 350 ppm¹⁰⁷⁰, or 1°C warming. This threshold is considerably more ambitious than the international consensus, perhaps even impossible to achieve. Indeed, the international community pursued the 2°C objective before the Paris Agreement, and pledged to limit warming to 1.5°C after its adoption, a commitment that is even more justified after the publication by the IPCC of the SR1.5.

1067 Lahna B and Sundqvist G, “Science as a ‘fixed point’? Quantification and boundary objects in international climate politics”, *Environmental Science & Policy* 67 (2017).

1068 Mayer B, “The Contribution of *Urgenda* to the Mitigation of Climate Change” (2023) 35(2) *Journal of Environmental Law*.

1069 The plaintiffs in *Juliana* also relied on the principle of the “public trust” doctrine imposing on the State the obligation to protect natural resources and the atmosphere; see Blumm MC and Wood MC, “No Ordinary Lawsuit: Climate Change, Due Process, and the Public Trust Doctrine” (2017) 67 *American University Law Review* 101.

1070 See the plaintiffs requests in the Amended Complaint of 2015 (Case 6:15-cv-01517-TC, Document 7, Filed 09/10/15, § 256 et seq., https://climatecasechart.com/wp-content/uploads/case-documents/2015/20150910_docket-615-cv-1517_complaint-2.pdf, last accessed 29 October 2025).

Firmly opposed to this approach, the US federal government considered that this legal action constituted a political demand that substantially threatened the balance of power.

Despite those arguments, the Court of First Instance ruled in 2016 that the plaintiffs had standing and that their requests were considered to be redressable¹⁰⁷¹. To justify this stance, it notably cited a passage from Alexis de Tocqueville's *Democracy in America*, according to which "there is almost no political question in the United States that is not sooner or later resolved into a judicial question"¹⁰⁷².

However, in 2020, the Court of Appeal for the Ninth Circuit dismissed the lawsuit by a two-to-one majority, ruling that it lacked *redressability*. This was the final motivated decision, as the US Supreme Court later refused to review the case without providing any justification. According to the majority of the Court, a court cannot "order, design, supervise and implement the remedial plan", as this would require highly complex decisions that go beyond the remit of the judiciary¹⁰⁷³. Two judges out of three, therefore, "reluctantly" concluded that the claims should be brought before the political branches or the electorate, who only have a "moral responsibility"¹⁰⁷⁴.

One judge issued a dissenting opinion, however. Judge Staton considered that the principles in *Massachusetts v EPA* could be used to establish standing, including redressability¹⁰⁷⁵. In response, the majority of the Court of Appeals stated that the State of Massachusetts had asserted a right that was essentially procedural in nature, insofar as it derived from the *Clean Air Act*, which permits anyone to request that the EPA comply with the *specific* provisions of the Act. The majority recalled that the plaintiffs were not required to meet the usual redressability standards in *Massachusetts*, since the latter case was merely about a procedural right to seek judicial review of

1071 District Court of Oregon, *Juliana et al v USA*, case n° 6 :15-cv-01517-tc, opinion and order, 11 October 2016.

1072 See the chapter entitled "What tempers the tyranny of the majority in the United States" of *Democracy in America*, the court seems to suggest that the judiciary's role is to uphold the rule of law when it is endangered by the electoral majority (see District Court of Oregon, *Juliana*, p 6).

1073 Court of Appeals for the Ninth Circuit, *Juliana*, No. 18-36082, 17 January 2020.

1074 *Ibid*, p 32.

1075 *Ibid*, p 46 - 47.

the EPA's decision in line with statutory requirements, whereas the *Juliana* claims aimed to *substantively* modify the public climate policies entirely¹⁰⁷⁶.

The majority of the Court of Appeals for the Ninth Circuit conceded that it had been asked to regulate all the details of the remediation plan requested by the plaintiffs, when it could have restricted itself to verifying whether the government had implemented sufficient measures to achieve a certain objective, as in other US Supreme Court's decisions (such as *Brown v Plata*), and other European successful climate cases, such as *Urgenda* or *KlimaSeniorinnen*¹⁰⁷⁷. Furthermore, in previous cases, the US Supreme Court has ruled that courts can provide redress if *specific* statutes violate the US Constitution by not respecting basic rights¹⁰⁷⁸. However, the Appeals Court retorted that no minimum standard of protection could be derived from the Constitution¹⁰⁷⁹ and that, in any event, reviewing this standard would exceed the powers of the court due to its complexity and the potential need to provide constant supervision¹⁰⁸⁰. The Court of Appeals further asserted that, in a democracy, it must exercise judicial restraint and that only the political branches are "the appropriate bodies" to induce change¹⁰⁸¹.

Although the dissenting judge insisted that the applicants had proposed an appropriate remedy (i.e., a return to a concentration of 350 ppm) and that complexity could not be a reason for dismissing the action¹⁰⁸², it should be remembered that the solution requested (350 ppm, which equates to

1076 *Ibid*, p 24; see also the commentary on *Massachusetts* in subdivision 2.3.1.1.1 of this thesis.

1077 *Ibid*, p 26 referring to Supreme Court decision *Brown v Plata*, 563 U.S. 493, 537-38 (2011): "in some circumstances, courts may order broad injunctive relief while leaving the "details of implementation" to the government's discretion. *Brown v Plata*, 563 U.S. 493, 537-38 (2011)."

1078 SCOTUS, *Obergefell v Hodges*, 576 U.S. ____, slip op at 24 (2015): "Thus, when the rights of persons are violated, "the Constitution requires redress by the courts," notwithstanding the more general value of democratic decision-making. *Id.*, at ____ (slip op., at 17). This holds true even when protecting individual rights affects issues of the utmost importance and sensitivity."

1079 Court of Appeals for the Ninth Circuit, *Juliana*, *op cit*, p 27 - 28: "As the Supreme Court recently explained, "a constitutional directive or legal standards" must guide the courts' exercise of equitable power. *Rucho v Common Cause*, 139 S. Ct. 2484, 2508 (2019) [...] Absent those standards, federal judicial power could be "unlimited in scope and duration," and would inject "the unelected and politically unaccountable branch of the Federal Government [into] assuming such an extraordinary and unprecedented role."

1080 *Ibid*, p 26 - 27.

1081 *Ibid*, p 28.

1082 *Ibid*, p 59 - 61.

1°C limitation) is much more ambitious than that proposed by *Urgenda* (450 ppm, which equates to 2°C limitation) so much so that it never featured within the work of the IPCC. Additionally, the request seems to have posed significant feasibility issues, given that humanity overstepped 350 ppm in the 1990s, and that ppm levels in 2020 were above 410 ppm¹⁰⁸³. In fact, returning to this level of concentration would require considerable negative emissions through the large-scale deployment of Carbon Dioxide Removal (CDR), which itself faces “multiple feasibility and sustainability constraints”¹⁰⁸⁴. This prospect has not yet been studied by the IPCC, which has instead focused on the less demanding but still very challenging 1.5°C and 2°C targets.

In contrast, the successful *general* CDD cases in Europe relied on the PA and the IPCC, constituting international consensual ingredients, both legally and scientifically, and can thereby inform the content of *general* due diligence (see *Urgenda*, *Klimatzaak*, the German constitutional case, *KlimaSeniorinnen*, among others). The ICJ and the ITLOS confirmed the relevance of this approach in their respective advisory opinions. Said differently, all these courts asserted that climate mitigation is justiciable despite its complexity, as it sets out a number of standards (1.5°C), even though it primarily requires the actions of the political branches. In contrast, the plaintiffs’ focus on the 350 ppm threshold (or 1°C of warming) might explain why the US Court of Appeals did not find any “constitutional directive or legal standards” or any “metric for judicial determination” in *Juliana*¹⁰⁸⁵.

Lastly, it should be noted that 350 ppm is a global metric. It would probably be impossible for the USA to reduce the global CO₂ concentration to 350 ppm alone, as it does not unilaterally control the emission sources stemming from other countries. Thus, the requests in *Juliana*, which were framed in a global manner¹⁰⁸⁶, exceeded the *shared* responsibility of the USA, or its individual and collective responsibility.

1083 IPCC, AR 6, WG II, SPM., Box 1.

1084 IPCC SRI.5, SPM, Box SPM 1 and § C.3.

1085 Court of Appeals for the Ninth Circuit, *Juliana*, *op.cit.* p 27: “As the Supreme Court recently explained, “a constitutional directive or legal standards” must guide the courts’ exercise of equitable power.”

1086 See the Amended Complaint in *Juliana v USA*, Case No.: 6:15-cv-01517-TC, 09 October 2015, https://climatecasechart.com/wp-content/uploads/case-documents/2015/20150910_docket-615-cv-1517_complaint-2.pdf, last accessed 27 October 2025: “order Defendants to cease their permitting, authorizing, and subsidizing of fossil fuels and, instead, move to swiftly phase out CO₂ emissions, as well as

While those critiques *may* explain why the US Court of Appeals dismissed the redressability of *Juliana*, the chances of success of a more “reasonable” and “consensual” interpretation of *general* CDD are very low in the US federal court system, as long as the composition of the SCOTUS remains as “conservative” as it is today¹⁰⁸⁷. This view is evidenced by the Supreme Court’s decision in *Dobbs v Jackson*, one of the most widely discussed judicial decisions in recent history, which gave precedence to a law that contradicted its own previous interpretations of the Constitution¹⁰⁸⁸. This judgement, alongside *West Virginia v EPA* (assessed above, notably in subdivision 2.3.1.1.3), demonstrates an increasing trend towards granting *excessive* authority to government decision-making. However, as in any other country, it is crucial that the US judiciary plays its role in preventing the risk of the “tyranny of the majority”¹⁰⁸⁹, including decisions that exacerbate global warming in a dangerous and thus unlawful way.

2.3.2.3 The German Courts’ recognition of general CDD by leaving significant margins of appreciation

Subdivision 2.3.2.3.1 firstly addresses the decision of the 2019 Berlin Administrative Court. Subdivision 2.3.2.3.2 then dives deeper into the 2021 decision of the German Constitutional Court.

take such other action as necessary to ensure that atmospheric CO₂ is no more concentrated than 350 ppm by 2100, including to develop a national plan to restore Earth’s energy balance, and implement that national plan so as to stabilize the climate system.”

1087 Totenberg N, “The Supreme Court is the most conservative in 90 years”, *NPR*, July 2022.

1088 SCOTUS, *Dobbs et al v Jackson et al*, 597 U. S. ____ (2022). More precisely, the Supreme Court disregarded its own case law on ensuring a constitutional right to abortion, and, instead, upheld a state law that forbids abortion.

1089 Tocqueville Alexis de, *De la démocratie en Amérique*, tome I, 2e volume, Michel Lévy, 1864 (*Œuvres complètes*, volume 2), p 161–187, quoted by District Court of Oregon, *Juliana*, *op cit*, p 6.

2.3.2.3.1 A first court decision by the Berlin Administrative Court testing the Urgenda principles

In the first German systemic climate mitigation case, eleven individual applicants from three farming families alongside the NGO Greenpeace filed a complaint with the Berlin Administrative Court against the German State for not achieving the 2020 GHG reduction objective, which required Germany to reduce emissions by at least 40% by 2020 compared to 1990¹⁰⁹⁰.

This case featured both a *specific* and a *general* CDD dimension. Regarding the *specific* CDD part of the claim, the applicants argued that the 40% reduction figure was enforceable since it was the government's own GHG reduction target. However, the Court dismissed this claim, as the target was neither enshrined in legislation nor in an executive act. Instead, it was part of an interministerial decision, which is considered as binding only for the members of the government among themselves (*Binnenrecht*). Accordingly, under German administrative law, third parties cannot challenge this type of act.

As to the *general* CDD argument, the Court compared the ambition of the German 2020 reduction target of 40% with the contested one in *Urgenda* (14 to 17%), which turned out to be 25% after the injunction. The Court observed that, when the German government first decided in 2007 to commit to a 40% reduction in emissions by 2020 compared with 1990, the IPCC indicated a range of -25% to -40% for a 2°C scenario in its so-called Bali Box, which justified the injunction in the *Urgenda* ruling (see subsection 3.3.2.1 and section 1.2.3 above). The Court remarked that the target of a 40% reduction in emissions by 2020 was the most ambitious point in the range provided by the Bali box, the scientific foundation of the *Urgenda* case. However, the Court overlooked the fact that Germany had already significantly reduced its emissions at the beginning of the 1990s for external reasons, due to the dismantling of the industry in the former USSR, including in East Germany, which had joined the Federal Republic of Germany¹⁰⁹¹ (see section 1.2.2 above). This argument does not appear to have reached the Court, however.

1090 Administrative Court of Berlin, *Eleven Farmers and Greenpeace v Germany*, 31 October 2019 (VG 10 K 412.18).

1091 A significant portion of the former USSR's industrial activity ceased after 1990, leading to almost 50% of GHG reductions in some former USSR countries. Note that "West Germany" merged with "East Germany" in 1991. See concurring opin-

The Court concluded that there was no evidence to support the view that the target of a 40% reduction in greenhouse gases by 2020 constituted the minimum standard guaranteed by the Constitution. Thus, while this case was rejected, it still somewhat confirmed the reasoning in *Urgenda*¹⁰⁹², which adapted the concept of the “minimum level of protection” of the ECtHR to the climate realm.

Furthermore, the Court pointed out that the government had not been entirely inactive, having implemented some of the measures set out in its 2020 climate programme. If the government achieves its target three years later than foreseen, the Court could not see this as a breach of the minimum level of protection that must be constitutionally guaranteed. These reasons were enough for the Berlin Court to reject the application for *manifest lack of fault*.

Instead of appealing, the applicants decided to join the constitutional proceedings against the 2019 German Climate Law – which introduced GHG reduction targets for 2030 and 2050 – by bringing their own complaint directly to the Federal Constitutional Court (BVerfG) in Karlsruhe. In Germany, it is possible to directly challenge legislative provisions according to Article 93 (1) 4a Basic Law with allegations of basic rights infringements, and in this case, three separate constitutional complaints were already previously brought by various plaintiffs, including individuals from Bangladesh and Nepal.

2.3.2.3.2 The recognition and development of general CDD by the German Constitutional Court

In March 2021, the German Federal Constitutional Court issued an important decision on the German Climate Protection Act. The Court ruled that climate change impacts the right to life and the right to private and family life, and that the German government contributes to this impact. The State is therefore required to protect by providing mitigation and adaptation actions. The Court also confirmed the need to rely on international agreements, such as the Paris Agreement, and scientific consensus in order

ion: Rosen A M, “The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change”, *Politics & Policy* (Wiley Online Library, 2015).

1092 See for the full argument: Mougeolle P, “Familles d’agriculteurs bio et Greenpeace c. Allemagne (2019)” in Christel Cournil (ed), *Les grandes affaires climatiques* (DICE Éditions 2020) § 15.

to enforce and interpret *general* CDD. This ruling thereby validates the fundamental principles established in *Urgenda*.

However, the Court did not find any violation of the positive duty to protect human rights, despite having discussed in length the insufficiencies surrounding the 2030 target of 55% compared to 1990, including by noting the scientific critiques of the German Expert Body on Environmental Issues¹⁰⁹³. Among other issues, this target was linked to the outdated 2°C ambition of the German government. However, according to the Court, the scientific uncertainties surrounding the *permissible* temperature target from a legal angle, the respective carbon budgets and the related approach to burden sharing were too great to invalidate the 2030 target¹⁰⁹⁴. Furthermore, the State's ability to mitigate global warming by financing GHG reductions overseas or by relying on technologies called "carbon dioxide removal" (CDR) or "negative emissions" provides, in addition to implementing adaptation measures¹⁰⁹⁵, the government with further leeway¹⁰⁹⁶. In brief, the Court could not identify clear-cut elements for establishing the unconstitutionality of Germany's former 55% reduction goal with respect to the duty to protect, as expressed in the duty to reduce territorial emissions¹⁰⁹⁷.

Nonetheless, the Court found that Article 20a of the German constitution, which protects future generations and the environment, imposes an enforceable "special duty of care" on lawmakers¹⁰⁹⁸. By recognising the justiciability of this constitutional provision, previously considered as to be "programmatic", the Court further developed the law in a manner somewhat similar to the French decisions¹⁰⁹⁹, in which GHG reduction targets were also considered "programmatic" there¹¹⁰⁰.

Still, the German Constitutional Court went way beyond the French decisions in terms of legal reasoning, as it found that the absence of specific

1093 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 167.

1094 *Ibid.*, § 163 – 166 and § 222.

1095 *Ibid.*, § 164.

1096 *Ibid.*, § 226–228.

1097 *Ibid.*, § 163 and § 166 – 167.

1098 Constitutional Court of Germany, *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, Headline 2.

1099 French Courts labelled before the *Grande-Synthe et al v France* and *Notre affaire à tous et al v France* climate case law the French GHG reduction targets as programmatic too, see subsection 2.3.1.3 above.

1100 *Ibid.*, § 205 – 206.

and ambitious enough GHG reduction targets for the period *after* 2030 violates the latter provision. In the eyes of the Constitutional Court, the lack of clarity with respect to Germany's GHG reduction pathway poses a threat to all the freedoms protected by the Constitution in an intertemporal manner¹¹⁰¹.

Shortly after the publication of the judgement, the German government reinforced the climate targets set out in the Climate Protection Act between 2030 and 2050, thereby complying with the judgement. Nonetheless, by increasing the ambition of the 2030 GHG reduction target by 10 percentage points, the government went beyond the Court's orders. In fact, as mentioned above, the Court did not find the 2030 target strictly speaking unconstitutional, but it did criticise its potential inadequacy, notably stating that the law may need to be significantly more ambitious in the period following 2030 to comply with the duty to protect¹¹⁰². The Court also found that imposing sudden and drastic reductions after 2030 could jeopardise constitutional freedoms. In light of these court findings, the executive and legislative branches of government eventually felt compelled to increase the ambition of Germany's "target for the year 2030 from at least 55 per cent to at least 65 per cent reduction compared to the base year 1990", in order to diminish the risk of violating fundamental liberties, and to comply with the enhanced EU target (i.e., the European Climate Law of 2021 increased the European 2030 target by 15 percentage points, from -40% to -55% compared to 1990 levels)¹¹⁰³.

Compared to the other preceding judgements, these Court findings are different and original for three reasons.

Firstly, the Court did not directly increase the ambition of the challenged target in the "*Urgenda* style"¹¹⁰⁴. However, it emphasised the need to ensure intergenerational equity with regard to the burden of mitigation measures. It is worth noting that the German Constitutional Court issued this judgement during the pandemic, when the entire country, and to some extent the world, had been shut down and basic liberties seriously curtailed. This experience may have influenced the Court's decision to protect constitutional liberties from disproportionate measures.

1101 *Ibid.*, § 243.

1102 *Ibid.*, § 117.

1103 Draft law of the Federal Government, Draft of a First Act to amend the Federal Climate Protection Act, 19/30230, 19. Election period, 02.06.2021, p 18.

1104 Maxwell L, S Mead and D van Berkel, "Standards for adjudicating the next generation of *Urgenda*-style climate cases", *Journal of Human Rights and the Environment*, March 2022.

Secondly, while the Court acknowledged the critiques in the scientific literature, it did not redefine the required level of ambition itself. Instead, it left this decision to the legislature. As in many other democratic systems, the legislative branch is the only one constitutionally entitled to strike a precise balance of fundamental rights in Germany¹¹⁰⁵. In any case, the Court ordered a revision of the Climate Protection Act by the end of 2022¹¹⁰⁶. This judicial approach is consistent with the obligations of the Paris Agreement, which require setting out the highest possible ambition to achieve equitable burden sharing in terms of mitigation, while giving individual State Parties some leeway. It is also worth noting that the ECtHR also followed a similar judicial approach in this respect in *KlimaSeniorinnen v Switzerland*.

Thirdly, the German Constitutional Court also innovated by recognising extraterritorial jurisdiction, and thus the corresponding reach of certain obligations, including in the realm of climate finance. Moreover, the Constitutional Court has also acknowledged the justiciability of a constitutional duty to collaborate at the global level¹¹⁰⁷. In other words, the Constitutional Court recognised that the duty to cooperate globally – recognised on the international level as customary law¹¹⁰⁸ – is enforceable domestically. This position appears to be unique among domestic courts¹¹⁰⁹, as they tend to leave this area to the exclusive domain of the political and diplomatic branches. In fact, courts in the Netherlands, France, the UK and the ECtHR, recognised an individual obligation to take climate mitigation measures independently of others' actions, but they did not affirm a duty to cooperate globally¹¹¹⁰. While their position should eventually prevent obstruction to global cooperation, they have only taken a passive approach towards the global consensus, as they “only” compelled State actors to do their share to achieve the objective agreed internationally in the Paris Agreement. Hence, translating the international duty to cooperate into domestic law seems to be an interesting and welcome development that

1105 Constitutional Court of Germany, *Climate Protection Law*, *op cit*, § 262.

1106 *Ibid*, § 268. The power to mandate the review of the law is based on Art 93 *Bundesverfassungsgerichtsgesetz – BVerfGG*.

1107 Constitutional Court of Germany (*Bundesverfassungsgericht* in German), *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 200 – 205.

1108 See, among others, ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 294 – 321.

1109 Aust HP, “Climate Protection Act Case, Order of the First Senate” (2022) 116(1) *American Journal of International Law* p 150-157 <https://doi.org/10.1017/ajil.2021.74>.

1110 See the respective analyses of those court opinions in this subpart on redressability.

other courts could and should follow, to ensure meaningful international cooperation.

Nonetheless, despite these various innovative judicial developments, the Court stopped short of articulating precisely all these obligations.

In any case, the unanimous findings by the highest German court remain very important as they confirm the relevance and enforceability of *general* CDD, albeit in a more subtle manner than the injunction provided in *Urgenda*. The question remains, nonetheless, whether the court could have gone further by mandating, among other things, that the State make best efforts to fill the ambition gap by 2030 in order to lean towards its fair share¹¹¹¹.

2.3.2.4 The Brussels Courts' enforcement of general and special due diligence

In 2021, one court of first instance in Brussels found the State responsible for human rights and tort law violations ("*devoir de prudence et de diligence*" from Articles 1382 and 1383 of the Belgium Civil Code; i.e., *general* due diligence), because it did not respect its own 2020 GHG reduction targets of -20% compared to 1990¹¹¹². As claimants were dissatisfied with this result, including the lack of ANinjunction, they filed an appeal.

In 2023, the Brussels Court of Appeal granted the claimants' appeal. Firstly, it recognised that the Belgian State had a duty to reduce emissions by at least 25% by 2020 compared to 1990, based on tort and human rights law¹¹¹³. In this regard, the Brussels Court of Appeal fully confirmed the outcome of the *Urgenda* case. Secondly, the Court of Appeal compelled the State to reduce its 2030 emissions by a minimum of 55% compared to

1111 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, "National 'Fair Shares' in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law" (2021) 21(8) *Climate Policy* p 18.

1112 Court of First Instance of Brussels (French-speaking), *Klimaatzaak*, 2015/4585/A, 17 June 2021, p 67 and p 83.

1113 Court of Appeal of Brussels, *Klimaatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023, p 90: "The Court concluded that it had been clear to the respondents since 2007, and at the very least since 2009, that in view of its obligations under Article 2 ECHR, Belgium had to reduce its GHG emissions by at least 25% by 2020 in order to limit global warming to 2°C."

1990 to ensure that the Belgian State does its part¹¹¹⁴. This court order bears additional similarities with the injunction imposed by Dutch courts, as it also prescribed a specific mitigation outcome.

Regarding the handling of the scientific elements, the Brussels Court of Appeal found that the IPCC SRI.5 confirms the necessity to raise the ambition from 2°C to 1.5°C¹¹¹⁵. This finding confirms the Dutch Supreme Court's considerations in *Urgenda*, and goes beyond the German Constitutional Court, which considered the well-below 2°C target of the Paris Agreement as not inadequate (see just above). This scientific underpinning also justified the selection of the -55% target by 2030¹¹¹⁶, linked to the 1.5°C ambition according to the so-called "European Climate Law", adopted in 2021 by the EU¹¹¹⁷. The Brussels Court of Appeal thus considered that the ambition of this legislation was the minimum applicable.

This case shows that the Court also relied on IPCC elements (scientific consensus) and State recognitions (institutional consensus) to enforce *general* CDD. However, given that the Court relied on the "European Climate Law" to ground its injunction, it is arguable that the Court actually enforced *specific* CDD rather than *general* CDD. Nonetheless, since the -55% target of the "European Climate Law" applies to the EU as a whole, and not to Belgium individually (i.e., the outcome of the specific effort sharing regulation and the other pieces of the EU legislation may require slightly different expectations for Belgium). Hence, the Brussels Court of Appeal enforced a mixture of *general* and *specific* CDD.

Note furthermore that the ECtHR flagged the European Climate Law as a good example in terms of conception in its *KlimaSeniorinnen* judgment of 9 April 2024 (see subdivision 2.3.2.5.2).

Lastly, regarding the separation of powers, the Court argued that this injunction can in no way constitute an infringement of the political branches since it is limited to a GHG emissions reduction target validated in

1114 *Ibid*, p 150, § 286.

1115 *Ibid*, p 123, § 238: "The IPCC's 2018 special report confirmed that the 2°C target should now be replaced by the 1.5°C target."

1116 *Ibid*, p 158.

1117 *Ibid*, p 107, § 203 referring to "Regulation (EU) 2021/1119 of The European Parliament And Of The Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'), see recital 3: "That report confirms that greenhouse gas emissions need to be urgently reduced, and that climate change needs to be limited to 1,5 °C, in particular to reduce the likelihood of extreme weather events and of reaching tipping points."

legislation, and whose relevance is not contested by the respondents¹¹¹⁸. The Brussels Court actually refused to go beyond a reduction by 55%, including for separation of powers considerations, as it could not see any valid justification for going further (i.e. the applicants requested a reduction of 65% by 2030)¹¹¹⁹. This PhD did not, however, assess the applicants' submissions. Hence, it cannot determine whether the submitted arguments met the *general* CDD enforcement requirements identified by this research.

To conclude, the *Klimatzaak* case clearly exhibits the restraint exercised by the judges in redressing *general* CDD. It remains questionable, however, to what extent the Belgian courts could have gone further by mandating Belgium to carry out best efforts to be consistent with its fair share, noting that the literature expects it to be neutral by 2030¹¹²⁰, or by considering extraterritorial emissions.

2.3.2.5 The ECtHR's margin of appreciation doctrine in *Klimaseniorinnen*

By providing views on the cases decided by the ECtHR until 2024, this subsection delves deeper into the open questions of how far courts can go to enforce national fair shares when there are no precise consensual elements around that, such as in the *Urgenda* case.

Subdivision 2.3.2.5.1 addresses these questions before the ECtHR issued its decisions on 9 April 2024 (i.e., this subdivision was drafted before the Court's judgement). Subdivision 2.3.2.5.2 comments on the important ECtHR judgement in *KlimaSeniorinnen v Switzerland*, which confirms that the State must set out an overall fair share approach when complying with human rights CDD, while granting a so-called margin of appreciation, akin to the Paris Agreement.

1118 *Ibid*, p 127, § 244.

1119 Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023, p 100, § 189.

1120 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, "National 'Fair Shares' in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law" (2021) 21(8) *Climate Policy* p 18.

2.3.2.5.1 Preliminary assessment of the chances of success of the fair share argument¹¹²¹

Applicants requested the enforcement of the fair share principles before the Grand Chamber of the ECtHR in *Duarte Agostinho et al v 33 countries* and *Klimaseniorinnen et al v Switzerland*. To do so, they relied on the 1.5°C goal and on the fair share models established by the Climate Action Tracker (CAT).

The CAT is an interesting organisation created by some IPCC authors to systematically estimate the fair shares of individual countries¹¹²². It expects developed countries to be carbon neutral around 2030. However, the IPCC itself did not incorporate the CAT's studies into its reports. Additionally, States generally do not accept the CAT results, except perhaps some least developed countries, or small island States.

Given the case-law outcomes analysed above, which all show that it is necessary to rely on consensual elements in science and policy to enforce and interpret general CDD, may the CAT fair share argument still serve to enforce general CDD?

The quick response to this question seems negative. However, there are some subtleties which render the fair share analysis not entirely irrelevant.

Before delving into this question, it is necessary to go deeper into the degree of recognition of the CAT's studies, notably in the IPCC reports, to understand whether there are consensual elements.

The IPCC AR6 mention some elements around fair share, such as *quoting* the Rajamani et al study, elaborated by a recognised climate legal scholar (Professor Rajamani) and the CAT members. However, the IPCC itself did not highlight any specific result of the CAT or the Rajamani study, nor any precise indications on what developed and developing states should do. Still, former IPCC reports (AR4 and AR5) have shown a similar analytical framework for measuring the State's fair shares to those used by the CAT¹¹²³. The IPCC even recalled that "it is only in relation to such a "fair share" that the adequacy of a state's contribution can be assessed in the context of a global collective action problem"¹¹²⁴. Consequently, the idea of

1121 Note that this section was drafted before the ECtHR rulings in the climate cases.

1122 The Climate Action Tracker was notably founded by two organisations, Climate Analytics (Prof Dr Bill Hare) and New Climate Institute (Prof Dr Höhne), themselves IPCC authors.

1123 *Ibid.*

1124 IPCC, AR6 (2021-23) WG III, Chapter 14.

doing its fair share and the corresponding methodology are supported by the IPCC.

Additionally, the AR4 even provided some results on the fair share of Annex I and non-Annex I countries in the so-called “Bali box” (see section 3.2.3 of this thesis). However, these indications were linked to the 2°C target, and since then, the IPCC has not provided further indications, as already stated. This gap may also have been a reason for the CAT to provide regular updates on the results of individual countries, particularly developed states. Moreover, from a methodological angle, the CAT considers all the results of the equity literature, akin to the general IPCC method, which peer-reviews the existing relevant scientific literature.

States and COP also recognise the need for doing their fair share and equity, and to limit global warming to 1.5°C. In fact, the recent COP decisions recognised certain things which concord with the CAT’s analysis, being, firstly, the significant advantages in terms of risk reduction if warming is limited to 1.5°C¹¹²⁵. Additionally, the COP also acknowledged the need to step up and accelerate mitigation this decade, while recalling the relevant equity principles, and the common but differentiated responsibilities (already recognised as international law principles either way in the UNFCCC and the PA)¹¹²⁶. These principles are the legal underpinning of the ethical fair share principles.

Developed countries, however, provided very little information so far on whether their targets are fair in their NDCs, contrary to the Paris rulebook. For example, while the EU itself adopted the European Climate Law to limit warming to 1.5°C, it did not explain whether its contribution is fair¹¹²⁷. According to the CAT and the fair share studies, the target of -55% by 2030 compared to 1990, does not properly reflect an equitable ambition. Instead, it reflects more *grandfathering*, i.e. an unfair view of the burden share which implies that everyone needs to pursue the same level of ambition by following the global required range, despite the global inequalities, especially in terms of historical emissions and current levels of economic and social development¹¹²⁸.

1125 COP 26 decision, “Glasgow Climate Pact”, *FCCC/PA/CMA/2021/10/Add.1*, 13 November 2021, § 4 and 5 and 22.

1126 *Ibid.*, § 23.

1127 See, for instance, recital 3 of the European Climate Law (Regulation (EU) 2021/1119).

1128 Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Frame-

Thus, there is some high-level recognition by States and the COP of the need to be more ambitious and fair by 2030, but there is no agreement on the specific results. This may be due to the vague method, but certainly also the implications of the required mitigation actions, which can be difficult or even impossible to implement due to the radical nature they represent. Nonetheless, while achieving climate neutrality by 2030 seems clearly out of reach for developed states, Rajamani and CAT scientists specified that “these states would need to support others to reduce their emissions to make their fair share contribution”¹¹²⁹. The applicants in *Duarte Agostinho* and *KlimaSeniorinnen* integrated this articulation into their requests, by arguing that the States must prioritise domestic GHG reductions, while specifying that financing GHG reductions overseas is admissible to make up for a potential shortfall. This dimension may ensure *some* sort of feasibility for developed states to reach their fair share.

In light of what precedes, the ECtHR – or other courts – would *unlikely* directly enforce fair share indications as estimated by the CAT due to the lack of scientific and political consensus around its recognition. However, it seems arguable that States must consider the specific ranges provided by the CAT to devise an overall consistent and fair ambition, including with respect to climate finance, following their “margin of appreciation”¹¹³⁰.

If shortcomings are to be established, the ECtHR could recognise violations of the duty to protect human rights in their operative parts, without granting any court injunction to achieve a specific result. Actually, the ECtHR never orders injunctions. The Committee of Ministers is in charge of supervising the execution of the judgements according to Article 46 ECHR¹¹³¹. In any case, the State Parties to the Convention are then in charge of implementing the judgement adequately.

By doing so, the ECtHR could – with regard to the fair share issue – ensure a harmonious interpretation of domestic provisions with interna-

work of International Environmental Law” (2021) 21(8) *Climate Policy* p 10 ; see as well, Knight C, “What is grandfathering?”, *Environmental Politics* (2013) 22(3) p. 410–427.

1129 *Ibid* (Rajamani et al), p 18.

1130 See the discussion of this margin in the following third party intervention: Burger M and Tigre MA (on behalf of the Sabin Center for Climate Change Law, Columbia Law School), “Third-Party Intervention in the Case of *Verein KlimaSeniorinnen and Others v Switzerland* (Application No 53600/20)” (5 December 2022), § 17 – 19.

1131 European Court of Human Rights (Public Relations Unit of the Court), European Court of Human Rights: The ECHR in 50 questions, p 10.

tional provisions, being the UNFCCC, the PA, and the COP decisions, serving as relevant interpretative texts of the conventions, as the ICJ usually does¹¹³². This is a consensual outcome supported by comparative climate case-law (see above), authoritative experts of the legal doctrine (i.e., the Paris-aligned interpretations)¹¹³³, and previous ECtHR case law specifying that the ECtHR “usually takes into account elements of international law in its reasoning” including soft law if its “sufficiently indicative of a common standard between the member States”¹¹³⁴.

It remains to be seen the extent to which the ECtHR – or other courts – may assess the sufficiency of State measures with regard to climate finance in an extraterritorial manner; as it is necessary to make finance flows consistent with low emitting pathways according to Article 2 (1) (c) of the Paris Agreement, but also to potentially finance GHG reductions overseas to make up for the lack of adequate territorial reductions in line with the *faire share*, according to Article 6 or Article 9 of the same Agreement. However, the ECtHR has not yet addressed these issues in its decisions, see subdivision just below.

2.3.2.5.2 The ECtHR’s redress with a margin of appreciation in KlimaSeniorinnen

As expected, the ECtHR largely agreed with the previous case law that had granted requests based on *general* CDD. It confirmed, in essence, that States must do their part by carrying out CDD. Although the term “due diligence” only appeared once, the concept still shaped the court’s approach, as in previous case-law (see section 1.2.2 above). For example, the Court referred to the corresponding criteria and requirements of due diligence multiple times:

“what is important, and sufficient to engage the responsibility of the State, is that *reasonable* measures which the domestic authorities *failed to*

1132 International recommendations – even though they are not binding – are taken into account by the ICJ if they are adopted by consensus: see ICJ, *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)*, Judgement, 31 March 2014, § 46.

1133 See Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023.

1134 See, for instance, ECtHR, *Pavlov et al v Russia*, Concurring Opinion of Judge Krenč, § 3.

take could have had a real prospect of altering the outcome or *mitigating* the harm [...] In the context of climate change, this principle should also be understood in the light of Article 3 § 3 of the UNFCCC according to which States should take measures to *anticipate, prevent or minimise* the *causes* of climate change and mitigate its adverse effects.”¹¹³⁵

Furthermore, in light of the CBDR-RC, the Court stressed that the individual responsibility to fight climate change is itself “determined by the State’s own capabilities rather than by any specific action”¹¹³⁶. This is another silent recognition of due diligence, since it requires acting in proportion to one’s capacities.

The Court also stated that its complementary role in the climate realm is enabled by the *consensus* among Member States due to the following factors¹¹³⁷. Firstly, States acknowledge the need to tackle climate change due to its impact on the enjoyment of human rights, especially those above 1.5°C¹¹³⁸. Secondly, State parties acceded to international climate conventions, such as the UNFCCC and the PA¹¹³⁹. These findings are in line with the case-law analysis of this section 2.3.2, which found that the judiciary must rely on consensual elements to enforce and interpret general principles such as due diligence. Hence, the main argument of this section, following which there is a need to have consensual elements – especially in science and policy – at hand to judicially intervene on the basis of *general* CDD, is confirmed by the Grand Chamber of the ECtHR.

The reunion of those elements, in the context of the *Klimaseniorinnen* (or *Duarte Agostinho*), did not, however, enable a judicial intervention in the *Urgenda*-style, as requested by the applicants. The outcome is, as expected, more general because no precise elements on the State’s fair share, like in the AR4 Bali Box, were recognised for the 2030 targets or beyond, as the above subdivision 2.3.2.5.1 explained. Indeed, the Court was “unable to be detailed or prescriptive as regards any measures to be implemented in order to effectively comply with the present judgment”.¹¹⁴⁰ However, the Grand Chamber still confirmed the findings of the Dutch and

1135 ECtHR, *Klimaseniorinnen v Switzerland*, no. 53600/20, 9 April 2024, § 444.

1136 *Ibid*, § 442.

1137 *Ibid*, § 456.

1138 *Ibid*, § 432 and 436.

1139 *Ibid*, § 431 and 433.

1140 *Ibid*, § 657.

Belgian courts that reducing emissions by 25% by 2020 compared to 1990 was necessary¹¹⁴¹.

Regarding the 2030 timeframe and beyond, the ECtHR stated that there is a “reduced margin of appreciation for the States” concerning “the setting of the requisite aims and objectives”, while States benefit from “a wide margin of appreciation” about the choice of means (i.e., the concrete policies to implement mitigation goals)¹¹⁴². More precisely, the temperature goal of the Paris Agreement “must inform the formulation of domestic policies”¹¹⁴³ and that it is “currently required” to limit warming to 1.5°C¹¹⁴⁴. According to the unanimous Grand Chamber, “Article 8 of the Convention requires that each Contracting State undertake measures for the substantial and progressive reduction of their respective GHG emission levels, with a view to reaching net neutrality within, in principle, the next three decades.”¹¹⁴⁵ This finding does not meet the applicants’ requests in *Klimaseniorinnen* and *Duarte Agostinho*, and the expectations of this thesis, laid out in the subdivision above. In fact, the CAT, Rajamani and others determined that developed States like Switzerland should be neutral by 2030. And although the applicants argued that Switzerland could compensate for a domestic lack of fair share with climate finance or compensatory measures overseas, the Court remained silent in this respect.

To assess the consistency of Switzerland’s targets with the global 1.5°C objective, the ECtHR (only) provided indications in relation to the *equal per capita* criterion¹¹⁴⁶. While the criterion *equal per capita* is part of the fair share methodology, it does not represent fairness in itself, as it assumes that everyone in the world has contributed equally to warming or has the same level of economic capability, which is not true. However, the Court stated Switzerland’s approach was inconsistent “*even*” under this criterion¹¹⁴⁷, meaning that it would be *even* less consistent under the others. Nonetheless, the Court did not provide any further indications, despite acknowledging the relevance of respective capabilities (CBDR-RC

1141 *Ibid*, § 558: “This meant that the industrialised countries (such as the respondent State) had to reduce their emissions by 25-40% by 2020 compared to 1990 levels.”

1142 *Ibid*, § 543.

1143 *Ibid*, § 547.

1144 *Ibid*, § see especially 558: “the currently required 1.5oC limit”.

1145 *Ibid*, § 548.

1146 *Ibid*, § 569.

1147 *Ibid*, § 569.

principle)¹¹⁴⁸, and “the States’ generally inadequate track record in taking action [...] in the *past several decades*.”¹¹⁴⁹ In the view of this thesis, these elements should have prompted an assessment in relation to capability and historical responsibility. Hence, despite leaving many doors half-opened, it is somewhat disappointing that the Court did not further specify how the margin of appreciation is reduced by basing itself on the different fair share criteria, including historical responsibility and economic capabilities. Still, the Court could assess historical responsibility in future cases (see Part 3 of this thesis).

However, beyond the duty to define the overall ambition, which must be consistent with the related global carbon budgets¹¹⁵⁰ (a), the ECtHR also stated that States must set out sectoral and intermediate targets (b), which are effective and credible (c), while also ensuring that they are updated based on due diligence and best available evidence (d), and implemented adequately and in “good time” (e)¹¹⁵¹. While those obligations overlap to some extent with those of the Paris Agreement¹¹⁵², this thesis believes, in line with other authors of legal literature, that it was important for the Court to interpret at least the Convention in harmony with the Paris Agreement to ensure judicial supervision of climate mitigation¹¹⁵³.

Regarding redressability, the Court argued that one shortcoming or “*lacunae*” as the Court phrased it in the context of this case, is not necessarily enough to find non-compliance with the Convention¹¹⁵⁴. Moreover, the

1148 *Ibid*, § 571.

1149 *Ibid*, § 542.

1150 *Ibid*, § 550 (a) and § 572.

1151 *Ibid*.

1152 For example, similar to the duty to show that the concrete measures are sufficient and duly implemented pursuant to § 550 (c), Article 4 (2) PA specifies that the domestic mitigation measures must be set out “with the aim of achieving the objectives” of the NDCs. Furthermore, NDCs shall meet the standards of “clarity, transparency and understanding” (Article 4 (8)). Additionally, akin to the obligation to update the GHG reduction targets based on due diligence and best available evidence established in § 550 (d), Article 4 (4) PA provides that each (updated) NDC “will represent a progression”. Article 4 (1) PA foresees the consideration of “best available science”. Moreover, akin to the duty to act in good time established in § 550 (e), Article 4 (1) of the PA requires “rapid reductions”, paragraph 9 of the same article compels State parties to update their NDCs every five years; which can furthermore be adjusted any time (para 13).

1153 See, notably, Voigt C, “The Power of the Paris Agreement in International Climate Litigation”, *RECIEL*, 2023 p 244 -248; Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law*.

1154 ECtHR, *Klimaseniorinnen v Switzerland*, no. 53600/20, 9 April 2024, § 551.

Court found that States can supplement the protection afforded by mitigation with adaptation measures¹¹⁵⁵, akin to the German Constitutional Court's (see subdivision 2.3.2.3.2 above). These findings may give the State even more leeway to determine the right level of mitigation ambition.

Lastly, it is worth noting that the Court did not set out the expectations with regard to extraterritorial emissions, although it did allude to the applicability of the law to "embedded emissions" related to the import of goods¹¹⁵⁶.

Still, despite leaving certain matters unsettled, and despite granting a relatively broadly defined margin of appreciation to States, the ECtHR's judgement *could* favour climate action thanks to the three following factors:

- (i) the ECtHR's assertion that human rights protection also requires the tackling of climate change (recognition of general CDD), which hinders a possible defence of States – as highlighted by authors in the literature – that they retain full control over substantive climate policies due to the absence of proper substantive climate obligations, or perhaps even contradictory human rights obligations¹¹⁵⁷;
- (ii) similarly, the harmonised interpretation of the Convention with the PA (so-called "Paris aligned interpretation"¹¹⁵⁸) enables a consistent interpretation of the law, and, in turn, prevents the fragmentation of the law;
- (iii) the ECtHR judgement sets up a parallel but legally binding forum that compels States to justify their stance, both through its own jurisdiction, and through the enforcement capacities of its judgments by the Committee of Ministers, which is tasked to "assess the specific measures to be taken"¹¹⁵⁹. The simple fact of recognising the applicability of a preexisting legally binding system relevant to 46 States to climate action – one crucial missing element of the PA – may strengthen mitigation and adaptation (see the arguments of the added value of climate litigation with respect to the PA in subdivision 1.3.2.2.3).

1155 *Ibid*, § 552.

1156 *Ibid*, § 287 – 288; see as well the individual opinion of Judge Tim Eicke, § 4

1157 See for arguments of authors in the legal literature in that respect: Mayer B, "Climate Change Mitigation as an Obligation under Human Rights Treaties?" (2021) 115(3) *American Journal of International Law* p 436.

1158 Voigt C, "The Power of the Paris Agreement in International Climate Litigation", *RECIEL*, 2023 p 249.

1159 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 657.

However, despite the balanced outcome, Switzerland has not accepted this judgement, criticising instead “the extension of the ECHR to include protection against climate change”¹¹⁶⁰. The government even claimed to comply with the judgment, as the Swiss Parliament adopted a new legislation on climate action, some time before the Court issued its judgement¹¹⁶¹. The Committee of Ministers will thus have to determine whether the Swiss stance is valid – or not –, and more generally, what the ECHR system can play a role in ensuring adequate climate action¹¹⁶². At the time of writing, the Committee of Ministers already considered that Switzerland indeed complied with the judgement by welcoming its new Swiss framework legislation, and its implicit attempt to calculate the remaining carbon budget, and merely requesting that Switzerland establish a scientific counselling body¹¹⁶³. As some authors of the literature rightly pointed out, these decisions by the Committee of Ministers are “deeply concerning” since they do not correspond to what the ECtHR required¹¹⁶⁴.

Beyond Switzerland, it remains unclear whether the ECtHR could, for example, establish lacunae in the EU's policies. The EU seems to have complied with multiple courts' requirements, as it enhanced its laws between 2021 and 2024 to respond to the 1.5°C goal, particularly by adopting the so-called “European Climate Law”¹¹⁶⁵. The ECtHR even cited this European legislation as a good example in the *KlimaSeniorinnen* judgement with regard to its *procedural* dimension¹¹⁶⁶. Furthermore, the EU's objective of a 55% reduction by 2030 compared to 1990, and the climate neutrality objective by 2050, *could* be in line with the ECtHR's indications – albeit

1160 See, Conseil fédéral de la Suisse, “Le Conseil fédéral clarifie sa position sur le verdict de la Cour européenne des droits de l'homme concernant la protection du climat”, Berne, 28 August 2024; see as well this press article, Euronews, “An ‘embarrassment’: Experts explain what could happen as Switzerland rejects landmark climate ruling”, 7 September 2024.

1161 *Ibid.*

1162 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/209, April 2024, § 657.

1163 Committee of Ministers, Ministers' Deputies, Decisions CM/Del/Dec(2025)1537/H46-37, *Verein KlimaSeniorinnen Schweiz and Others v Switzerland* (Application No. 53600/20), § 5.

1164 Heri C, Blattner C E and Cadalbert T, “Another Brick in the Wall of KlimaSeniorinnen: The Committee of Ministers' September 2025 Monitoring Decision” (2025) *EJIL: Talk*.

1165 Regulation (EU) 2021/1119 of The European Parliament And Of The Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’).

1166 *Ibid.*, § 571.

this point remains unclear. Moreover, the fact that the Grand Chamber rejected *Duarte Agostinho v 32 States* (including all States of the EU) could be interpreted as another indication that the EU may comply with the principles in *KlimaSeniorinnen*. However, this was rejected for other reasons, including extraterritorial jurisdiction, exhaustion of domestic remedies, and victim status.

More precisely, regarding extraterritorial jurisdiction in *Duarte Agostinho*, the Court stuck to its previous jurisprudence and dismissed the case, even though the CRC and the German Constitutional Court have upheld complaints from foreign individuals (see section 2.3.2.3). The ECtHR considered that the principle governing Article 1 of ECHR is different, and, in principle, restricted to a territorial approach¹¹⁶⁷. Additionally, the ECtHR feared an unlimited number of cases against European States if it had provided for extraterritorial jurisdiction, which could have had far-reaching consequences¹¹⁶⁸. In the view of this doctoral dissertation, the Court could have made an exception for climate cases, especially *mitigation* cases, since the pronouncement of the legal obligations in this area requires, in principle, only one judgement, unless some circumstances change significantly over time.

To conclude this subdivision on the ECtHR's judgements, this thesis argues that the ECtHR's position reflects *general* due diligence in the human rights area and represents a consistent incremental development of law, in harmony with relevant international law, with the following caveats:

- (i) Firstly, this thesis deems that the ECtHR judgements did not set out clearly enough the fair share requirements, including with respect to climate finance (consideration of all criteria, especially historical responsibility and economic capabilities). This lack of clarity does not make the mandate to supervise the implementation of the ruling by the Committee of Ministers an easy task. Nonetheless, the Court could elaborate in later cases on secondary obligations if applicants submit historical violations of the primary duty (see part 3 of this thesis).
- (ii) Secondly, the Court should have provided for extraterritorial jurisdiction in the *Duarte Agostinho* case, at least exceptionally in the climate mitigation realm.

1167 ECtHR, *Duarte Agostinho et al v 32 countries*, no. 39371/20, 9 April 2024, § 210 – 214.

1168 *Ibid.*, § 206 – 208.

- (iii) Thirdly, the Court could have clarified the expectations with regard to the duty to regulate extraterritorial emissions.

In other words, while the Court did not fall into one of the traps identified by Mayer and Van Asselt, its pronouncements remained somewhat too cautious and vague¹¹⁶⁹.

2.3.2.6 Intermediate conclusion

While some courts awarded the requested reliefs in *general* CDD cases against States, they all stressed that they must carry out this task with restraint to respect the separation of powers.

Concerning subsection 2.3.2.1: The *Urgenda* case, the first “framework” or “systemic mitigation” case having granted a claim based on *general* CDD, broke new ground by redefining court powers concerning holding a State to account for the worldwide problem of climate change. To do that, it relied on the “common ground” method¹¹⁷⁰, especially two main ingredients: firstly, on the consensual science to establish the risks and the required level of ambition, notably the IPCC reports; and secondly, on the international COP decisions and EU commitments to show that States – the EU and The Netherlands – recognised the risks and the need to reduce emissions at least by 25% by 2020 compared to 1990. Hence, while this case somehow leaves the impression that it “reshaped” the State’s ambition (by raising the ambition upwards from 14-17% to 25%), one must also be clear that this ambition was previously recognised as necessary by the State and the international community, and that the reunion of these elements fundamentally limits any creative interpretation of *general* CDD.

Concerning subsection 2.3.2.2: While the systemic mitigation *Juliana et al v USA* case failed before the US Court of Appeals and the Supreme Court, it is important to recall that the plaintiffs’ requests far exceeded the ambition of the requests in *Urgenda*; as they requested the limitation of warming to 1°C (or 350 ppm), which is considerably more ambitious than the 2°C (450 ppm) objective enforce by the Dutch courts. This difference means that the plaintiffs in *Juliana* did neither rely on the IPCC science nor on high-level diplomatic decisions of the COP, nor the international

1169 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 8.

1170 ECtHR, *Demir and Baykara v Turkey*, no. 34503/97, 12 November 2008.

climate conventions such as the UNFCCC or the PA. The absence of those ingredients, combined with the radicality of the requests – framed in such a way to seek the exclusive responsibility of the USA to return to 1°C, contrary to the shared responsibility principles – may explain the failure of this case. Either way, no one can rule out the possibility that US courts approve the redressability and ultimately grant a claim relying on the consensual science in the future and by leaving more leeway to the government, although the current conservative majority at the US federal Supreme Court recently provided opposing signals.

Concerning subsection 2.3.2.3: The German courts partly confirmed the validity of the *Urgenda* reasoning in two cases: firstly, the Berlin Administrative Court applied the *Urgenda* criteria, but, it did not find any manifest violations due to the apparent higher ambition pursued by Germany in terms of mitigation than The Netherlands with respect to 2020 (i.e., the State aimed to reduce its emissions by 40% compared to 1990). Subsequently, the German Constitutional Court recognised the applicability of the duty to protect human rights in the climate realm and found that the lack of sufficiently specific reduction targets and measures for the period after 2030 violated the intertemporal liberties protected by the Constitution, aimed at protecting the young and future generations. Although this finding is different from the one in *Urgenda*, the Court also confirmed to some extent the validity of the *Urgenda* principles with respect to the need to set out a minimum level of ambition in the GHG reduction targets, which need to be fair with respect to the international community. As to the effects of the judgement, while the government quickly reacted and increased the ambition of its 2030 target, one must keep in mind that the government did this voluntarily, also in view of complying with the enhanced European climate targets. Said differently, the judgement itself did not compel to do so.

Concerning subsection 2.3.2.4: The Brussels courts (first instance and appeal) confirmed as well the *Urgenda* reasoning by recognising the applicability of the ECHR in the climate realm and the breach due to a *specific* non-compliance; the Court of Appeal subsequently issued an injunction to reduce the 2030 emissions by 55% compared to 1990, based on human rights and tort law. To issue such an injunction, the Brussels Court of Appeal also relied on IPCC science and EU policies, considering it is necessary to achieve this minimum level of protection to ensure Belgium does its part to limit warming to 1.5°C.

Concerning subsection 2.3.2.5: This section addresses the relevant issues in the ECtHR cases, especially those concerning the extent to which courts can enforce the most onerous interpretation of fair shares in the framework of *general* CDD (i.e., the applicants claimed that European States needed to be climate neutral by 2030), which eventually resulted in rather careful decision position by the Grand Chamber of the ECtHR on 9 April 2024. This decision left a margin of appreciation similar to the PA to determine the required level of ambition. Factual elements can explain this: no precise and consensual elements existed on the States' fair share. While the merits of this judgement remain contested by Switzerland, it remains to be seen whether the Convention system can effectively and adequately ensure redress.

In any case, none of the judgements established that States must limit warming to 1.5°C by properly considering historical responsibilities and economic capabilities (i.e., *fair share*), nor that developed States should be climate neutral around 2030¹¹⁷¹. Theoretically, secondary obligations aimed at compensating historical wrongful conduct could fulfil this goal and ensure the historical responsibility criterion of the fair share is considered (see Part 3 and the general conclusion).

2.3.3 Corporate CDD: towards the redressability of 1.5°C best efforts requests

After having found that it is necessary to rely on consensual elements in science and policy to interpret and enforce *general* CDD against States, this section assesses the redressability of *corporate* CDD by considering developments in case law and legislation. It is structured as follows:

Subsection 2.3.3.1 discusses the *Shell* case and the extent to which the *general* corporate CDD duty to limit global warming to 1.5°C can be specified in light of the applicants' claims. Subsection 2.3.3.2 performs a similar exercise with the pending cases in France, especially the *TotalEnergies* case, which was recently declared admissible by the Paris Court of Appeals in June 2024. Subsection 2.3.3.3 argues that the German courts' dismissals of cases against carmakers because of *lex specialis* reasons do not demonstrate

1171 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, "National 'Fair Shares' in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law" (2021) 21(8) *Climate Policy* p 18.

the inapplicability of the general CDD of parent companies over scope 3 emissions. In a similar vein, Subsection 2.3.3.4 contends that the US federal courts' case dismissals due to *lex specialis* and other related separation of powers issues do not demonstrate that reasonable cases seeking individual due diligence requirements over worldwide emissions are not redressable. Subsection 2.3.3.5 lastly argues that the European Corporate Sustainability Due Diligence Directive (CSDDD), enacted in 2024, but under renewed political discussion due to global competitiveness concerns and US political pressures, could miss an opportunity to lawfully harmonise the *general* CDD requirements in the EU.

2.3.3.1 The Milieudefensie v Shell case testing the Urgenda approach

The question of the applicability of the *Urgenda* case law to corporations arose in 2018 when the NGO Milieudefensie sent a formal notice to the parent company of the multinational corporation Shell (i.e., the top holding company of the group)¹¹⁷².

As mentioned in the introduction, the Hague court of first instance ordered Shell to reduce its worldwide direct and indirect greenhouse gas emissions (scopes 1, 2 and 3) by 45% by 2030 compared with 2019¹¹⁷³. However, the Hague Court of Appeal reversed the injunction in 2024, while still upholding many previous findings¹¹⁷⁴. Hence, are the principles in *Urgenda* still applicable and adaptable to a private actor that controls activities worldwide?

2.3.3.1.1 The redressability of a general corporate CDD duty

As in the *Urgenda* judgment at first instance, the only legal basis for this injunction is the duty of care under Dutch tort law¹¹⁷⁵. Both courts linked

1172 Milieudefensie et al, *Formal Notice to Shell (Liability for Inadequate Climate Policy)* (4 April 2018) https://www.foei.org/wp-content/uploads/2018/06/Milieudefensie_legal_letter_Shell_4-April-2018.pdf, last accessed 20 October 2025.

1173 District Court of The Hague, *Milieudefensie et al v RoyalDutch Shell*, 26 May 2021, § 5.

1174 Court of Appeal, *Shell*, ECLI:NL:GHDHA:2024:2100, 200.302.332/01, 12 November 2024.

1175 The Court also cited Book 6 Section 162 Dutch Civil Code, alongside the *Kelderluik* judgment of 5 November 1965 by the Dutch Supreme Court which set out the

the standard of care of the “reasonable person” to the Human Rights Due Diligence (HRDD) concept of the UNGPs¹¹⁷⁶.

Some authors criticised this linkage for its lack of legal certainty, given that the UNGPs are only soft law¹¹⁷⁷. While legislators in France¹¹⁷⁸ and Germany¹¹⁷⁹ have enacted laws to implement the UNGPs into “hard law”, has the Dutch Court exceeded its powers by interpreting the common tort duty of care as a climate extraterritorial duty for Shell? The state of the law differs in the Netherlands from France and Germany, as no specific laws require(d) parent companies of multinationals to reduce emissions in the Netherlands – except, the European Directive CSDDD, adopted in 2024, which is, however, at the time of writing, not transposed in the Netherlands and the subject of renewed political discussion on the European level (see below). Thus, the duty of care under general common law remains applicable by default, and also enforceable¹¹⁸⁰. Also, as was seen in the introduction, the central concept of HRDD is itself inspired by the general duty of care. The Court’s reasoning is therefore not incongruous; on the contrary, the “cross-fertilisation” between these two elements seems entirely logical, since parent companies have the capacity to prevent harm that may be caused by their groups by establishing appropriate group-wide policies.

Moreover, the finding of the courts that each company must do its part to contribute to the Paris Agreement by adequately reducing scope 1, 2 and 3 emissions, is perfectly in line with the case law that has enforced *general* CDD against States, including Urgenda¹¹⁸¹ (see section 2.3.2 above). It is worth underscoring that the Court of Appeal of The Hague has confirmed

standard of the reasonable person (ECLI:NL:HR:1965:AB7079). The Court uses the expression “standard of care” in the *Shell* judgment in the English translation, whereas it used the term “duty of care” in the *Urgenda* case. However, it refers to the same concept, as shown in the introduction and Part I.

1176 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, *op cit*, § 4.4.II. to 4.4.22.

1177 Aurer VIL, “An assessment of the Hague District Court's decision in *Milieudefensie et al v Royal Dutch Shell PLC*”, *Climate Law Blog*, 28 May 2021.

1178 Se. Explanatory memorandum of the Proposition de Loi n° 2578 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre, registered at the Presidency of the National Assembly on 11 February 2015. p 4.

1179 See Bundesregierung, *Entwurf eines Gesetzes über die unternehmerischen Sorgfaltspflichten in Lieferketten*, 19/28649, 19. Wahlperiode, 19.04.2021, pp 2 and 3 and p.23.

1180 The Court of Appeal of Den Haag confirmed this view: see *Milieudefensie v Shell*, ECLI:NL:GHDHA:2024:2100, 200.302.332/01, 12 November 2024, § 7.28 - 7.53.

1181 See District Court of The Hague, *Shell*, *op cit*, § 4.4.49-50.

this general obligation¹¹⁸². This recognition of an overarching duty supports the hypothesis in the introduction and the findings in Part 1, which consider that each actor contributing to global warming – whether private or public – must carry out due diligence to mitigate warming. It is further the corollary of the overarching duty to limit global warming in line with the international consensus, as laid out by ECtHR in *KlimaSeniorinnen*¹¹⁸³, and the ICJ in its advisory opinion¹¹⁸⁴.

These developments show that Dutch courts are ready to redress *general* corporate CDD violations by overseeing whether the respondent approached the mitigation issue with due diligence and implemented all reasonable measures to limit warming to 1.5°C. Nonetheless, it is unclear whether it is possible to specify this general obligation.

2.3.3.1.2 The level of consensus surrounding the claims, and the discretion left by them

The plaintiffs' requested injunction in *Shell* draws heavily on the way in which the Urgenda Foundation made its case against the State. The same lawyer, Roger Cox, was behind the inception of those cases. The legal strategy was twofold. The first step consisted of highlighting the risks of overstepping 1.5°C to ground a general duty to limit warming to this level. Subsequently, the claimants advanced one of the key values of the 1.5°C pathways without or limited overshoot, namely that *global* GHGs must be reduced by approximately 45% by 2030 compared to 2010¹¹⁸⁵. This indication stems from the summary for policymakers of the 2018 IPCC SR1.5, meaning it was reviewed and accepted by States. The COP 26 decision also recognised the need to achieve this reduction after the judgement was issued¹¹⁸⁶. Therefore, there was a strong consensus behind this indication.

Moreover, as the plaintiffs have pointed out, even if the world manages to reduce emissions by 45% by 2030 (which seems impossible in 2026, at

1182 See Court of Appeal of The Hague, *Shell*, *op cit*, § 7.67.

1183 ECtHR, *KlimaSeniorinnen*, no. 53600/20, 9 April 2024, § 550 (see subdivision above 2.3.2.5.2).

1184 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 282 – 292.

1185 IPCC, SR1.5, SPM, § C.1.

1186 COP 26 decision, "Glasgow Climate Pact", *FCCC/PA/CMA/2021/10/Add.1*, 13 November 2021, § 15 – 17.

the time of writing), there would be only a 50% chance of achieving the 1.5°C objective, and an 85% chance of staying below 2°C¹¹⁸⁷. The NGO Milieudéfense, therefore, asked the court to order Shell to align itself with this percentage reduction. The court of first instance accepted this reasoning, even if it means that the company needs to adjust its energy mix and reduce its fossil fuel production. One of the points that tipped the balance in favour of climate protection was the court's weighing of the protection of human rights against the company's economic interests¹¹⁸⁸, with the court arguing that the threat of potential violations is such that "private companies such as Shell may also be required to take drastic measures and make financial sacrifices to limit CO2 emissions in order to prevent dangerous climate change". In the first instance court's view, this stance is even more justified in light of Shell's position, a very profitable company from the Global North.¹¹⁸⁹ While this stance seems valid to a certain extent, the Court should have probably gone further in the proportionality assessment, as some issues exist with the injunction to reduce emissions by 45% by 2030.

Firstly, one important difference with the *Urgenda* case is that this scientific indication was not accepted by the respondent, in the sense that the company did not set such a target for itself. However, Shell did share the 2050 target in line with the 1.5°C pathway, as part of its aim to become a net zero company by then. Hence, as the end goal was also recognised by the company, there may still be some voluntary recognition of the 1.5°C pathway.

Secondly, while the 45% reduction goal was one of the most consensual ones, both scientifically and diplomatically, it is questionable whether it is adapted to the situation of a multinational oil company¹¹⁹⁰. In fact, in the

1187 Milieudéfense et al, *Summons to Shell*, unofficial translation of the Dutch original (2018) § 33, 740 milieudéfense-et-al-v-royal-dutch-shell-plc_8e611f046b2e29d3e930e2c2439d2245.pdf, last accessed 20 October 2025; The uncertainties are linked to various factors including the precise accumulation of GHG emissions over time and the transient response of the climate to the concentration of GHG in the atmosphere (the precise warming resulting from a certain concentration). For more information on this subject, see IPCC, SRI.5, TS, 2018, p 33.

1188 District Court of The Hague, *Shell*, 26 May 2021, *op cit*, § 4.4.53.

1189 *Ibid*, § 4.4.53.

1190 These developments, and those that follow, are inspired by the following published articles: Mougeolle P, "La diligence raisonnable en matière des droits de l'homme: un catalyseur de la responsabilité climatique des multinationales?" (2022) *Journal européen des droits de l'homme* ; Mougeolle P, "La responsabilité climatique de

most ambitious 1.5°C scenario indicated by the 2018 IPCC special report on 1.5°C (SR1.5), world oil production would fall by 37% in 2030 compared with 2010, and global gas production by 25%¹¹⁹¹. These values are even lower in the 1.5°C scenario recently developed by the International Energy Agency (IEA) in 2021, which forecasted a reduction of 2.3% per year for oil over the decade 2020-2030 (so, a 20.7% reduction between 2020 and 2030) and 1.6% per year for gas (so a reduction by 14.8% by 2030)¹¹⁹². Further, on a global scale, the 45% cut by 2030 is supposed to be achieved by various means, including a major cut in the use of coal (as it is the most polluting fossil fuel), but also a reduction in energy consumption, an increase in energy efficiency, and the rise of decarbonised energies. As Shell only has the power to mitigate global warming by addressing its oil and gas operations, the global GHG reduction indications may seem somewhat irrelevant to the company. Instead, it should consider sectoral figures when devising mitigation objectives and measures. Similar considerations led the Dutch Court of Appeal of The Hague to dismiss the case for lack of consensus¹¹⁹³.

Nonetheless, given that it is a *general* due diligence case, concerned with indirect and worldwide scope 3 emissions¹¹⁹⁴, the Court should, in principle, only impose a best efforts obligation, given its limited control over those emissions (see subsection 2.2.2.2 on attribution of indirect emissions such as scope 3). However, the court of first instance went somewhat beyond this by imposing “a *significant best-efforts*” obligation on scope 3 emissions¹¹⁹⁵, which basically means that expectations are high and stringent. In any case, the nature of the best efforts obligation – including the “significant” best efforts obligation – means that the company is not in breach of its obligation if it can justify that its implementation involves consequences that are impossible to achieve, ineffective, or entirely dispro-

la société mère de Shell selon le Tribunal de la Haye et ses effets d’entraînement attendus en France” (2021) *La Revue des droits de l’homme*.

1191 IPCC, SR1.5, SPM, p 14; note that the other, less ambitious scenarios that rely on such technologies (scenarios P2, P3 and P4 in the 1.5°C special report cited above), the reductions indicated for the oil and gas sector are significantly lower.

1192 IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021, p 195, Table A.1.

1193 Court of Appeal of The Hague, *Shell*, *op cit*, § 7.67 - 7.96.

1194 Scope 3 emissions make 85 to 90% of the emissions of oil and gas companies such as Shell, as they only extract, refine and transport hydrocarbons to the end user, who *ultimately* combusts them, the stage that emits the most GHGs in their life cycles (see also Heede R, *The Carbon Majors Dataset*, CDP, 2017 p 5).

1195 District Court of The Hague, *Shell*, 26 May 2021, *op cit*, § 4.4.55 of the judgment.

portionate. In the *Shell* case, this nature of the injunction means that the company must use all the means at its disposal to reduce emissions by 45%, but if this objective is impossible to achieve due to external factors, then the company does not incur liability.

As explained in subpart 0.2 of the introduction and subpart 1.3 on domestic general law, this best efforts nature is inherent to the concept of *general* due diligence. This is furthermore highlighted by the interpretation of due diligence in the UNGPs¹¹⁹⁶, the French Duty of Vigilance¹¹⁹⁷, the German Supply Chain Law¹¹⁹⁸, and, most recently, the CSDDD¹¹⁹⁹. The best efforts nature of the obligation enables conciliation of opposing interests, such as the human rights of affected individuals, companies' interests, and the interests of other States, as further explained by the CESCR General Comment n° 24¹²⁰⁰ and in subsection 0.2.2.3 of this thesis. It also provides the opportunity for the concerned actors to reconcile opposing interests in the context of a lack of consensus, while ensuring court supervision. Said differently, the notion of best efforts takes a similar role to the concept of the margin of appreciation under the ECtHR *KlimaSeniorinnen* ruling in that it provides leeway and discretion to the duty bearer.

In light of these conditions, the court order *could* have been upheld by the Court of Appeal, which, however, decided to overrule the injunction, because of a lack of consensus and effectiveness surrounding the requested target¹²⁰¹.

1196 V Principle 17 of the Guidelines and the definition of due diligence set out in the introduction.

1197 Potier D, "Rapport No. 2628 sur la proposition de loi (n° 2578), relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre", 11 March 2015, p 31: "[d]ue diligence constitutes an obligation of means and not of result."

1198 According to the explanatory memorandum to the German legislation, "The law creates an obligation to make efforts, but not an obligation to achieve results". V Bundesregierung, *Entwurf eines Gesetzes über die unternehmerischen Sorgfaltspflichten in Lieferketten*, 19/28649, 19. Wahlperiode, 19.04.2021, p 2.

1199 CSDDD or "Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence" Recital 19.

1200 CESCR, General Comment n°24 on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, § 33.

1201 Court of Appeal of The Hague, *Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.67 - 7.96. See as well, the following short commentary: Van Asselt H and Savaresi A, "Corporate Climate (Un)Accountability? Landmark Shell Ruling Overturned on Appeal", *Centre for Climate Engagement, Hughes Hall, University of Cambridge*, 13 November 2024.

2.3.3.1.3 The need to provide proportionate claims based on due diligence

The problem of the effectiveness or proportionality of the requested injunction can be summarised as follows. To comply with the reduction order, it is almost certain that Shell should stop exploring new oil and gas fields to meet a 1.5°C trajectory, or curb the production of its existing wells. If implementing this is not profitable for the company, which is likely to be the case, Shell will probably sell the problematic assets to third parties. This resale is possible as long as its competitors do not face the same obligation. Such a *substitution* constitutes some form of *carbon leakage*, as Shell argued, and would not bring the desired reductions on a global scale. The UN criteria of the UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities and the ISO Guidelines also request that companies avoid transferring fossil fuel and polluting assets to other actors to prevent leakage¹²⁰². The Court of Appeal agreed with this reasoning and therefore cancelled the injunction for lack of effectiveness, but should have rather mentioned the principle of “proportionality”. Indeed, the lack of proportionality was an entangled reason to overrule the first judgment¹²⁰³.

This problem requires further discussion. It seems that there was a misunderstanding regarding the required outcome. The Court of Appeal noted that the applicants had argued that the consequences of the ruling should lead Shell to sell its assets to others, in line with its very stringent reduction obligation¹²⁰⁴. However, the court of first instance imposed a “significant best-efforts” duty, which cannot require measures that are disproportionate, even more so if they are ineffective, such as the resale of assets to comply with a personal reduction order. In this regard, the Court of Appeal misunderstood the meaning of a best efforts duty, which cannot, in principle, require those actions.

1202 UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities, “Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions”, 2022, p 23; ISO, “Net Zero Guidelines: Accelerating the Transition to Net Zero”, IWA 42:2022(E), p 20, § 9.1.2.

1203 Court of Appeal of The Hague, *Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.108 - 7.110.

1204 *Ibid*, § 7.110: “It has not been established in the present proceedings that downsizing the resale activities of Shell Trading will lead to a reduction in CO2 emissions. Since the latter is precisely what Milieudéfensie et al seek to achieve with the reduction order they claimed, the conclusion is that such an order with regard to scope 3 emissions is not effective and Milieudéfensie et al therefore have no interest in their claim.”

It is further interesting to delve into the reasons why the court of first instance took a different view on those issues. The reasons for the difference of opinions lie mainly in two main factors. Firstly, according to the *Production Gap Report* published by the United Nations Environment Programme (UNEP)¹²⁰⁵, a temporary reduction in oil and gas production leads to a certain decrease in consumption. The Court of Appeal contested the relevance of this study for showing the same relationship of cause and effect in the Shell case, by noting that it concerned the American market, and that the conclusions could not have been extrapolated to a specific company such as the defendant in the context of this case¹²⁰⁶. However, it is unclear whether the Court of Appeals has overlooked other expert reports showing similar effects in the context of a specific company, as an expert in the proceedings argued¹²⁰⁷.

Secondly, the first instance court noted that Shell's defence referred to the context of *business as usual* to support its argument relating to *perfect substitution*. However, the court pointed out that the international community concluded the Paris Agreement in 2015, and that its implementation necessarily entails an energy transition, in other words, a *dynamic* completely different to a *static* business-as-usual scenario. This means that other fossil fuel producers will necessarily have to *do their part* too¹²⁰⁸. Furthermore, the court may also have been receptive to the applicants' argument, following which its injunction could have indirect ripple effects, leading to wider changes in this direction. They supported their argument by showing that, since the *Urgenda* case, numerous other claimants have succeeded in suing other States¹²⁰⁹. A similar scenario cannot be excluded for corporate

1205 District Court of The Hague, *Shell, op cit*, § 4.4.50 of the *Shell* judgment referring to Production Gap report 2019, p 50. Moreover, according to the expert report commissioned by the plaintiff associations, even a temporary halt in production - linked, for example, to a resale of Shell's assets - would disrupt energy supplies and increase prices, which would also have the effect of reducing consumption in the long term: Erickson P, "Review of Mulder et al 2020", Stockholm Environment Institute (U.S. Center), 11 December 2020, <https://www.sei.org/wp-content/uploads/2021/05/erickson-shell-letter-final.pdf>, last accessed 28 October 2025.

1206 Court of Appeal of The Hague, *Shell, op cit*, § 7.107.

1207 Green F, "Shell v Milieudéfensie: Sowing the Seeds for Future Climate Litigation against Fossil Fuel Producers" (2024) *Climate Law and Litigation Blog of the British Institute of International and Comparative Law*.

1208 See District Court of The Hague, *Milieudéfensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49 – 4.4.50.

1209 Rotman J, "Expert Report in *Milieudéfensie et al v Royal Dutch Shell*", C/09/571932 / HA ZA 19-379, 2021.

cases. In reality, this scenario materialised to some extent, as the Shell case influenced the European Union, which ultimately integrated climate due diligence obligations in the CSDDD¹²¹⁰. However, the Court of Appeal has not appeared to be receptive to these arguments. It only stated that “a potential signalling effect of a reduction order on other fossil investors is too speculative, and too far removed from Shell’s alleged unlawful conduct to serve as an interest in the reduction order.”¹²¹¹ By simply rejecting one dimension of this argument, the Court of Appeal seems to have dealt too quickly with this case.

Lastly, there is one ultimate limitation, linked to the international business freedoms and the level-playing field, and the fungibility of businesses: Shell could simply relocate the parent company’s headquarters (as it did by moving to London¹²¹²) to circumvent the injunction. While the existence of climate-related harms in a given country, such as the Netherlands, *could* ground the jurisdiction of the corresponding domestic courts (see, for instance, the provisions of the Brussels I Regulation¹²¹³), the judgement still needs to be enforced then by foreign authorities, if the parent company located overseas refuses to comply. The relocation of the parent companies is a classic problem in the regulation of multinationals¹²¹⁴. Only an international solution could provide an adequate solution to this problem, such as adopting a business and human rights treaty, like the one discussed annually in Geneva, or further developing the COP decision to transition

1210 The impact assessment of the CSDDD prepared by the European Commission staff notably mentioned the *Milieudefensie v Shell* judgement multiple times (see European Commission, “Commission Staff Working Document Impact Assessment Report”, Accompanying the Proposal for a Directive on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937, Brussels, 23 February 2022, p 34 especially).

1211 Court of Appeal of The Hague, *Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.109.

1212 Bloomberg, “Shell Investors Back Headquarters Move to U.K.”, 2021.

1213 See Article 7 (2) of the Brussel I Regulation (Regulation (EU) No 1215/2012 of the European Parliament and of the Council of 12 December 2012 on jurisdiction and the recognition and enforcement of judgments in civil and commercial matters (recast)).

1214 See the following article discussing the constitutional compliance of the law on due diligence with freedom of enterprise (a constitutional principle in France): Mougeolle P, “Sur la conformité constitutionnelle de la proposition de loi relative au devoir de vigilance des sociétés mères et des entreprises donneuses d’ordre” (2017) *La Revue des droits de l’homme* [Online], Actualités Droits-Libertés.

away from fossil fuels¹²¹⁵. In the meantime, States should require the adoption of best efforts in line with the universal human rights and tort law requirements.

Given that the top parent company of Shell has displaced its headquarters to London, it is possible that the plaintiffs will need to pursue the case in the UK to enforce it, should the applicants ultimately succeed before the Dutch Supreme Court. Since the UK jurisdiction pioneered the imposition of a tort *duty of care* on parent companies of multinational companies¹²¹⁶, the UK could prove to be a fertile ground for CDD's enforcement, as seen above in subsection 1.3.3.4¹²¹⁷. In any event, the final outcome of *Milieudefensie et al v Shell* before the Supreme Court will have to be followed closely.

Whatever the outcome of this case before the Supreme Court, a perfect regulatory solution cannot be provided by the sole intervention of a *domestic* State (including its judicial branch) because of the limits imposed by the principle of sovereignty in international law. In fact, one particular State cannot regulate the global demand for hydrocarbons, which is projected to remain relatively stable under current policies either way, still in 2023¹²¹⁸. The only way to properly counter this *global* trend is to rely on international collective agreements, but, in the absence of clear coordinated efforts, systemic actors, whether public or private, shall still do *their share* by carrying out *general* due diligence and the related best efforts.

2.3.3.2 The redressability issues in the French corporate climate cases

The French case of *Notre Affaire à Tous et al v TotalEnergies* (NAAT) is also a systemic mitigation case against a so-called 'carbon major', similar

1215 COP 28, "First Global Stocktake", *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 27 - 28.

1216 De Schutter O, "Les affaires Total et Unocal : complicité et extraterritorialité dans l'imposition aux entreprises d'obligations en matière de droits de l'homme" (2006) 52 *Annuaire français de droit international* p 94 ; Palombo D, "Chandler v Cape: An Alternative to Piercing the Corporate Veil Beyond *Kiobel v Royal Dutch Shell*" (2015) *British Journal of American Legal Studies* (Max Planck Institute Luxembourg for Procedural Law).

1217 Varvastian Samira and Kalunga Felix, "Transnational Corporate Liability for Environmental Damage and Climate Change: Reassessing Access to Justice after *Vedanta v Lungowe*", *Transnational Environmental Law*, 2020, p 16-21.

1218 IEA, WEO 2021, p 19-20; IEA, WEO 2023, p 29 – 30.

to Shell¹²¹⁹. Another similar case was launched in 2022 against the financial actor BNP Paribas by NAAT and others, requesting the consistent implementation of the 1.5°C strategy.

2.3.3.2.1 The level of consensus surrounding the claims, and the discretion left by them

Unlike the claimants in *Shell*, NAAT et al requested the enforcement of the overarching corporate CDD duty to limit global warming to 1.5°C by reducing scopes 1, 2 and 3, as a fallback option. They also submitted more precise requests by taking a more sectoral approach focused on fossil fuels. Thus, the specific requests of the claimants in *TotalEnergies* ultimately differ from those in *Shell*, but the general approach remains similar (see subsection 2.3.3.1 just above).

Concerning the legal bases, the applicants rely on the first mandatory due diligence legislation worldwide, namely, the French Law regarding the Duty of Vigilance of parent companies, which obliges large undertakings to supervise their subsidiaries and supply chains to prevent serious human rights abuses and environmental harms, in France and abroad¹²²⁰. In addition, they also base their claims on the general obligation of environmental ‘vigilance’, found by the Constitutional Council in 2011¹²²¹, combined with Article 1252 of the Civil Code. This latter provision, introduced into the Code in 2016, enables courts to order reasonable measures to cease or prevent pure ecological damages in tort cases¹²²². As Part 1 shows, these general legal bases apply to climate change. This opinion was confirmed in

1219 According to the Carbon Majors Reports, TotalEnergies (formerly Total) is one of the 20 companies contributing the most to global warming worldwide (see Carbon Disclosure Project, Heede R, “Carbon Majors Report 2017”) since Total’s direct and indirect GHG account each year for approximately 1% of global emissions (458 Mt CO₂eq).

1220 Loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d’ordre, for an English translation and presentation of the Law.

1221 This obligation of environmental vigilance derives from articles 1 and 2 of the French Environmental Charter and has been recognized by the Constitutional Council in the decision: *Michel Z*, n° 2011-116 QPC, 8 April 2011.

1222 Before this reform was passed in 2016, the French Civil Code did not provide for the possibility of claiming pure environmental losses (i.e. *préjudice écologique*); it was only a jurisprudential notion. The lawmaker then also introduced preventive legal actions apart from interim proceedings.

a case against the French State by the Administrative Court of Paris, which ruled that global warming constitutes an ecological injury.

Despite those specific legal bases, some uncertainty remains concerning the extent to which it is possible to request changes in corporate conduct to prevent climate-related harms. Against this background, the NGOs make the following arguments. Firstly, they argue that the 1.5°C transition remains consensual and feasible on a global scale, by showcasing the main corresponding findings of the IPCC and the IEA reports, which also provide indications for the oil and gas industry¹²²³.

Secondly, the applicants consider that the respondent companies have the ability to reduce hydrocarbon production and stop their contribution to further fossil fuel exploration. This is also necessary in order to achieve the 1.5°C goal of the Paris Agreement, as recognised by various different scientific bodies¹²²⁴, specific institutions working on corporate climate standards¹²²⁵, the international community at COP¹²²⁶, or even the French government¹²²⁷. Multinational oil and gas companies such as TotalEnergies and global financial actors such as BNPP, which provide the financial resources to fossil fuel enterprises, are indeed well placed to take action.

Thirdly, even TotalEnergies and BNP recognise the relevance of the temperature objective of the Paris Agreement, and their ability to reduce emissions. More specifically, TotalEnergies adopted in 2020 a “net zero goal

1223 IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021, p 13: “The pathway described in depth in this report [...] is designed to maximise technical feasibility, cost-effectiveness and social acceptance while ensuring continued economic growth and secure energy supplies.”

1224 See, among others, IPCC, AR6, WG III, TS, p 90, Box TS.8; IEA, NZE by 2050, Special Report, May 2021, p 21: “There is no need for investment in new fossil fuel supply in our net zero.”

1225 UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities, “Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions”, 2022, p 7: “net zero is entirely incompatible with continued investment in fossil fuels.”

1226 COP 28, “First Global Stocktake”, FCCC/PA/CMA/2023/L.17, 13 December 2023, § 28 : “28. Further recognizes the need for deep, rapid and sustained reductions in greenhouse gas emissions In line with 1.5 °C pathways and calls on Parties to contribute to the following global efforts: [...] (d) Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner”.

1227 The following legislation confirmed that it is necessary to stop new fossil fuel exploration globally to achieve the Paris Agreement temperature objective, see Explanatory Memorandum of the *Loi n° 2017-1839 du 30 décembre 2017 mettant fin à la recherche ainsi qu'à l'exploitation des hydrocarbures et portant diverses dispositions relatives à l'énergie et à l'environnement*.

with society” by 2050¹²²⁸, recognised the need to “transitioning away” by quoting the COP 28 decision¹²²⁹, sets out emissions reduction goals and measures on scope 1, 2 and 3 emissions; and BNP claims to adhere to a 1.5°C strategy in its vigilance plan, including in its financing and investment activities, to reduce the scope 3 emissions¹²³⁰.

Thus, given the preceding analysis in Part 2, the Court of Appeals judgement of The Hague, French courts should at least enforce the overarching *general* corporate duty to implement climate due diligence, such as the one adopted by the CSDDD. It is questionable, however, whether courts can go beyond and specify the requirements by notably ordering specific outcomes with respect to fossil fuels.

2.3.3.2.2 The adequacy and proportionality of the requests

While the 1.5°C energy transition remains possible, in theory, if everyone cooperates to mitigate climate change profoundly¹²³¹, the world is not acting correspondingly, nor is it on track to achieve this objective. According to the international community reunited at COP 28 in 2023, current existing measures lead to 2.1 to 2.8°C¹²³². Thus, the same questions exist as in the *Milieudefensie et al v Shell* case. What can one corporate actor do if the world is not implementing the corresponding 1.5°C measures, especially in the fossil fuel sector? Shouldn’t private enterprises only adapt to State regulations, such as Total did with its commitment to reach net zero in Europe by 2050, consistent with the European Green Deal? Wouldn’t that be counterproductive if only TotalEnergies and BNP Paribas reduce their emissions and cease their oil and gas activities/funding by selling their assets to others, but without any real impact on worldwide emissions (i.e., if their activities are simply substituted)?

1228 Notre Affaire à Tous (NAAT) et autres, *Nouvelles ambitions de Total en matière de changement climatique : une "neutralité carbone" à géométrie variable* ? 5 mai 2020.

1229 TotalEnergies, Document d’enregistrement universel 2023, 29 mars 2024, p 179.

1230 Notre Affaire à Tous, *Benchmark de la vigilance climatique des multinationales* (2023), p 42, and 56.

1231 See, among others, IEA, “Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach”, 2023 Update, p 17 and 147.

1232 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 18.

It is entirely clear that one single private actor cannot effectively mitigate climate change if worldwide state regulations are not in place, nor in a single country. For example, States cannot entirely avoid some rate of carbon leakage when they issue domestic or regional mitigation measures. Nevertheless, the applicants claim in essence that every single actor must *do their part*, as in the contentious cases against States, and therefore, be *proactive*, as the OECD Guidelines establish¹²³³.

In addition, the French Duty of Vigilance Law was rightly adopted to require multinational companies to proactively tackle serious human rights and environmental risks by adhering to a certain *minimum* standard of care, even if the situation abroad or globally does not provide the legal or factual circumstances to meet this standard¹²³⁴. Considering that the Paris Agreement was ratified almost universally and that considerable social and environmental risks are associated with global warming, it is clear that there is a strong interest in pursuing its realisation. Further, as stated above, compelling reasons exist to require relevant corporate actors such as TotalEnergies and BNPP to limit warming to 1.5°C. Accordingly, French courts should at least compel TotalEnergies and BNPP to establish such a Paris-compliant 1.5°C strategy, akin to the CSDDD. If so, the company would still conserve a significant margin of discretion, akin to that of Switzerland, after the ECtHR *KlimaSeniorinnen* ruling (see the subdivision above 2.3.2.5.2).

What could applicants argue if they consider the measures implemented by TotalEnergies to still be insufficient after a possible injunction? Could the courts impose more precise measures?

The applicants notably contend that companies must cease the development and financing of new oil and gas projects, a measure which would significantly curtail the companies' discretion. Despite the recognised need to stop oil and gas exploration, which has been recognised multiple times in legislation, institutional and scientific reports, one can still reasonably doubt that it is enough for a strict obligation of results, given that there is no international law forbidding this activity. Nonetheless, it is worth noting that the ICJ recognised in its 2025 advisory opinion on climate change that the failure to adequately regulate fossil fuel production, or exploration, may

1233 OECD, "Guidelines for Multinational Enterprises", 2011 Edition, § 69.

1234 Potier D, "Rapport No. 2628 sur la proposition de loi (n° 2578), relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre", 11 March 2015, p 31.

constitute a wrongful act¹²³⁵. In light of this, and since CDD and the French Duty of Vigilance is an obligation of conduct – or means¹²³⁶, a court could issue an injunction to cease oil and gas exploration, as it would necessarily leave some margin of appreciation to the company. These conditions are sufficiently proportionate and sufficiently effective to be redressable in court in the view of this PhD dissertation.

2.3.3.3 The probable lack of redressability of the specific claims in Germany against carmakers

In Germany, different individual plaintiffs supported by the NGOs Greenpeace and DUH (Deutsche Umwelthilfe) filed three systemic mitigation cases in 2022 against significant car manufacturers (Volkswagen, BMW, Daimler)¹²³⁷.

2.3.3.3.1 A lack of consensus or discretion in the precise requests

The claimants asked the respondent companies to reduce their carbon footprints in line with *specific* calculations they made, and to cease the production of combustion cars by 2030. As a legal basis, they rely on the *general* duty of care enshrined in German tort law (hence, *general* due diligence, see section 1.3.3). To further ground their claim, the applicants also relied on the 2021 German Constitutional Court decision.

Regarding the specific calculations, the applicants inferred from the IEA scenarios the need to reduce the GHG emissions by 65% by 2030 and to cease the sales of combustion cars by then¹²³⁸. To find the end date 2030, the applicants inferred from the average lifecycle of the automotive vehicles indicated by the IEA (around 17 years) that their sales should stop before 2035, since climate neutrality must be reached by 2050. However,

1235 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 427.

1236 Potier D, Rapport No. 2628 sur la proposition de loi (n° 2578), *op cit*, p 31.

1237 See, for instance: *Barbara Metz (Deutsche Umwelthilfe e.V.) v Bayerische Motoren Werke (BMW) AG*, 21. September 2021. Similar complaints were brought against Volkswagen and Daimler.

1238 See, for instance, the claim against Volkswagen before the Court of Braunschweig: *Kaiser et al v Volkswagen AG*, p 58 et seq, <https://climatecasechart.com/non-us-cases/kaiser-et-al-v-volkswagen-ag/>, last accessed 28 October 2025.

in subsequent reports, the IEA has not provided concurring opinions in this respect. Instead, the IEA stated that no combustion cars should be sold anymore by 2035 globally, thus five years later than the applicants' requests. While the IEA provides in some sector-specific indications for OECD countries, which are often more ambitious than for the rest of the world, it has not done this in the automotive sector, perhaps because a significant part of the electric vehicle production comes from China, a non-OECD country¹²³⁹. Note furthermore that the IPCC does not provide specific indications on the exit of combustion cars. Thus, in light of the previous findings of this subpart 2.3 on redressability, the requests in these pending cases do not reflect consensual scientific indications, a needed condition to grant this type of request, and since they do not leave any margin of appreciation concerning the setting of objectives.

Furthermore, in the automotive sector, the EU regulated the emissions performance of cars. In 2023, the EU agreed to cease the sale of combustion cars by 2035 and decided to remove the incentive for zero-emissions cars by 2030¹²⁴⁰. Said differently, the lawmaker already devised these standards. Can due diligence go beyond those?

2.3.3.3.2 Specific requests preempted by *lex specialis* according to the courts

The German courts, ruling in first instance and in appeal, have all dismissed the corporate cases so far, arguing that the *lex specialis* apply and that there is no manifest lack of *general CDD* violation by the car-making companies.

For example, the lower court of *Braunschweig* noted in the case against Volkswagen that the *specific* law of the EU requires minimal standards in the automotive sector, therefore concluding that the reformed EU regulation establishes the relevant conduct¹²⁴¹. Furthermore, the court argued that the EU regulation is more legitimate than the specific requests in this context since it balances all the relevant different interests, those of the

1239 IEA, "Net Zero by 2050: A Roadmap for the Global Energy Sector", 2021, p 138.

1240 Regulation (EU) 2023/851 of the European Parliament and of the Council of 19 April 2023 amending Regulation (EU) 2019/631 as regards strengthening the CO₂ emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition.

1241 Landgericht Braunschweig, *Kaiser et al v Volkswagen*, 6 O 3931/21, 14.03.2023, see especially p 19 - 20

industry, the wider population and the international community¹²⁴². The Court's response only seems partially valid since it only concerns the EU geographic space, whereas the applicants' request relates to the worldwide activities of the corporate group. There should still be room for requesting 1.5°C due diligence measures on scopes 1, 2 and 3 by leaving some margin of appreciation, akin to the requirements of the CSRD and CSDDD (see the subsection 2.3.3.4 on those European Directives). However, according to the published complaints and the courts' judgements, this request was not presented. Nonetheless, as found by the Court of Appeal in The Hague, with which this thesis agrees, this request should be redressable.

Furthermore, the *Braunschweig* court stated that the applicants cannot request Volkswagen to go beyond State regulations based on *general* tort law¹²⁴³. While this stance may be partly valid in the specific circumstances of this case, due to Germany's *a priori* compliance with CDD after the Constitutional Court ruling, due diligence requires, in principle, private actors to do their share *proactively*, especially if there is no regulation in place, or if they are insufficient. Nonetheless, the Braunschweig Court argued that the Constitutional Court recently clarified the State's duty to protect, and that the German Parliament subsequently issued updated carbon budgets for the transportation sector, including to comply with the judgement¹²⁴⁴. Furthermore, the EU adopted the regulation on the exit of combustion cars by 2035 to implement the European Climate Law, aimed at limiting warming to 1.5°C. Consequently, the Court considered that the State, and, implicitly, the EU, may have complied with its own due diligence, and therefore, the applicants were not in a position to request any conduct different from those regulations¹²⁴⁵.

Lastly, the *Braunschweig* court stated that the fear of the respondent company of being substituted by competitors producing combustion cars after 2030 on the global market is not invalid if it has to implement the claimants' requests¹²⁴⁶. It also stated that the applicant's request may infringe on their business liberties and the general liberties protected by the German constitution¹²⁴⁷. These principles indeed apply to those cases, and

1242 *Ibid.*

1243 *Ibid.*

1244 *Ibid.*, p 18 and p 26.

1245 *Ibid.*

1246 *Ibid.*, p 26 – 27.

1247 *Ibid.*, p 26 – 27 (*ibid.*).

the Court may not have erred in this respect, since the plaintiffs' request did not leave any flexibility to the companies.

However, the claimants could have still proposed to judicially review the conduct of the respondent by assessing whether the respondent parent companies approached the issue with due diligence, i.e., whether they indeed performed all the necessary steps to combat climate change with respect to the worldwide activities, by claiming the overarching general 1.5 CDD duty. Again, they did not request this, but they could still potentially do so in a parallel case, which is pending before the Court of Appeal in Hamm¹²⁴⁸.

In the other case against Daimler (Mercedes-Benz), the Stuttgart court considered, like the *Braunschweig* court, that the lawmaker has the constitutional reservation to decide on this issue, and that the EU institutions lawfully exercised this power. The Stuttgart court added that individual lawsuits cannot correct any insufficiencies of the *specific* legislation regulating corporate actors, such as the EU Regulation providing for the 2035 thermal car exit, as the German Constitutional Court requires an exhaustive regulatory approach ("*Gesamtkonzept*"), meaning that providing "corrections" through the casuistic approach of interpreting tort law would not fulfill this requirement¹²⁴⁹. While this reasoning does not seem entirely invalid either in the context of the specific requests of the plaintiffs, it is worth noting that the general CDD duty, which requires a 1.5°C transition plan under either the CSDDD or tort law, applies to all corporate actors. Making this type of request would offer the court the chance to enforce existing law, grant some flexibility to the respondents, and avoid the need to find casuistic interpretation.

The Court of Appeals of Stuttgart also dismissed the case against BMW. However, the applicants in this case – supported by the NGO DUH – announced in a press release their appeal to the Supreme Court (*Bundesgerichtshof*)¹²⁵⁰. These cases are, therefore, now in the hands of the German Supreme Court (*Bundesgerichtshof*). Only one case remains with the Court of Appeals of Hamm. This thesis finds that it is unlikely that the Supreme

1248 See the following press release by the coordinating NGO Greenpeace, indicating a parallel case before the Court of Appeal of Hamm: Greenpeace Germany, "VW-Klage vor Gericht", *Greenpeace*, 25 July 2024.

1249 Landgericht Stuttgart, 13.9.2022 – 17 O 789/2, § 25 - 26.

1250 Deutsche Umwelthilfe e.V., "Klimaklage gegen Mercedes-Benz: Deutsche Umwelthilfe zieht vor den Bundesgerichtshof", 2023, <https://www.duh.de/presse/pressemitteilungen/pressemitteilung/klimaklage-gegen-mercedes-benz-deutsche-umwelthilfe-zieht-vor-den-bundesgerichtshof/>, last accessed 19 October 2025.

Court will decide differently, given that the applicants' requests are not adequately supported by consensual ingredients. However, the Supreme Court could still provide an *obiter dictum* on the redressability of *general* CDD, or the CSDDD, as stated above, in a similar manner to the Hague Court of Appeal.

2.3.3.4 Lex specialis and separation of powers issues in the USA

Akin to German courts, US federal courts rejected the lawsuits for *lex specialis* reasons and wider separation of powers issues.

Indeed, in *American Electric Power Company v Connecticut*, the Supreme Court of the USA rejected a request to regulate the emissions of fossil-fired power plant operators because the Clean Air Act displaces the applicability of federal tort law, and the corresponding competence of the federal judge. Consequently, this task falls within the remit of the EPA (i.e., Environmental Protection Agency), which has the duty to decide over those issues, as found by the Supreme Court in *Massachusetts*¹²⁵¹.

To further justify this decision, the Supreme Court explained that federal courts do not have a creative power akin to Congress¹²⁵². It further stated that activities emitting GHGs play a significant role in the economy, and that the “energy needs and the possibility of economic disruption must weigh in the balance.”¹²⁵³ This balancing act should be done by the political branches, especially the EPA, which has the expertise and not the courts, in the Supreme Court's view. This consideration on the *lex specialis* shows the intimate link of this concept with the separation of powers¹²⁵⁴.

Despite the application of the *lex specialis* principle, tort law still applies to all other climate matters not regulated by the Clean Air Act, at least in principle. However, in subsequent cases, while plaintiffs tried to frame the cases in such a manner to ensure the applicability of general tort law, courts still rejected them.

1251 SCOTUS, *American Electric Power v Connecticut*, 564 U. S. ____ (2011).

1252 *Ibid*, p 8.

1253 *Ibid*, p 13.

1254 See the concurring opinions by the Court of Appeals For The Ninth Circuit, *Kivalina v Exxonmobil et al*, No. 09-17490, 21 September 2012, p 11656; District Court For The Northern District Of California, *City of Oakland v BP et al*, Case 3:17-cv-06011-WHA, 2018, p 10.

For example, the native village of Kivalina sought compensation in 2008 from large energy companies by arguing that, before the *Massachusetts* ruling and the subsequent endangerment finding by the EPA, GHG-emitting activities were not regulated. However, the Court of Appeals for the Ninth Circuit argued that the *lex specialis* displacement concerns all types of remedies, whether it is injunctive relief for mitigation claims, or compensation.¹²⁵⁵ Thus, the Court of Appeal for the Ninth Circuit extended the displacement ruling over past fossil fuel emissions of oil producers, even if these emissions were not at all regulated¹²⁵⁶, a decision which the Supreme Court confirmed by rejecting the appeal to it¹²⁵⁷.

In doing so, US federal courts considered that the lawmakers decided “to occupy the entire field” by enacting the Clean Air Act¹²⁵⁸. In reality, the US lawmakers never specified when enacting the latter Act that they intended to regulate climate mitigation at all, nor that they wanted to do so by occupying the entire field of corporate climate regulation. Rather, the Supreme Court found that the EPA has a duty to regulate emissions, given that the Clean Air Act mandates the regulation of dangerous pollutants (see commentary of *Massachusetts*). In this light, *Kivalina* is highly problematic, even more so since corporate groups – especially fossil fuel companies – succeeded in lobbying the federal government not to regulate, despite knowing that their GHG emissions and products would cause climate-related harm (see Part 3).

In more recent cases filed by public local authorities seeking compensation for emissions linked to the worldwide combustion of oil and gas products (i.e., so-called scope 3 emissions after the publication of the Heede report¹²⁵⁹), federal courts also rejected those claims, while other cases are still pending before state courts. It is worth explaining that the responsibility of oil companies over their products (and related scope 3 emissions) was strictly speaking not regulated by the Clean Air Act, nor by state law. However, courts decided in the same direction. Firstly, they ruled again that these emissions are eventually regulated by the CAA, since the domestic automotive and industrial emissions regulated by the CAA overlap with

1255 United States Court of Appeals For The Ninth Circuit, *Kivalina v Exxonmobil et al*, No. 09-17490, 21 September 2012, p 11655.

1256 *Ibid*, p 11655.

1257 See, *Native Village of Kivalina v ExxonMobil Corp*, <https://climatecasechart.com/case/native-village-of-kivalina-v-exxonmobil-corp/>, last accessed 29 October 2025.

1258 United States Court of Appeals For The Ninth Circuit, *Kivalina*, *op cit*, p 11655.

1259 Heede R, *The Carbon Majors Dataset*, CDP, 2017.

the scope 3 emissions of oil and gas companies¹²⁶⁰. Furthermore, a district court in California stated that the problem before this lawsuit regarding oil was too little availability for a long period of time, and that a specific Act (Energy Policy Act) aimed to reduce dependence on the import of oil, by increasing the domestic production¹²⁶¹. Given this interference of the claimants' requests with those policies, regulating the consumption of fossil fuels rests with the political branch.

Moreover, the same Californian district court stated that oil and gas companies cannot be sued for their indirect scope 3 emissions because they cannot be attributed to those companies and because they arise abroad¹²⁶². This reasoning contradicts, to some extent, the subsection of this thesis on causation and attribution, which found that due diligence obligations require adequate and proportionate measures in line with the capacity to reduce those emissions, meaning that full and exclusive responsibility cannot be imposed on Scope 3 emissions. Notwithstanding these considerations, the local public authorities requested full compensation¹²⁶³, which is not consistent with the due diligence and shared responsibility principles.

Regarding extraterritoriality, a Californian court applied the so-called doctrine of the "presumption against extraterritoriality" of federal law. Recently applied by the Supreme Court in cases against foreign corporate actors under the so-called *Alien Tort Statute*, a Californian court argued that federal tort law or other general statutes whose extraterritorial applicability was not affirmed by Congress cannot apply extraterritorially¹²⁶⁴. However, the Court of Appeals for the Second Circuit questioned the applicability of the doctrine of the "presumption against extraterritoriality" to federal law. It stated that this doctrine is restricted to statutory interpretation. Hence, the Court of Appeals did not extend this doctrine to federal law, but it still rejected the case as it was "reluctant to give judge-made rules international effect in this context."¹²⁶⁵

1260 United States Court of Appeals For the Second Circuit, *City Of New York v Chevron Corporation*, Case 18-2188, Document 267-1, 04/01/2021, p 10 and 29 - 36.

1261 District Court For The Northern District Of California, *City of Oakland v BP et al*, Case 3:17-cv-06011-WHA, 2018, p 10.

1262 *Ibid*, p 9.

1263 *Ibid*, p 11.

1264 *Ibid*, p 10; referent to *Jesner v Arab Bank, PLC*, 138 S. Ct. 1386, 1402 (2018) (citing *Sosa*, 542 U.S. at 727).

1265 United States Court of Appeals For the Second Circuit, *City Of New York v Chevron Corporation*, Case 18-2188, Document 267-1, 04/01/2021, p 45.

The judge further noted the *amicus brief* of the US government, which argued that producing and consuming fossil fuels is lawful everywhere worldwide. The judge concluded that climate change is a global problem that “deserves a solution on a more vast scale than can be supplied by a district judge”¹²⁶⁶. However, requesting proactive and best efforts to limit global warming to 1.5°C, by transitioning away from fossil fuels, is in line with the Paris Agreement and the international COP 28 decision. Not implementing these steps is at odds with due diligence and constitutes negligence. Thus, this request should still be enforceable.

Lastly, some requests did not reflect shared responsibility principles, such as the desired full compensation for remedying the loss. Indeed, as the Court of Appeal in New York noted, “to avoid all liability, then their only solution would be to cease global production altogether”¹²⁶⁷. This proposal is not consistent with the principles of proportionality or shared responsibility, upheld in the successful cases. Thus, in theory, these cases did not exhaust the attempts to impose due diligence types of efforts on parent companies located in the USA over worldwide emissions.

Consequently, this PhD thesis argues that these US cases did not meet the conditions of successful cases. Firstly, the claims did not reflect the international consensus (none of the claims quoted the Paris Agreement, or IPCC elements), nor shared responsibility (i.e., individual and limited responsibility over scope 3 emissions). Thus, this PhD considers that the chances of success of remaining cases before state courts are very low if the framing of the requests remains similar, even though some state courts recognised that they have jurisdiction to hear those cases.

2.3.3.5 The redressability of the EU Corporate CDD 1.5°C transition plan obligation

The EU adopted in 2024 the Corporate Sustainability Due Diligence Directive (CSDDD), which required corporate actors to carry out best efforts to

1266 District Court For The Northern District Of California, *City of Oakland v Bp et al*, Case 3:17-cv-06011-WHA, 2018, p 15.

1267 United States Court of Appeals For the Second Circuit, *City Of New York v Chevron Corporation*, Case 18-2188, Document 267-1, 04/01/2021, p 24. See as well District Court For The Northern District Of California, *City of Oakland v BP et al*, Case 3:17-cv-06011-WHA, 2018, p 11.

implement human rights and environmental due diligence¹²⁶⁸. By having done so, the EU attempted to harmonise *general* due diligence, an interpretation shared by the European Commission, which stated that “[t]he Directive establishes a general horizontal framework (*lex generalis*) for sustainability due diligence for very large EU and non-EU companies.”¹²⁶⁹ The CSDDD also entailed an obligation of means to establish and implement a 1.5°C transition plan in line with the Paris Agreement on so-called “scope 1”, “scope 2” and “scope 3” emissions¹²⁷⁰ in its Article 22:

“Article 22: Combating climate change 1. Member States shall ensure that companies referred to in Article 2(1), points (a), (b) and (c), and Article 2(2), points (a), (b) and (c), adopt and put into effect a transition plan for climate change mitigation which aims to ensure, through best efforts, that the business model and strategy of the company are compatible with the transition to a sustainable economy and with the limiting of global warming to 1,5 o C in line with the Paris Agreement and the objective of achieving climate neutrality as established in Regulation (EU) 2021/1119, including its intermediate and 2050 climate neutrality targets, and where relevant, the exposure of the company to coal-, oil- and gas-related activities. The design of the transition plan for climate change mitigation referred to in the first subparagraph shall contain: (a) time-bound targets related to climate change for 2030 and in five-year steps up to 2050 based on conclusive scientific evidence and, where appropriate, absolute emission reduction targets for greenhouse gas for scope 1, scope 2 and scope 3 greenhouse gas emissions for each significant category; (b) a description of decarbonisation levers identified and key actions planned to reach the targets referred to in point (a), including, where appropriate, changes in the product and service portfolio of the company and the adoption of new technologies; (c) an explanation and quantification of the investments and funding supporting the implementation of the transition plan for climate change mitigation; and (d) a description of the role of the administrative, management and supervisory bodies with regard to the transition plan for climate change mitigation.”

1268 CSDDD stands for “Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence”.

1269 European Commission, Directive on Corporate Sustainability Due Diligence, Frequently asked questions, 2024.

1270 See the glossary for the definition of “scope 1”, “scope 2” and “scope 3” emissions.

In this regard, this PhD considers that this obligation is – or was – the attempt to consolidate in legislation the overarching corporate *general* CDD duty. While this Directive was modified at the end of writing this doctoral dissertation under the so-called “Omnibus” Proposal (see below), this section first seeks to understand whether *general* CDD or Article 22 could have been enforced by judicial bodies, and then discusses the validity of the CSDDD after the Omnibus reform post 2026.

Regarding the potential redressability of former Article 22, the EU did not specify whether the climate-related provision in Article 22 was linked to the civil liability provisions of Article 29. Delving into the main provisions of the Directive and the legislative developments is necessary to better understand whether Article 22 could have been judicially monitored.

The initial CSDDD Proposal of the Commission explicitly left out climate (CDD) from the general regime, including its links to the civil liability provisions¹²⁷¹. It only provided for administrative enforcement as regards CDD. The version adopted by the European Parliament in 2023 strengthened the substantive climate requirements and made them fully enforceable, including via explicit links to civil liability¹²⁷². The final version, approved by all institutions, then maintained a substantive best efforts obligation in Article 22 (1), linked to administrative enforcement (Article 24 (1) and Article 25 (1)). While Article 29 provisions on civil liability did not explicitly provide for an applicability to CDD, by neither mentioning Article 22 nor specifically climate-related issues in general, Member States had leverage to decide this in the course of the transposition procedure.

Additionally, human rights violations, especially the right to life, and environmental issues – including “harmful emissions” – could form a valid cause of action according to Article 29 CSDDD on civil liability¹²⁷³. Given the consolidated case-law on the links between human rights, the environment, and climate change (see especially Part 1 of this thesis), climate should eventually be captured by the civil liability provisions. Moreover,

1271 See Articles 15, 17 and 29 (d) of the European Commission, “Proposal for a Directive on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937”, Brussels, 23 February 2022, COM(2022) 71 final 2022/0051 (COD).

1272 European Parliament, “Amendments adopted by the European Parliament on 1 June 2023 on the proposal for a directive of the European Parliament and of the Council on Corporate Sustainability Due Diligence”, (Ordinary legislative procedure: first reading), 1 June 2023.

1273 See CSDDD, Article 29 (1) on civil liability relates to the rights, prohibitions, and obligations included in the Annex, Part I and II.

the Directive stipulated that more stringent developments in domestic law in terms of human rights or environmental protection should remain unaffected by the CSDDD transposition¹²⁷⁴. Thus, the CSDDD should have eventually led to the judicial enforceability of CDD.

In this light, it seems reasonable to argue that the Directive CSDDD consolidated and harmonised the emerging corporate CDD requirements, alongside the parallel developments in case law in some countries, among others, the Netherlands, France, and Germany¹²⁷⁵. It clarifies that corporate groups must implement appropriate measures to set up 1.5°C strategies, akin to States, which must endeavour their best efforts in this respect as well (see the *KlimaSeniorinnen* judgement or the international advisory opinions of the ICJ and ITLOS).

Despite these developments, competitiveness issues, accentuated by the re-election of Donald Trump, have overtaken European achievements. Indeed, the European legal developments contrast with those in the USA: litigation attempts in the USA are not successful, probably because they do not request best efforts in line with international consensus, but instead full liability (see subsection 2.3.3.4 just above); and the US regulator (the Securities and Exchange Commission) has dropped Scope 3 disclosure rules in February 2024 under the Biden Administration¹²⁷⁶. This fragmented landscape of legal requirements prompted the EU to rethink its recent legislation. More precisely, the September 2024 “Draghi” report on EU competitiveness recommended a reduction in the regulatory burden following European reforms relating to the Green Deal and corporate sustainability issues¹²⁷⁷, in particular the CSDDD¹²⁷⁸.

1274 See Article 4 CSDDD.

1275 This thesis mentioned several times the judgement of the Supreme Court of New-Zealand in *Smith v Fronterra et al*, SC 149/2021 [2024] NZSC 5, 2024 (see, among others, subdivision 1.3.4.5); however, there are as well similar pending cases in Belgium, Italy, and other countries.

1276 Prentice C et al, “Exclusive: US regulator drops some emissions disclosure requirements from draft climate rules”, *Reuters*, 23 February 2024.

1277 Draghi M (coordinator), “The future of European competitiveness, Part B: In-depth analysis and recommendations”, September 2024, p 318–322.

1278 See, as well, Marcu A, Mehling M and Ruiz A, *Evaluation of the Corporate Sustainability Due Diligence Directive* (ERCST – European Roundtable on Climate Change and Sustainable Transition, 9 December 2024).

Based on this report, the European Commission proposed a series of legislative amendments as part of the “*Omnibus*” text¹²⁷⁹. More specifically, this proposal aimed to further relax the constraints of the climate transition plan in Article 22 of the CSDDD by blurring the lines on the corresponding obligation to implement the plan, which is no longer stated as clearly. Furthermore, the Commission disclosed its willingness to “align” Article 22 of the CSDDD regime with the duty to disclose a climate transition plan under the CSRD, even though the latter is a directive on reporting, which in itself only imposes communication obligations¹²⁸⁰. These developments are at odds with the obligation to regulate companies effectively in relation to climate issues¹²⁸¹.

Furthermore, with regard to Article 29 on civil liability, the European Commission proposed to remove most of its specific provisions, so that national civil liability regimes can (potentially) apply instead¹²⁸². Such a proposal seems unsatisfactory given the complexity of the obligations and factual situations involved, which require, according to the international and human rights State duty to regulate¹²⁸³, clear, precise and, preferably, harmonised liability law, at least at the EU level. In fact, as shown by the cases currently pending before the national courts, the proceedings are excessively lengthy in view of the need for preliminary decisions on the jurisdiction and admissibility of these cases, whereas these proceedings could be more clearly defined. This wastes valuable time for the judicial system, particularly for victims and the fight against climate change.

Even the European Central Bank (ECB) has adopted a critical stance towards the proposed reforms, arguing that the Omnibus amendment proposals on climate transition plans create ambiguity and increase the ‘risk of greenwashing’¹²⁸⁴. In addition, the European Network of National Human

1279 European Commission, Proposal for a Directive amending Directives 2006/43/EC, 2013/34/EU, (EU) 2022/2464 and (E.U.) 2024/1760, as regards certain corporate sustainability reporting and due diligence requirements, COM(2025) 81 final, 2025/0045 (COD), Brussels, 26.2.2025.

1280 *Ibid*, p 19 and Article 4(10) of the proposed Omnibus Directive

1281 See subdivision 2.2.2.1.1, besides the ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 282.

1282 *Ibid*, p 8 and Article 4(12) of the proposed Omnibus Directive.

1283 See, for example, Subdivision 2.2.2.1.1, which addresses the general “State duty to regulate private actors and extraterritorial events”.

1284 ECB, Opinion on proposals for amendments to corporate sustainability reporting and due diligence requirements (CON/2025/10), 8 May 2025, § 4.1.2.

Rights Institutions (ENNHRI)¹²⁸⁵ and the French National Consultative Commission on Human Rights (CNCDH) issued respective unfavorable opinions on the European Commission's Omnibus proposal, which could undermine "essential regulatory advances to protect human rights and the environment in the context of corporate activities."¹²⁸⁶

Despite these opinions, in the summer of 2025, the EU made a commitment to the United States to ensure that the CSDDD does not impose undue restrictions on transatlantic trade within the framework of the bilateral agreement in principle between the EU and the United States on customs tariffs and other trade issues¹²⁸⁷.

Article 22 was eventually deleted by the EU at the beginning of 2026¹²⁸⁸. This political reform, adopted in a context in which the Trump administration exercised pressure alongside fossil fuel producers such as Exxon and TotalEnergies on the EU institutions to remove this provision¹²⁸⁹, seems inconsistent with the State CDD duty to regulate corporate actors under international and human rights law¹²⁹⁰, but also with the non-regression principle, recognised both in the Treaties and in the CSDDD¹²⁹¹.

1285 ENNHRI, ENNHRI raises important concerns over the European Commission's Omnibus I proposal, Mar. 2025.

1286 CNCDH, *Omnibus I proposal: resisting deregulation at the expense of human rights and the environment*, 20 May 2025.

1287 European Commission, Joint Statement on a United States-European Union framework on an agreement on reciprocal, fair and balanced trade, 21 Aug. 2025, § 12.

1288 See Council of the EU, Council and Parliament strike a deal to simplify sustainability reporting and due diligence requirements and boost EU competitiveness (Press release, 9 December 2025), <https://www.consilium.europa.eu/en/press/press-releases/2025/12/09/council-and-parliament-strike-a-deal-to-simplify-sustainability-reporting-and-due-diligence-requirements-and-boost-eu-competitiveness/>. See the consolidated Directive here: Directive (EU) 2026/470 of the European Parliament and of the Council of 24 February 2026 amending Directives 2006/43/EC, 2013/34/EU, (EU) 2022/2464 and (EU) 2024/1760 as regards certain corporate sustainability reporting requirements and certain corporate sustainability due diligence requirements (Text with EEA relevance).

1289 Leth D O, The secretive cabal of US polluters that is rewriting the EU's human rights and climate law, *SOMO*, 3 December 2025.

1290 See the concurring opinion by more than fifty Professors of Law: Wetzer T et al, Legal Scholars: "Abandoning Article 22 CSDDD Risks Policy Incoherence and Litigation Risk", 23 November 2025 Letter-from-legal-scholars-on-Art.-22-CSDDD.pdf.

1291 Article 191 (1) Treaty on the Functioning of the EU obligates Member States of the EU to pursue progress regarding the protection of the environment and human health; hence, any regression should be prevented. Article 1 (2) CSDDD also

In any event, the validity of the current version of the CSDDD will certainly be questioned before domestic and European courts. Nonetheless, the regulatory battle is certainly far from over. New strategies to exert influence are to be expected in a context marked by the tabling of a bill in the US Senate aimed at blocking the implementation of the CSDDD¹²⁹².

2.3.3.6 Intermediate conclusion

Subsection 2.3.3.1 showed that the Dutch courts confirmed the existence of a *general* corporate CDD duty to reduce scope 1, 2 and 3 emissions in line with the Paris goals. Furthermore, this subsection argued that the reduction order to cut emissions by 45% by 2030 compared to 1990 could have been further confirmed by the Court of Appeal, provided the obligations were framed as a best efforts one. Indeed, the encompassed flexibility in the latter notion could have overcome the lack of consensus and proportionality of the first instance order.

Subsection 2.3.3.2 showed that the French Duty of Vigilance Law can require French parent companies to perform *general* CDD to limit global warming to 1.5°C, by reducing scope 1, 2 and 3 emissions. It further argued that the sectoral fossil fuel requests could be redressable in light of the consensus surrounding those, and the leeway granted by the notion of obligation of means of the latter Law.

Subsection 2.3.3.3 demonstrated that the claimants' requests in the German cases do not reflect scientific and institutional consensus, nor do they leave enough margin of appreciation, facing therefore redressability issues. Furthermore, while lower and appeals courts rejected those cases for *lex specialis* reasons, these decisions do not rule out the applicability of the *general* CDD of parent companies over scope 3 emissions.

Similarly, subsection 2.3.3.4 showed that US federal courts dismissed corporate cases for similar reasons as in Germany (i.e., *lex specialis* and other related separation of powers issues). However, like in Germany, these judgements do not exclude from the outset reasonable cases seeking compliance with individual due diligence requirements by parent companies.

Subsection 2.3.3.5 discussed the Corporate Sustainability Due Diligence Directive (CSDDD), recently enacted in 2024, but politically challenged in 2025 through legislative amendments proceedings (Omnibus) alongside

provides for a similar principle, while noting that the 2026 version of the Directive was modified in a manner to combat the emergence of climate obligations through the incremental development of domestic (case) laws.

1292 See the Protect USA Act: Text - S.985 - 119th Congress (2025-2026): PROTECT USA Act of 2025.

external pressure coming notably from the USA. This PhD thesis considers that this Directive imposed redressable climate-related obligations, including ensuring corporate actors have a *general* CDD obligation to establish transition plans in order to limit global warming to 1.5°C with respect to their scope 1, 2 and 3 emissions. Moreover, should the Directive be substantially altered and weakened, this subsection concludes that it may become incompatible with the State duty to regulate.

2.3.4 The established redressability of CDD in international law, leaving discretion as well

This last section 2.3.4 on international law is somewhat special, as it does not address redressability aspects of due diligence in international law in light of previous judgments¹²⁹³, but in light of the advisory opinions of the ICJ¹²⁹⁴ and ITLOS.

Advisory opinions may be more relevant than contentious cases as courts can thereby clarify the law for all States without pointing to the misconduct of certain individual States¹²⁹⁵. Nonetheless, even the mere judicial intervention through an advisory opinion was somehow controversial. Some prominent authors in the legal literature notably questioned the ICJ's jurisdiction, due to the political nature of the questions, and the risks of interfering in the delicate political process at COP¹²⁹⁶. For example, Bodansky suggested “that courts might not be ‘the appropriate institution to determine what states must do to address climate change’¹²⁹⁷ and even

1293 Some authors do not rule out the expansion of climate litigation on the international level, see Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 5.

1294 UN General Assembly, “Obligations of States in respect of Climate Change, Request for Advisory Opinion transmitted to the Court pursuant to General Assembly resolution 77/276”, 29 March 2023.

1295 See, notably, Sands P, “Climate Change and the Rule of Law: Adjudicating the Future in International Law” (Public Lecture, King's College London, 17 September 2015) p 19; Bodansky D, “The Role of the International Court of Justice in Addressing Climate Change: Some Preliminary Reflections” (2017) *Arizona State Law Journal* p 705–711.

1296 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*.

1297 *Ibid*, p 4 quoting Bodansky, ‘Advisory Opinions on Climate Change: Some Preliminary’ (2023) 32 *Review of European, Comparative and International Environmental Law* (RECIEL).

asserted that courts “have a greater potential to cause mischief than to do good”¹²⁹⁸.

These issues could have been raised by a State opposed to the advisory opinion, such as the USA, the only State that expressed disagreement according to the meeting's coverage by pretending that “the climate crisis is best achieved via diplomatic efforts.”¹²⁹⁹ However, the USA did eventually not oppose the ICJ's jurisdiction in the course of the proceedings. Thus, the ICJ succinctly resolved the issue regarding its jurisdiction quickly in favour of giving the opinion advisory opinion. Despite this circumstance, this section still begins by addressing some of the concerns of some authors in more depth, given their relevance for the “redressability” topic.

To do so, Subsection 2.3.4.1 analyses the issues concerning the ICJ's jurisdiction and the related redressability issues discussed in the preceding advisory opinions. Next, Subsection 2.3.4.2 highlights the main CDD requirements as set out by the ITLOS and ICJ, including their potential judicial redressability.

2.3.4.1 The ICJ's jurisdiction in the climate advisory opinion case

In the advisory opinion proceedings of the *Nuclear Threat and Construction of a Wall*, some States challenged the jurisdiction of the ICJ with two main arguments. Firstly, they argued that the Court and the UNGA were simply not competent to request and issue an opinion on this issue since other bodies have an overriding competence in the relevant matters. The second type of challenge concerned the “compelling reasons” to refrain from issuing an advisory opinion in this case (i.e., this is a potential challenge if the questions are neither appropriate nor useful), by arguing that the questions were too vague, abstract, complex, and political; and that a response would not assist the international community, but instead equate to a lawmaking exercise eventually interfering and undermining the current negotiations¹³⁰⁰.

In light of what precedes, subdivision 2.3.4.1.1 addresses the general UNGA and ICJ's competencies concerning advisory opinions. Subdivision

1298 Bodansky D, “The Role of the International Court of Justice in Addressing Climate Change: Some Preliminary Reflections” (2017) *Arizona State Law Journal* p 692.

1299 *Ibid.*

1300 ICJ, *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226, § 10 – 19.

2.3.4.1.2, in turn, assesses the “compelling reasons” to refrain from issuing an advisory opinion in the climate mitigation context.

2.3.4.1.1 On the UNGA and ICJ’s competencies concerning advisory opinions

The UNGA has the authority to seek legal advice from the ICJ on “any legal question” according to Article 96 of the UN Charter¹³⁰¹. In turn, the ICJ “may give an advisory opinion on any legal question” according to article 65 (1) of its statute. Moreover, the UNGA has the competence relating to “any questions or any matters” pursuant to Article 10 of the UN Charter¹³⁰². Given these basic elements, the ICJ swiftly concluded it has jurisdiction in other advisory proceedings, a position that it also followed in the climate case.

As to the political dimension of the request for an advisory opinion, the ICJ argued in *Nuclear Weapons* and *Construction of a Wall* that this issue is almost constantly present in international law matters, and that it therefore cannot constitute a sufficient reason to abdicate its jurisdiction¹³⁰³. No reason justified another decision in the *Climate* request.

In the case regarding *Construction of a Wall*, Israel contested the ICJ’s jurisdiction due to a corresponding lack of specificity of the legal question¹³⁰⁴. The court dismissed this argument, arguing that the question retains a legal character, although generally phrased. The Court also stated that it frequently brought clarity in those situations, and that it would only apply and interpret the law¹³⁰⁵. Given this stance, there were no manifest reasons to believe the Court would have decided otherwise in the advisory opinion on climate change, even if the vague character was challenged by some authors in the literature¹³⁰⁶.

Additional jurisdictional issues came up in *Construction of a Wall*. The first was the argument that the Security Council of the UN already inter-

1301 *Ibid*, § 10.

1302 *Ibid*, § 11.

1303 *Ibid* § 13.

1304 ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 36.

1305 *Ibid*, § 38 - 39.

1306 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 3.

vened in this respect, rendering any action of the UNGA “ultra vires”¹³⁰⁷. The legal basis of Israel’s reasoning was Article 12 of the UN Charter which states that “the General Assembly shall not make any recommendation with regard to that dispute or situation unless the Security Council so requests”. Israel thus claimed that the UNGA measures were invalid¹³⁰⁸. This argument bears some resemblance to the *lex specialis* debate between the PA and general due diligence¹³⁰⁹. However, the Court made clear that the UNGA did not issue any “recommendation” itself, instead, it requested an advisory opinion¹³¹⁰.

Even if the UNGA had issued a recommendation, it can normally do so on conflict-related issues pursuant to Article 14 UN Charter¹³¹¹. By looking at the practice of the UNGA and Security Council, the ICJ found that the UNGA, over time, distinguishes itself from the Council by approaching conflict-related issues more exhaustively, by considering humanitarian, social and economic aspects, while the Council strictly deals with peace-keeping measures¹³¹². The ICJ accepted this practice, and ultimately took the view that the UNGA advisory opinion request in *Construction of a Wall* did not contravene Article 12 UN Charter¹³¹³. The relevant lesson that for the climate advisory case is that although one cannot dismiss the legitimacy of the UNGA to position itself on climate change, its added value with respect to the COP is less clear, as both organisations host almost all countries in the world and function in a similar democratic way, by taking decisions based on majority votes. The added value of the UNGA lies, however, in its approach and the legal bases: while the COP focusses on the implementation of the UNFCCC and PA, the UNGA takes, so far, a more holistic approach, by relying on general international law, human rights, and other

1307 ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 24.

1308 Article 12, paragraph 1, of the UN Charter provides that: “While the Security Council is exercising in respect of any dispute or situation the functions assigned to it in the present Charter, the General Assembly shall not make any recommendation with regard to that dispute or situation unless the Security Council so requests.”

1309 See subsection 1.1.2 of this thesis, demonstrating that the climate conventions do not derogate *legi generali*.

1310 ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 25.

1311 *Ibid*, § 26.

1312 *Ibid*.

1313 *Ibid*, p 136, § 28.

legal branches, etc¹³¹⁴. In other words, the UNGA can tackle *general* CDD, while the COP aims at implementing the *specific* international climate regime.

A last issue in *Construction of a Wall* pertinent to the climate case was the fact that the UNGA recommendation was even more legitimate given the failure of the Security Council to tackle this issue adequately, by not finding the required consensus¹³¹⁵. Hence, the UNGA was competent to request the ICJ's advisory opinion. A parallel with the climate context is the persistent failure of the COP to *effectively* bring States in alignment with the LTTG¹³¹⁶ and to find consensus on *concrete* climate action in general¹³¹⁷, even though there is progress (i.e., COP 28 found that the pathway was previously leading to 4 °C, but now 2.1–2.8 °C are considered realistic)¹³¹⁸. Consequently, given the similarities of the issues in the other preceding cases, the ICJ would have been in a position to fully justify its jurisdiction, even if it had been challenged by a State in this regard.

The ICJ's response on climate was expected with high expectations since no international authoritative body directly expressed itself on those issues with clarity before. Indeed, the ILC did not firmly address climate change in its Guidelines on the Protection of the Atmosphere due to a lack of a corresponding State mandate¹³¹⁹.

1314 See, for instance, the framing of the request for the Climate advisory and its reliance on human rights.

1315 ICJ, *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 30. The Council needs to take all decisions by consensus, thus, requiring no veto from one of the permanent state members, being, France, the UK, the USA, China, Russia, otherwise it cannot act.

1316 See, among others, UNEP, "Emissions Gap Report 2022: The Closing Window", 2022, p 1.

1317 See, among others, Bodansky D, "The Forever Negotiations" (EJIL: Talk!, 2022).

1318 COP 28, "First Global Stocktake", *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 18.

1319 See, for opinions on the insufficiency of these Draft Principles: Attia I, "The Protection of the Atmosphere and the "Regressive" Development of International Law" (EJIL: Talk!, 2022); Mayer B, "A Review of the International Law Commission's Guidelines on the Protection of the Atmosphere" (2019) available at: <https://ssrn.com/abstract=3447108>.

2.3.4.1.2 No "compelling reason" to refrain from giving an advisory opinion

As some States argued, and as the ICJ agreed in *Nuclear Weapons*, the Court has *some* (limited) discretion to decide whether it should or not give the requested advisory opinion¹³²⁰. In principle, the ICJ should not refuse to satisfy a request by a UN body acting lawfully¹³²¹. The above subsection found that the UNGA and the ICJ had jurisdiction in this respect. Only "compelling reasons" could have led to a refusal. However, the bar was high, as the ICJ never refused to give an advisory opinion based on its discretionary powers¹³²², as it noted in *Nuclear Weapons* and in the *Construction of a Wall* that it¹³²³.

In *Nuclear Weapons*, some States below argued that "the question presented is vague and abstract" and that it would undermine "progress already made or being made on this sensitive subject and, therefore, is contrary to the interests of the United Nations Organization"¹³²⁴.

Concerning the vagueness and abstract framing of the question, the Court stated similarly as under the jurisdiction issue that it is a critique "devoid of any justification" which cannot constitute a reason to refrain from exercising its jurisdiction¹³²⁵. Further, in *Nuclear Weapons*, some States argued that there was a risk that the ICJ would make "hypothetical or speculative declarations outside the scope of its judicial function". The ICJ issued a clear response, which could have been relevant to the climate case:

"The Court does not consider that, in giving an advisory opinion in the present case, it would necessarily have to write "scenarios", to study various types of nuclear weapons and to evaluate highly complex and controversial technological, strategic and scientific information. The Court will simply address the issues arising in all their aspects by applying the legal rules relevant to the situation."¹³²⁶

The Court also argued that even if the ICJ's advisory opinions are limited in scope or in terms of usefulness, it cannot consider this limitation as

1320 ICJ, *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226, § 14.

1321 *Ibid.*

1322 *Ibid*; see as well *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 44.

1323 *Ibid* (*Nuclear Weapons*), § 19; and *Construction of a Wall*, § 65.

1324 *Ibid* (*Construction of a Wall*), § 14.

1325 *Ibid*, § 15.

1326 *Ibid*, § 15.

a ground to dismiss the requests. In the eyes of the ICJ, “[a]n entirely different question is whether the Court, under the constraints placed upon it as a judicial organ, will be able to give a complete answer to the question asked of it. However, that is a different matter from a refusal to answer at all.”¹³²⁷ Indeed, if the Court would have refrained from giving an opinion, this thesis argues some States and authors could have inferred from it the non-existence of binding climate obligations in international customary law and human rights law (*general CDD*), which could have been dangerous as such.

Additionally, it is the UNGA which (politically) decided to request such an opinion. As the Court argued in previous advisory opinions, “[t]he General Assembly has the right to decide for itself on the usefulness of an opinion in the light of its own needs”¹³²⁸. Since the UNGA endorsed the resolution to request the opinion by consensus, the Court could have applied the same considerations to the climate case. Indeed, there was a widely shared recognition among States of the need for an advisory opinion to clarify international climate obligations in an authoritative manner¹³²⁹. Almost all the countries praised Vanuatu and the group of small island States at the initiative for their efforts on this initiative, except the USA. Even if some States had doubts on this opinion, the Court made clear that the useful character of its opinion is ultimately a matter of (subjective) appreciation¹³³⁰.

Regarding the risks of interference with the diplomatic process or States’ interests (whose materialisation is very likely), the Court already argued in the *Nuclear* opinion and *Construction of a Wall* that releasing its opinion cannot satisfy everybody¹³³¹ and that the political implications of the opinion cannot constitute a reason to refrain from exercising its jurisdiction. Therefore, this ground, which should be either way mitigated by taking a

1327 ICJ, *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226 § 19.

1328 *Ibid.*, § 16; *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, I. C. J. Reports 2004, p 136, § 61.

1329 See United Nations, “General Assembly Adopts Resolution Requesting International Court of Justice Provide Advisory Opinion on States’ Obligations Concerning Climate Change”, *Meetings Coverage and Press Releases*, Seventy-Seventh Session, GA/12497, 29 March 2023.

1330 ICJ, *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226 § 17: “Beyond that, the effect of the opinion is a matter of appreciation”.

1331 *Ibid.*, § 17.

consensual approach, like in the domestic general CDD cases (*Urgenda*, German Constitutional Court, *KlimaSeniorinnen*), cannot constitute a reason for the ICJ to decline its jurisdiction, even more so since the UNGA ultimately decided to forward this request¹³³².

The last “compelling reason” to not exercise its jurisdiction in the *Nuclear* opinion was the argument that the Court will transform itself into a law-making body¹³³³. To respond to this fear, the Court simply reaffirmed that it would only apply and interpret the law¹³³⁴. The ICJ took the same position in the climate case, but again, there was no need to justify itself in this respect.

Among these challenges, Israel brought others in *Construction of a Wall*, equally relevant to the climate proceedings, arguing that it did not accept the jurisdiction of the Court and that, therefore, the advisory opinion is only a way to circumscribe a contentious case. Many countries could have brought this very challenge since almost no country accepted the ICJ's jurisdiction under the UNFCCC or in general. But no country did so.

2.3.4.2 The international courts' views on the redressability of CDD

The group of small island States at the initiative of the ICJ advisory opinion also sought an advisory opinion from the International Tribunal on the Law of the Sea (ITLOS), as requesting it was significantly easier to do than to adopt a resolution within the UNGA¹³³⁵. The ITLOS then released its opinion on the primary obligations flowing notably from the international law of the Sea (2.3.4.2.1), one year before the ICJ, which also positioned itself on secondary obligations, i.e., on State responsibility for breach (2.3.4.2.2).

1332 *Ibid.*

1333 *Ibid.*

1334 *Ibid.*

1335 Seeking the advisory opinion from the ITLOS did not require a vote by majority among the State Parties to the UN Convention on the Law of the Sea (UNCLOS). Instead, it was possible to do so through the creation of a “Commission of Small Island States” among only a certain low number of States (Antigua and Barbuda, Tuvalu, the Republic of Palau, Niue, the Republic of Vanuatu and Saint Lucia). This group of States sent the request to ITLOS on 12 December 2022.

2.3.4.2.1 The ITLOS opinion on CDD's existence

The ITLOS recently released its advisory opinion on 21 May 2024, whereby it set out in more detail the extent of the CDD obligations under the international law of the Sea, which requires similar conduct to the general customary due diligence duty¹³³⁶.

As to jurisdiction, the ITLOS established it without significant difficulty¹³³⁷, against certain prospects from the literature¹³³⁸, and the challenges of China, for instance¹³³⁹. As to the ITLOS discretion regarding the use of its jurisdiction, it simply stated that States largely support the issuing of an advisory opinion¹³⁴⁰, and that the questions “raised by the Commission are clear and specific enough”.¹³⁴¹ In just two sentences, the ITLOS cleared all the questions discussed in the subsections just above on the ICJ's jurisdiction.

As to the main substantive points of the opinion, the ITLOS made three main findings. Firstly, GHGs harm the marine environment and, therefore, constitute pollutants under Article 1 of the UN Convention on the Law of the Sea (UNCLOS). This view, similar to the main finding of the US Supreme Court in Massachusetts, enables the applicability of the duty to protect and preserve under Articles 192 and 194 of UNCLOS to climate change; in addition to the customary due diligence rule of avoiding causing damage to third states¹³⁴². Additionally, Climate conventions do not consti-

1336 See among others the comparison made by ITLOS between due diligence under the Convention and customary law by referring to ICJ jurisprudence: ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 235.

1337 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 84 - 109.

1338 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* quoting among others Holst R, “Taking the Current When It Serves: Prospects and Challenges for an ITLOS Advisory Opinion on Oceans and Climate Change” (2022) *Review of European, Comparative & International Environmental Law (RECIEL)*.

1339 China and other countries also challenged the jurisdiction of the ITLOS: see, for example, The People's Republic of China, “Written Statement in ITLOS Case No. 31”, 15 June 2023.

1340 ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 115.

1341 *Ibid*, § 120.

1342 *Ibid*, § 441 (a and d).

tute *lex specialis* with respect to the customary law or the law of the Sea¹³⁴³. This opinion confirms the findings of this thesis in Part 1.

Secondly, and importantly, this duty includes an individual and collective duty to *mitigate* global warming to 1.5°C in accordance with global standards such as the PA and the UNFCCC¹³⁴⁴, besides a duty to cooperate¹³⁴⁵. The due diligence standard that is expected in this respect is “stringent” according to the Tribunal because of “the high risks of serious and irreversible harm to the marine environment from such emissions.” While due diligence requirements may vary according to the capabilities and available resources of each State, they still require everyone “to do whatever it can”¹³⁴⁶. Given the recognition of the capabilities of the States within the due diligence terminology, the ITLOS implicitly recognised the relevance of the socio-economic factors within the duty, akin to the corresponding criterion of the fair share terminology. Furthermore, to discharge this duty, States must consider the best available science and the precautionary approach, and carry out environmental impact assessments to identify and mitigate climate change¹³⁴⁷. Thus, the ITLOS confirmed the main aspects of *general* CDD as interpreted in *Urgenda* and in other cases such as *KlimaSeniorinnen*.

Thirdly, developed States must assist the most vulnerable developing States in mitigating climate change by providing capacity-building, scientific expertise, technology transfer and other matters¹³⁴⁸. While this obligation also refers to international equity between States, it also touches upon fairness. This dimension is addressed in Part 3 and the general conclusion of this thesis, especially in its opening thoughts.

Overall, this PhD thesis considers that spelling out these obligations could be considered helpful for some persons to some extent, but they were foreseeable in the view of this PhD thesis, as the requirements of due diligence are known, which require tackling any serious risks, including climate change.

As shown below, the ICJ eventually confirmed this interpretation. While this seems like a welcome development, it remains unclear whether these

1343 *Ibid*, § 224.

1344 *Ibid*, § 235 – 244; 441 (f).

1345 *Ibid*, § 441 (b) and (j) and § 297 – 305 for further details.

1346 *Ibid*, § 441 (c) and § 241.

1347 *Ibid*, § 441 (l).

1348 *Ibid*, § 441 (k).

advisory opinions could, *per se*, usefully complement the ongoing COP negotiations and strengthen climate action¹³⁴⁹.

2.3.4.2.2 The ICJ confirmation of CDD's existence and redressability

The ICJ also concluded expeditiously that the UNGA questions are legal questions and that the Court has jurisdiction to answer them¹³⁵⁰. Moreover, there were no compelling reasons against their use¹³⁵¹. The Court was thus able to respond to the UNGA's questions. This subsection will mainly focus on the nature of the due diligence requirements and their redressability.

Concerning customary due diligence, the Court defined this notion as follows:

“136. The conduct required by due diligence has several elements. These elements include States taking, to the best of their ability, appropriate and, if necessary, precautionary measures, which take account of scientific and technological information, as well as relevant rules and international standards, and which vary depending on each State's respective capabilities. Other elements of the required conduct include undertaking risk assessments and notifying and consulting other States, as appropriate.”

To specify the standard of due diligence, the Court argued that there is a need to do this exercise on a case-by-case basis, as it requires an *in concreto* assessment. However, it also reiterated that this does not preclude identifying a general standard of conduct, which depends “on the overall character of the risk to the part of the environment in question”. The Court confirmed the existence of a corresponding general standard of conduct, whose concrete requirements depend, though, on “the principle of common but differentiated responsibilities and respective capabilities” (CBDRRC)¹³⁵². By stating this, the Court confirmed the relevance of the CBDRRC for the due diligence concept in climate matters, to ensure that some fairness considerations are taken into account.

1349 Holst R, “Taking the Current When It Serves: Prospects and Challenges for an ITLOS Advisory Opinion on Oceans and Climate Change” (2022) *Review of European, Comparative & International Environmental Law (RECIEL)*.

1350 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 37 – 43.

1351 *Ibid*, § 44 – 49.

1352 *Ibid*, § 137.

Furthermore, the ICJ agreed with the ITLOS that the due diligence standard is “stringent” given the very high climate risks, and that it requires “a heightened degree of vigilance and prevention”.¹³⁵³ These findings are similar to the conclusion of the Hague District Court in *Shell*, which imposed a “significant best-efforts obligation” (see above).

The Court also found that there are no inconsistencies in the relationship between the rules in the climate regime and the customary obligations, nor any discernible intention to displace other possible applicable rules by the climate regime¹³⁵⁴. The fact that the climate regime was “carefully negotiated” does not make it a *lex specialis*¹³⁵⁵. The rules must therefore be interpreted harmoniously as a single set of compatible obligations¹³⁵⁶. Similarly, the *lex posterior* interpretation rule, whereby newer obligations take precedence over older ones in the event of incompatibility, does not apply either¹³⁵⁷. The Court emphasised again that there is no conflict between the three climate treaties and customary international law¹³⁵⁸. On the contrary, they mutually reinforce each other.

Next, as to the treaty obligations, which are relevant for the interpretation of customary international law, the Court noted that Article 4 (1) UNFCCC sets out two types of obligations. Firstly, the obligation to report GHG emissions is one of result¹³⁵⁹. Second, the mitigation obligation is an obligation of conduct (best efforts)¹³⁶⁰. In any case, both are legally binding and relevant to establishing breach¹³⁶¹.

Regarding the Paris Agreement, the Court stated that the 1.5°C goal was conceived first “as an additional effort” next to the well-below 2°C goal, when the Agreement was adopted. However, the “1.5°C has become the scientifically based consensus target under the Paris Agreement”, following the IPCC reports and COP decisions¹³⁶². The ICJ specified that Parties must act with due diligence and use all means at their disposal to comply with CDD¹³⁶³. Failure to prepare and communicate NDCs would constitute

1353 *Ibid*, § 138.

1354 *Ibid*, § 168.

1355 *Ibid*, § 170.

1356 *Ibid*, § 165.

1357 *Ibid*, § 189.

1358 *Ibid*, § 195.

1359 *Ibid*, § 203.

1360 *Ibid*, § 203.

1361 *Ibid*, § 202 – 208.

1362 *Ibid*, § 224.

1363 *Ibid*, § 229.

a breach of the PA¹³⁶⁴. However, complying with the obligations of Article 4 is not sufficient. The principle of “progression” means that NDCs “must become more demanding over time”¹³⁶⁵. Furthermore, NDCs must reflect States’ “highest possible ambition” in pursuing the 1.5°C objective. Thus, the Paris Agreement does not allow for full discretion. Rather, the NDC must make an adequate contribution to achieving the LTTG, in light of the global stocktake results, which specified the need to reduce emissions by 43 % by 2030¹³⁶⁶.

In light of the CBDRRC principle, the expectations will vary, depending on historical contributions, the level of development, and national circumstances¹³⁶⁷. The ICJ also noted that the Paris Rulebook further requests that Parties set out in their NDCs how these are “fair and ambitious [...], including in relation to “[f]airness”. These points are another reference to the need for each Party to do its fair share¹³⁶⁸. The Court further argued that all NDCs, when taken together, must be “capable of realizing the objectives of the Agreement which are set out in Article 2”. This requirement shows that the duty to do its fair share is part of an individual but collective responsibility framework¹³⁶⁹.

Next, the Court specified that pursuing mitigation measures under the climate treaties and customary international law is an obligation of conduct¹³⁷⁰, which is particularly relevant in the context of emissions directly emitted by private companies¹³⁷¹.

In light of what precedes, the ICJ inferred that the main customary international law obligations require the adoption of:

“appropriate rules and measures [... including] regulatory mitigation mechanisms that are designed to achieve the deep, rapid, and sustained reductions of GHG emissions. These rules and measures must regulate the conduct of public and private operators within the States’ jurisdiction or control and be accompanied by effective enforcement and monitoring mechanisms to ensure their implementation.”¹³⁷²

1364 *Ibid*, § 236.

1365 *Ibid*, § 241.

1366 *Ibid*, § 243.

1367 *Ibid*, § 246 – 247.

1368 *Ibid*, § 248.

1369 *Ibid*, § 249.

1370 *Ibid*, § 251.

1371 *Ibid*, § 252.

1372 *Ibid*, § 282.

As per the obligations of the Paris Agreement, customary CDD obligations must be further informed, among others, by science, current standards – including COP decisions –, the capabilities of a State, as reflected in the CBDRRRC¹³⁷³. While due diligence allows for some discretion, it cannot serve as an excuse to evade compliance. The Court concluded that specifying the due diligence standard in a given situation may be complex, but that the objective elements considered until then provide enough guidance to identify an objective standard of care.¹³⁷⁴

The Court further argued that full compliance with the climate regime (or *specific* CDD) suggests compliance with customary international law (*general* CDD)¹³⁷⁵. However, customary international law applies irrespective of a State's adherence to treaties. Consequently, if a State is not party to the climate regime, "it has the full burden of demonstrating that its policies and practices are in conformity with its customary obligations"¹³⁷⁶.

With regard to redressability and question b) of the UNGA, the Court argued that these different legal obligations could be remedied in the event of a violation. Indeed, injuries could be established, including causation, despite the difficulties in these respects, which were discussed in Subparts 2.1 and 2.2. To establish wrongful conduct and a breach of due diligence, the Court recalled that it is not sufficient to establish injury. Rather:

"a State acts wrongfully if it fails to use all means at its disposal to bring about the objective envisaged under the obligation, but will not act wrongfully if it takes all measures at its disposal with a view to fulfilling the obligation even if the desired objective is ultimately not achieved."¹³⁷⁷

Importantly, the Court asserted that a wrongful act may be found in the failure to adequately regulate fossil fuel production or end exploration¹³⁷⁸.

If a breach can be ascertained, the ICJ affirmed that it can give rise to the "entire panoply of consequences provided for under the law of State responsibility, i.e., the DARSWA, which have a customary international law status"¹³⁷⁹. The ICJ firstly argued that the violation of the primary duty

1373 *Ibid*, § 283 – 292.

1374 *Ibid*, § 300.

1375 *Ibid*, § 315.

1376 *Ibid*, § 315.

1377 *Ibid*, § 409.

1378 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 427.

1379 *Ibid*, § 405 – 407 and 445.

does not affect the duty to perform the obligations¹³⁸⁰. In other words, there is “a secondary obligation”¹³⁸¹ to cease the act if it is continuing, and still in force; or an “obligation to put an end to the wrongful act.”¹³⁸² To do so, responsible States must employ all means to reduce GHG emissions, and to take additional measures to comply, in other words, exercise due diligence. Responsible States could further be required to offer guarantees of non-repetition¹³⁸³, i.e., provide assurances that they will indeed adequately reduce GHGs and not deregulate the underlying policies. Regarding reparations, the ICJ stated that they could arise, but that they cannot be assessed in the abstract, as they depend on particular circumstances¹³⁸⁴. Restitution, which involves returning to the prior situation, may not be feasible, but reparation could take the form of rebuilding infrastructure, restoring ecological damage, or monetary compensation¹³⁸⁵. While it may be difficult to calculate the exact damage, the ICJ stated, by referencing prior cases, that “the amount of compensation due [can be determined] on the basis of equitable consideration” and take the form of a “global sum”¹³⁸⁶. Lastly, the remedy of satisfaction – i.e., a formal declaration of responsibility – can be adequate, depending on the circumstances of each case¹³⁸⁷.

The Court specified that there are no specific rules in the climate treaties that take precedence over the rules on State Responsibility¹³⁸⁸. Indeed, the soft compliance mechanisms under Article 15 of the Paris Agreement and the Warsaw International Mechanism for Loss and Damage do not address breaches in the context of State responsibility for wrongful conduct; rather they focus on *voluntary* cooperation¹³⁸⁹. Furthermore, since Articles 14 UNFCCC and 24 of the Paris Agreement contain compromissory clauses providing for the jurisdiction of the ICJ or any other tribunal to settle disputes arising from the treaties, which do not specify which rules apply, the general rules on State responsibility therefore apply¹³⁹⁰.

1380 *Ibid*, § 446.

1381 *Ibid*, § 104 and 446 – 448.

1382 *Ibid*, § 446 – 448.

1383 *Ibid*, § 448.

1384 *Ibid*, § 449 – 450.

1385 *Ibid*, § 451 – 452.

1386 *Ibid*, § 453 – 454.

1387 *Ibid*, § 455.

1388 *Ibid*, § 413 – 420.

1389 *Ibid*, § 414 – 416.

1390 *Ibid*, § 417.

Given the findings of this advisory opinion, could the ICJ impose those secondary obligations in contentious cases? As discussed by the ICJ, there are two main ways to ground the jurisdiction of the ICJ in contentious cases: either rely on the climate conventions (UNFCCC) and the *specific* due diligence they contain, or assert the general jurisdiction on the basis of its statute and customary international law. However, so far, only the Netherlands and some small island states have accepted the compulsory jurisdiction of the ICJ under Article 14 of the UNFCCC or Article 24 of the Paris Agreement¹³⁹¹. Regarding the ICJ's general jurisdiction (see Article 36 (2) (b) of the ICJ Statute), some major emitters, including those in the Global North, have accepted the ICJ's compulsory *ipso facto* jurisdiction without any further special agreement (Australia, Canada, Germany, Japan, Poland, and the United Kingdom)¹³⁹². However, the USA withdrew their general acceptance of the ICJ's jurisdiction in 1986 after it was ruled against it in the *Nicaragua v USA*¹³⁹³. This lack of acceptance so far restricts the possibilities of interstate case on the international level. Nonetheless, the recognition of jurisdiction can evolve, or may be grounded in other compromissory clauses. Thus, it remains to be seen whether international courts will play a further role in defining secondary obligations. In any case, the findings of the Court with respect to the secondary obligations were quite innovative, as few courts have articulated the consequences of violating climate obligations, beyond the duty to perform (i.e. the duty to mitigate). In the view of this thesis, the Court usefully clarified that there can be consequences of past breaches, including historical responsibility, in line with the findings of Part 3.

Despite the broad scope of this opinion, the Court humbly stated that it can only play a limited role in light of its jurisdiction and the far-reaching nature of global warming, which affects all activities in our societies¹³⁹⁴. The Court thus asserted that it had played its part, and expressed “the hope that its conclusions will allow the law to inform and guide social and

1391 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law*.

1392 Bodansky D, “The Role of the International Court of Justice in Addressing Climate Change: Some Preliminary Reflections” (2017) *Arizona State Law Journal* p 690–711, see especially footnote 114 to “Declarations Recognizing the Jurisdiction of the Court as Compulsory”.

1393 See US Council on Foreign Relations, “The United States and the ICJ”, last accessed 19 January 2025.

1394 *Ibid.*

political action to address the ongoing climate crisis.”¹³⁹⁵ This last paragraph of the court seems particularly wise in light of the previous critiques of the legal literature. The Court was aware that it was uncertain whether its advisory opinion could usefully complement and strengthen climate action in and of itself¹³⁹⁶. However, since the UN General Assembly requested the advisory opinion, the ICJ merely played its part. It clarified the primary CDD obligations, and, for the first time, laid out the potential consequences of their violations. This opinion usefully clarifies many aspects of climate law and sets out the path for potential contentious cases.

2.3.4.3 Intermediate conclusion

CDD is redressable under international law. While no contentious case demonstrated this in international climate law, the ICJ, however, asserted this in general in its advisory opinions.

In light of this, subsection 2.3.4.1 assessed the issues with respect to jurisdiction in advisory opinion of the ICJ, and found that there would have been no significant issue in this regard if a State had challenged it, despite the critiques raised in the literature, notably by the prominent authors Bodansky and Mayer. Indeed, both the UNGA and the ICJ were acting fully lawfully and legitimately. Whether it is useful for the ICJ to express itself on general due diligence is a matter of political subjectivity, as the Court rightly argued. Conversely, dismissing the request for an advisory opinion could have fuelled arguments about the absence of general obligations.

Subsection 2.3.4.2 pursued this by commenting on the ITLOS and ICJ opinions on the obligations they found, and their redressability in case of violations. Both courts established that States need to carry out due diligence to limit warming to 1.5°C, including by considering their economic capabilities and historical responsibilities, and, thereby, preventing significant damage to multiple international law interests. Breaching these obligations can lead to the full range of secondary obligations, from the duty to perform (i.e., injunctions) to the duty to compensate. While it remains uncertain whether these opinions can strengthen the existing specific obligations under the conventions and the ongoing annual COP discussions,

¹³⁹⁵ *Ibid.*

¹³⁹⁶ Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*.

both courts have clarified international law and played their part in this respect.

2.3.5 Provisional conclusion on redressability

Subpart 2.3 showed that redressability is the most controversial issue in all climate cases. Nonetheless, courts from different jurisdictions, as well as some lawmakers, have developed consistent criteria aimed at redressing CDD shortcomings.

More precisely, section 2.3.1 assessed the different domestic case laws which enforced *specific laws* against States. Several national (supreme) courts have already asserted their authority to construe environmental protection statutes in favour of climate mitigation. For example, in 2007, the US Supreme Court already recognised the EPA's authority to regulate GHG emissions under the Clean Air Act in *Massachusetts v EPA*. The Irish, French and UK courts required their respective governments to specify mitigation measures in order to meet the legislative or regulatory GHG reduction targets (*Friends of the Irish Environment, Grande-Synthe, Notre affaire à tous et al v France, Friends of the Earth et al v UK*).

At the same time, these same courts rejected demands based on *general CDD* because of redressability issues. In the USA, the Supreme Court found that the EPA's powers under the *lex specialis* Clean Air Act displace federal tort law (*American Electric Power Company v Connecticut*, 2010). Similarly, in France, the Administrative Supreme Court restricted its jurisdiction in the *Grande-Synthe* case to *specific CDD*, favouring the lawmaker's will over the judicial interpretation of unspecified human rights provisions. On the other hand, the Paris Administrative Court acknowledged the existence of *general CDD* in the *Notre affaire à tous et al v France* case, including on the basis of human rights, without finding a corresponding breach, though. In the UK, courts dismissed the first *Plan B et al v UK* case as the claimants did not fulfil CDD's redressability conditions by arguing a 1.5°C obligation somewhat too early, i.e. before the recognition by the IPCC and the domestic body to limit warming to that level. In the second case initiated by the NGO Plan B, British courts refused to hear the case fully due to the alleged absence of an arguable case, given the existence of *specific* legislation and the lack of manifest error of appreciation. Clearly, the absence of a decision of the ECtHR itself – at the time of these different judgements – constituted a factor in the dismissal of *general CDD*. The ECtHR *KlimaSeniorinnen*

ruling of 9 April 2024 should now trigger compliance assessments concerning the sufficiency of the *specific* legislation.

Section 2.3.2 addressed climate cases against States which somehow seek the development of the law based on *general* CDD. Some (supreme) European courts granted “systemic mitigation CDD” cases in the Netherlands (*Urgenda*), in Germany (*Constitutional Court case*), in Belgium (*Klimatzaak*), and ultimately the ECtHR (*KlimaSeniorinnen*). These courts compelled their States to achieve a minimum level of mitigation ambition to protect claimants’ human rights by relying on two main ingredients: scientific and institutional consensual elements, indicated by IPCC, the international community, or the respondent States themselves. These conditions to judicially intervene – linked to the separation of powers – fundamentally limit the “creative” interpretation of CDD. While Dutch and Belgian courts required the reduction of a specific percentage, the German Constitutional Court and the ECtHR did not specify it and allowed a margin of appreciation. This section concludes that while *general* CDD against States is judicially “redressable” to a certain extent, it remains unclear whether those rulings truly reinforce climate action.

In any case, the development in European case law contrasts sharply with that in the United States, where the courts rejected the *Juliana v USA* case precisely on the grounds of lack of *redressability*. It should be stressed, however, that the claims in the latter case were much more radical than those in the European cases, in that they were not based on the consensual elements of the IPCC reports or international agreements. Still, the chances of success of a “more reasonable” case in the US federal system based on international consensus seem very low in light of the federal courts’ tendency to prioritise congressional lawmaking interventions over directly interpreting federal statutes or the Constitution.

The third section 2.3.3 analysed the redressability of corporate mitigation CDD by assessing both case law and legislative developments. Firstly, Dutch courts considered in *Shell* that *general* CDD with respect to its indirect worldwide scope 1, 2 and 3 emissions exists, as the adoption of the Corporate Sustainability Due Diligence Directive (CSDDD) confirmed it. However, there is disagreement and uncertainty regarding the extent to which courts can redress and specify this general obligation. Indeed, the reduction obligation of -45% by 2030 compared to 2019, which was similar to the injunction in *Urgenda*, was later reversed by the Appeals court. Nonetheless, this thesis argued that the court could and should have decided otherwise, by upholding the injunction, as long as it is framed as

a best efforts obligation. A level of discretion is necessary as long as no specific consensus exists as to what multinational groups must do precisely. However, this thesis argues that the level of consensus surrounding the reduction indication of -45% by 2030 was sufficient to impose a best efforts obligation.

This conclusion should also apply to the French and German cases based on tort and corporate due diligence laws, as long as they seek best efforts to achieve an internationally recognised objective. Therefore, requesting a reduction in fossil fuels in order to transition away from them and to limit warming to 1.5°C, in line with the COP28 decision, should be redressable, such as in the case against TotalEnergies. While the cases against corporate actors were dismissed in the USA and Germany for reasons related to *lex specialis* and the separation of powers, this thesis considers that these decisions do not close the doors to reasonable and proportionate claims against parent companies, in line with the international consensus, as laid out by the Paris Agreement, the COP, and the IPCC. Indeed, these claims must eventually be awarded since States have human rights and international due diligence obligations to regulate companies in line with science and the Paris Agreement (see ECtHR, ICJ, ITLOS). Conversely, national-level corporate due diligence regulations such as the CSDDD, the French Loi de Vigilance, or the German Supply Chains Act, which are the corollary of State CDD, must be adopted, maintained, and implemented properly. Said differently, the adopted CSDDD should not be substantively weakened by legislative reform, and its judicial redressability – including in its climate provisions – shall be clearly confirmed.

The fourth section 2.3.4 delved into the question of the *general* CDD's redressability under international law, by assessing the advisory opinions, as they were the only pending cases. The international courts established their jurisdiction succinctly, and could have done so either way, even if States had challenged it. Further, both the ICJ and ITLOS confirmed the redressability of the *general* CDD obligation in light of scientific and political consensus. The ICJ specifically found that its violation could lead to the full range of secondary obligations. While some authors raised strong concerns about the usefulness of developing general due diligence under international law, this dissertation rather disagrees with those authors, and, in any case, considers, like the ICJ, that this issue falls into the category of political subjectivity.

Given those results, enforcing CDD is compatible with judicial bodies' powers in three different situations: (i) where claims are based on specific

CDD obligations; (ii) where general CDD is invoked in conjunction with clear scientific and institutional consensus; and (iii) where general CDD is invoked absent such consensus, requiring courts to afford a margin of appreciation to duty-bearers.

2.4 Interim Conclusion on CDD's enforceability and the corresponding obligations

Part 2 found that CDD is, in principle, enforceable before domestic, regional and international courts.

While some courts still have rejected climate lawsuits for lack of demonstrated individual and specific climate-related injuries, the majority of the courts in the assessed cases have recognised individual and/or collective harms. Given the progress of science and the aggravation of global warming, this thesis deems that more injuries – including more types of individual injuries – could be established in future.

Additionally, courts around the world adapted the causation pillar to global warming, thanks to the embracement of the concept of shared responsibility, enabling the attribution of a part of the harm to an individual actor, implying in turn a duty to do (only) its share. Further, due diligence attributes responsibility regarding indirect and transnational events, grounding causation in this respect against States and corporations.

As to the redressability of CDD, judicial bodies largely accept enforcing targets and measures enshrined in *specific* legislation. As to claims based on *general* due diligence, which aim to increase the ambition of the public or private actors, they pose significant redressability challenges, especially in light of the separation of powers. Given this delicacy, courts are only willing to admit strongly consensual elements when interpreting *general* CDD. In their absence, it appears that courts and legislators can still impose best efforts obligations and leave a margin of appreciation on the substance (see, notably, *KlimaSeniorinnen*, or the CSDDD).

These case law developments show that CDD as a *primary* obligation requires the following conduct, which is enforceable by way of judicial oversight and court injunction. States and corporations have since 2015-18 *individual* and *collective* CDD duties to limit global warming to 1.5°C and meet their “fair share”, meaning:

States have a *general* duty to:

- set out adequate, ambitious, and fair targets aligned with the Paris goals (especially 1.5°C) for territorial and extraterritorial emissions, reflecting their common but differentiated responsibilities.
- effectively implement short-, medium- and long-term objectives and exhibit the credibility of their overall approach (by calculating their remaining domestic carbon budget).
- cooperate globally to find effective solutions to climate action, and, at least, not obstruct it.

Overall, while States retain some level of discretion in setting the specific ambition, their margin of appreciation remains nonetheless limited (see especially ECtHR, ICJ and ITLOS opinions in this regard).

Corporations have similar *general* duties as they must:

- make their best efforts to limit warming to 1.5°C by reducing their emissions proactively and setting targets concerning direct and indirect “scope 1”, “scope 2” and “scope 3” emissions¹³⁹⁷.
- implement their measures effectively and exhibit their credibility like State actors.

Businesses also benefit from some leeway in setting the GHG reduction targets and designing their decarbonization measures.

While this Part – and the jurisprudence – did not address whether corporate actors must also cooperate with other public and private actors to find effective solutions to climate action, it seems at the very least arguable that they shall not obstruct the adoption of climate-related measures, if it hampers any adequate and reasonable climate action efforts, and undermine the credibility and effectiveness of any of their mitigation measures.

However, the current comparative case law does not offer proper assessments of whether due diligence obligations already applied to climate change in the past and whether the required efforts were implemented over time. Only the ICJ asserted in its advisory opinion that due diligence pre-existed and that its violation may lead to the full range of consequences of State responsibility under customary international law. The need to find

1397 See below and the glossary for the definition of “scope 1”, “scope 2” and “scope 3” emissions.

compensation for the damages to come, and the need to strengthen climate action to mitigate and prevent more serious climate-related harms, will certainly give rise to additional climate cases arguing historical responsibility and the imposition of so-called “secondary obligations”. The question of whether findings of historical non-compliance are possible – and useful – is assessed in Part 3, which carried out a large-scale analysis of whether general CDD pre-existed and was not complied with.

3 Secondary obligations due to historical non-compliance with CDD by systemic global North actors?

Following the establishment in the previous parts that a general overarching duty of due diligence applies to climate (Part 1), and that this duty is enforceable before courts (Part 2), this final part (Part 3) undertakes a historical analysis to determine whether “secondary obligations” may arise¹³⁹⁸. When finding breaches of the law, courts can generally award injunctions to return to compliance and prevent damages and further global warming, as this thesis established (see the existence and enforceability of the primary CDD duties discussed in Parts 1 and 2). Alternatively, or additionally, courts could also provide monetary compensation. This part thus examines whether systemic actors from the Global North may incur secondary obligations as a result of historical and ongoing non-compliance with CDD duties.

To know whether “secondary obligations” are due, it is necessary to assess whether the primary obligation of general CDD has i) existed over time, and then ii) has been breached. As scientific knowledge of climate risks and the availability of mitigation techniques (i.e., decarbonisation) have evolved, so too have certainly the requirements of due diligence. This evolution is one of the first challenges to consider when carrying out this compliance assessment. However, this part will only deliver a *prima facie* and *in abstracto* analysis of compliance with CDD, which can only lead to *potential* breach findings. This analysis is interesting for the following reason: Secondary obligations could have significant impacts on mitigation ambition, especially if they are aimed at compensating historical emissions through more stringent future GHG reductions.

A brief methodological clarification is also necessary, including by recalling key features of due diligence set out in the introduction and previous parts.

1398 The term “secondary obligations” is used in international law and refers to the obligations arising after the violation of a primary duty, which can concern cessation and reparation. See, among others: ILC, Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries, 2001 (Text adopted by the International Law Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session (A/56/10).

To assess compliance, Part 3 evaluates whether individual actors have carried out best or reasonable efforts according to the due diligence standard, and the principle of shared responsibility, which both require each actor to contribute its share (see previous parts). The preceding means that individual actors must adequately implement internationally agreed measures, or those deemed necessary to prevent dangerous risks, if scientific, institutional, and political consensual elements mention those, especially if they were labelled as “*no-regret*” measures (i.e., affordable measures “easy” to implement). The failure to prevent risks adequately could ground breaches of due diligence¹³⁹⁹.

This part also examines whether the “international community” has responded appropriately to the general duty of CDD. Does a collective failure to do so indicate the absence of *individual* liability, given that no single actor can halt global warming alone, or does it rather mean that all countries are potentially responsible for it?

In such cases, some individual actors with higher capacity, such as some Global North actors, may have obstructed climate action and international cooperation for decades and would therefore be particularly responsible for the current situation. While the obligations to cooperate are clearly recognised at the international level for states (the German Constitutional Court has also recognised the relevance of this obligation on the domestic level¹⁴⁰⁰), it seems arguable that private actors have similar obligations to cooperate for effective climate action, or at the very least, not to obstruct it.

Furthermore, even in the context of collective responsibility, the ICJ opinion makes clear that there is a collective need to ensure adequate climate action, and compliance with due diligence obligations over time,

1399 See, for example, the following concurring opinion: Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 5.

1400 See the consolidating duty to collaborate on the global level in the consolidating climate case law, notably affirmed by the Constitutional Court of Germany (*Bundesverfassungsgericht* in German), *Climate Protection Law*, 1 BvR 2656/18, 24 March 2021, § 200 – 205; See as well, ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 294 – 321. Other domestic and regional courts have affirmed the duty to contribute domestically to achieving global consensus in order to prevent the obstruction of global cooperation (see, for example, ECtHR, *Klimaseniorinnen v Switzerland*, no. 53600/20, 9 April 2024, § 441 – 444).

notably through the duty to cooperate¹⁴⁰¹. One also cannot exclude the possibility of “creative” legal claims being brought against international organisations that represent the international community, such as the UN, WTO, World Bank, and others.

As previously noted, the preventive obligation within due diligence becomes applicable only once a risk is *foreseeable*, meaning that one cannot expect preventive measures where climate-related harms are not yet conceivable¹⁴⁰². Further, due diligence has a *procedural* dimension as it requires *identifying* risks of harm and corresponding prevention measures by keeping up with the progress of science in a reasonable manner (*procedural* due diligence¹⁴⁰³). This implies a proactive dimension: once a risk becomes commonly identified, or should be known, such as for example the need to limit warming to 1.5°C since 2018, preventive substantive measures must be identified, set out, and implemented. This includes the adoption of concrete mitigation and prevention measures, such as the reduction of the use of fossil fuels, decarbonisation, energy efficiency, etc.

However, before that point, there were more uncertainties. Precise climate-related impacts (or potential harms) were more difficult to identify, alongside precise climate mitigation measures and strategies. Nonetheless, this uncertainty does not necessarily mean that CDD was not applicable. In fact, the precautionary principle, encompassed in due diligence, requires that serious dangers be prevented, even if they are uncertain. In France, courts have considered this principle in an *ex post* manner to some factual elements dating back to the 1960s¹⁴⁰⁴, and the ECtHR also considers the principle when assessing compliance with the Convention¹⁴⁰⁵ (see the ITLOS¹⁴⁰⁶ and the ECtHR¹⁴⁰⁷). Beyond the precautionary principle, judicial bodies can also consider uncertain elements as long as they are plausible. The issue is more whether the uncertainty is too great or not, as SCOTUS

1401 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 304-305.

1402 See 0.2 of the introduction concerning the definition of due diligence.

1403 *Ibid.*

1404 In France, see: *Distilbène* case law: Cass. 1re civ 7 March 2006 [2 judgments], pourvoi n° 04-16.179 et n° 04-16.180, Bull. civ I, n° 142 et n° 143.

1405 See, for instance, ECtHR, *Tatar v Romania*, 67021/01, 6 July 2009, § 120.

1406 ITLOS, *Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area*, Advisory Opinion of 1 February 2011, ITLOS Reports 2011, § 131; ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, § 242 and § 441 (e)).

1407 ECtHR, *Tatar v Romania*, n° 67021/01, 6 July 2009, § 120.

laid it out in *Massachusetts*¹⁴⁰⁸ and the German Federal Civil Supreme Court (*Bundesgerichtshof*) in another case¹⁴⁰⁹. Thus, in the face of uncertainty, CDD may still require, from a *procedural* angle, adequate measures, such as further identifying risks or mitigation measures, or even some substantive measures, such as reducing GHGs adequately, etc.

Given these basic requirements of due diligence, this third part begins its analysis after the Second World War period, as there was no widely shared knowledge of global warming prior to that point, meaning that CDD could not have applied before then. However, the gradual development of environmental and climate-related scientific knowledge progressively gave rise to due diligence obligations.

While the early development of climate science took place especially in the US, justifying a focus on this country, Part 3 has a wider scope and assesses Global North actors in general. To make *prima facie* assessments of compliance or non-compliance, this analysis considers the level of availability of climate science over time to determine whether the duty bearers – developed States and multinational corporations – could or should have known these elements, and implemented adequate and reasonable responses. While IPCC reports from 1990 onwards serve as the main references, as they represent the “best available science” according to the UNFCCC and the international community (see the COP findings, which mainly rely on the IPCC), Part 3 may also refer to other authoritative scientific findings.

It should be noted that this part is more speculative than the preceding ones, given the limited or even absence of case law properly addressing historical non-compliance with due diligence. Moreover, the threshold for finding non-compliance remains high, as it requires *in concreto* assessments beyond the *in abstracto* consideration of objective elements. In fact, to establish wrongful conduct, it must be shown that a given individual actor has not made their best or most reasonable efforts, which is a very demanding evidentiary standard.

Hence, methodologically, this part chronologically discusses the main scientific, political and legal evolutions, in order to know whether Global North actors adequately responded to those, by complying with the standard of due diligence. For each significant development that may have occurred annually, this part first presents the factual evidence and then

1408 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007), p 31.

1409 German Supreme Court (*Bundesgerichtshof*), VI ZR 259/06, 8 July 2008 (NJW 2008, 2846), § 22: “a degree of certainty is sufficient that would silence doubts of a prudent, conscientious and life-experienced assessor”.

analyses whether a due diligence obligation (*procedural* or *substantive*) was triggered and whether a breach occurred, by indicating a “Finding”.

In any case, it is not the task of this thesis to formally determine breaches of the law; this remains the prerogative of courts or policymakers. Rather, this part offers an analysis of the potentialities of such breaches, for scientific purposes.

This Part is structured more precisely as follows:

Subpart 3.1 explores the potential applicability of procedural and substantive CDD from the 1940s onwards, with possible individual breaches beginning in the 1980s, even though neither the IPCC nor any relevant international climate conventions yet existed during this period.

Subpart 3.2 identifies structural shortcomings in both domestic and international policies following the establishment of the IPCC in 1988 and up to the Paris Agreement in 2015. It highlights systemic misalignment with scientific recommendations, resulting in manifest breaches of due diligence.

Subpart 3.3 investigates the period following the adoption of the Paris Agreement. While the Agreement constitutes a landmark in terms of procedural commitments and may have restored collective compliance at the *procedural* level, *substantive* mitigation efforts remain insufficient to meet its targets—thus perpetuating individual and collective breaches of due diligence.

Subpart 3.4 offers concluding reflections on the legal and normative consequences of potential past breaches of CDD.

3.1 1945-1988: The beginning of CDD's applicability and the first potential instances of non-compliance

Section 3.1.1. shows that scientific understanding of climate change and the corresponding risks significantly progressed after World War II, especially in the USA, where it reached the highest level of decision-making in the federal government, the fossil fuel industry and the automotive industry. This early knowledge even spilt over to European industrial actors. A *procedural* dimension of CDD was applicable from the 1960s onwards, at least in the USA and within the fossil fuel industry.

Section 3.1.2 finds that *procedural* CDD became applicable on the international level from 1972, since the Stockholm Declaration recognised due diligence as a fundamental principle and climate change as an issue.

Eventually, section 3.1.3 discusses the first potential CDD breaches, notably by the USA, which, despite its scientific knowledge of global warming

and the need to develop low-carbon alternatives, repealed pre-existing programmes in favour of solar energy. While this thesis did not find enough evidence to find a similar potential breach by another actor, it cannot rule it out either, as it was clear on the international level that emissions had to be controlled (see the recommendation of the international 1985 Villach conference).

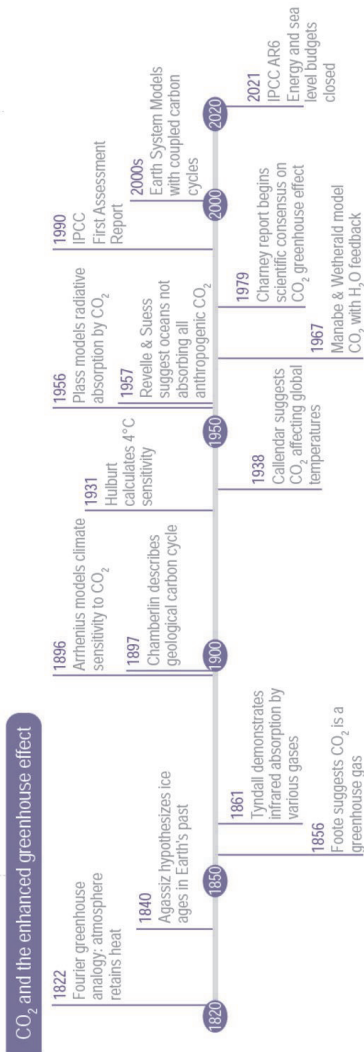
3.1.1 Before 1972: the beginning of CDD's applicability due to early scientific breakthroughs

3.1.1.1 CDD “in the making” until 1959-65

As the chronological chart just below shows, the very first hypothesis on the radiative effect of greenhouse gases stemmed from papers published in the 19th century, whereas the first concrete predictions about the effects of *anthropogenic* GHG (due to coal emissions) on the climate came from 1896 (Arrhenius). More precisely, according to the IPCC:

“Arrhenius (1896) calculated that a doubling of atmospheric CO₂ would produce warming of 5°C–6°C, but in 1900 new measurements seemed to rule out CO₂ as a greenhouse gas due to overlap with the absorption bands of water vapour (Ångström, 1900; Very and Abbe, 1901). Further investigation and more sensitive instruments later overturned Ångström's conclusion (Fowle, 1917; Callendar, 1938). Nonetheless, the major role of CO₂ in the energy balance of the atmosphere was not widely accepted until the 1950s (Callendar, 1949; Plass, 1956, 1961; Manabe and Möller, 1961; Weart, 2008; Edwards, 2010). Revelle and Keeling established CO₂ monitoring stations in Antarctica and Hawaii during the 1957–1958 International Geophysical Year (Revelle and Suess, 1957; Keeling, 1960). These stations have tracked rising atmospheric CO₂ concentrations from 315 ppm in 1958 to 414 ppm in 2020.”¹⁴¹⁰

1410 IPCC, AR6 (2021-23), WG I, Full Report, p 175.



Source: IPCC, AR6, WG I, Full Report, p. 174.

Therefore, there was very early knowledge available on climate change already in the 19th century. However, neither Arrhenius nor other scientists before him (Fourier, Agassiz, Tyndall, Callendar and others) seem to have warned about the risks associated with global warming. On the contrary, some may even have welcomed global warming, such as Arrhenius. Nonetheless, their work was instrumental in advancing climate science.

After World War II, growing concern about smog and air pollution due to automobiles emerged, particularly in California, USA¹⁴¹¹. An industry association, the American Petroleum Institute (API), established “the Smoke and Fumes Committee” to conduct research on air pollution and coordinate with members, including foreign oil and gas majors such as Shell and British Petroleum (BP)¹⁴¹². Given the close ties between air pollution and global warming, the Smoke and Fumes Committee proved to be instrumental in the industry’s private research on climate change, as disclosed documents testify¹⁴¹³.

More generally, the US scientists, the federal government, and the fossil fuel industry played a key role in shaping climate knowledge, policies, and technologies. The US aimed to establish a hegemonic position in economic, technical, and scientific terms after World War II to stay ahead of global economic and geopolitical competition¹⁴¹⁴. Developing the best knowledge in geological and physical sciences was considered necessary to ensure prestige, power, and long-term access to natural resources, as well as to facilitate technological development, all of which were seen as key to reducing the chances of the Cold War escalating¹⁴¹⁵.

In 1955, the USA enacted the first federal legislation on air pollution, which was intended to facilitate further research on this issue (see The Air Pollution Control Act).

Finding: If due diligence was applicable to climate back then, then it could only have been from a procedural angle (i.e. a duty to investigate the risks to people and the environment). If so, the USA complied with this dimension at that time.

In 1956, Plass, a renowned physicist from prestigious US American Universities (Harvard, Princeton) who worked at Ford Automobiles in 1955¹⁴¹⁶, published a study in the American Journal of Physics called “Effect of

1411 Feit S and Muffett C, *A Crack in the Shell: New Documents Expose a Hidden Climate History*, CIEL, April 2018.

1412 *Ibid*, p 6.

1413 *Ibid*, p 4.

1414 Mahrane Y et al, “From Nature to Biosphere: The Political Invention of the Global Environment, 1945–1972”, *Vingtième Siècle. Revue d’histoire* 2012/1 (No 113) p. 127–141.

1415 *Ibid*.

1416 Joselow M, “Exclusive: GM, Ford knew about climate change 50 years ago”, *E&E News*, 26 October 2020.

Carbon Dioxide Variations on Climate”¹⁴¹⁷. According to the IPCC, Plass contributed to the wider scientific acceptance of the role of CO₂ in global warming¹⁴¹⁸. Following an article about the knowledge in the automotive industry, Plass sent a private letter to Callendar in 1956 in which he wrote that: “I do not agree with your remark that there is little danger of the earth becoming too warm from an excess of fuel CO₂”¹⁴¹⁹. This letter shows that the scientific community was already discussing climate-related risks, albeit not publicly.

In addition, the fact that Plass worked at Ford Automobiles led journalists to assume that there may have been early knowledge within the company and perhaps the wider automotive industry, but investigative journalists did not find any internal documentation showing that Plass warned the highest decision-makers within the company.¹⁴²⁰

In 1958, the Smoke and Fumes Committee of the API, led by a Shell Executive Charles Jones, commissioned a study to “determine the amount of carbon of fossil origin” in the atmosphere¹⁴²¹. According to a 2018 research paper published by the environmental NGO CIEL, this “document is the earliest evidence yet unearthed that demonstrates a coordinated industry-wide research program into the accumulation of fossil carbon in the atmosphere and clear evidence that major oil producers, including Shell, were on notice of potential climate risks.”¹⁴²² The researchers also noted the industry’s awareness of the *air pollution* problem resulting from the use of tailpipe emissions¹⁴²³ (in other words, “scope 3 emissions” – a responsibility that the oil and gas industry still disputes today).

1417 Plass G N, “Effect of Carbon Dioxide Variations on Climate”, *American Journal of Physics* 24(5) (1956) pp. 376–387, DOI: 10.1119/1.1934233.

1418 IPCC, AR6 (2021-23), WG I, Full Report, p 175.

1419 Joselow M, “Exclusive: GM, Ford knew about climate change 50 years ago”, *E&E News*, 26 October 2020, quoting “Plass also corresponded with the prominent English climate scientist Guy Stewart Callendar, according to a series of letters included in the 2009 book ‘The Callendar Effect’ by the historian James Rodger Fleming”.

1420 *Ibid.*

1421 Feit S and Muffett C, *A Crack in the Shell: New Documents Expose a Hidden Climate History*, CIEL, April 2018 p 4.

1422 *Ibid.*

1423 The petroleum industry supplies the fuel used by the automobile, and thus has an interest in the solution to the problem of pollution from automobile exhaust. The stated objective of the Smoke and Fumes Committee of the American Petroleum Institute is to “determine the causes and methods of control of objectionable

In 1959, Edward Teller – a former nuclear scientist – urged the API to find *additional* energy sources to *supplement* fossil fuels due to (i) depleting fossil fuel reserves, and (ii) the risk of sea-level rise due to global warming-related risks¹⁴²⁴. Moreover, Teller described the causal link between the use of fossil fuels and CO₂ and the climate-related risk of sea-level rise:

“Ladies and gentlemen, I am to talk to you about energy in the future. I will start by telling you why I believe that the energy resources of the past must be *supplemented*. First of all, these energy resources will run short as we use more and more of the fossil fuels. [...] Carbon dioxide has a strange property. It transmits visible light but it absorbs the infrared radiation which is emitted from the earth. Its presence in the atmosphere causes a greenhouse effect [...] It has been calculated that a temperature rise corresponding to a 10 per cent increase in carbon dioxide will be sufficient to melt the icecap and submerge New York. All the coastal cities would be covered, and since a considerable percentage of the human race lives in coastal regions, I think that this chemical contamination is more serious than most people tend to believe.”¹⁴²⁵

Finding: The lecture by Teller did not ground a *substantive* duty to mitigate warming. Nonetheless, it still provided a compelling reason for the API and its members to further investigate the issue.

In 1962, the US National Academy of Sciences published a report drafted by Marion King Hubbert, a prominent geologist and geophysicist, Chief Geology Consultant at Shell. Although his report also addressed climate change according to a CIEL publication¹⁴²⁶, Hubbert insisted more particularly on the rapid depletion of fossil fuels. Actually, Hubbert remains well-known today for having democratised the “peak oil theory”, following which oil production will be curbed either way due to its depletion. He notably foresaw that the USA (and the world) would experience a global oil and gas supply crisis in the 1970s, a prediction that would prove to be

atmospheric pollution resulting from the production, manufacture, transportation, sale, and use of petroleum and its products.

1424 Franta B, “On its 100th birthday in 1959, Edward Teller warned the oil industry about global warming”, *The Guardian*, 2018.

1425 *Ibid.*

1426 I cannot access the 1962 report myself, but the following paper addresses its contents: Steven Feit and Carroll Muffett, A Crack in the Shell, New Documents Expose a Hidden Climate History, CIEL, April 2018, p 4.

accurate¹⁴²⁷. His work led the oil and gas industry to focus increasingly on so-called non-conventional oil and gas reserves (such as heavy oil, oil sands, deepwater reserves, shale oil and gas)¹⁴²⁸. Nonetheless, Hubbert wrote in 1962 that:

“There is evidence that the greatly increasing use of the fossil fuels, whose material contents after combustion are principally H₂O and CO₂, is seriously contaminating the earth's atmosphere with CO₂. Analyses indicate that the CO₂ content of the atmosphere since 1900 has increased 10 per cent. Since CO₂ absorbs long-wavelength radiation, it is possible that this is already producing a secular climatic change in the direction of higher average temperatures. This could have profound effects both on the weather and on the ecological balances. [...]

In view of the dangers of atmospheric contamination by both the waste gases of the fossil fuels and the radioactive contaminants from nuclear power plants, Professor Hutchinson urges serious consideration of the maximum utilization of solar energy.”¹⁴²⁹

Finding: One may argue that this 1962 report contained all the ingredients to ground the application of substantive CDD over time (i.e. recognition of the “dangers” of CO₂ and fossil fuels, causal chain, and the recommendation to *consider* using solar energy as an alternative). However, as this report did not specifically address climate change, but rather the depletion of energy Resources in general (i.e. the “peak oil theory”), and given that it was not directly distributed to the government or industrial actors (still published by the US National Academy of Sciences), this report did not suffice to render *substantive* CDD applicable. In any case, this report certainly contributed to the increasing line of evidence on climate change, ultimately demonstrating a need to investigate the topic (i.e. potential *procedural* CDD applicability).

In 1963, the US Congress passed the first version of the Clean Air Act (CAA), an important piece of legislation in the USA, which introduced a

1427 Narváez A, “M. King Hubbert, 86, Geologist; Research Changed Oil Production”, *New York Times*, 17 October 1989.

1428 *Ibid.*

1429 Hubbert MK, “Energy Resources: A Report to the Committee on Natural Resources of the National Academy of Sciences – National Research Council”, United States, N.p., 1962.

national programme to address air pollution¹⁴³⁰. Congress enacted amendments in 1970, 1977, and 1990 to introduce emission standards, controls, and enforcement mechanisms for stationary and mobile sources, implemented by the Environmental Protection Agency (EPA), the federal agency working under this Act. During that time, the EPA also issued numerous scientific reports on climate change (see below). However, it is only after the 2007 Supreme Court ruling in *Massachusetts v EPA* that the EPA attempted to regulate specifically GHG emissions, with limited success due to the political rollback under the two Trump administrations. Nonetheless, before the judgement, the EPA's standards for stationary sources and fuel economy standards for mobile sources still affected and reduced GHG emissions.

Finding: The enactment of the Clean Air Act (CAA) enabled the USA to achieve further compliance with *procedural* CDD by 1963, as it laid the groundwork for additional relevant studies on climate change, and the regulation of emissions, initially air pollutants, but later on GHG emissions as well.

3.1.1.2 Procedural CDD applicability from 1965 onwards, especially in the USA

In 1965, the Science Advisory Committee of the White House (US President) issued a report in which it also addressed climate change. The scientific team responsible for the section "Atmospheric Carbon Dioxide" was led by Roger¹⁴³¹ as Chairman, and Charles D. Keeling¹⁴³², two scientists referenced by the IPCC reports on the evolution of climate science. In

1430 EPA, Evolution of the Clean Air Act, 2024, [https://www.epa.gov/clean-air-act-overview/evolution-clean-air-act#:~:text=The%20enactment%20of%20the%20Clean,industrial\)%20sources%20and%20mobile%20sources](https://www.epa.gov/clean-air-act-overview/evolution-clean-air-act#:~:text=The%20enactment%20of%20the%20Clean,industrial)%20sources%20and%20mobile%20sources), last accessed 20 October 2025.

1431 Roger Revelle established measurement stations of CO₂ emissions in the Antarctica and rightfully described that humanity is conducting a "large scale geophysical experiment".

1432 Charles D. Keeling established measurement stations at Hawaii and therefore gave birth to the "Keeling Curve", showing the incremental increase of CO₂ concentration in particles per million (ppm); considered nowadays as one of the most important scientific data set of the 20th century according to the climatologist and physicist Prof. Dr. Wahner (Patra P, "40 Years Ago: First World Climate Conference, Questions to Prof. Dr. Andreas Wahner", *Forschungszentrum Jülich*, 2022).

the main part of their study, the experts concluded that climate change is occurring:

“Carbon Dioxide is being added to the earth’s atmosphere by the burning of coal, oil, and natural gas at the rate of 6 billion tons a year. By the year 2000 there will be about 25% more CO₂ in our atmosphere than at present. This will modify the heat balance of the atmosphere to such an extent that marked changes in climate, not controllable though local or even national efforts, could occur.”¹⁴³³

One year later, in 1966, the US President Lyndon B. Johnson addressed climate change before the US Congress: “[t]his generation has altered the composition of the atmosphere on a global scale through [...] a steady increase in carbon dioxide from the burning of fossil fuels.”¹⁴³⁴

Some legal complaints filed in the USA against the US federal government and private corporate groups cite this 1965 report to showcase a turning point¹⁴³⁵ and the beginning of wrongful conduct. However, after re-examining this report, it does not seem that it supports *substantive* CDD breaches. The report recognises that “[t]he automobile is our most rapidly growing cause of many and diverse pollution problems”¹⁴³⁶. It subsequently recommends the introduction of a proportionate tax for general pollution problems, which manifestly encompasses all kinds of pollution, particularly air pollution but also CO₂ pollutants, if “appropriate and effective” (two core ingredients of due diligence)¹⁴³⁷. In other words, it recommended implementing policies that impose CDD or similar measures to require relevant actors to do their part. It seems that the US federal government has complied with this recommendation, as it adopted the Motor Vehicle Air Pollution Control Act of 1965, which amended the aforementioned Clean Air Act (CAA) of 1963 and introduced mandatory tailpipe emission regulations.

1433 President’s Science Advisory Committee, “Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel”, November 1965, p 9.

1434 Frank Adam, “The Forgotten History of Climate-Change Science”, *NPR*, 13 May 2014.

1435 See *San Mateo v Chevron et al*, complaint, Case n°17CIV03222, July 2017, § 2; *Juliana v USA*, Case No.: 6:15-cv-01517-TC, 09 October 2015, § 2; Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs’ Response in Opposition to Defendants’ Motion for Summary Judgment”, *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018.

1436 President’s Science Advisory Committee, “Restoring the Quality [...]”, *op cit*, p 16.

1437 *Ibid*, p 17.

Regarding CO₂ issues specifically, the synthesis of the 1965 report noted that there may be technical and technological measures to “counteract” the CO₂ effects, “by deliberately modifying other processes that affect climate may then be very important”¹⁴³⁸. These measures are now known as “geoengineering techniques” and basically consist of injecting particles into the atmosphere to cool down the global climate, and they are highly controversial due to their significant risks and uncertainties involved with their introduction¹⁴³⁹. In the same vein, the full report, which assessed climate change more specifically, acknowledged the relative causal certainty of the CO₂ effect on planetary warming and, for the first time, the “deleterious” and “significant” climate-related risks such as sea-level rise¹⁴⁴⁰. However, it also explicitly stated that technical countermeasures need to be explored, such as increasing the albedo¹⁴⁴¹ reflectivity and/or “spreading very small reflecting particles”¹⁴⁴², nowadays defined as aerosols. The “best available science” recently confirmed that both albedo and aerosols have a global cooling effect, although it is clear that the warming effect of GHG is more potent¹⁴⁴³.

1438 *Ibid*, p 9.

1439 IPCC, AR5 (2014), SYR, SPM, p 26: geoengineering techniques “entail numerous uncertainties, side effects, risks and shortcomings and has particular governance and ethical implications. SRM [Solar Radiation Management, in other words, geoengineering techniques] would not reduce ocean acidification. If it were terminated, there is high confidence that surface temperatures would rise very rapidly impacting ecosystems susceptible to rapid rates of change.”

1440 President’s Science Advisory Committee, “Restoring the Quality [...]”, *op cit*, p 123 – 127.

1441 According to the IPCC Glossary of SRI.5, 2018, the term albedo means “The fraction of solar radiation reflected by a surface or object, often expressed as a percentage. Snow-covered surfaces have a high albedo, the surface albedo of soils ranges from high to low, and vegetation-covered surfaces and the oceans have a low albedo. The Earth’s planetary albedo changes mainly through varying cloudiness and changes in snow, ice, leaf area and land cover.” (SRI.5, Annex I: Glossary, p 542).

1442 President’s Science Advisory Committee, “Restoring the Quality [...]”, *op cit*, p 127.

1443 The first IPCC report summarised the cooling effect of both albedo and aerosols as follows (IPCC, AR1 (1990), WGI, SPM, p 15): “A change in the albedo (reflectivity) of the land, brought about by desertification or deforestation affects the amount of solar energy absorbed at the Earth’s surface. Human-made aerosols, from sulphur emitted largely in fossil fuel combustion can modify clouds and this may act to lower temperatures.” See also IPCC, AR6 (2021-23), SYR, SPM, 2023, § A.1.2: “A.1.2 The *likely* range of total human-caused global surface temperature increase from 1850–1900 to 2010–2019 is 0.8°C–1.3°C, with a best estimate of 1.07°C. Over this period, it is *likely* that well-mixed greenhouse C8, gases (GHGs) con-

In any case, the 1965 report mainly suggested that the CO₂ issue should have been further investigated, including technical fixes. Additionally, the report recommended the establishment of systematic measurements of CO₂ concentrations in the atmosphere¹⁴⁴⁴.

Findings: The 1965 study certainly triggered the applicability of CDD from this point in time, but only from a procedural angle. Said differently, the recognition of the climate-related risks required further measures to *investigate* the CO₂ problem, in other words, to exercise *procedural* CDD. Since the USA issued this report, it appeared that the USA had complied with *procedural* CDD.

Further, even if one were to argue that *substantive* CDD was already applicable, given that the report also recommended enacting measures to tackle wide-ranging pollution, it should be noted that the USA implemented measures to reduce air pollution in the automotive sector. In any case, it seems difficult to accept that this study supported the applicability of *substantive* CDD, as it only showed first results on climate science, including by highlighting key uncertainties, which were too significant to infer the need at this point to reduce emissions.

3.1.1.3 No evident CDD duty to manufacture electric vehicles by 1967

As early as 1967, the US Congress was asking whether electric vehicles could be a viable alternative given the air pollution issues associated with combustion cars¹⁴⁴⁵, a concern also raised by US President Lyndon Johnson¹⁴⁴⁶. In its response, the former Chairman of the API told the US Congress that electric cars would not be better than the existing combustion cars since their emissions would be “controlled”:

tributed a warming of 1.0°C–2.0°C and other human drivers (principally aerosols) contributed a cooling of 0.0°C–0.8°C, natural (solar and volcanic) drivers changed global surface temperature by –0.1°C to +0.1°C, and internal variability changed it by –0.2°C to +0.2°C.”

1444 President’s Science Advisory Committee, “Restoring the Quality [...]”, *op cit*, p 25 – 26.

1445 It seems that Congress asked this question to assess the need to fix the air pollution issue, but not the climate problem: see Franta B, “On its 100th birthday in 1959, Edward Teller warned the oil industry about global warming”, *The Guardian*, 2018.

1446 President Johnson, “State of the Union Address: President Lyndon B. Johnson’s Natural Beauty Message”, 1965, <http://acsc.lib.udel.edu/items/show/292>, last accessed 19 October 2025.

“We in the petroleum industry are convinced that by the time a practical electric car can be mass-produced and marketed, it will not enjoy any meaningful advantage from an air pollution standpoint. Emissions from internal-combustion engines will have long since been controlled.”¹⁴⁴⁷

Current scientific knowledge shows that the API 1967 statement is clearly wrong. Electric cars are necessary since combustion engines still emit today (in 2025) far too many air and climate pollutants. No technology is being discussed that could fix the problems with combustion cars; instead, electric vehicles need to replace combustion engines to decarbonize the transport sector and achieve the Paris LTTG, according to the IPCC¹⁴⁴⁸. The IEA specifically found in its successive reports since 2021 that its 1.5°C scenario called “Net Zero Emissions” (NZE) models the end of the sale of combustion cars by 2035¹⁴⁴⁹. Electrification has two advantages: Firstly, the efficiency of electric cars is “three times higher than that of a gasoline car” as recognised by the IEA¹⁴⁵⁰ and the IPCC¹⁴⁵¹. Secondly, the electricity mix (powering e-vehicles) can be CO₂-free by using renewables or other zero-carbon energies, such as nuclear energy and so-called “*abated fossil fuel*” power plants¹⁴⁵².

However, the fact that the API was wrong in 1967 may not be enough to argue a potential CDD breach that began back then. It is rather necessary to prove that the industry knew that it was not possible to sufficiently reduce emissions from combustion cars. On the contrary, one may argue that the state of the technology and the rate of technical progress at that time were so significant that it could have led engineers and other experts to believe that it was possible to fix air pollution and climate issues. As Zahar recalled in a paper on historical responsibility, engineers managed to make steam engines approximately 15 times more fuel efficient in the space of a

1447 Franta B, “On its 100th birthday in 1959, Edward Teller warned the oil industry about global warming”, *The Guardian*, 2018.

1448 IPCC, AR6 (2021-23), WG III, SPM, § C.8.

1449 IEA, WEO 2022, p 123.

1450 *Ibid*, p 130.

1451 IPCC, AR6 (2021-23), WG III, TS, Box TS.9 p 92: “Electricity is a versatile energy carrier, with much higher end-use efficiencies than fuels, and it can be used directly to avoid conversion losses.”

1452 “Abated fossil fuel” means the use of fossil fuels with certain technologies such as “carbon capture and sequestration” (CCS) to reduce GHG emissions (IPCC, AR6 (2021-23), WG III, SPM, Footnote 55).

century (1750–1850)¹⁴⁵³. In addition, the invention of internal combustion engines in the 19th and early 20th century led to further improvements in fuel efficiency¹⁴⁵⁴. One may have had the wrong (but not wrongful) belief that fuel efficiency was steadily improvable, or that every environmental nuisance would have a technical solution. In light of this technical progress, it is not implausible that the API leader could have argued in good faith in 1967 that emissions could be brought under control.

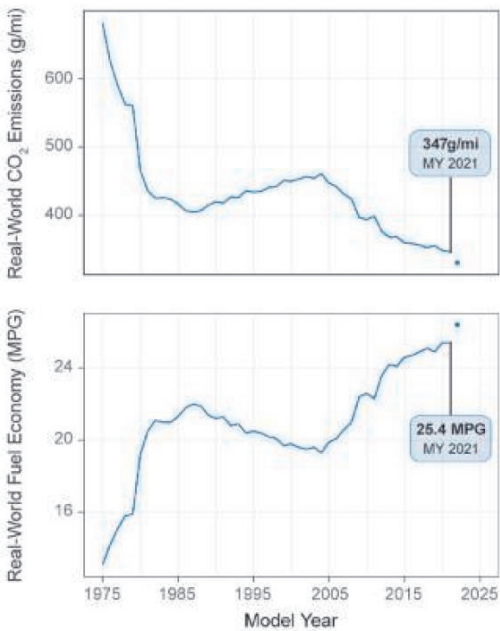
One could even argue that the recent history of automotive fuel efficiency also confirmed the industry's ability to make significant progress. In the USA, between 1975 and 2020, the fuel economy doubled, meaning that CO₂ emissions of *individual* cars fell by 50%, as the graphs below show, while automotive vehicles became, on average, significantly more powerful (i.e., more horsepower)¹⁴⁵⁵.

1453 Zahar A, “Two Arguments Against Historical Responsibility for Climate Change”, 2021 p 13 – 14.

1454 Zhibin Wang et al, “The Development Trend of Internal Combustion Engine”, *Journal of Physics: Conference Series* 1626 012139 (2020) (International Conference on Electrical Automation and Mechanical Engineering).

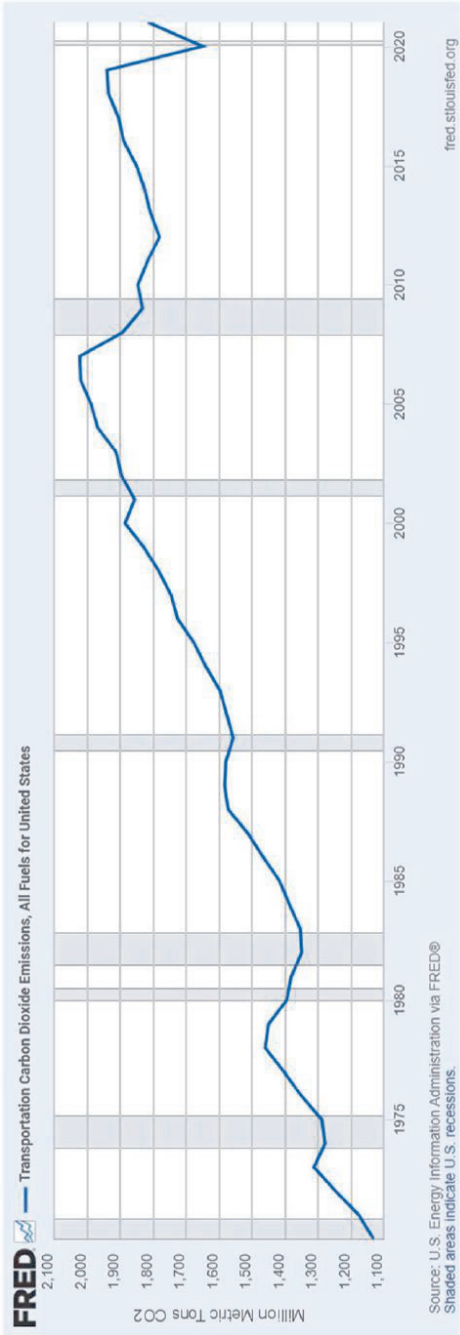
1455 CO₂ emissions halved for the period 1975 – 2020 according too the EPA, see <https://www.epa.gov/automotive-trends/highlights-automotive-trends-report>, last accessed 27 October 2025.

Figure ES-1. Estimated Real-World Fuel Economy and CO₂ Emissions



Source: US EPA, “Highlights of the Automotive Trends Report”, 25 November 2024: <https://www.epa.gov/automotive-trends/highlights-automotive-trends-report>, last accessed 27 October 2025.

However, although emissions from individual cars fell significantly between 1975 and 1990, emissions from the entire US transportation sector rose again significantly thereafter, as the graph below shows. This increase in sectoral emissions is due to the fact that combustion cars are now made more widely available.



Source: GHG emissions from transportation sector in the USA, U. US Energy Information Administration, “Transportation Carbon Dioxide Emissions, All Fuels for United States [EMISSCO2TOTVTCOTUSA]”, retrieved from FRED, Federal Reserve Bank of St. Louis, 27 October 2023.

Hence, industrial activities and products expanded significantly, especially with globalisation. One might now question whether the industry could have foreseen that the fuel efficiency gains would not have been sufficient. Although selling more products, including in other countries, was certainly an objective of industrial actors to maximise profits, it is unclear whether the industry knew that higher fuel efficiency performance standards would not be sufficient to compensate for the growth in sales of automobiles. In the same vein, while the issue of air pollution was foreseeable, it is less clear whether the automotive industry could have anticipated its contribution to global warming. Further investigation is needed since no public evidence seems to exist in this regard.

Finding: At this juncture, the available evidence does not permit the identification of a violation of CDD either. The air pollution issue required the private industry to devise less polluting cars, but it did not seem to require a switch to electric vehicles.

3.1.1.4 No CDD breach either from 1968 onwards

In 1968, the aforementioned American Petroleum Institute (API) commissioned an internal report on global warming from the Stanford Research Institute (SRI). The API shared the results with all its members, including large oil and gas companies such as Exxon, BP, Shell, Total etc. The summary of the chapter “Carbon dioxide in the Atmosphere” of the SRI report states:

“In summary, Revelle makes the point that man is now engaged in a vast geophysical experiment with his environment, the earth. Significant temperature changes are almost certain to occur by the year 2000, and these could bring about climatic changes. [...] The argument has been made that the large scale cooling trend observed in the northern hemisphere since about 1955 is due to the disturbance of the radiation balance by fine particles and that this effect has already reversed any warming trend due to CO₂ [...]. there seems to be no doubt that the damage to our environment could be severe. [...] It is clear that we are unsure as to what our long-lived pollutants are doing to our environment; however, there seems to be no doubt that the warming theory as described in detail by Revelle and others or the potential damage to our environment could be severe. Whether one chooses newer cooling prospect indicated by

McCormick and Ludwig, the prospect for the future must be of serious concern.”¹⁴⁵⁶

As the underlined passages in the quote show, this internal study once again considered the cooling effect of aerosols (i.e. fine particles). Although the “best available science” nowadays confirms that the global cooling effect of aerosols is less strong than that of GHG¹⁴⁵⁷, the state of the science was not able to reach that conclusion in 1968, as the SRI study shows. More generally, the IPCC’s 2021 AR6 section on the evolution of climatology confirms that the effect of aerosols was not well understood at that time¹⁴⁵⁸. Nevertheless, the SRI report regarding the “research needs identified the need to find “systems in which CO₂ emissions would be brought under control”¹⁴⁵⁹.

Finding: This study may have made *procedural* CDD applicable since it identified CO₂ as a *potential* “cause of serious world-wide environmental changes” that could severely disrupt the environment. Even though the study noted the potential cooling effect of aerosols, it still highlighted that the consequences may be severe either way, whether global cooling or warming. It also recommended that the industry devise systemic measures to bring CO₂ emissions under control. Hence, there is no doubt that this study, which was accessible to oil and gas companies’ members of the API, should have prompted the industry to start investigating and tackling the climate issue (in short: to exercise *procedural* CDD).

In 1970, the Congress of the USA passed the 1970 Clean Air Act Amendments, which was a “significant turning point” in the control of pollution from both stationary and mobile sources¹⁴⁶⁰. Since then, the EPA has requested that automotive manufacturers substantially reduce carbon monoxide and nitrogen oxide emissions by 90% between 1976 and 1970¹⁴⁶¹. These mandates improved the combustion processes and fuel efficiency of

1456 Robinson E and Robbins R C, “Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants”, Stanford Research Institute, February 1968, pp. 109–110.

1457 IPCC, AR6 (2021-23), SYR, SPM, 2023, § A.1.2 (*op cit*).

1458 IPCC, AR6 (2021-23), WG I, Chapter 1, p 179 – 180.

1459 Robinson E and Robbins R C, “Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants”, Stanford Research Institute, February 1968, p 112.

1460 Rogers P G, “EPA History: The Clean Air Act of 1970”, *EPA Journal*, January/February 1990.

1461 US EPA, “Hearings Set on Automobile Pollution Control”, Press Release, 4 March 1971 <https://www.epa.gov/archive/epa/aboutepa/hearings-set-automobile-pollution-control.html>, last accessed 27 October 2025.

automotive vehicles, incidentally reducing CO₂ emissions (see the chart above regarding the substantial reduction in CO₂ emission from individual vehicles¹⁴⁶²).

Finding: By introducing the Clean Air Act Amendments, the USA seemingly also complied with substantive CDD, although its aim was not to tackle CO₂ emissions. As shown above in the 1967 discussion, there is not enough evidence to hold either the USA or corporate groups (carmakers or oil producers) accountable for failing to mandate the production of electric car vehicles, since there may have been a genuine belief that the pollution was controllable through combustion cars. The drastic CO₂ emissions reductions between 1975 and 1985 (which almost halved) show, in any case, the efficiency of these first regulations.

In 1971, the French oil company Total (now TotalEnergies) published an article on the scientific knowledge of climate change in its company magazine “Total information”, which showed that advances in climate science even reached companies from “non-English speaking” countries¹⁴⁶³. Since Total was a public company, one may reasonably infer that the French State manifestly also knew about climate change. At least, the government official journal published articles on anthropogenic climate change in 1970 and 1972 in a French official journal by the government¹⁴⁶⁴. The French Ministry for the Environment was established in 1971¹⁴⁶⁵.

This piece predicted correctly that the CO₂ concentration would reach 400 ppm (parts per million) around 2010; consequently leading to 1 – 1,5°C of warming (which is correct) and to “catastrophic consequences”:

“Since the 19th century, humans have been burning increasing amounts of fossil fuels. [...] The overall amount of carbon dioxide present in the atmosphere, therefore, has increased significantly. [...] The increase has been around 15% over the last 150 years, which is not negligible. And [...] if the consumption of coal and oil keeps the same rhythm in the years to come, the concentration of carbon dioxide will reach 400 parts per million around 2010 [...]. This increase in concentration

1462 US EPA, “Highlights of the Automotive Trends Report”, 25 November 2024, <https://www.epa.gov/automotive-trends/highlights-automotive-trends-report>, last accessed 27 October 2025.

1463 Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021).

1464 *Ibid*, p 2.

1465 *Ibid*.

is quite worrying [...] It is possible, therefore, that an increase in the average temperature of the atmosphere is to be feared. The calculated orders of magnitude are obviously small (from 1—1.5°C) but could have important impacts. Atmospheric circulation could be modified, and it is not impossible, according to some, to foresee at least a partial melting of the polar ice caps, which would certainly result in significant sea level rise. The catastrophic consequences are easy to imagine.”¹⁴⁶⁶

In addition to this piece, Total and other petroleum producers subsequently published a paper highlighting the significant uncertainties surrounding global warming due to the cooling effect of aerosols and albedo¹⁴⁶⁷. However, this public position reflected the scientific position back then, as notably evidenced by the 1965 study and related commentary above¹⁴⁶⁸.

Finding: The state of scientific research in 1968, to which Total also contributed, should have led to further research into carbon emissions and low-carbon energies¹⁴⁶⁹ (in short: *procedural* CDD). However, at this point in time, this thesis cannot assert any breach of CDD, since Total's publications were in line with the former state of science¹⁴⁷⁰.

Intermediate conclusion: A range of climate legal actions in the USA argued that global warming was foreseeable, and that the knowledge was sufficient to trigger liability. The German Appeals Court of Hamm also recently made this bold point succinctly in an *obiter dictum* in the RWE case, although it dismissed the case for evidentiary reasons¹⁴⁷¹. However,

1466 *Ibid*, p 2 (Translation provided by Christophe Bonneuil et al of Durand-Dastès, La pollution atmosphérique et le climat, Total Information 47, p 18).

1467 *Ibid*, p 4 (quoting : Union des Chambres Syndicales de l'Industrie du Pétrole (UCSIP), 1971, p 24–25).

1468 President's Science Advisory Committee, “Restoring the Quality [...]”, *op cit*, p 9.

1469 See the discussion in: IPCC, AR6 (2021-23), WG III, Chapter 13, p 1376, and Chapter 16, p 1649; Robinson E and Robbins R C, “Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants”, Stanford Research Institute, February 1968, p 112.

1470 Nonetheless, Total *may* have breached its CDD two decades later as the Bonneuil et al paper on Total suggests, since the company invested in coal after the OPEC crisis, ignored the scientific evolution in 1970's-80's, until it coordinated with other oil and gas actors to delay climate mitigation policies between 1987-96 (see Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total's responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021)).

1471 Court of Appeal of Hamm, *Saül Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025, p 49. In this case, the court argued that global warming was foreseeable for a fossil fuel company such as RWE. However, it did not discuss this point in detail and

according to this doctoral dissertation, neither a violation of CDD was discernible at that moment, nor a *substantive* obligation to reduce GHGs¹⁴⁷², due to the following scientific uncertainties regarding:

- the chain of causation, due to the cooling effect of albedo and aerosols;
- the detrimental climate-related effects and their severity beyond sea-level rise;
- the appropriate climate-related measures required. Geo-engineering measures were discussed in the 1965 report as a way to “counteract” global warming. However, there was no consensus on the need to reduce individual sources of emissions in order to mitigate global warming. And even if there had been one, it was unclear what would have been required. For example, fuel efficiency measures were legitimately considered appropriate to tackle air pollution instead of electric vehicles.

Thus, this thesis comes to a different conclusion than the US plaintiffs and the RWE decision: CDD was only applicable procedurally from that moment in time, meaning that it was necessary to investigate further climate-related risks and identify potential GHG reduction measures.

omitted to address the scientific evidence on the uncertainty of global warming in particular. The Court then asserted that the adoption of the UNFCCC made global warming objectively foreseeable.

- 1472 In fact, plaintiffs in the *Juliana v USA* case claimed that the USA breached its constitutional duties from 1965 onwards, including the substantive due process clause of the fifth and fourteenth amendment (rights to life, liberty, and property), similar to due diligence. Additionally, thirteen legal actions against oil and gas producers by municipalities make this claim, by relying on US state tort law, legal bases used against companies, such as negligence, public nuisance, failure to warn; see Setzer J and Byrnes, Global trends in climate change litigation: 2020 snapshot, 2020, p 20; to see a specific complaint, see, for instance, the full complaint filed by the city of San Mateo against a range of defendants (https://climatecasechart.com/wp-content/uploads/case-documents/2017/20170717_docket-C17-01227_complaint.pdf, last accessed 28 October 2025).

3.1.2 The 1972 Stockholm Declaration: international procedural CDD's applicability

3.1.2.1 The Stockholm recognition of environmental due diligence and climate change as an issue

The Stockholm Declaration, issued at the 21st plenary meeting on 16 June 1972 of the United Nations Conference on the Human Environment, has set the stage for international environmental law.

The reasons why the global environment received international attention at that time were: (i) the scientific recognition of new global ecological issues; (ii) the obvious need to ensure the habitability of the Earth, particularly for humans; and (iii) the fact that the development of international environmental law helped ease Cold War tensions (known as “*détente*”), similar to space research¹⁴⁷³. In other words, the Stockholm Conference marked the beginning of modern global environmental protection, shifting the focus from “[n]ature preservation” to global “[b]iosphere consideration” to ensure that the global environment is not overly imbalanced and that resources will be available in the long term (“overshoot day”), and to address issues such as overpopulation, overfishing and the pollution of soils, water and air¹⁴⁷⁴.

According to some historians, the conceptualisation of the global environment was previously pioneered by some prominent US authors who were mainly concerned with resource depletion and overpopulation. These authors also introduced the term “Anthropocene” to compare the impact of humans on Earth with a geological period that normally has a much longer timeframe¹⁴⁷⁵.

The Stockholm declaration has laid the ground principles of international environmental law:

- The right of mankind to live in a sustainable environment and the duty to protect it: “[m]an has the fundamental right to freedom, equality and adequate conditions of life in an environment of a quality that permits

1473 Mahrane Y et al, “From Nature to Biosphere: The Political Invention of the Global Environment, 1945–1972”, *Vingtième Siècle. Revue d'histoire* 2012/1 (No 113) p. 127–141.

1474 *Ibid.*

1475 *Ibid.*, p III: “Fairfield Osborn, *Our Plundered Planet* (Boston: Little Brown, 1948); William Vogt, *Road to Survival* (New York: Sloane Associates, 1948).”

a life of dignity and well-being, and he bears a solemn responsibility to protect and *improve* the environment for present and future generations.” More precisely, the Declaration recognises the need to “ensure that serious or irreversible damage is not inflicted upon *ecosystems*”¹⁴⁷⁶.

- The recognition of due diligence in the international environmental law, or the duty to “not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”¹⁴⁷⁷ and the related duty to “co-operate to develop further international law regarding liability and compensation for the victims of pollution and other environmental damage”.¹⁴⁷⁸
- To properly prevent environmental harm, the Declaration also acknowledges the need to provide assistance from developed countries to developing countries in numerous forms, including through the “transfer of substantial quantities of financial and technological assistance”¹⁴⁷⁹.

This PhD needs to stress here the importance of the recognition of these principles since they are the core ingredients of almost any climate case today: (i) the human right to a secure “liveable” environment, including for future generations; (ii) the universal due diligence obligation to prevent serious and irreversible damage; (iii) the Global North’s higher responsibility, which justifies judicial intervention against them¹⁴⁸⁰. So, did the Stockholm Declaration make international CDD applicable?

While the Stockholm Declaration itself did not explicitly address climate change¹⁴⁸¹, the full report did so:

1476 Stockholm Declaration (Report of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.I, Stockholm, 5 - 16 June 1972, United Nations, 1973), Principle 6.

1477 Stockholm Declaration, principle 21. See Sands P and Peel J, *Principles of International Environmental Law* (3rd edn, Cambridge University Press 2012) p 191.

1478 Stockholm Declaration, principle 22.

1479 Stockholm Declaration, Principle 9.

1480 See Chapter VIII, Brief Summary of the General Debate (Report of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.I, Stockholm, 5 - 16 June 1972, United Nations, 1973), § 45, p 46.

1481 As environmental issues, the speakers addressed over-population (although not sufficiently addressed according to numerous speakers), nature conservation, water supplies, “the need for understanding and controlling the changes man produced in the major ecological systems; the need for accelerating the dissemination of environmentally sound technologies; marine pollution (contamination, oil discharge, excessive use of pesticides, atmospheric pollution eventually contaminating the sea, ocean dumping), for more information see Chapter VIII of the Report providing a “Brief summary of the general debate”, especially at page 47.

“It is recommended that Governments be mindful of activities in which there is an appreciable risk of effects on climate, and to this end: (a) Carefully evaluate the likelihood and magnitude of climatic effects and disseminate their findings to the maximum extent feasible before embarking on such activities; (b) Consult fully other interested States when activities carrying a risk of such effects are being contemplated or implemented.¹⁴⁸² [...]

It is recommended:’ (a) That approximately 10 baseline stations be set up, with the consent of the States involved, in areas remote from all sources of pollution in order to monitor long term global trends in atmospheric constituents and properties which may cause changes in meteorological properties, including climatic changes; (b) That a much larger network of not less than 100 stations be set up, with the consent of the States involved, for monitoring properties and constituents of the atmosphere on a regional basis and especially changes in the distribution and concentration of contaminants; (c) That these programmes be guided and co-ordinated by the World Meteorological Organization; (4) That the World Meteorological Organization, in co-operation with the International Council of Scientific Unions (ICSU), continue to carry out the Global Atmospheric Research Programme (GARP), and if necessary establish new programmes to understand better the general circulation of the atmosphere and the causes of climatic changes whether these causes are natural or the result of man’s activities.”¹⁴⁸³

Finding: These recommendations should have prompted States and other key international actors to conduct further research into risk identification. Thus, this thesis concludes that international *procedural* CDD was applicable, but not *substantive* CDD.

1482 See in Report of UN Conference on the Human Environment, “Chapter II Action Plan for the Human Environment; B. Recommendations for action at the international level; Identification and control of pollutants of broad international significance, A. Pollution generally, Recommendation 70”.

1483 *Ibid*, Recommendation 79.

3.1.2.2 Balancing environmental concerns with industrialisation

3.1.2.2.1 The birth of global sustainable development

As shown above, the declaration expressed the need for “improvement” of the environment through human intervention, recognising more generally those human societies and settlements that made nature a better place:

“In the long and tortuous evolution of the human race on this planet a stage has been reached when, through the rapid acceleration of science and technology, man has acquired the power to transform his environment in countless ways and on an unprecedented scale. Both aspects of man’s environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights-even the right to life itself.”¹⁴⁸⁴

This very self-confident, anthropocentric view, shared by Law Professor Zahar among others¹⁴⁸⁵, is at odds with a certain cultural and legal trend that questions the hegemonic position of humans in the world. This trend aims to provide rights to nature by recognising the pure ecological loss as a cause of action¹⁴⁸⁶ and advocating for nature to have the right to remain unharmed and untouched¹⁴⁸⁷. This latter trend evolved from “nature preservationists” who existed before World War II and who wanted to protect “unspoiled nature” from human activity, both in the USA and in former colonies, and this persisted after decolonisation, especially within the International Union for Conservation of Nature (IUCN)¹⁴⁸⁸. It is there-

1484 Stockholm Declaration, Principle 1.

1485 Zahar A, “Two Arguments Against Historical Responsibility for Climate Change”, 2021: Zahar argued that industrialisation brought an exhaustive range of significant advantages for human conditions, in addition the positive effects for the environment, as it enabled reforestation and nature protection by sparing large pieces of land after the agriculture-based pre-industrial civilisation depleted their ecological resources (especially forests).

1486 See the recognition of the pure ecological loss in international law (ICJ, *Certain activities carried out by Nicaragua in the border area (Costa Rica v Nicaragua)*, 2 February 2018) and in French law (articles 1246 – 1252 of the French Civil Code).

1487 *Notre Affaire à Tous, Les droits de la nature: Vers un nouveau paradigme de protection du vivant* (Le Pommier 2 March 2022).

1488 Mahrane Y et al, “From Nature to Biosphere: The Political Invention of the Global Environment, 1945–1972”, *Vingtième Siècle. Revue d'histoire* 2012/1 (No 113) p. 127–141. The authors rely on a remarked study by Samuel Hays to make the difference between Nature Preservation and Resource Conservation: while Nature

fore surprising and contradictory that the first international declaration on environmental protection started by recognising the benefits of humans shaping the environment, while also recognising the need to protect.

“3. Man has constantly to sum up experience and go on discovering, inventing, creating and advancing. In our time, man’s capability to transform his surroundings, if used wisely, can bring to all peoples the benefits of development and the opportunity to enhance the quality of life. Wrongly or heedlessly applied, the same power can do incalculable harm to human beings and the human environment. We see around us growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living beings; major and undesirable disturbances to the ecological balance of the biosphere; destruction and depletion of irreplaceable resources; and gross deficiencies, harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment.”¹⁴⁸⁹

As the Preamble to the Stockholm Declaration clearly shows, world governments were mainly concerned (still today) with achieving further development, since “environmental problems are caused by under-development”¹⁴⁹⁰, and because it enabled them to ensure their own “protection” with respect to environmental changes¹⁴⁹¹. There was also a strong belief that social, scientific and technical solutions would emerge to mitigate environmental issues and “improve the environment”¹⁴⁹². In other words, the purpose of this conference was clearly not to create the conditions to bring back wildlife on Earth, but rather to pursue “sustainable development”. This was a significant and somewhat contradictory challenge, given that the Preamble recognised that in “industrialized countries, environmental problems are generally related to industrialization and technological development”¹⁴⁹³.

Preservation aims at protecting nature as it is (wildlife), resource conservation aims at providing the maximum output of resources in the long run; see Hays S, “Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920”, Cambridge, Harvard University Press, 1959.; or US Council on Environmental Quality, “Annual Report”, 1981, p 6.

1489 Stockholm Declaration, Preamble, Paragraph 3.

1490 *Ibid*, Paragraph 4.

1491 *Ibid*, Paragraph 3.

1492 *Ibid*, Paragraph 5 and 6.

1493 Stockholm Declaration, Preamble, Paragraph 4.

Even today, the “fight against climate change” involves numerous human interventions and technological solutions. Reducing GHG does not only mean consuming and producing less energy, or fossil fuels. Rather, climate mitigation can be achieved through multiple technological and industrial fixes, such as the deployment of massive solar and wind energy, electric vehicles, hydrogen, CCS, etc. The deployment of these technologies may generate as much economic growth as the “business as usual scenarios”¹⁴⁹⁴. Furthermore, climate adaptation also inevitably implies human intervention to adapt to global warming and its impacts.

3.1.2.2.2 Developing countries asserting their right to development and equity

As the subsection above highlights, countries worldwide did not want to give up economic development, especially developing countries, as they recognised that poverty is the most pressing issue. Indeed, pursuant to paragraph 4 of the Stockholm Conference’s preamble:

“[i]n the developing countries most of the environmental problems are caused by under-development. Millions continue to live far below the minimum levels required for a decent human existence, deprived of adequate food and clothing, shelter and education, health and sanitation.”

The welcoming of industrial development by “global South countries”, thereby becoming “developing countries”, is an additional tension between development and environmental protection beyond the more general challenge of reconciling environmental protection with human interventions. It is important to understand this additional layer of complexity: some African, Southeast Asian and South American territories still had significant portions of intact wildlife, whose protection was a goal after decolonisation. Nonetheless, the conference participants believed that it was possible to “avoid the mistakes made by developed countries in their development”¹⁴⁹⁵.

In any case, developing countries strongly rebutted the “no growth” economic theory, considering it “absolutely unacceptable”¹⁴⁹⁶. They submitted

1494 IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021, p 13.

1495 Stockholm Conference, Part III “Proceedings of the Conference”, Chapter VIII “Brief Summary of the General Debate” (p 46), § 44.

1496 *Ibid.*

that environmental protection could not be used as a pretext to hamper their economic and social development, by endorsing the view “that there need be no clash between the concern for development and the concern for the environment”.¹⁴⁹⁷ Degrowth theories just became popular in Western countries, especially following the publication of the Meadows Report by the “Club of Rome” just before the Stockholm Conference¹⁴⁹⁸. Again, for people who care about nature protection and who have developed a critical eye on the need to pursue constant economic growth, the 1972 developing countries’ position may give a strong feeling of contradiction, as one may consider that they thereby actually only recommitted the same errors as industrialised nations. In fact, the openness of developing countries to industrialisation significantly triggered the interests of Western multinational corporate groups, despite the opposition of some countries¹⁴⁹⁹. Multinationals also affected the environment of these corporate groups, including climate change. This maintained some form of economic dependence, as the economic power of some corporate groups is immense.

However, as Professor Zahar argued in his piece against historical responsibility, industrialisation brought a range of significant advantages for human conditions, in addition to the positive effects for the environment, as it enabled, according to him, reforestation and nature protection by sparing large pieces of land after the agriculture-based pre-industrial civilisation depleted their ecological resources (especially forests)¹⁵⁰⁰.

To further combat the structural global inequalities and unfairness, the Stockholm Conference proposed that developed countries should cover the costs of global environmental problems and support developing countries with financial and technical means¹⁵⁰¹. However, despite these commitments, which were renewed, the sustainable development and climate objectives are far from being achieved, and the financial support provided by the global north in this respect might still be insufficient.

Finding: Globalisation has prompted humans to consider environmental protection for their own survival due to their dependency on the environment and its ecological balances, including the global climate. The

1497 *Ibid.*

1498 Meadows D H et al, *The Limits to Growth*, Universe Book, New York, 1972.

1499 Stockholm Conference, Chapter VIII, Brief Summary of the General Debate, § 45, p 46.

1500 Zahar A, “Two Arguments Against Historical Responsibility for Climate Change”, 2021.

1501 Stockholm Conference, Part III “Proceedings of the Conference”, Chapter VIII “Brief Summary of the General Debate” (p 46), §.47.

Stockholm Conference marked the beginning of the recognition of the “Anthropocene” and the willingness to achieve “sustainable development” to redress the global imbalance. It laid down the groundwork for the concepts of CBDRRRC and equity, and global sustainable development, which remain very important nowadays, particularly in relation to climate, CDD and the “fair share” issue.

3.1.3 The 1972-1988 period: from substantive CDD’s substantive applicability to the first potential breaches

3.1.3.1 Substantive CDD’s applicability in the making between 1975 – 1979

In 1977, the Council on Environmental Quality of the USA, an official expert body on environmental issues¹⁵⁰², established by NEPA (see above), stated in the “HIGHLIGHTS” section of its annual report that:

“Several global air pollution problems of international concern are the carbon dioxide ‘greenhouse’ effect [...]. If we use up the world’s stores of fossil fuels at a rapid rate, the predicted CO₂ level will double by 2025 and reach a maximum of seven to eight times today’s level by the year 2100. A doubling of CO₂ level could cause a 2-3° C increase in average atmospheric temperatures [...] a major global environmental threat”¹⁵⁰³.

Climate scientists regularly assessed the implications of the *doubling of CO₂ concentration* as a heuristic and labelled the concept as “equilibrium climate sensitivity”, or “effective climate sensitivity”¹⁵⁰⁴. According to my research, this is the first time that a government expert body has identified the 2°C threshold as dangerous¹⁵⁰⁵.

1502 The Council on Environmental Quality of the USA, “which was created in 1969 by the National Environmental Policy Act (NEPA), advises the US President and develops policies on climate change, environmental justice.

1503 US Council on Environmental Quality, “The Eighth Annual Report”, 1977, Chapter 2, p xiv.

1504 See IPCC, SR1.5 (2018), Glossary, p 545, Randalls S, “History of the 2°C target”, *WIREs Climate Change* 1 (July/August 2010) p 599.

1505 Randalls Samuel, Professor of Geography, who researched the history of the 2°C target, noted in 2010 that Manabe and Wetherald found in 1965 and 1975 that the doubling of CO₂ (climate sensitivity) may lead to approximately 2°C or more of warming, without flagging it as particularly concerning; Randalls then found that only around 1990 authors and institutions (such as the Advisory Group on

Finding: It is unclear whether the 1977 annual report can ground a substantive duty to avoid the doubling of CO₂ concentrations and the overstepping of the 2°C target¹⁵⁰⁶. In any case, the 1977 study demonstrated that the US federal government and the competent bodies continued to advance climate science and policies, thereby complying with *procedural* CDD.

In 1978, in line with previous scientific research identifying the need for further in-depth research, the Congress of the USA adopted the “National Climate Program Act”¹⁵⁰⁷ to help “the Nation and the world to understand and respond to natural and man-induced climate processes and their implications.”¹⁵⁰⁸ More precisely, the legislation aimed to, among others: Achieve a better understanding of the climate-related risks “on the natural environment, agricultural production, energy supply and demand, land and water resources, transportation, human health and national security”, track weather-related issues; and collect and track atmospheric data, and share the results widely, especially among governmental bodies.

Finding: This legislation enabled the US to achieve further compliance with *procedural* CDD.

Meanwhile, in the same year, the Council on Environmental Quality of the US President also issued additional reports on the likelihood and dangerousness of global warming, including one in 1978 on the progress and credibility of solar energy, meaning it could reach 25% of the US energy needs by the year 2000¹⁵⁰⁹. According to the IPCC, there was a

Greenhouse Gases) started to assess more systematically the implications of some levels of warming, global temperatures should remain under 2°C. This threshold will be more prominent after 1996 when the European Union officially labelled the below 2°C as a global target after corresponding IPCC reports, and especially in 2009 after the Copenhagen COP (see Randalls S, “History of the 2°C target”, *WIREs Climate Change* 1 (July/August 2010) p. 599–602).

1506 IPCC, AR6 (2021-23), WG I, TS, Figure TS.9.

1507 See Public Law 95-367, 95th Congress, 17 September 1978.

1508 According to section 3, defining the purpose of the legislation.

1509 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs’ Response in Opposition to Defendants’ Motion for Summary Judgment”, *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018, § 26, referring to the report: US Council on Environmental Quality, “Solar Energy: Progress and Promise”, SE 025 290, April 1978.

momentum around solar energy at that time¹⁵¹⁰. The US President Carter even proposed a goal of 20% of renewable energy by the year 2000¹⁵¹¹.

However, the USA failed by far to achieve this goal: in 2000, renewables accounted for 6.2% of the primary US mix, mainly composed of “traditional renewables” such as biomass and hydroelectricity.”¹⁵¹² By 2021, the US was still only sourcing 12% of its primary energy from renewable sources, with only 1% coming from solar power and 3% from wind power¹⁵¹³.

The question arises as to whether missing this target constituted a legal breach. Firstly, this target was not introduced into legislation, and thus could not be legally binding as such. Secondly, it is unclear whether it constitutes a CDD breach over time since it was not the same administration governing the USA afterwards. Did the Carter Administration, which introduced this target, implement sufficient efforts to achieve it, though?

According to the Gus Speth Expert Report filed in the *Juliana v USA* case, the Carter Administration continued to significantly encourage fossil fuel development, especially coal, despite the announced 20% of renewable energy target¹⁵¹⁴. It is worth noting that Carter’s solar power target was announced in 1978, several years after the oil embargo imposed by OPEC countries¹⁵¹⁵. Unlike fossil fuels, renewable energy is non-exhaustible, which was one of the main advantages of this energy source in the eyes of the

1510 See IPCC, Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN), p 340: “With the oil crisis of the 1970s, most countries in the world developed programs for solar energy R&D, and this involved efforts in industry, government labs and universities. These policy support efforts, which have, for the most part, continued up to the present, have borne fruit: now one of the fastest growing renewable energy (RE) technologies, solar energy is poised to play a much larger role on the world energy stage.”

1511 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs [...]”, *op cit*, § 27.

1512 US Congressional Research Service (Melissa N Diaz), “U.S. Energy in the 21st Century: A Primer”, R46723, 16 March 2021, p. 26, Figure 11.

1513 US Energy Information Administration, Monthly Energy Review, Table 1.3 and 10.1, April 2022, preliminary data ([eia.gov/energyexplained/us-energy-facts/](https://www.eia.gov/energyexplained/us-energy-facts/))

1514 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs [...]”, *op cit*, § 29.

1515 The OPEC countries imposed an oil embargo as a sanction on the USA and other OECD countries for solidarizing themselves with Israel in the Arab-Israeli war : US Office of the Historian, “Milestones in the History of U.S. Foreign Relations”, unknown date, <https://history.state.gov/milestones/1969-1976/oil-embargo>, last accessed 29 October 2025.

former President¹⁵¹⁶. Said differently, no “peak oil” was to be feared with renewable energy. From that angle, renewables carry geopolitical advantages, and constitute the predominant reason why the US President issued this target. However, the production of coal in the USA increased to rapidly substitute for the gap left by imported oil, which is not surprising given that renewables (especially solar and wind) were not readily available as an alternative to coal at that time¹⁵¹⁷.

Findings: One critique that may be issued to the US Carter administration is that it did not introduce the target concerning renewables into legislation to make it legally binding. However, the state of the science and the available renewable technologies (i.e., solar and wind) was manifestly not sufficiently advanced to ground a *substantive* CDD duty which required using less fossil fuels, implying potentially a transition to renewables. Therefore, the USA was not in clear conflict with CDD.

While some oil companies, such as Shell, started to invest in solar power¹⁵¹⁸, others, such as the French company Total, invested heavily in coal¹⁵¹⁹. However, akin to the US federal government, companies were certainly not bound back then by a substantive CDD duty to transition to renewables for climate purposes (*substantive* CDD), even though they may have had other good reasons to start the transition to renewables (i.e., the physical oil peak and the geopolitical OPEC crisis).

In 1979, in the USA, “President Carter, in turn, asked the National Research Council, the working arm of the National Academy of Sciences, to investigate the subject.”¹⁵²⁰ The NAS subsequently issued the “Charney Report”, which was covered at the time by the New York Times¹⁵²¹ and referenced by the IPCC in its recent AR6 report (2021-22)¹⁵²². The report first established for the first time that there was a “reasonable” and consistent

1516 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs [...]”, *op cit*, § 27.

1517 IPCC, Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN), p 340.

1518 Feit S and Muffett C, *A Crack in the Shell: New Documents Expose a Hidden Climate History*, CIEL, April 2018 p 7.

1519 Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021) p 4.

1520 According to the Supreme Court in *Massachusetts v EPA*, 549 U. S. (2007), p 4.

1521 A New York Times piece summarised the report (Shabecoff P, “Scientists Warn U.S. of Carbon Dioxide Peril”, *The New York Times*, 10 July 1979).

1522 IPCC, AR6, WG I, Full Report, p 174.

“consensus” within the scientific community on the fact that global *warming* would occur, due to the burning of fossil fuels¹⁵²³. It then carried out a counter-assessment with “distinguished scientists” and found the following:

“The conclusions of this brief but intense investigation may be comforting to scientists but disturbing to policymakers. If carbon dioxide continues to increase, the study group finds no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible. The conclusions of prior studies have been generally reaffirmed. However, the study group points out that the ocean, the great and ponderous flywheel of the global climate system, may be expected to slow the course of observable climate change. A wait-and-see policy may mean waiting until it is too late.”¹⁵²⁴

More precisely, akin to the 1977 study of the Council on Environmental Quality, the report estimated that a doubling of CO₂ would lead to a warming of 2°C to 3.5°C, “with greater increases at high latitude [... and that] none of the model calculations predicted negligible warming.”¹⁵²⁵ Moreover, the summary and conclusions added that “we have tried but have been unable to find any overlooked or underestimated physical effects that could reduce the currently estimated global warming due to a doubling of atmospheric CO₂ to negligible proportions or reverse them altogether.”¹⁵²⁶ The report concluded that global warming “would threaten the stability of food supplies and would present a further set of intractable problems to organized societies” and stated that a “wait-and-see policy” may be inappropriate¹⁵²⁷.

Finding: This study does not flesh out any breach but rather reinforces the procedural applicability of CDD and introduces elements to render its substantive dimension potentially applicable. In fact, since the study clearly asserted that “[a] wait-and-see policy may mean waiting until it is too late”, it provided a strong hook to assess adequate climate mitigation policies

1523 Charney Jule et al (National Research Council), “Carbon Dioxide and Climate: A Scientific Assessment”, *The (US) National Academies Press* (1979), p vii.

1524 *Ibid*, p viii.

1525 *Ibid*, p 1.

1526 *Ibid*.

1527 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs [...]”, *op cit*, § 23 referring to “Olson Decl., Ex. 5, Climate Research Board, National Research Council, Carbon Dioxide and Climate: A Scientific Assessment (Washington, D.C.: 1979), at 16-17”

and implement some, such as energy efficiency and the development of renewable energy.

In 1979, the inaugural "World Climate Conference" was held in Geneva, and was organised by the two entities that would subsequently establish the IPCC, the UNEP and the WMO.¹⁵²⁸ The conference brought together experts from many disciplines and countries¹⁵²⁹, who ultimately launched "An Appeal to Nations":

"Having regard to all-pervading influence of climate on human society and on many fields of human activity and endeavour, the Conference finds that is now urgently necessary for nations of the world:

- (a) To take full advantage of man's present knowledge of climate;
- (b) To take steps to improve significantly that knowledge;
- (c) to foresee and to prevent potential man-made changes in climate that might be adverse to the well-being of humanity."¹⁵³⁰

These words strongly reflected the need to carry out due diligence in climate matters, as they recommended foreseeing and preventing climate change (i.e., carrying out international *procedural* and *substantive* CDD). It is also worth noting that due diligence was already well established in international law, including in environmental matters (see, among others, the 1941 *Trail Smelter* award¹⁵³¹ cases, and, above, the subsection 1.1.2 on the Stockholm Declaration). However, since this conference was almost exclusively composed of scientists and experts¹⁵³², the implications of this call to exercise CDD may have been, to some degree, limited.

Another important contextual element may be the more conservative position that the scientists took in this forum. There is no finding in the *main* declaration that sea-level rise may cause harmful effects. Only the "Supporting Documents" on page 30 addressed this point, although other studies published in the USA shared this view before¹⁵³³ (note that

1528 WMO, "Declaration of the World Climate Conference", 1979.

1529 WMO, "Proceedings of the World Climate Conference", Geneva, 12–23 February 1979, p 765 et seq.

1530 WMO, "Declaration of the World Climate Conference", 1979; WMO, "Proceedings of the World Climate Conference", Geneva, 12–23 February 1979, p 713.

1531 *Trail Smelter*, III UN Reports of International Arbitral Awards, 1905 (1941), p 1965.

1532 WMO, "Proceedings of the World Climate Conference", Geneva, 12–23 February 1979, p 765 et seq.

1533 See, for instance, the 1965 study mandated by the US President, or the 1968 study elaborated by the Stanford Research Institute for the American Petroleum Industry.

US climate scientists are sometimes more “progressive” than international climate groups¹⁵³⁴).

Another worthwhile aspect is that the Appeal to Nations described “the problem”. Although the state of the science was not able to predict the consequences of global warming, the declaration still highlighted the dependency of human societies on climate (food, water, energy, shelter, and health), the vulnerabilities of all countries – especially developing countries – to “climatic variations”, the issue of growing world population, and the dependency on the climate. The declaration repeated that there “is an urgent need for the development of a common global strategy for a greater understanding and a rational use of climate.” Thus, this conference called for a global framework and set up global rules in order to prevent harm to the climate system. It triggered a common requirement for global cooperation and respective individual State duties to do their share.

Finding: This climate conference confirmed the need for the international community and key public and private actors to exercise CDD collectively and individually, at least procedurally (i.e., carry out further research, identify prevention measures and global cooperation rules). One may argue that these scientific findings may even demonstrate the need to carry out *substantive* CDD to a certain extent, such as implementing some climate mitigation measures, i.e., energy efficiency and conservation, the development of alternative energies, etc.

3.1.3.2 No evident CDD breach by the US fossil fuel industry in 1980

According to Franta, the fossil fuel industry began a “disinformation” campaign on global warming in 1980 through the API (“American Petroleum Institute”) to promote fossil fuels¹⁵³⁵.

1534 One of the most prominent example may be the contention between Dr. James Hansen from the NASA and the IPCC, the first pleading in favour of 350 ppm, the IPCC taking a step back by letting governments finding the level of warming which is dangerous (see, as discusses below, the UNFCCC, AR2, AR3, AR4, SRI.5 and Hansen et al study (Hansen et al, Assessing “Dangerous Climate Change”: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature, Plos ONE, Volume 8, Issue 12, 2013).

1535 See Franta B, “Early oil industry disinformation on global warming”, *Environmental Politics* (2021) Vol 30, No 4, p 663–668 referring to American Petroleum Institute, *Two energy futures: a national choice for the 80s*, Laramie: Library of the University of Wyoming, 1980.

Before Franta's research, a lawyer and historian who is also involved in climate litigation, others (especially Supran and Oreskes) argued that the fossil fuel industry's strategy was to "produce ignorance" by disproportionately underscoring the uncertainties of climate science or by downplaying the threat of climate change¹⁵³⁶. The IPCC described and summarised Supran and Oreskes' findings in its last AR6 report¹⁵³⁷. Although Supran and Oreskes' research corresponds to the period 1977-2014, the first piece that they found expressing doubt about climate change "as real and human caused" dates from 1989¹⁵³⁸. Franta argued that "organized disinformation (false or misleading information promulgated by an organization) about global warming is often understood to commence in 1989 with publications from the George C. Marshall Institute (Brulle Citation2020a) and the founding of the Global Climate Coalition (Brulle Citation2020b)." ¹⁵³⁹ He then argued that the 1980 "disinformation" piece he found was also about "disinformation". Could this constitute a CDD breach¹⁵⁴⁰? Let us review Franta's argument on the 1980 piece.

The 1980 document published by the API and comprising 184 pages¹⁵⁴¹ was addressed to experts and policymakers, but certainly not the wider public, compared to the very short advertorials and advertisements that Supran and Oreskes studied. Franta criticised the narrative on the global "cooling" effect of CO2 alongside the increase in albedo (i.e. Earth reflectivity, increasing through desertification and deforestation). Franta argued that the API misrepresented Dr Carl Sagan's view, and more generally, on the state of science at the time¹⁵⁴². This PhD will dive deeper into the evolution of the knowledge on albedo and aerosols in the "Box Technical Briefing 1" below.

1536 *Ibid*; see as well Supran G and Oreskes N, "Assessing ExxonMobil's climate change communications (1977–2014)", *Environmental Research Letters* 12 (2017) 084019.

1537 IPCC, AR6 (2021-23), WG III, Chapter 13, p 1374 – 1377; See also Chapter 16, p 1649.

1538 Supran G and Oreskes N, "Addendum to 'Assessing ExxonMobil's climate change communications (1977–2014)'", *Environmental Research Letters* 15 (2020) 119401 referring to "Exxon 1989 FUEL (Advertisement, industry sponsors possibly include Exxon) N.Y. Times Mag.

1539 Franta B, "Early oil industry disinformation on global warming", *op cit*.

1540 *Ibid*.

1541 American Petroleum Institute, *Two energy futures: a national choice for the 80s*, Laramie: Library of the University of Wyoming, 1980.

1542 Franta B, "Early oil industry disinformation on global warming", *op cit*.

Box Technical Briefing 1 on the evolution of the scientific understanding of the global cooling effect of albedo and aerosols

Concerning the Earth's "albedo"¹⁵⁴³: the question is to what extent an increase in albedo – which can be due to desertification and deforestation – leads to global cooling? Firstly, it is important to recognise that deforestation emits considerable GHG and reduces the net carbon sinks, which is counterproductive from a climate point of view¹⁵⁴⁴. Additionally, although previous publications discussed the cooling effect of increased albedo, it appears that, from the 1965 study of the US President's Science Advisory Committee discussed above¹⁵⁴⁵, the global warming effect of carbon dioxide was considered more plausible.

Later on, all IPCC reports, including the ARI (1990), concluded that global warming was likely, meaning that the IPCC never considered that the albedo could counteract the effect of GHGs¹⁵⁴⁶. In ARI (1990), the IPCC only described the effect of albedo by saying it "affects the amount of solar energy absorbed at the Earth's surface", without questioning its findings on the likelihood of past and future global warming¹⁵⁴⁷. In AR4 (2007), when the IPCC famously found that "[w]arming of the climate system is unequivocal"¹⁵⁴⁸, the IPCC asserted with very high confidence (meaning at least a 9 out of 10 chance of being correct) that the increase in albedo could not have a more potent cooling effect than GHG¹⁵⁴⁹. In the AR4 (2007), the IPCC nonetheless stated that "although the principle of the albedo feedback is simple, a quantitative understanding of the effect is still far from complete."¹⁵⁵⁰ In AR5 (2014), the IPCC confirmed that

1543 According to the IPCC Glossary of SRI.5, 2018, the term albedo means "The fraction of solar radiation reflected by a surface or object, often expressed as a percentage. Snow-covered surfaces have a high albedo, the surface albedo of soils ranges from high to low, and vegetation-covered surfaces and the oceans have a low albedo. The Earth's planetary albedo changes mainly through varying cloudiness and changes in snow, ice, leaf area and land cover." (SRI.5, Annex I: Glossary, p 542).

1544 IPCC, ARI, WG I, SPM, p xxxii "It is estimated that each year about 2 Gt of carbon (GtC) is released to the atmosphere due to tropical deforestation". The 2022 Emissions Gap Report estimates roughly similar figures, see UNEP, "Emissions Gap Report 2022: The Closing Window", 2022, p 6, table 2.1 and subsection 2.2.3.

1545 President's Science Advisory Committee, "Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel", November 1965, p 123 - 124.

1546 See the IPCC findings on the radiative forcing in IPCC, AR6 (2021-23), WG I, Chapter 1, p 178. "Like all previous IPCC reports, AR5 assessed that total radiative forcing has been positive at least since 1850–1900, leading to an uptake of energy by the climate system, and that the largest single contribution to total radiative forcing is the rising atmospheric concentration of CO₂ since 1750".

1547 IPCC, ARI (1990), WG I, SPM, p 15 ; in combination with IPCC, ARI (1990), WG III, Overview (SYR), § 1.0.3 – 1.0.5.

1548 IPCC, AR4 (2007), WG I, SPM, p 5.

1549 *Ibid*, p 3.

1550 *Ibid*, Chapter 1, p 110.

"[l]and albedo change does not appear to be able to produce a large counter radiative forcing."¹⁵⁵¹

Additionally, there is another cooling effect due to "aerosols", which are airborne fine particles partly emitted in the course of fossil fuel combustion, such as sulphite oxide, or black carbon¹⁵⁵². The 1965 report noted the need to research further "countervailing measures", including the spread of fine particles. The 1968 SRI addendum report commissioned for API stated that there was uncertainty as to whether the CO₂ or aerosols effect overrode the other¹⁵⁵³, while noting that "the potential damage to our environment could be severe"¹⁵⁵⁴. The Geneva Conference of 1979 noted on its end that the effect of aerosols "appear[s] to be small"¹⁵⁵⁵. As the IPCC explained retrospectively in AR6, aerosols remained a significant source of uncertainty, particularly from the 1970s onwards and until AR1:

the radiative effects of anthropogenic aerosols did not receive sustained study until around 1970 (Bryson and Wendland, 1970; Rasool and Schneider, 1971), when their potential as cooling agents was recognized [...] All IPCC reports have assessed the total RF as positive when considering all sources. However, due to the considerable variability of both natural and anthropogenic aerosol loads, FAR characterized total aerosol RF as 'highly uncertain' and was unable even to determine its sign (positive or negative). Major advances in quantification of aerosol loads and their effects have taken place since then, and IPCC reports since 1992 have consistently assessed total forcing by anthropogenic aerosols as negative (IPCC, 1992, 1995a, 1996). However, due to their complexity and the difficult of obtaining precise measurements, aerosol effects have been consistently assessed as the largest single source of uncertainty in estimating total RF (Stevens and Feingold, 2009; IPCC, 2013a).¹⁵⁵⁶

According to the most recent IPCC findings, aerosols significantly counter the greenhouse gas effect by almost a half on average:

A.1.2 The *likely* range of total human-caused global surface temperature increase from 1850–1900 to 2010–2019 is 0.8°C–1.3°C, with a best estimate of 1.07°C. Over this period, it is *likely* that well-mixed greenhouse C8, gases (GHGs) contributed a warming of 1.0°C–2.0°C and other human drivers (principally aerosols) contributed a cooling of 0.0°C–0.8°C, natural (solar and volcanic) drivers changed global surface temperature by –0.1°C to +0.1°C, and internal variability changed it by –0.2°C to +0.2°C.¹⁵⁵⁷

1551 IPCC, AR5 (2014-15), SYR, Topic 3, 2014.

1552 IPCC, AR1 (1990), WG I, SPM, p 15.

1553 Robinson E and Robbins R C, "Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants", Stanford Research Institute, February 1968, p 109.

1554 *Ibid*, p 24 - 25.

1555 WMO, "Declaration of the World Climate Conference", 1979.

1556 IPCC, AR6 (2021-23), WGI, Chapter 1, p 179 – 180.

1557 IPCC, AR6 (2021-23), SYR, SPM, 2023, § A.1.2.

As the paragraph shows, the current uncertainty surrounding the magnitude of global warming is mainly due to the effect of aerosols¹⁵⁵⁸, even though the IPCC considers it is “unequivocal” that global warming occurred from 2007 onwards¹⁵⁵⁹.

The uncertainties back then around the quantification and effect of aerosols show the fine lines and intricacies of the criticism against fossil fuel producers in the 1980s, since there was – and still is, to some degree – uncertainty around the exact effect of albedo and aerosols.

Finding: The line of evidence shows that Franta’s disinformation argument is not enough to support a CDD breach for two reasons: i) the importance and the impact of the API publication Franta commented on is unclear; ii) there was substantial uncertainty around the effect of albedo and aerosols from the 1960-90s as the box above shows. In any case, further research seems necessary to know whether the fossil fuel industry deliberately misled policymakers in the 1980s, and, therefore, breached CDD. To do so, one should further compare the communication of the fossil fuel industry with the state of knowledge.

3.1.3.3 Potential first CDD breaches in the period 1980-88 by the USA

In January 1981, at the end of US President Carter’s term of office, the Council on Environmental Quality (CEQ) of the USA issued a special report on “Global Energy Futures and the Carbon Dioxide Problem”¹⁵⁶⁰. In the foreword, the CEQ’s chair – Gus Speth – recommended making “[e]very effort [...] to ensure that nations are not compelled to choose between the risks of energy shortages and the risks of CO₂. This goal requires making a priority commitment here and abroad to energy efficiency and to renewable energy resources”¹⁵⁶¹. In other words, the former environmental expert body of the White House recommended the implementation of

1558 IPCC, AR6 (2021-23), WGI, TS, p 103: “The magnitude of the cooling effect of aerosols remains the largest uncertainty in the effect of SLCFs in future climate projections.” IPCC, AR6 (2021-23), WGI, Chapter 1, p 179 – 180: “However, due to their complexity and the difficult of obtaining precise measurements, aerosol effects have been consistently assessed as the largest single source of uncertainty in estimating total RF (Stevens and Feingold, 2009; IPCC, 2013a).”

1559 IPCC, AR4 (2007), WG I, SPM, p 5.

1560 US Council on Environmental Quality, “Global Energy Futures and the Carbon Dioxide Problem report”, 1981.

1561 *Ibid.*

substantive CDD measures (i.e., make every effort to prioritise renewables and energy efficiency).

Finding: This report should have prompted the USA to pay more attention to climate mitigation by intensifying efforts to develop renewable energy resources, among other things.

When Reagan came to power in February 1981 until 1989, independent agencies or members of them continued to issue notable warnings on global warming in a political context in which the new US President Reagan, as opposed to the former, advocated in favour of deregulation and market freedom: “In this present crisis, government is not the solution to our problem; government is the problem”¹⁵⁶².

Reagan adopted the famous Executive Order 12291, which systematically required a cost-benefit analysis of all impactful regulations to ensure that they would not harm the economy, but instead foster economic growth¹⁵⁶³. In line with this *leitmotiv*, Reagan tried to amend the Clean Air Act in 1981 to provide more flexibility to companies. However, this effort did not result in substantial changes due to significant opposition within Congress and beyond¹⁵⁶⁴. If this attempt had succeeded, the energy efficiency of motorised vehicles would have clearly suffered.

Concerning solar energy, the Reagan administration began to “dismantle much of the Federal solar energy program as it existed under the Carter administration” by reducing federal expenditure¹⁵⁶⁵. The rationale was “that the market [...] should be, the final arbiter in commercial solar energy development.”¹⁵⁶⁶ Another piece published back then in *Science* asserted that “[t]he Administration has clearly abandoned the goal of producing 20 percent of the nation’s energy needs with renewables within two decades”¹⁵⁶⁷.

1562 Reagan R, “Inaugural Address 1981”, *Reagan Library*, <https://reaganlibrary.gov/archives/speech/inaugural-address-1981>, last accessed 19 October 2025.

1563 US Executive Order 12291, 17 February 1981, appear at 46 FR 13193, 3 CFR, 1981 Comp., p 127. Note that the initial Executive Order a President usually aims to set the tone of its mandate.

1564 Shabecoff P, “Reagan Order on Cost-Benefit Analysis Stirs Economic and Political Debate”, *The New York Times*, 7 November 1981.

1565 Moore J Glen, “Solar Energy and the Reagan Administration”, *Congressional Research Service, Science Policy Research Division*, Mini Brief MB81265, 23 September 1982.

1566 *Ibid.*

1567 See concurring source: Walsch J, “Reagan Outlines Non proliferation Policy”, *Science* (1981) Vol. 213, Issue 4507, pp. 522–523.

Finding: Although Reagan's pro-economic stance was the subject of many critiques, the question of whether his political approach was compatible with CDD is entirely different. It is also different from the general debate that arose between Reagan's ideas and environmentalists, who claimed that constant growth faces significant environmental limits (i.e., before the 1970s, science promoted technological and economic progress, but since the 1970s onwards, the opposite has happened¹⁵⁶⁸). Regarding climate change, the current best available science from the IEA and IPCC does not ascertain that economic growth is incompatible with CDD. In fact, Paris-compatible scenarios forecast today almost as much growth as "business as usual" scenarios (see below the box "Technical Briefing 2"). While conditions in the 1980s were different (i.e., the decarbonisation technologies were not as widely available as today, hence, reducing GHGs may have meant the reduction of economic development), Reagan's political doctrine cannot be classified as a CDD breach.

Nonetheless, it may be argued that the Reagan administration breached CDD, since it attempted to weaken the Clean Air Act Amendments (thereby diluting energy efficiency) and to remove the corresponding preexisting state aid for solar energy. Although Reagan's administration "contended that the marketplace can achieve the commercial introduction of solar technologies more efficiently and effectively than the Government", this stance clearly contradicts the past recommendations that called for accelerating their development. Further, the solar industry warned the government that these amendments would have been detrimental to its development¹⁵⁶⁹. It seems arguable that it was foreseeable that government assistance was necessary, already in 1981, to speed up the development of the technology. History also proved it: in 2023, solar panels are produced by 80% in China, which massively subsidises the production, as opposed to the USA¹⁵⁷⁰. Thus, the removal of the subsidies for solar energy, combined with a lack of GHG reduction policies, or climate mitigation objectives, may constitute a CDD breach.

1568 Dunlap RE and Aaron M McCright, "Climate Change Denial: Sources, Actors, and Strategies", in Constance Lever-Tracy (ed), *Routledge Handbook of Climate Change and Society* (UK, Routledge, 2010) p 241 – 243.

1569 Moore J Glen, "Solar Energy and the Reagan Administration", *Congressional Research Service, Science Policy Research Division*, Mini Brief MB81265, 23 September 1982.

1570 IEA, WEO 2023, p 37: "China is far and away the largest, with the capacity to produce solar modules with an output of over 500 GW every year, equivalent to 80% of world manufacturing capacity."

Box Technical Briefing 2: Is economic growth compatible with CDD?

The IEA indicates in its 1.5°C Net Zero Emissions (NZE) scenarios that its 1.5°C NZE scenario ensures “economic growth”¹⁵⁷¹ due to the necessary “clean energy investment boom [which] lifts global economic growth”¹⁵⁷². However, the world must “avoid growth in energy demand” in order to achieve the 1.5°C goal of the Paris Agreement. To achieve this, it is necessary to improve energy efficiency, increase the use of electricity and encourage behavioural changes¹⁵⁷³. Additionally, the 2023 World Energy Outlook of the IEA shows no difference in terms of global economic growth between the 2.4°C Stated Policies Scenario (STEPS) and the 1.5°C NZE scenario¹⁵⁷⁴. Therefore, for the IEA, there is no contradiction between economic growth and CDD (i.e., note, however, the IEA was created after the OPEC crisis in 1974 “to ensure the security of oil supplies” and to ultimately foster economic growth¹⁵⁷⁵).

The recent IPCC AR6 (2021-23) report provides a similar response, noting that there are not only little differences between the current policies scenario and Paris-aligned pathways, but also that the models do not account for the economic benefits resulting from the avoided loss and damages due to the overshoot of the Paris goals¹⁵⁷⁶. The IPCC already insisted in ARI (1990) that the most effective short-term response strategies are those that are “flexible”, “economically efficient”, and even “compatible with economic growth and the concept of sustainable development”¹⁵⁷⁷.

Note that, as the Chairman of the Council on Environmental Quality, Gustave Speth already argued in 1981 that there is a need to reduce energy growth by improving energy efficiency without intending to reduce economic growth¹⁵⁷⁸.

In 1983, the Environmental Protection Agency (EPA) issued two prominent reports on the need to regulate climate change. The first report, “Can We Delay Greenhouse Warming?” projected a 2°C warming by 2040, which would cause substantial climatic consequences. It “recommended eliminating coal combustion and banning oil shale as the best policy options for

1571 IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021, p 13.

1572 *Ibid*, p 22.

1573 *Ibid*, p 13; also see IEA, WEO 2022, p 155 – 156; IEA), “Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach”, 2023 Update, p 73.

1574 See IEA, WEO 2023, Table A.5b, p 275 and Table A.5c, p 281.

1575 See IEA, “Net Zero by 2050: A Roadmap for the Global Energy Sector”, 2021, p 3; also, see the evolution of its mandate described by the IEA itself: IEA, “From oil security to steering the world toward secure and sustainable energy transitions”, 26 October 2023, <https://www.iea.org/about/history>, last accessed 29 October 2025.

1576 IPCC, AR6 (2021-23), WG III, SPM, § C.12.

1577 IPCC, ARI (1990), WG III, Overview (SYR), § 3.2.

1578 Speth G, Global Energy Futures and the Carbon Dioxide Problem, summary and recommendations, Environmental Affairs, VOL. 9:1, p 11.

delaying a 2 degrees C temperature increase”¹⁵⁷⁹. The second report, “Projecting Future Sea Level Rise: Methodology, Estimates to the Year 2100, and Research Needs”, found fossil fuels to be the main drivers of man-made warming and affirmed the need to change the energy mix by confirming the rejection of the “wait and see” approach¹⁵⁸⁰.

In 1985, two scientists of the Department of Energy (DOE) published extensive research for the “Carbon Dioxide Research Division”, stating among other things that the “[h]uman effects on atmospheric composition and the size and operations of the terrestrial ecosystems represent major excursions that may yet overwhelm the life-support system crafted in nature of billions of years.”¹⁵⁸¹

Internationally, the second international climate conference happened in 1985 in Villach, Austria. The scientists who gathered at this conference stated that there is a consensus that global warming would occur in the 21st century, and that warming may increase to 1.5°C – 4.5°C by 2030¹⁵⁸². Additionally, the scientists stated that these levels of warming “could have profound effects on global ecosystems, agriculture, water resources and sea ice”¹⁵⁸³. Ultimately, the scientists recommended controlling GHG emissions, encouraging energy efficiency in developing countries, and potentially developing a global convention¹⁵⁸⁴.

Finding: The Villach Conference does not support a breach finding, as the scientists only suggested considering a global climate convention, rather than recommending its enactment. However, the recommendation made to developed states to control their GHG emissions may have prompted a *substantive* CDD duty to reduce GHGs, which was at least not observed by the USA in the 1980s and *potentially* by other States as well.

In 1986, the Reagan Administration removed the solar panels installed on the White House during the Carter Administration, reduced funding

1579 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs’ Response in Opposition to Defendants’ Motion for Summary Judgment”, *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018, § 32.

1580 *Ibid*, § 33.

1581 See US Department of Energy Office of Scientific and Technical Information (DOE), “Carbon Dioxide Research Division, Atmospheric carbon dioxide and the global carbon cycle”, DOE/ER-0239 ON: DE86006222, 1985, p 300.

1582 WMO, “International Conference of the Assessment of the Role of Carbon Dioxide and of Other Greenhouse Gases in Climate Variations and Associated Impacts”, 9–15 October 1985, p 1.

1583 *Ibid*, p 1.

1584 *Ibid*.

formerly devoted to R&D in solar energy technologies and repealed tax credits¹⁵⁸⁵. These policy changes removed some incentives to develop renewables in the short term¹⁵⁸⁶ and favoured fossil fuels.

Finding: numerous scientific reports established at that point that global warming was happening with harmful – if not catastrophic – implications (1965 study, 1979 Charney Report). The 1981 CEQ annual report underlined the need to develop alternative, low-carbon energies, and in addition to consuming less and more energy efficient, the former Carter Administration even set a target of producing 20% renewables by 2020. In light of what precedes, it seems arguable that the Reagan Administration contravened its *procedural* and, even, *substantive* CDD since (i) it did not study the impacts of his energy policies on the climate, (ii) it manifestly delayed the development of solar energy despite knowing the need to mitigate global warming; and/or (iii) did not appear to consult other States to support climate mitigation, especially R&D in renewable energy (CDD breach in its international form – duty to cooperate dimension).

This thesis does not rule out similar findings for other developed countries, such as EU Member States and private actors, depending on the evidence (i.e., note that no historical research was carried out).

3.1.4 Provisional conclusion on CDD's applicability and violations before 1990

Subpart 3.1 illuminated how CDD became *procedurally* applicable from the 1960s onwards and substantively after 1980. The first CDD breach that this thesis identified with a sufficient level of confidence is the abandonment of the solar power incentives in the USA during Reagan's term in office in the 1980s. This thesis did not find any potential wrongful conduct before due to the following elements:

- The uncertainty linked to the physical scientific findings on man-made climate change:

There was some uncertainty on whether the cooling effect of aerosols and albedo compensated for that of CO₂ itself, particularly until 1979 (Charney

1585 Biello D, "Where Did the Carter White House's Solar Panels Go?", *Scientific American*, 2010.

1586 Moore J Glen, "Solar Energy and the Reagan Administration", *Congressional Research Service, Science Policy Research Division*, Mini Brief MB81265, 23 September 1982.

Report in the USA, and the WMO Geneva Conference), and the first IPCC reports. Additionally, there was no sign of noticeable global warming (in the sense of slow-onset events attributable to climate change, such as sea-level rise or melting glaciers) until the 1990s to the end of the 2000s. Precise climate-related impacts (or potential harms) were equally difficult to identify, except for sea-level rise and (potentially significant) climate-related disruptions in weather patterns. Nonetheless, these facts do not mean that CDD was not applicable from a *procedural* angle (i.e., identifying further climate-related risks and individual GHG emissions to understand one's contribution to the issue, developing prevention measures, including technological decarbonisation measures).

- The magnitude of the problem:

While climate change is a global issue, studies as early as the 19th century identified that *fossil fuels* specifically may lead to significant global warming (see Arrhenius piece quoted in Section 3.1.1). Scientists consistently confirmed this finding afterwards until the latest IPCC reports AR6 (2021-23). Thus, it was clear to States, fossil fuel companies, and businesses that rely heavily on fossil fuels (carmakers, some industrial actors) that they were contributing to a global environmental problem.

- The lack of low-carbon alternatives:

Although States and business enterprises may use some arguments to defend themselves, such as the lack of manifest low carbon alternatives, or the belief that emissions may be reduced even with fossil fuels by enhancing energy efficiency and technologies, this PhD asserts that *procedural* CDD requires, in principle, the identification of decarbonisation technologies, and other reasonable steps to change one's conduct. As this subpart 3.1 showed, states and fossil fuel companies could have acknowledged the dangers and collaborated to find or develop alternatives at reasonable costs, especially solar and other decarbonisation technologies relevant outside the energy sector (batteries, electric cars, insulation for houses, hydrogen, etc). As it appears today, the lack of adequate CDD in the past, beyond the pursuit of mere emission reduction, manifestly caused significant delays in the fight against global warming. Thus, a violation of CDD became likely in the 1980s, when the USA opposed any type of climate mitigation strategy, including the development of alternative decarbonised technologies.

Consequently, the scientific evolution made the *foreseeability* of global warming sufficiently plausible, in addition to clarifying that fossil fuels

were the main anthropogenic factor, thereby triggering *general* CDD duties to find measures and strategies to reduce emissions and the use of fossil fuels. While this thesis did not find sufficient evidence to establish another breach in Subpart 3.1, further research on the evidence may illuminate additional CDD violations, including, potentially, those by fossil fuel actors in Europe and the USA.

3.2 1988 – 2015: Inadequate collective and individual measures resulting in widespread substantive CDD breaches

Section 3.2.1 finds that the period between the creation of the IPCC and the adoption of the first climate convention, the UN Framework Convention on Climate Change (UNFCCC), resulted in the first *potential* collective shortcoming, as the latter convention misaligns with the previous scientific recommendations (i.e., the Toronto call). Alternatively, since the first IPCC report (1990) does not encompass as stringent scientific recommendations as the Toronto call, it considers that the UNFCCC may be sufficient; however, since developed countries did not issue any domestic climate policies, and since industrial actors hampered climate action, it argues that this period certainly resulted in parallel *individual* breaches by Global North actors.

Section 3.2.2 classifies the period between the UNFCCC and the Paris Agreement of 2015, marked with the adoption of the Kyoto Protocol (KP) in 1997, as a period of collective formal *procedural* compliance, tainted though, with serious individual substantive breaches, given that no developed country respects the UNFCCC and KP binding obligations on their territorial level. Additionally, since the USA and industrial actors opposed the KP, resulting in serious individual CDD violations, an alternative treaty should have been negotiated sooner.

The last, Section 3.2.3, finds collective and individual breaches in the period between AR4 and the adoption of the Paris Agreement, based on conclusions of the Dutch courts in *Urgenda* (later on confirmed by the Brussels Appeals Court, and the ECtHR), as the world did not successfully negotiate any alternative to the KP, and as developed countries did not enact measures to reduce their GHGs by at least 25% by 2020, either individually or jointly.

3.2.1 The IPCC and UNFCCC establishments (1988-92): substantive CDD shortcomings despite procedural progress

3.2.1.1 The potential beginning of collective substantive CDD breaches

In 1988, three notable events happened. The IPCC, which was established by the UN General Assembly (UNGA), is arguably the most significant one. However, before the UNGA resolution, two further very notable events also occurred.

Firstly, Dr Hansen of NASA testified for the *third* time before Congress on the reality of man-made climate change, confirming the causal relationship between GHG and global warming, including its dangerous nature¹⁵⁸⁷.

Finding: This warning reconfirms CDD's applicability in the USA and may aggravate the corresponding substantive breach of the Reagan Administration (1981-88), which rolled back the support to solar energy (see the subsection 1.1.3.3 just above). Given the multiple climate-related warnings, both domestically and internationally, the USA should have expanded its mitigation efforts.

Secondly, the Toronto Conference on the Changing Atmosphere took place in June 1988. This conference, mainly composed of scientists, followed those organised in Geneva in 1979 and in Villach in 1985¹⁵⁸⁸. Interestingly, while noting the lack of a climate-related treaty, the Toronto Statement described the evolution of international environmental law, referencing the *Trail Smelter* case and the 1972 Stockholm Declaration, thereby further developing CDD¹⁵⁸⁹. More substantively, the Toronto Statement called on States to ratify the 1987 Montréal Protocol on ozone-depleting substances (since they are also GHG)¹⁵⁹⁰, and to reduce by 20% global

1587 Speth G, "Declaration of James Gustave Speth in Support of Plaintiffs' Response in Opposition to Defendants' Motion for Summary Judgment", *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018, § 35.

1588 "Proceedings, World Conference, Toronto, Canada, 27–30 June 1988: *The Changing Atmosphere – Implications for Global Security*", Appendix 5, List of conference participants, p 459 et seq.

1589 *Ibid*, p 296.

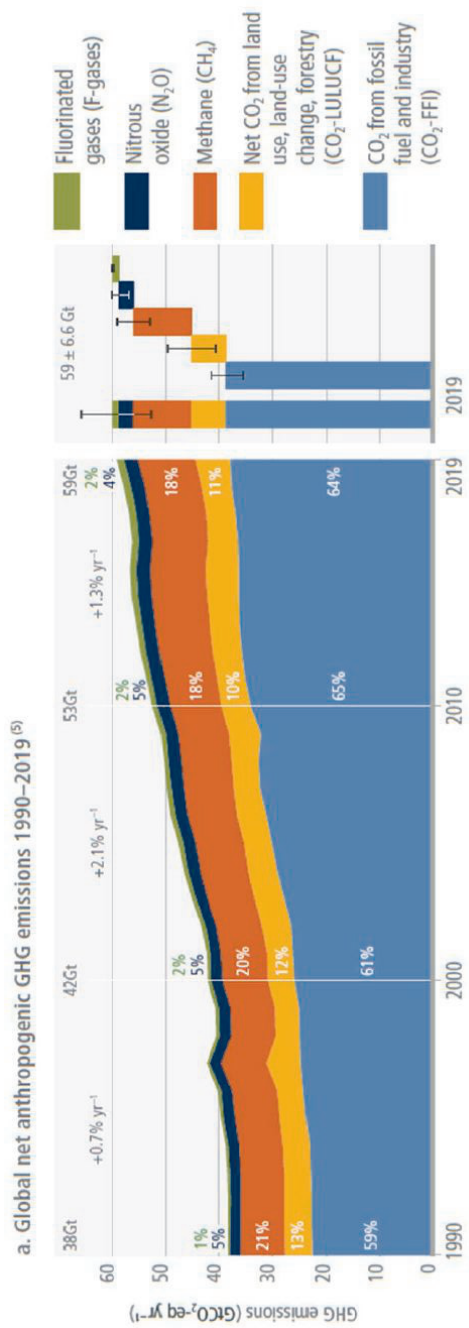
1590 The fight against ozone-depleting substances remains one of the significant victories in environmental protection. See IPCC, AR6 (2021-23), WG I, Chapter 1, p 180: "In the 1970s and 1980s, scientists established that synthetic halocarbons (see Glossary), including widely used refrigerants and propellants, were extremely potent greenhouse gases (Sections 2.2.4.3 and 6.2.2.9; Ramanathan, 1975). When these chemicals were also found to be depleting the stratospheric ozone layer, they

GHG emissions by 2005 compared to 1988, specifying that “the industrialized nations have a responsibility to lead the way”¹⁵⁹¹.

Finding: The Toronto conference reinforces the previous finding on international CDD applicability, due to its due diligence references and precise GHG reduction recommendations. Since the Toronto recommendation to reduce GHGs by 20% by 2005 compared to 1988 was never implemented (i.e., global GHGs increased by 50% by 2019 compared to 1990 – see below), *collective* and *individual* CDD breaches, especially by Global North countries, may have begun with this conference.

were stringently and successfully regulated on a global basis by the 1987 Montreal Protocol on the Ozone Layer and successor agreements (Parson, 2003)."

1591 "Proceedings, World Conference, Toronto, Canada, 27–30 June 1988: *The Changing Atmosphere – Implications for Global Security*", p 296.



Source: IPCC, AR6, WG III, TS, Figure TS2, p. 59.

Thirdly, the UN General Assembly (UNGA) created the IPCC in December 1988 with the resolution “43/53 Protection of global climate for present and future generations of mankind”¹⁵⁹², and recalled that global warming “could be disastrous for mankind if timely steps are not taken at all levels”¹⁵⁹³. This step is significant since the IPCC has issued the most important policy-relevant reports worldwide since its creation, thanks to its international organisation character composed of 195 Member States, which select scientists, review the science, and establish so-called summaries for policymakers (SPM). Thus, the value of the information contained in SPMs is both scientifically and politically consensual, making it even more relevant for climate policies and litigation¹⁵⁹⁴.

Finding: One may infer *procedural* compliance with the IPCC establishment, but still argue the beginning of different *substantive* breaches since the international community has not implemented the Toronto conference’s main recommendation (i.e., reduce global GHG by 20% by 2005 compared to 1988). In fact, the UNFCCC, adopted in 1992, remained much more elusive in terms of substantive requirements than the Toronto call. The Kyoto Protocol, which stipulates a clear obligation for developed states to reduce GHG by 5% by 2012 compared to 1990, which is considerably less demanding than the Toronto call (see below), and was furthermore never accepted by the USA; lastly, although, the 2015 Paris Agreement sets a global and long-term temperature target (LTTG), it does not prescribe any specific GHG reduction obligation, and States remain unaligned with the PA’s LTTG (i.e., current policies lead to 2.4 to 3°C of warming instead of 1.5°C / well-below 2°C).

Nevertheless, one might question whether failing to adopt domestic and global GHG reduction targets in line with the Toronto call was a breach since the IPCC ARI (1990) only estimated that it was “desirable” to adopt GHG reduction targets (nonetheless, the IPCC also recommended a whole range of measures)¹⁵⁹⁵. On the other hand, the IPCC may have tended to be more conservative because it was created by States through a UNGA

1592 UNGA, Resolution 43/53, “Protection of global climate or present and future generations of mankind”, 70th Plenary meeting, 6 December 1988.

1593 *Ibid*, § 5

1594 More precisely, the IPCC released six assessment reports (AR), addressed below and numerous methodological and special reports (including the already quoted SRI.5). <https://www.ipcc.ch/about/>.

1595 IPCC, ARI (1990), WG III, Overview (SYR), § 3.2: “One option that governments may wish to consider is the setting of targets for CO₂ and other greenhouse gases”.

resolution, and because its reports are reviewed by States¹⁵⁹⁶. However, since the international community largely failed to curb global emissions and to reach the peak of global emissions, a corresponding collective CDD violation still remains possible.

In 1989, the industry formed the Global Climate Coalition to highlight the uncertainties of climate science publicly¹⁵⁹⁷. According to Supran and Oreskes, “between 1989–2004, Mobil and ExxonMobil Corp advertorials overwhelmingly expressed doubt about AGW [anthropogenic global warming] as real and human-caused, serious, and solvable”.¹⁵⁹⁸

Finding: The absence of any climate consideration associated with the public undermining of climate science by fossil fuel actors in the USA from 1989 onwards, especially ExxonMobil, may have constituted the beginning of a CDD breach.

3.2.1.2 The 1990 First Assessment Report (AR)

3.2.1.2.1 The WG I confirmation of the “natural greenhouse effect” and likely man-made global warming

The findings of WG I are particularly important for climate cases and CDD as they establish, *with certainty*, the “natural greenhouse effect” and the fact that additional *anthropogenic* GHGs increase their natural concentration in the atmosphere¹⁵⁹⁹. The IPCC also found *with confidence* that CO2 emissions are the main *anthropogenic* drivers of global warming¹⁶⁰⁰. This finding is still right today.

1596 For concurring opinions, see, for instance: Bagley Katherine, Scientists Call for Overhaul of IPCC Climate Panel, Inside Climate News, 30 Sept 2013; Hansen J, Anderson Kevin, IPCC’s conservative nature masks true scale of action needed to avert catastrophic climate change, The Conversation, 24 March 2023.

1597 Franta B, Early oil industry disinformation on global warming, Environmental Politics 2021, Vol. 30, No. 4, pp 663 – 668; Joselow M, “Exclusive: GM, Ford knew about climate change 50 years ago”, *E&E News*, 26 October 2020.

1598 Supran G and Oreskes N, “Addendum to ‘Assessing ExxonMobil’s climate change communications (1977–2014)’”, *Environmental Research Letters* 15 (2020) 119401.

1599 IPCC, AR1 (1990), WG III, Overview (SYR), § 1.0.1.

1600 *Ibid*, § 1.0.2.

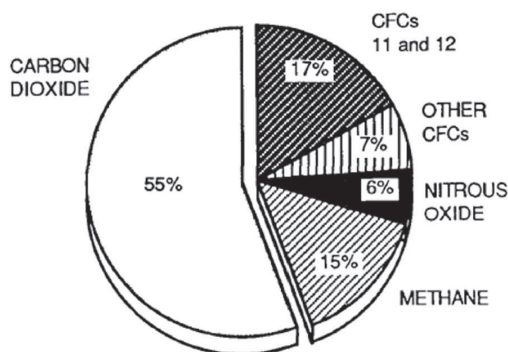


Figure 7: The contribution from each of the human-made greenhouse gases to the change in radiative forcing from 1980 to 1990. The contribution from ozone may also be significant, but cannot be quantified at present.

Source: IPCC, AR1 (1990), WG I, Overview (SYR), p. xx, Figure 7.

More precisely, the IPCC elaborated the “greenhouse warming potential” (GWP) of each GHG by benchmarking them against CO₂ emissions. In this regard, some GHGs are considerably more potent than CO₂ emissions, which are, however, widespread. Furthermore, CO₂ emissions remain long in the atmosphere, even if natural land vegetation and the sea (oceans) incrementally absorb them. Regarding the ozone-depleting Halogen emissions (CFCs), which are also very potent GHGs, the 1987 Montreal Protocol successfully curbed them¹⁶⁰¹.

Next, the IPCC found “*with confidence*” that additional GHGs significantly disbalance the global environment¹⁶⁰², resulting “in a *likely* increase in the global mean temperature of about 1°C above the present value by 2025” in the “Business-as-Usual” Scenario¹⁶⁰³. This calculation was accurate, as it corresponds to the current estimation of global warming. The best estimate of the recent levels of warming is 1.07°C in 2019, according to AR6 (2021-23)¹⁶⁰⁴.

1601 See “Box Technical Briefing 3” of this thesis for further information, or AR6 (2021-23), WG I, Chapter 1, p 180.

1602 IPCC, AR1 (1990), WG III, Overview (SYR), § 1.0.2.

1603 *Ibid*, § 1.0.3.

1604 IPCC, AR6 (2021-23), SYR, § A.1.2.

The IPCC also foresaw that the *unequivocal* finding of man-made global warming would not occur until ten years later¹⁶⁰⁵, as the AR6 report (2021-23) first reached this finding¹⁶⁰⁶. In 2007 (AR4), the IPCC only recognised that global warming is “*unequivocal*”, but this level of confidence was not related to human influence¹⁶⁰⁷. Notably, in AR1 (1990), there was still some uncertainty about the effect of aerosols and albedo, but their warming effect was still considered much more likely¹⁶⁰⁸.

Finding: This AR1 WGI contribution confirmed the need to investigate further the risks at that moment (i.e., CDD’s *procedural* applicability).

3.2.1.2.2 The WG II potential findings on the climate impacts

To introduce this subsection, one should recall the WG I finding, according to which numerous predictions were uncertain, “particularly with regard to the timing, magnitude and regional patterns of climate change, especially changes in precipitation”¹⁶⁰⁹. Despite the uncertainties, the IPCC estimated that climate change may provoke the following issues in 1990:

“2.2.1 Natural terrestrial ecosystems could face significant consequences as a result of the global increases in the atmospheric concentrations of greenhouse gases and the associated climatic changes. [...]”

2.4.1 The most vulnerable human settlements are those especially exposed to natural hazards, e.g. coastal or river flooding, severe drought, landslides, severe wind storms and tropical cyclones. The most vulnerable populations are in developing countries, in the lower-income groups: residents of coastal lowlands and islands, populations in semi-arid grasslands, and the urban poor in squatter settlements, slums and shanty towns, especially in megacities. In coastal lowlands such as in Bangladesh, China and Egypt, as well as in small island nations, inundation due to sea-level rise and storm surges could lead to significant movements of people. Major health impacts are possible, especially in large urban areas, owing to changes in availability of water and food and increased health problems due to heat stress spreading of infections.

1605 *Ibid*, § 1.0.5.

1606 IPCC, AR6 (2021-23), WG I, SPM, § A.1 – A.1.3.

1607 IPCC, AR4 (2007), SYR, SPM, p 2.

1608 IPCC, AR1 (1990), WG I, SPM, p xv and xxvii.

1609 *Ibid*, § 1.0.4.

2.5.1 Global warming will accelerate sea-level rise, modify ocean circulation and change marine ecosystems, with considerable socioeconomic consequences. These effects will be added to present trends of rising sea-level, and other effects that have already stressed coastal resources, such as pollution and over-harvesting. A 30–50 cm sea-level rise (projected by 2050) will threaten low islands and coastal zones. A 1 m rise by 2100 would render some island countries uninhabitable, displace tens of millions of people, seriously threaten low-lying urban areas, flood productive land, contaminate fresh water supplies and change coastlines. All of these impacts would be exacerbated if droughts and storms become more severe. Coastal protection would involve very significant costs.”¹⁶¹⁰

Finding: The same conclusion as the subsection just below (contribution of the WGI) applies here. In fact, the IPCC plainly spells out the dangers, further contributing to CDD’s applicability.

3.2.1.2.3 The WG III findings on the need to transition

While WG III warned that the mitigation policies’ cost-benefits and their effectiveness are still poorly understood¹⁶¹¹, the IPCC still “recommends” the development and implementation of a global climate mitigation programme as a wait-and-see policy approach may be too late: “A major dilemma of the issue of climate change due to increasing emission of greenhouse gases in the atmosphere is that actions may be required well before many of the specific issues that are and will be raised can be analyzed more thoroughly by further research.”¹⁶¹²

On causation, supplementing the WG I findings, the IPCC recognised that “[t]he single largest anthropogenic source of radiative forcing is energy production and use.”¹⁶¹³ More precisely,

“It is noted that emissions due to fossil fuel combustion amount to about 70–90% of the total anthropogenic emissions of into the CO₂ atmosphere, whereas the remaining 10–30% is due to human use of terrestrial ecosystems. A major decrease of the rate of deforestation as well as an increase in afforestation would contribute significantly to

1610 *Ibid*, § 2.2.1 – 2.5.1.

1611 *Ibid*, § 3.0.1.

1612 *Ibid*, § 3.0.2.

1613 *Ibid*, § 3.0.2.

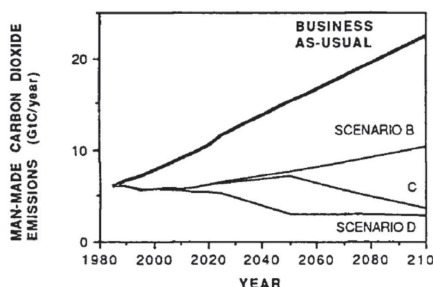
slowing the rate of CO₂ concentrations increase in the atmosphere; but it would be well below that required to stop it.”¹⁶¹⁴

Therefore, one may infer a need to reduce energy production and consumption, especially fossil fuels, in addition to stopping deforestation. This stance also concords with the final recommendations of WG III in AR1 (see below). Before addressing those, it is also worth noting that the IPCC developed four main emissions scenarios:

- Scenario A (Business-as-Usual)
- Scenario B (Low Emissions Scenario)
- Scenario C (Control Policies Scenario) and
- Scenario D (Accelerated Policies Scenario).

While scenario A assumes continued use of fossil fuels and deforestation, scenario B foresees the development of natural gas as a transitional fuel and greater energy efficiency, as opposed to the lower emissions scenarios being scenarios C and D, which outline a more or less rapid transition to renewable and “safe” nuclear energy¹⁶¹⁵.

Figure 1 Projected man-made CO₂ emissions
(Billion or 1000 million tonnes carbon per year)



Source: IPCC, AR1, SYR, p. 61,
Figure 1 and 2.¹⁶¹⁶

The IPCC then calculated that mitigation policies (i.e., scenarios-C and D) would “slow global warming from the presently predicted value of about 0.3°C per decade to about 0.1 °C per decade”¹⁶¹⁷. For the IPCC, despite the

¹⁶¹⁴ *Ibid*, § 3.0.2.

¹⁶¹⁵ *Ibid*, Appendix, p 62.

¹⁶¹⁶ For the sake of comparison, the recent AR6 (2021-23) findings show significant discrepancies in the identification of the yearly emitted global CO₂ (for the year 1990, approximately 7 GtCO₂/year were identified in AR1, whereas 28 GtCO₂/y for AR6), highlighting the uncertainties in the identification of worldwide GHG in 1990 (source: IPCC, AR6 (2021-23), 2022, TS, p 62, Figure TS.3).

¹⁶¹⁷ IPCC, AR1 (1990), WG III, Overview (SYR), § 1.0.3 and § 3.2.

uncertainties in 1990, the seriousness of climate change impacts justified the immediate adoption of GHG reduction strategies, including¹⁶¹⁸:

- “phasing out of CFC emissions” (see the 1987 Montréal Protocol);
- energy efficiency and *conservation* (i.e., improving technology and curbing consumption, by encouraging “behavioural change” in transportation and housing;
- “use of cleaner, more efficient energy sources” (i.e., developing renewables);
- manage forests sustainably by stopping deforestation and expanding afforestation;
- “review of agriculture practices”¹⁶¹⁹.

Additionally, the IPCC stated that “there is no single quick-fix technological option” and that international cooperation was appropriate for developing some technologies, such as cleaner energies¹⁶²⁰.

The IPCC thus considered that “[a] comprehensive strategy addressing all aspects of the problem and reflecting environmental, economic and social costs and benefits is necessary.”¹⁶²¹ This need, which was scientifically established in 1990, significantly aligns with the obligations laid out in the ECtHR *KlimaSeniorinnen* judgment¹⁶²².

However, as seen above, no State implemented such a comprehensive strategy individually. The USA, more specifically, fell short in this respect, as its government rolled back incentives and state aid for solar energy, despite being aware of the climate-related risks (see subsection 3.1.3.3). Thus, developed States, including the USA, may have begun to breach CDD by that time.

Concerning the GHG reduction targets, the IPCC deemed them *desirable*¹⁶²³. This recommendation conflicted with the Toronto call to reduce GHG by 20% by 2005 compared to 1988. Nonetheless, this stance did not hamper the IPCC from recommending a comprehensive strategy and insisting on the need to implement effective short-term response strategies

1618 *Ibid.*, § 3.2.

1619 *Ibid.*, § 3.2.

1620 *Ibid.*, § 3.2.

1621 *Ibid.*, § 3.2.

1622 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 550 (among others).

1623 IPCC, ARI (1990), WG III, Overview (SYR), § 3.2: “One option that governments may wish to consider is the setting of targets for CO₂ and other greenhouse gases”.

that are “flexible” and “economically efficient”, such as the measures laid out above. Lastly, the IPCC recommended that governments deepen global climate science research programmes to reduce uncertainties, and review “planning in the fields of energy, industry, transportation, urban areas, coastal zones and resource use and management”¹⁶²⁴.

The WG III then drew a line between “industrialised and developing countries [which] have common but varied responsibility”¹⁶²⁵. The IPCC thereby laid the scientific basis for the equity and the CBDRRC principle in the climate conventions (the common but differentiated responsibilities and the respective capabilities), but also the fact that developed States “should take the lead in two ways”¹⁶²⁶. In the view of the IPCC, these principles mean, more precisely, that:

- “i) A major part of emissions affecting the atmosphere at present originates in industrialized countries where the scope for change is greatest. Industrialized countries should adopt domestic measures to limit climate change by adapting their own economies in line with future agreements to limit emissions.
- ii) To co-operate with developing countries in international action, without standing in the way of the latter’s development by contributing additional financial resources, by appropriate transfer of technology, by engaging in close co-operation in scientific observation, analysis and research, and finally by means of technical co-operation geared to forestalling and managing environmental problems.”¹⁶²⁷

The IPCC then stated that “sustainable development” must be achieved by systematically integrating environmental protection into all economic and development plans and that developed countries must assist their developing counterparts “without hindering their economic development”.

An ultimate section addressed the need to enhance international cooperation by establishing a “framework convention”. The international community implemented this recommendation two years later, with the adoption of the United Nations Framework Convention on Climate Change (UNFCCC).

Findings: This ARI report confirms the beginning of a global CDD *substantive* duty – and breach – since the world community failed to duly

1624 *Ibid*, § 3.2.2.

1625 *Ibid*, § 3.1.

1626 *Ibid*, § 3.1.

1627 IPCC, ARI (1990), Overview (SYR), § 3.1.

consider the fact that fossil fuels are the main cause of anthropogenic CO₂ emissions, and the corresponding recommendation to *develop* the transition to cleaner energies and reduce energy consumption. In the land use sector, no public or private actor succeeded in ending or significantly reducing deforestation, nor in reviewing agricultural practices at the required scale.

Lastly, developed countries did not seem to have taken the lead in the fight against climate change, as none have enacted specific domestic mitigation policies in the 1990s, including the EU¹⁶²⁸, nor have they sufficiently assisted developing countries. Hence, despite finding no need to prescribe precise GHG reductions, like in the Toronto call, this IPCC report clearly seems sufficient to find the beginning of both *collective* and *individual* breaches.

3.2.1.3 Despite the 1992 UNFCCC, individual CDD violations due to a lack of GHG reduction measures

In 1990, the USA refused to negotiate a treaty on GHG controls even though other nations were in favour¹⁶²⁹. Thus, only the international community of States adopted the Framework Convention (UNFCCC) in 1992 (see below), which does not contain any *unambiguous* climate mitigation reduction target, unlike the Toronto call.

At the same time, the US EPA concluded that “it lacked statutory authority over greenhouse gases”, as Congress refused to empower it to regulate GHG emissions¹⁶³⁰ despite its 1990 report recommending a stabilisation of GHGs at 350 ppm, which was considered back then to enable a limitation

1628 For instance, concerning the EU, the first specific climate-related measure was adopted in 2003 with the “ETS Directive” (2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC). While the amended Directive 96/61/EC of 1996 concerning integrated pollution prevention and control also addressed energy efficiency, it left entire margins of appreciation to the Member States in this respect, besides eight years to implement it after its entry into force (see corresponding Article 5). See subsection 3.2.1.3 below for further analysis.

1629 Speth G, “Declaration of James Gustave Speth in Support of Plaintiffs’ Response in Opposition to Defendants’ Motion for Summary Judgment”, *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018, § 39 underpinned by footnote 9.

1630 SCOTUS, *Massachusetts v EPA*, 549 U. S. (2007), Opinion of the Court, p 9.

of global warming to 2°C¹⁶³¹. The EPA justified this by relying on the residual scientific uncertainty about the causal relationship between GHGs and global warming¹⁶³² and on the significant implications of the mitigation measures, requiring an *explicit* mandate from Congress. The EPA further justified its point by showing that the Clean Air Act Amendments of 1990 only provided for “further investigation into climate change” and the regulation of ozone-depleting substances¹⁶³³. As already addressed, the US Supreme Court found in *Massachusetts v EPA* (2007) that the EPA has a duty to regulate GHGs, which it later limited in *West Virginia et al v EPA* (2022).

Findings: The refusals to mitigate global warming contradict past scientific reports. However, given that the EPA refused to act for certain reasons, the political branches should have acted. This domestic issue does not absolve the USA of its *general* CDD duty to adequately mitigate warming.

Similarly, the EU also refused to introduce a carbon tax at the beginning of the 1990s, particularly because of the USA’s refusal to regulate GHGs¹⁶³⁴. Although one may interpret the US refusal as an attenuating circumstance for finding a CDD breach for the EU, due to the carbon leakage effects described in the introduction (see section 0.1.3), the EU remained a key player internationally, especially concerning climate mitigation, and should have tackled climate mitigation independently of the USA’s policies, by adopting, for instance, the carbon tax in 1990, or alternative reasonable measures, as it could have still influenced the course of events. Thus, the EU *may* have breached its individual CDD obligations already by 1990.

Concerning the responsibility of fossil fuel actors, according to Bonneuil and others, the fossil fuel producers in Europe – especially Total and the former Elf (now TotalEnergies) – used the scientific and policy uncertainties to their advantage to lobby against the introduction of the eco-tax, which, according to the former director of strategy and economy at Elf (Francis Girault), also “undermined Europe’s position at the Rio summit, contributing to limiting the scope and ambition of the UN process”¹⁶³⁵. The lobbying activities of fossil fuel companies like Total, Shell and others may

1631 Speth G, “Declaration in Support of Plaintiffs”, *op cit*, § 39.

1632 SCOTUS, *Massachusetts v EPA*, 549 U. S. (2007), Opinion of the Court, p 10.

1633 *Ibid*, p 9.

1634 Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021), p 6.

1635 *Ibid*.

also constitute CDD breaches as they hindered the enactment of sufficiently ambitious and specific GHG regulations.

In 1992, governments adopted the UNFCCC, the first climate-related international treaty.

As addressed in subsection 1.1.2.1.1, Article 2 lays out the core objective of this framework convention, which is to prevent dangerous climate change. It requires the reduction of GHG “within a time-frame sufficient to allow ecosystems to adapt naturally to climate change”, it also states this objective shall not threaten “food production” and “economic development”. In other words, the UNFCCC core Article requires State Parties to balance interests and tackle climate change without impeding the economy, which should “proceed in a sustainable manner”. While the remainder of the UNFCCC remains loose in terms of concrete rights and obligations of state parties, the UNFCCC still requires State parties to take precautionary measures against climate change by sharing the global burden equally and without imposing any disproportionate burden.

Article 4 sets out the corresponding State obligations: Report domestic emissions; Implement national climate mitigation measures, including decarbonisation; Preserve natural carbon sinks; Embed climate change consideration in all “relevant social, economic and environmental policies” through “for example impact assessments” (*procedural* and *substantive* due diligence). “Promote and cooperate in scientific, technological, technical, socio-economic and other research”, etc.

According to Article 4 (2), developed country Parties (Annex I countries¹⁶³⁶) also bear additional specific obligations in terms of mitigation. Developed countries (Annex I) “*shall* adopt national policies and take corresponding measures on the mitigation of climate change”, showing that they “are taking the lead”¹⁶³⁷. More concretely, developed countries must communicate “detailed policies” information on the measures and

1636 “Annex I: Australia Austria Belarus a/ Belgium Bulgariaa/ Canada Czechoslovakia a/ Denmark European Economic Community Estonia a/ Finland France Germany Greece Hungary a/ Iceland Ireland Italy Japan Latvia a/ Lithuania a/ Luxembourg Netherlands New Zealand Norway Poland a/ Portugal Romania a/ Russian Federation a/ Spain Sweden Switzerland Turkey Ukraine a/ United Kingdom of Great Britain and Northern Ireland United States of America _____ a/ Countries that are undergoing the process of transition to a market economy.”

1637 This provision (Article 4 (1) lit a) also underscores the need to consider the different domestic circumstances and the “need to maintain strong and sustainable economic growth”.

policies to “return individually or jointly to their 1990 levels”¹⁶³⁸ before 2000. According to Prof Maljean-Dubois, quoting Professors Faure, Nollkaemper and Voigt, it “arguably could be the basis of a liability claim”¹⁶³⁹. However, Article 4 (2) remains a reporting obligation, and in Speth’s view, this provision was not enforceable, notably due to the US position:

“In U.S. Department of State Memorandum entitled PRD-12/Global Climate Change Policy Decision Paper, the Department of State made the following statements: “While many nations sought to set firm ‘targets and timetables’ for reducing greenhouse gas emissions, U.S. objection to firm commitments resulted in an agreement that sets a non-binding goal for developed countries to return emissions to 1990 levels by the end of the decade.”

Additionally, paragraphs 3 – 9 of Article 4 require developed State Parties to assist, including financially, developing and vulnerable countries in mitigating and adapting to global warming. Paragraph 4 stipulates that parties from the Global North “shall also assist developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects. Paragraph 7 makes clear that the “extent to which developing countries will effectively implement their commitments [...] will depend on the [...] financial resources and transfer of technology” of the developed country Parties. These articles set out, in principle, strong expectations for industrialised nations, as agreed by the legal literature¹⁶⁴⁰, notably Professor Sands, who commented that Article 4 (4) “amounts to an implicit acceptance of responsibility for causing climate change”¹⁶⁴¹.

Opposed to such an interpretation, the USA stated in the context of the Rio Declaration that it “does not accept any interpretation of principle 7 that would imply a recognition or acceptance by the United States of any international obligations or liabilities, or any diminution of the responsibil-

1638 Article 4 (1) lit b).

1639 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 17.

1640 Verheyen R, “Climate Damage and International Law: Prevention Duties and State Responsibilities”, *Martinus Nijhoff*, Leiden, 2005 p 153.

1641 Sands P, “The United Nations Framework Convention on Climate Change” (1992) 1 *RECIEL* p 270.

ities of developing countries under international law”¹⁶⁴². In a similar vein, it is argued by Zahar that the concept of climate historical responsibility is a “political propaganda” by developing States, such as Brazil and China, as the process of industrialisation was welcomed by them¹⁶⁴³. Nonetheless, the USA’s and Zahar’s positions clearly contradict the UNFCCC obligation and the interpretation of *general* CDD by this thesis, which is shared by many international, regional and domestic judicial bodies (ITLOS, ECtHR, ICJ, domestic courts; see Part 2 above).

Findings: Firstly, given the obligations set out in Article 4 UNFCCC (i.e., implement national mitigation measures, decarbonise, preserve natural carbon sinks, etc), *substantive* CDD was manifestly universally applicable from 1992 onwards in a global and polycentric manner. In fact, the UNFCCC, a *specific* agreement, laid out international obligations close to *general* due diligence in climate matters (see for further analysis section 1.1.2), made *general* CDD applicable without the shadow of a doubt, at least for States (see corresponding findings by domestic courts and the ECtHR in section 2.3.2), but very probably for high-emitting private actors too.

Secondly, as prominent authors from the literature suggest (Maljean-Dubois, Voigt, Rajamani, Mayer, Noellkamper, and others), some provisions of the UNFCCC – and/or their entirety, read in conjunction with due diligence norms – “could be the basis of a liability claim” (i.e., developed States must take measures to “return individually or jointly to their 1990 levels”¹⁶⁴⁴ before 2000). This PhD fully aligns with these authors. While the obligation to return below 1990 levels by 2000 for developed countries in Article 4 (2) does not seem in line with the Toronto conference call to reduce global GHG by 20% by 2005 compared with 1988, this obligation was still far-reaching. Compliance with it would have prompted significant changes in favour of climate mitigation.

In addition to the Article 4 general mitigation obligation of the UNFCCC, the IPCC AR4 stressed the need for a corresponding “comprehensive strategy.”¹⁶⁴⁵ However, the EU and US failed to adopt any domestic climate mitigation measures such as supporting renewables, curbing energy

1642 51. U.S. interpretive statement on World Summit on Sustainable Development declaration, <https://2009-2017.state.gov/s/1/38717.htm>, last accessed 31 October 2025.

1643 Zahar A, “Two Arguments Against Historical Responsibility for Climate Change”, 2021, p 13 – 14.

1644 UNFCCC, Article 4 (1) lit b).

1645 IPCC, AR1 (1990), WG III, Overview (SYR), § 3.2.

consumption and deforestation until 2001 and 2009/21, contradicting the obligations set out in Article 4 UNFCCC. The lack of any framework or action at that time likely constituted a breach. Indeed, as Part 2 showed, the ECtHR interpreted human rights protection and the flowing due diligence standard in line with the UNFCCC in *KlimaSeniorinnen*¹⁶⁴⁶. The ICJ also interpreted the UNFCCC and due diligence as a single set of compatible rules¹⁶⁴⁷.

Concerning private actors, one may argue that the lobbying efforts by private fossil fuel actors and others constitute CDD violations since they dissuaded States from setting up climate action.

3.2.2 The occurrence of additional breaches during the period of the Kyoto Protocol

3.2.2.1 The 1995 IPCC AR2 confirmation of CDD's substantive applicability

After the UNFCCC adoption, the IPCC issued its AR2 in December 1995.

As to the physical science of global warming (WGI contribution):

In AR2, the IPCC reconfirmed that global warming was manifestly occurring, as it found that the 1995 CO₂ concentration in the atmosphere had increased from 280 ppm¹⁶⁴⁸ by 1750 to around 360 ppm in 1995, leading to a warming¹⁶⁴⁹ of 0.3 to 0.6°C¹⁶⁵⁰. According to current knowledge, scientists consider that a CO₂ concentration of 350 ppm corresponds to approximately 1°C of global warming after the full-time lag effect of CO₂¹⁶⁵¹. Furthermore, the IPCC observed that “global sea level has risen by between 10 and 25 cm over the past 100 years and much of the rise may be related to

1646 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 550 (among others).

1647 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 310.

1648 The acronym ppmv stands for “particles per million by volume”. I will use “ppm” from here on, as it is the most widespread convention.

1649 IPCC, AR2 (1995), SYR, p 4, § 2.2.

1650 *Ibid*, p 5, § 2.4.

1651 Hansen J, Kharecha P, Sato M, Masson-Delmotte V, Ackerman F et al, “Assessing ‘Dangerous Climate Change’: Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature”, *PLoS ONE* 8(12): e81648, 3 December 2013.

the increase in global mean temperature”, thus supporting the likelihood of man-made global warming¹⁶⁵².

Some predictions were moreover conservative, compared to current knowledge. AR2 underestimated the projected rise in temperatures if CO2 emissions would rise until 2030 or 2050, as it considered global warming would reach 2°C by the end of the century in the “mid-range emission scenario”¹⁶⁵³ (see 550 ppm and 650 ppm scenarios on the graph below). Updated findings predict higher levels of warming if emissions follow a 550 ppm path (around 3°C or more):

- AR3 (2001) considered a 550 ppm path would rather lead to 3°C of warming¹⁶⁵⁴. Instead, from AR3 onwards, the 450 ppm scenario is considered as the likely 2°C scenario.
- AR4 (2007) confirmed that 550 ppm would lead to 3°C or more¹⁶⁵⁵.
- AR5 (2014) stated that a 550 ppm path would lead to 3 to 4°C of warming¹⁶⁵⁶.
- AR6 (2021-23) confirmed the AR3-AR5 findings¹⁶⁵⁷.

With regard to the respective weight and impact of different GHGs, the IPCC has clearly made progress in this area, as it found that CO2 contributes around 60% to warming, a finding that has been confirmed by recent IPCC publications¹⁶⁵⁸.

Finding: The somewhat underestimation of the warming does not change anything with respect to the previous substantive CDD applicability finding. On the contrary, AR2 reconfirms the different chains of causation, being the contribution by man to global warming through the burning of fossil fuels¹⁶⁵⁹, which leads to global warming.

Regarding the impacts of global warming (WGI and WGII contributions):

As to non-slow onset events, the IPCC stated that more severe droughts and floods will occur in some regions, but also that there is a possibility of more intense rainfalls¹⁶⁶⁰. It was not in a position, however, to predict

1652 IPCC, AR2 (1995), SYR, p 5, § 2.4.

1653 IPCC, AR2 (1995), SYR, p 5, § 2.7.

1654 *Ibid*, p 20, Figure SPM -6.

1655 IPCC, AR6 (2021-23), WG III.

1656 IPCC, AR5 (2014), SYR, p 22, Table SPM.1.

1657 IPCC, AR6 (2021-23), WG III, SPM, § C.1.

1658 IPCC, AR6, WG III, TS, Figure TS2, p 59.

1659 IPCC, AR2 (1995), SYR, p 5, § 2.2.

1660 *Ibid*, p 6, § 2.11.

whether tropical storms would become more intense and frequent¹⁶⁶¹, which has since been confirmed¹⁶⁶². The IPCC also addressed the possibilities of large-scale non-linear surprising events in the climate system (such as the irreversible tipping points, a hot topic in climate science nowadays¹⁶⁶³), but was unable to predict anything in this regard due to the prevailing uncertainties¹⁶⁶⁴.

Forests would undergo major changes, releasing “large amounts of carbon”¹⁶⁶⁵. The SPM of the WG II contribution even stated prominently that warming beyond 1°C will endanger forests¹⁶⁶⁶. Furthermore, it identified losses of mountain glaciers¹⁶⁶⁷ and a large potential release of methane due to permafrost thawing¹⁶⁶⁸ (one of the tipping points that could be triggered above 1.5°C according to the SRI.5¹⁶⁶⁹).

As to the impacts on humans, the IPCC identified that the “world’s poorest people” may face increased risks of “hunger and famine [especially in...] subtropical and tropical areas”.¹⁶⁷⁰ Sea level rise would “increase the vulnerability of some coastal populations to flooding” and cause as well “[e]stimated land losses range from 0.05% in Uruguay, 1.0% for Egypt, 6% for the Netherlands and 17.5% for Bangladesh to about 80% for the Majuro Atoll in the Marshall Islands, given the present state of protection systems.”¹⁶⁷¹

More generally, the IPCC considered that “significant loss of life” is *likely* to occur due to more intense and frequent heat waves, and vector-borne infectious diseases such as malaria¹⁶⁷². These kinds of personal harms trigger numerous CDD human-rights-related lawsuits nowadays (see the subpart 2.1 on standing).

Finding: The above findings show the dangerousness of climate change and its related risks of damage, which can only reinforce the applicability of substantive CDD.

1661 *Ibid.*

1662 IPCC, AR6 (2021-23), SYR, 2023, B.1.4.

1663 *Ibid.*, B.3.1.

1664 IPCC, AR2 (1995), SYR, p 6, § 2.12 and § 3.5.

1665 *Ibid.*, p 7, § 3.7.

1666 IPCC, AR2 (1995), SPM, WG II, p 29.

1667 *Ibid.*, p 7, § 3.11.

1668 *Ibid.*, p 7, § 3.12.

1669 IPCC, SRI.5, Chapter 3, p 262.

1670 IPCC, AR2 (1995), SYR, p 7, § 3.13.

1671 *Ibid.*, p 8, § 3.14.

1672 *Ibid.*, p 8, § 3.15.

Regarding GHG reduction pathways (WG III):

In 1995, *policymakers* faced the challenge of determining what constitutes dangerous levels of warming. The IPCC underlined some challenges in this respect, including the scientific uncertainties, the “irreversible damages or costs, a very long planning horizon, long time lags between emissions and effects, wide regional variations in causes and effects, an irreducibly global problem, and a multiple of greenhouse gases and aerosols to consider”, and the need for international cooperation.¹⁶⁷³ Although there is almost no scientific uncertainty remaining today, and, on the contrary, a common sense of urgency, the global nature of the climate issue and the related need for international cooperation remain significant hurdles.

The IPCC started to set out different GHG reduction pathways to limit global warming by taking cumulative CO₂ concentration as the relevant proxy, ranging from 450 ppm to 1000 ppm¹⁶⁷⁴. The concentration of 450 ppm was therefore the most ambitious and equated to 1°C of warming according to the IPCC back then. As Figure 1 (b) of AR2 SYR shows, this pathway foresaw an emissions peak before 2015 and carbon neutrality around 2040, which is indeed significantly more ambitious than average 1.5°C pathways identified in the 2018 SR1.5 and 2022 AR6 reports. Current scientific knowledge informs us that 450 ppm pathways lead to approximately 2°C of warming (see, among others, the AR4 and AR5 results about 450 ppm). This discrepancy between the former and the current knowledge calls into question the applicability of substantive CDD.

¹⁶⁷³ *Ibid*, p 4, § 1.9.

¹⁶⁷⁴ See the graph below stemming from IPCC, AR2 (1995), SYR, p 10, Figure 1 (a).

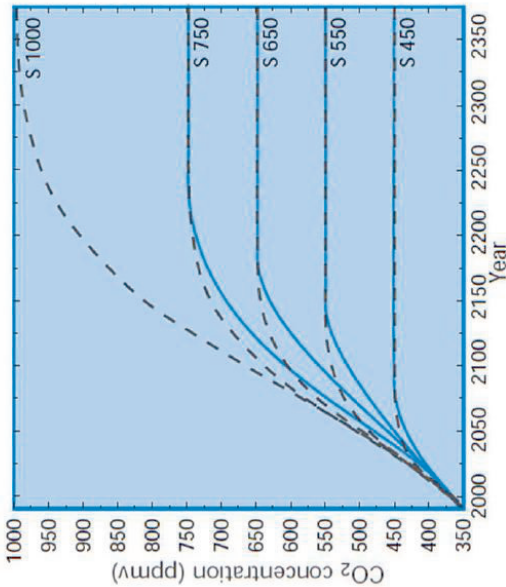


Figure 1 (a). Carbon dioxide concentration profiles leading to stabilization at 450, 550, 650 and 750 ppmv following the pathways defined in IPCC (1994) (solid curves) and for pathways that allow emissions to follow IS92a until at least the year 2000 (dashed curves). A single profile that stabilizes at a carbon dioxide concentration of 1000 ppmv and follows IS92a emissions until at least the year 2000 has also been defined. Stabilization at concentrations of 450, 650 and 1000 ppmv would lead to equilibrium temperature increases relative to 1990¹⁴ due to carbon dioxide alone (i.e., not including effects of other greenhouse gases (GHGs) and aerosols) of about 1°C (range: 0.5 to 1.5°C), 2°C (range: 1.5 to 4°C) and 3.5°C (range: 2 to 7°C), respectively. A doubling of the pre-industrial carbon dioxide concentration of 280 ppmv would lead to a concentration of 560 ppmv and doubling of the current concentration of 358 ppmv would lead to a concentration of about 720 ppmv.

Source : IPCC, AR2 (1995), SYR, p. 10, Figure 1 (a).

Next, with regard to the GHG reduction measures and technologies, the IPCC stated that those “are technically possible and can be economically feasible.”¹⁶⁷⁵ Firstly, 10-30% gains in energy efficiency were considered “feasible at negative to zero cost”, and almost 50-60% gains were considered feasible by using the best technologies available at the time. These efficiency gains concerned “end-use sectors” namely industry, transportation, commercial/residential and required improving energy efficiency, recycling materials, developing processes that use less energy and materials, building smaller and more efficient automotive vehicles, including electric vehicles, and insulating better houses, etc¹⁶⁷⁶. All these means remain necessary today.

However, due to population growth, the IPCC considered that even replacing former technologies with more efficient ones would still lead to higher absolute emissions¹⁶⁷⁷. One may logically infer the *need* to carry out an *energy* transition in the supply sector – the AR2 conclusion also called on the world to go beyond “no-regrets measures” – also called “measures worth doing anyway” – such as energy efficiency¹⁶⁷⁸. The IPCC also considered this transition to be possible within the next 50 to 100 years “in step with the normal timing of investments to replace infrastructure and equipment as it wears out or becomes obsolete”¹⁶⁷⁹. The IPCC then set out the following “promising approaches” – which remain relevant today¹⁶⁸⁰:

- replace coal with natural gas,
- develop carbon capture and storage (CCS) for producing hydrogen,
- reduce fugitive emissions such as methane in the fossil fuel production,
- switch to non-fossil fuel sources of energy: nuclear or renewables.

In the land-use sector, the IPCC suggested using biomass instead of fossil fuels, but also slowing deforestation, planting trees, and promoting agro-forestry¹⁶⁸¹.

1675 IPCC, AR2 (1995), SYR, p 12, § 5.2.

1676 *Ibid*, § 5.5.

1677 *Ibid*, § 5.5.

1678 *Ibid*, p 15, footnote 18.

1679 *Ibid*, p 12, § 5.6.

1680 IPCC, AR6 (2023), SYR, § B.6.3. and C.3 – C.3.3.

1681 IPCC, AR2 (1995), SYR, p 13, § 5.12.

The IPCC also stated that “mitigation depends on reducing barriers to the diffusion and transfer of technology”¹⁶⁸², meaning it considered State intervention as necessary. The IPCC suggested the following measures:

- energy price strategies, subsidies removal for fossil fuels,
- market-based emission permits,
- programs negotiated with industry,
- demand-side management programs,
- regulatory programs such as energy efficiency standards,
- stimulating R&D,
- renewable energy incentives¹⁶⁸³.

All these proposed policies remain relevant today, due to the substantial delays in enacting them.

As to the equity issues in the SR2:

Firstly, the IPCC recognised equity as “an important aspect of climate change policy”¹⁶⁸⁴ and found two types of issues: one related to the differences between developed and developing countries, and the other between present and future generations, by qualifying the latter as intertemporal aspects¹⁶⁸⁵ akin to the German Constitutional Court in its 2021 decision¹⁶⁸⁶. These issues are, of course, still fully relevant nowadays since mitigation measures – beyond the “no regrets measures” – have costs. Hence, the IPCC recalled that the initial intention of the UNFCCC parties to ascribe GHG reduction targets only to developed countries (Annex I Parties) is a “collective first step”¹⁶⁸⁷. The IPCC then outlined several equity metrics, including equal per capita, historical responsibility, emission intensities, and economic output, wealth, energy structures, etc. As this thesis discusses in detail, these global equity and fair share considerations are still highly relevant today, a statement with which the IPCC recently agreed, stating: “Equity remains a central element in the UN climate regime, notwithstanding shifts in differentiation between states over time and challenges in assessing fair shares.”¹⁶⁸⁸

1682 *Ibid*, p 13-14, § 5.13.n t

1683 *Ibid*, p 13-14, § 5.13.

1684 *Ibid*, p 14, § 6.1.

1685 *Ibid*, § 6.3 - 6.6.

1686 Constitutional Court of Germany, 1 BvR 2656/18, 24 March 2021.

1687 IPCC, AR2 (1995), SYR, p 15, § 6.6.

1688 IPCC, AR6 (2021-23), WG III, SPM, § D.3.2.

Lastly, the IPCC addressed in its SYR “economic development to proceed in a sustainable manner”, by briefly reviewing the costs and benefits of mitigation and adaptation. The IPCC considered that the “social costs of climate change” (meaning impacts on humans and the environment) are very uncertain, but could reach a “few per cent of world GDP”, while also noting that developing countries would be harder hit¹⁶⁸⁹. Although “substantial reductions below 1990 CO₂ emissions level could be as high as seven per cent of GDP” for OECD countries, the IPCC stated that there were other, more optimistic studies¹⁶⁹⁰. It clearly stated that mitigation could avoid both “climate change damages and adaptation costs” and trigger other co-benefits (less polluted air, higher biodiversity)¹⁶⁹¹. Concerning developing countries, the IPCC stated that there were emissions reduction opportunities in the short term but that “Stabilization of carbon dioxide emissions is likely to be costly.”¹⁶⁹²

Overall, the IPCC concludes that scientific uncertainties should not prevent the adoption of “no regrets” opportunities, and given the risks of climate change, policymakers should devise “precautionary” and “prudent” strategies “beyond “no regrets””, while being “carried out with care”, in order to ultimately achieve “sustainable development for all peoples and nations”¹⁶⁹³. This wording suggests a comprehensive application of CDD.

Findings: All these indications confirm CDD’s substantive applicability back then and may be the basis for further breach findings. In fact, after the EU and the USA failed to regulate GHG by 1990, it does not appear that they enacted any *substantive* climate-related measures in the meantime. Governments joined efforts to enact the Kyoto Protocol by 1997; however, the precise reduction obligation started to apply only by 2008 and merely required a very moderate reduction figure until 2012 (5% compared to 1990). Although the evidence in AR2 does not clearly show that the KP’s reduction obligation is insufficient, the fact that the USA never ratified this treaty, and that numerous, if not all, developed countries did not comply with the reduction obligation, may justify further CDD breach findings (see subsection 1.2.2.2 on the KP and corresponding non-compliance findings).

Regarding the EU, aside from energy efficiency measures, it only enacted its first *substantive* climate policies between 2001 and 2003 (see the Direc-

1689 IPCC, AR2 (1995), SYR, p 15, § 7.3.

1690 *Ibid*, p 16, § 7.9.

1691 *Ibid*, p 16, § 7.4.

1692 *Ibid*, p 16, § 7.11.

1693 *Ibid*, p 17, § 8.1 - 8.4.

tives on the promotion of renewable energy¹⁶⁹⁴ and the already mentioned European Trading System ETS¹⁶⁹⁵). These measures came more than 10 years after the eco-tax was discussed at the European level. Meanwhile, emissions rose, or remained stable, in “Western European countries”¹⁶⁹⁶. This delay suggests a period of CDD non-compliance, but more research on the evidence is required to assess potential CDD breaches by the EU and its Member States.

The USA, on the other hand, only started to address GHGs much later. The *Massachusetts* judgment by the Supreme Court was issued in 2007 due to a lack of specific federal regulations in the USA. More concretely, the so-called “Clean Power Plan” was implemented during the Obama Administration, but rolled back in 2019 by the Trump Administration. This plan was subsequently considered to be incompatible with the “major questions doctrine” by the US Supreme Court in *West Virginia*¹⁶⁹⁷. The remaining operational climate mitigation mechanism is the Inflation Reduction Act of 2022, which allocates substantial funding for climate-related mitigation and enables a reduction in US territorial GHG emissions of between 33% to 40% by 2030 compared to 2005 levels¹⁶⁹⁸. Although it is manifestly not enough to contribute adequately to the Paris Agreements’ LTTG, this legislation is also challenged by the second Trump Administration. US hesitation has led to considerable time being lost in the fight against climate change. As shown above, the IPCC already identified the main required measures in 1990. All those measures remain relevant nowadays. Hence, it appears possible that the USA breached their CDD.

In 1996, the EU Council of Ministers recognised for the first time the need to reduce global warming to 2°C. This political determination does not seem unreasonable in light of the IPCC findings in AR2:

1694 Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market(1) OJ L 283, 27.10.2001, p 33. and Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport.

1695 Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

1696 France’s, Italy’s, The Netherlands’ emissions remained roughly stable between 1990 and 2005; while Spain’s emissions rose, see <https://eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer>

1697 SCOTUS, *West Virginia v EPA*, 597 U. S. ____ (2022).

1698 US Congressional Research Service, *Inflation Reduction Act of 2022 (IRA): Provisions Related to Climate Change*, updated 26 October 2023.

“Given the serious risk of such an increase and particularly the very high rate of change, the Council believes that global average temperatures should not exceed 2 degrees above pre-industrial level [...] In this context the Council believes that the precautionary principle has to be applied [...] the Council notes that the IPCC considers that significant reductions in greenhouse gas emissions are technically possible, and can be economically feasible. It also notes that significant "no-regrets" opportunities are available; and that there is a rationale, on the basis of potential risk, for action beyond no-regrets.”¹⁶⁹⁹

The Council of the EU reaffirmed the relevance of the 2°C target in 2005, after the publication of AR3 (2001)¹⁷⁰⁰; and the EU Commission at the British G8 in 2006, and in 2007¹⁷⁰¹. Eventually, the international community agreed in Copenhagen in 2009 that global warming should be limited to 2°C¹⁷⁰², before recognising the “well-below 2°C” and “1.5°C” targets in the legally binding Paris Agreement in 2015.

Findings: the commitment to limit warming to 2°C by the EU enabled a concretisation of the UNFCCC article 2 core objective, which, as such, did not seem unreasonable in light of the scientific evidence at that time. Therefore, this step complied with CDD. Nonetheless, although this step was important for the development of international policies, including the Paris Agreement’s LTTG, one should not forget that the EU rejected the carbon tax proposal in 1992 and 1994¹⁷⁰³; and did not start to enact proper climate mitigation measures until 2002-03. As some scientific articles have pointed out, some lobbying activity, especially from the private fossil fuel industry, may have contributed to hindering the enactment of the proposed EU eco-taxes¹⁷⁰⁴. Nonetheless, by not initiating substantive climate mitigation policies in due time, the EU may have breached its CDD and

1699 European Commission, “Community strategy on climate change – Council conclusions”, 1996, p 7, § 6.

1700 Council of the EU, Information note 7242/05 Climate Change: - Medium and longer term emission reduction strategies, including targets, Council conclusions, 11 March 2005.

1701 European Commission, “Limiting global climate change to 2°C: The way ahead for 2020 and beyond”, COM/2007/0002 final, Brussels, 10 January 2007.

1702 Randalls S, “History of the 2°C target”, *WIREs Climate Change* 1 (July/August 2010) p 602.

1703 Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021), p 6.

1704 *Ibid.*

UNFCCC obligations. What's more, the lobbying of the fossil fuel industry may also constitute a corresponding violation.

3.2.2.2 Additional CDD breaches linked to the 1997 Kyoto Protocol

The Kyoto Protocol (KP) has failed to reduce global emissions. The USA certainly bears a significant share of responsibility for this failure since it refused to ratify the treaty after negotiating it, despite being the richest, most powerful and most polluting state. But what about the other actors?

3.2.2.2.1 The Kyoto Protocol's main provisions and discussion on its sufficiency

In 1997, the international community adopted the Kyoto Protocol, which prescribed in its article 3 (1) that developed countries reduce their GHG, "individually or jointly, [...] by *at least* 5 per cent below 1990 levels in the commitment period 2008 to 2012." This "top-down" approach (i.e., in the sense that the international law prescribes mandatory minimum reduction obligations for developed countries)¹⁷⁰⁵ was generally considered the appropriate and necessary vehicle to go forward, as it obliged collective action on climate mitigation, thereby avoiding the risks of free-riding and carbon leakage¹⁷⁰⁶. Thus, the Encyclopaedia Britannica reports that the KP was "widely hailed as the most significant environmental treaty ever negotiated, though some critics questioned its effectiveness."¹⁷⁰⁷ The KP contained indeed some weak points, which this thesis addresses below in the subsequent subsection (i.e., the US refusal to ratify the KP, and the insufficiency of the specific reduction obligation).

In fact, in case of failure, State Parties would have been held responsible according to paragraphs 5 and 6 of Article 4, which mandated the COP to set out corrective measures in case of non-compliance (see Article 17

1705 Bodansky D, "Climate Change Transnational Legal Order or Disorder?" in Terence C Halliday and Gregory Shaffer (eds), *Transnational Legal Orders* (Cambridge University Press 2015), p 302.

1706 See section 0.1.3 of the introduction on the issue of free riding and carbon leakage issues, or the glossary of this thesis.

1707 The Editors of Encyclopaedia, "Kyoto Protocol", *Encyclopaedia Britannica*, 16 January 2025.

KP). According to a 2005 COP decision on the “Procedures and mechanisms relating to compliance under the Kyoto Protocol”, the KP set up a “compliance committee”, which contained a “facilitative branch” and an “enforcement branch”¹⁷⁰⁸. The latter was tasked with “the restoration of compliance to ensure environmental integrity”¹⁷⁰⁹, which, to fulfil its goal, could have imposed an enhanced commitment period after 2012 (with a 30% deduction of the reduction done so far), a compliance action plan, and the suspension of the right to use emission reduction transfers through the clean development mechanism or any other instrument¹⁷¹⁰. These binding enforcement procedures clearly had a preventive angle to ensure the GHG reduction objectives were met.

Even if it is not explicitly stated so, the KP emission reduction obligation should have, in theory, required due diligent conduct to achieve it. In fact, to bring down GHG under the level of 1990, and to reduce them thereafter even more in the long run, article 2 (1) (a) obliged each Annex I Party to introduce system-wide measures to (i) enhance energy efficiency; (ii) protect and preserve forests and oceans as carbon sinks; (iii) promote sustainable agriculture ; (iv) promote and develop renewable energy, carbon dioxide sequestration technologies (now framed as carbon capture and sequestration; CCS) and other innovative, environmentally sound technologies; (v) progressively phase out “market imperfections, fiscal incentives, tax and duty exemptions and subsidies in all greenhouse gas emitting sectors”; (vi) promote policies of GHG reduction (vii) reduce emissions in the transportation sector; (viii) limit and reduce methane in the waste and energy sector. Additionally, Article 2 (1) (b) stresses the importance of cooperation in the implementation of those points. Article 2 (2) obliges Global North Parties to address international aviation and marine emissions, while paragraph (3) recalls the need to “minimise adverse effects on [...] international trade”. In other words, this article lists in a comprehensive manner all the measures a State should enact to mitigate global warming, akin to the basic expectation of due diligence, which requires, under general international law, to “use all the means at its disposal”¹⁷¹¹.

1708 Decision 27/CMP.1, “Procedures and mechanisms relating to compliance under the Kyoto Protocol”, *FCCC/KP/CMP/2005/8/Add.3*, 9th plenary meeting, 9–10 December 2005, p 93, “II. Compliance Committee”.

1709 *Ibid*, p 93 and 96, “V Enforcement Branch”.

1710 *Ibid*, p 102, “XV Consequences applied by the Enforcement Branch”.

1711 ICJ, *Pulp Mills*, para 101.

Article 12 furthermore established a “clean development mechanism” (CDM), enabling developed country parties from Annex I or Annex B to use certified emission reductions from projects outside to reduce their own emissions. The official UNFCCC website gave a renewable energy project and an energy efficiency project as examples. However, the GHG reductions resulting from the project must be “additional to any that would occur in the absence of the certified project activity”, meaning that the reductions must not happen without the project. Therefore, although the reduction obligation in Article 3 (1) only concerned developed countries, the idea was to still get the Global South involved through potential common projects and funding. This mechanism was largely used, but the latest IPCC assessment concluded that it produced “mixed” results (i.e., rather positive in terms of capacity building, but negative in terms of overall outcome and effectiveness, especially the absence “additional emissions cuts in host countries, meaning that the overall effect of CDM projects was to raise global emissions”¹⁷¹²).

Regarding the alleged general insufficiency of the reduction obligation of the KP:

Small island states declared in 1998, slightly after the KP’s adoption, that they consider the KP’s target “inadequate to prevent dangerous anthropogenic interference with the climate system” and that it does not preclude the applicability of general international law¹⁷¹³. This dissertation concurs with this stance as to the applicability of CDD; however, the inadequacy of KP’s reduction obligation is not as easy to characterise (see the compliance analysis below).

The climate litigator Dr Roda Verheyen – who did one of the very first PhD in law on climate responsibility – responded negatively to this question in her thesis by arguing that the -5% reduction goal for developed countries was not sufficient as such to reach a global peak in worldwide emissions and to reduce them thereafter, nor was it considered in line with the 450 ppm scenario or the 2°C objective¹⁷¹⁴.

1712 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1476.

1713 Declaration by the Governments of the Cook Islands, Niue, Kiribati, Nauru, Fiji, Independent State of Papua New Guinea, see Status of ratification of UNFCCC and its Kyoto Protocol, Distr. GENERAL FCCC/CP/1999/INF.2, 22 October 1999, <https://unfccc.int/cop5/resource/docs/cop5/inf02.htm>, last accessed 19 January 2025.

1714 Verheyen R, “Climate Damage and International Law: Prevention Duties and State Responsibilities”, *Martinus Nijhoff*, Leiden, 2005 p 111, 120 and 191.

Mayer – a remarkable criticiser of the *Urgenda* outcome¹⁷¹⁵ and climate litigation in general¹⁷¹⁶ – agreed with this stance in his 2018 book on “International Law Climate Change”, by stating the KP “certainly did not suffice to bring all States, or arguably any States, into compliance with their obligations under the no-harm principle”¹⁷¹⁷. Interestingly, despite Mayer’s critical views on climate litigation, Mayer recognises that the international no-harm principle, linked to the obligation of due diligence, is applicable in the realm of climate change mitigation¹⁷¹⁸.

Hence, was the commitment period ambitious enough to follow CDD?

Findings: Independently of the above opinions, the insufficiency of the KP is not as easy to characterise as it seems at first sight, at least at its time of adoption in 1997.

The KP’s obligation seems rather consistent with the IPCC’s AR2 (1995) indications, which relied on the UNFCCC (1992) having imposed on developed countries the goal of returning below 1990 emissions (see article 4 (2)). However, numerous developed countries did not respect this obligation (USA, Canada, Australia, New Zealand, Japan, Norway) and/or significantly struggled to do so (EU) (see compliance analysis in subsection 3.2.1.3 above). Either way, as stated above, the UNFCCC remained at odds with the Toronto call to reduce emissions by 20% by 2005 compared to 1988 (see above, subsection 3.2.1.1).

Regarding Roda Verheyen’s allegation that the 5% GHG reduction obligation was not in line with the 2°C objective: this critique was far from obvious in 1997. Firstly, AR2 (1995) associated a 2°C level of warming with the 650 ppm scenario, and 1°C with 450 ppm. The EU then stated that limiting global warming to below 2°C with the 550 ppm scenario, and the EU (1996) associated a limitation of global warming to below 2°C with the 550 ppm scenario. Yet, the 550 ppm scenario modelled a rise in CO2 emissions from 1995 until 2030, and the 650 ppm scenario until 2050. Hence, the evidence from AR2 does not seem to indicate a CDD breach if one applies the 2°C scenario as the legal benchmark.

1715 Mayer B, “The Contribution of *Urgenda* to the Mitigation of Climate Change” (2023) 35(2) *Journal of Environmental Law*.

1716 See, for instance, Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL*; Mayer B, “Climate Change Mitigation as an Obligation under Human Rights Treaties?” (2021) 115(3) *American Journal of International Law* DOI: 10.1017/ajil.2021.9.

1717 Mayer B, *The International Law on Climate Change* (Cambridge University Press 2018) p 236.

1718 *Ibid*, p 269.

If one considers more updated science (AR3/AR4) as Roda Verheyen or Benoit Mayer manifestly did, the KP 5% GHG reduction obligation by 2012 compared to 1990 seemed insufficient to be on track with the required 25% cut by 2020 compared to 1990 for developed countries (i.e., the IPCC AR4 identified the 25% reduction figure, the COP 13 in Bali recognised its political relevance or need, and eventually the Dutch Courts interpreted the figure to be the CDD minimum GHG reduction obligation by for developed countries such as The Netherlands, including the Supreme Court in *Urgenda*). Therefore, as soon as AR3 and/or AR4 came out, higher GHG reduction obligations should have been imposed, at least.

Still, in 1997, it does not seem possible to label the KP's reduction obligation in clear violation of CDD given the conflicting evidence between AR2 and AR1 and/or Toronto's call (i.e., while Toronto called for a reduction of global GHG of 20% by 2005, and while AR1's low emissions scenario foresaw a stabilisation of GHG from 1990 onwards until 2010, AR2 rather foresaw an increase in global GHG reduction in all its assessed scenarios, including the low emission scenario 450 and 550 ppm; the IPCC manifestly found in AR2 the impossibility of curbing or stabilising emissions by 1995, as neither the UNFCCC and nor any states domestically enacted sufficient GHG reduction goals after 1988 – see above, section 3.2.1).

3.2.2.2.2 The opposition of US public and private actors to the Kyoto Protocol

Although the KP imposed a rather accessible reduction obligation, the USA refused to ratify it. The Supreme Court of the United States laid out the reasons in *Massachusetts* of the USA's refusal to access the KP:

“[b]ecause those targets did not apply to developing and heavily polluting nations such as China and India, the Senate unanimously passed a resolution expressing its sense that the United States should not enter into the Kyoto Protocol. See S. Res. 98, 105th Cong., 1st Sess. (July 25, 1997) (as passed). President Clinton did not submit the protocol to the Senate for ratification.”¹⁷¹⁹

1719 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007), 2 April 2007, p 6. See the IPCC's confirmation of this fact as well: IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173.

Thus, the lack of any precise reduction obligations for developing non-Annex I countries – one of the weak aspects of the KP, but which did not seem contrary to the IPCC AR2 indications, nor the UNFCCC principles, nor the ARI (see above) – led to the refusal of the USA to access the treaty¹⁷²⁰.

On the other hand, when the KP was drafted in 1997, achieving a GHG reduction peak and a further 5% reduction was certainly understood as a challenge by developed states, as the IPCC stated in its AR2 that that, for OECD countries, “substantial reductions below 1990 CO₂ emissions level could be as high as seven per cent of GDP” while noting other more optimistic studies¹⁷²¹. These costs were highly controversial, and some perceived the KP as a threat to economic growth (see the positions just below by Exxon and the industry, and/or Canada’s position in subsection 3.2.3.2). Still, the IPCC AR2 showed that a 10-30% gain in energy efficiency was already considered possible without any costs and that going beyond “no-regrets measures” was advisable.

In the meantime, ExxonMobil and the industry continued to advocate against the adoption of the Kyoto Protocol, exaggerating the lack of scientific certainty, disproportionately highlighting the economic costs of joining the treaty, the loss of American “today’s lifestyle”, the displacement of industries and jobs (i.e., “carbon leakages”); and stating that the global warming issue is a “very long term phenomenon”¹⁷²².

“ADVERTORIALS 1997 [92] What is not moderate is the call [by the US government and other countries in the run up to UN Kyoto negotiations] to lower emissions to 1990 levels. A cutback of that size would inflict considerable economic pain . . . Committing to binding targets and timetables now will alter today’s lifestyles and tomorrow’s living standards. Flexibility will be constrained. Carpooling in; sport utility vehicles out. High fuel and electric bills. Factory closures. Job displacement. And could businesses and consumers cut their energy consumption by 30 percent without some form of tax or carbon rationing? Probably not.”

1720 The USA never ratified the KP and later withdrew, see United Nations, “Marking the Kyoto Protocol’s 25th Anniversary”, official website, 11 December 2022.

1721 IPCC, AR2 (1995), SYR, p 16, § 7.9.

1722 Supran G and Oreskes N, “Assessing ExxonMobil’s climate change communications (1977–2014)”, *Environmental Research Letters* 12 (2017) 084019, p 11 and tables 3–5.

The wider oil and gas industry and companies from other sectors certainly made similar claims through the API, or the so-called Global Climate Coalition¹⁷²³.

Later on, the US federal government under the Bush Administration (2001-09) definitively dismissed the Kyoto Protocol and downplayed the risks of climate change¹⁷²⁴. The USA's emissions further increased until 2007¹⁷²⁵, and the fact that the USA never joined the KP also did "serious damage to the overall international process aimed at protecting the climate system"¹⁷²⁶.

Findings: Although the USA and Canada remain free under international law to access or withdraw from a certain treaty, it could be argued that their move violated international customary CDD, since it hindered the effectiveness of international cooperation on climate mitigation¹⁷²⁷.

Moreover, the first two IPCC reports (AR1 and AR2) justified the need for developed countries to move first and to assist developing countries in their GHG reductions. Therefore, the fact that KP obliged developed states to "take the lead" was not at all contrary to the scientific recommendations.

As to the responsibility of corporate actors, they may also be found in violation of their duties, as they attempted to influence public opinions against the ratification of the KP.

1723 David A, "Oil industry targets EU climate policy", *The Guardian*, 7 December 2005.

1724 See, among, others: Borger Julian, "Bush kills global warming treaty", *The Guardian*, 29 March 2001; Speth G, "Declaration of James Gustave Speth in Support of Plaintiffs' Response in Opposition to Defendants' Motion for Summary Judgment", *Juliana v USA*, Case 6:15-cv-01517-TC, Document 298, 28 June 2018, § 65.

1725 Source: US Energy Information Administration, "Total Carbon Dioxide Emissions From All Sectors, All Fuels for United States [EMISSCO2TOTVTTTTOUSA]", retrieved from FRED, Federal Reserve Bank of St. Louis, 4 December 2023.

1726 Speth G, "Declaration of James Gustave Speth in Support of Plaintiffs, *op cit*, § 55.

1727 See concurring opinion: Mayer B, *The International Law on Climate Change* (Cambridge University Press 2018); see as well Verheyen (2008), *op cit*.

3.2.2.2.3 The non-compliance of the developed countries with general CDD, despite formal compliance with the KP

As already mentioned in the subsections above, some countries, such as the USA, Japan, Canada, Australia¹⁷²⁸, New Zealand and Norway did not comply with the reduction figure of the KP in 2020, if only *territorial* emissions are considered (GHG in those countries continued to increase from 1990 until 2019 for the USA and Japan; and as to the others, they still remain higher than 1990 by 20-40%). Otherwise, if all the flexibilities are considered (reduction overseas through the clean development mechanism (CDM) and the LULUCF sector), all countries complied with KP¹⁷²⁹.

Canada withdrew on 15 December 2011 from the KP, allegedly fearing sanctions, and certainly to signal a political stance opposed to climate mitigation. Canada's Environment Minister stated that Canada's retraction is due to the USD 14 billion in penalties ensuing from the country's failure to achieve its reduction commitment, but also the lack of reduction obligations for the USA, China and the rest of the world¹⁷³⁰. However, these statements seem to be exaggerations: the compliance committee manifestly cannot impose any penalties if one reads its competencies, but only an enhanced commitment period, combined with a possible restricted access to emission reduction transfers. Canada's Environment Minister may have exaggerated his public statement to label the KP as a disproportionate instrument to justify its repudiation.

Findings:

Canada's withdrawal, combined with public statements discrediting the KP, may constitute breaches of *general* CDD, as it further damaged the international cooperation, in a similar vein to the USA.

As for the other developed countries which did not reduce their domestic emissions by 5% by 2012 (Australia, New Zealand, Norway, and Japan), despite having formally complied with the reduction obligation by using the

1728 See the specific issue concerning Australia, how it received a "special treatment" under the KP: Hamilton C, "Australia hit its Kyoto target, but it was more a three-inch putt than a hole in one", *The Conversation*, 2015.

1729 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1462.

1730 Canada committed to a 6% reduction under the first period of the KP (Federal Court of Ontario (Canada), *Daniel Turp v Canada*, 2012 FC 893, 17 July 2012, § 4 and. See *The Guardian*, "Canada pulls out of Kyoto Protocol: Ministers argue process does not cover US and China – the two biggest emitters – and that Canada cannot meet targets", 13 December 2011.

existing flexibilities¹⁷³¹, it could be argued that they still breached *general* CDD, based on a reasoning analogous to that of *Urgenda*, which states that developed countries must carry out a certain minimum amount of GHG reductions *domestically* through the reduction of *territorial* emissions¹⁷³². In fact, how can one State be deemed in compliance if its own territorial emissions did not stop growing? This conduct is all the opposite of the one researched by the Kyoto Protocol, which required State parties to implement different mitigation actions on the domestic level according to its Article 2 (see above, subdivision 3.2.2.2.1). Hence, a breach of the Protocol itself cannot be ruled out from the outset. Additionally, the contribution of the CDM to climate mitigation is unclear and disputed¹⁷³³. The States that have used the CDM should have done it properly, in compliance with the additionality requirement. Some studies even challenged the overall contribution of the KP to global GHG reductions¹⁷³⁴.

As for the EU-27, its emissions went down between 2005/8 and 2012¹⁷³⁵, and were ultimately below the 1990's levels by 2012. However, it is worth noting the following facts:

- One should recall that the accession to the EU by former Soviet republics contributed to substantial GHG reductions between 1990 and 2010, as laid out above¹⁷³⁶.
- The emissions of the core EU countries individually remained approximately stable between 1990 and 2005, but were reduced in the commit-

1731 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1462.

1732 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 7.3.1 – 7.3.6; nonetheless, the Supreme Court may have considered it admissible to use some flexibilities, such as reductions overseas, like the CDM of the KP.

1733 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1476.

1734 *Ibid*, p 1475.

1735 European Environment Agency, “EEA Greenhouse Gases”, <https://www.eea.europa.eu/en/analysis/maps-and-charts/greenhouse-gases-viewer-data-viewers>, last accessed 19 January 2025.

1736 A significant portion of the former USSR's industrial activity ceased after 1990, leading to almost 50% of GHG reductions in some former USSR countries. Note that “West Germany” merged with “East Germany” in 1991; in 2004 the following countries accessed the EU: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia; in 2007: Bulgaria, Romania; and in 2013: Croatia. See concurring opinion: Rosen A M, “The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change”, *Politics & Policy* (Wiley Online Library, 2015).

ment period between 2005 and 2012 (EU-6: France, Italy, Belgium, the Netherlands, and Germany¹⁷³⁷).

- Some European countries from the “South” (Cyprus, Greece, Spain, and Portugal) saw their emissions rise between 1990 and 2005 and then fell from 2005/08 onwards. However, Spain reached its 1990 levels by 2021 (therefore, individually not in compliance with the KP), and Cyprus is still above its 1990 levels in 2021. Only Portugal and Greece are now below their 1990 levels and may be considered individually compliant with the KP reduction obligation.
- Other EU countries – or former EU countries – complied, including the UK and Scandinavian EU countries (Denmark and Sweden).

One may legitimately ask oneself what the point is of all these climate treaties if the duty bearers can easily avoid compliance without incurring any sanctions, or fulfil them by using external factors without any link to climate mitigation, as it turned out to be for the EU (i.e., the some former USSR States joined the EU without in the 2000s which led to a reduction of GHGs as explained above)?

In general, the KP “built national capacity for GHG accounting, catalysed the creation of GHG markets, and increased investments in low-carbon technologies” according to a recent ex post IPCC assessment¹⁷³⁸. However, the effectiveness of the KP in terms of GHG reductions is far from uncontroversial. While two studies found that the KP led to a reduction of 7 to 10% compared to business as usual in developed countries, another study found no “significant and lasting emissions reductions”¹⁷³⁹. The results regarding the KP’s market mechanisms are even more mixed, as noted above¹⁷⁴⁰.

For the EU, more particularly, the KP led it to issue some framework regulations on the reduction of GHG, namely the 2003 European Trading System (ETS)¹⁷⁴¹, a “cap and trade” mechanism for the whole industrial sector of the EU. The EU also promoted renewables from 2001 onwards¹⁷⁴².

1737 European Environment Agency, “EEA Greenhouse Gases”, *op cit*.

1738 IPCC, AR 6 (2021-23), WG III, TS, p 132.

1739 *Ibid*, Chapter 14, p 1475.

1740 *Ibid*, p 1476.

1741 Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, paragraph 5 recita.

1742 The EU introduced some directives on the promotion of renewable energy in 2001 (Directive 2001/77/EC of the European Parliament and of the Council of 27

The EU argued that it designed these legislative measures in a cost-effective manner with wide-ranging effects, i.e., a 35% reduction between 2021 and 2005¹⁷⁴³. Note, however, that these figures are partially contested, since numerous experts – ranging from the IPCC to the EU itself – alleged that carbon leakages occurred, i.e., a displacement of emissions to foreign jurisdictions¹⁷⁴⁴.

Whereas one may argue that these regulations came too late, it is also necessary to recall that the European Commission abandoned its domestic proposals due to the US refusal to regulate GHGs and the pressure of the fossil fuel industry. More research on the evidence may be required to assess potential *general* CDD breaches by the EU and its Member States. However, CDD only requires best efforts, and, in light of the global difficulties in reaching a useful collective target (UNFCCC, KP, non-accession by the USA), the EU's conduct seems somewhat less problematic as it still enacted *some* measures, but not in due time. In any case, while the EU numerically complied with the KP, including through domestic emissions, and restricted the use of CDM to avoid misuses by 2012¹⁷⁴⁵, it was helped by exogenous factors such as the deindustrialisation of the ex-USSR countries.

Findings:

- The level of ambition of the KP's reduction obligation was relatively low but not manifestly insufficient according to the IPCC science available back then (see the discussion in the subdivision 1.2.2.2.1 above).
- The USA's refusal to ratify the treaty likely constitutes a breach of *general* CDD, notably because it significantly damaged international cooperation. It furthermore does not seem implausible that, in a counterfactual scenario in which the USA would have joined the KP and respected

September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market(1) OJ L 283, 27.10.2001, p 33. and Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport).

1743 More information on the status of the directive on the official website of the EU: https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en; according to the IPCC, “The EU ETS avoided emitting about 1.2 GtCO₂ between 2008 and 2016 (3.8%), almost half of what EU governments promised to reduce under their Kyoto Protocol commitments (Bayer and Aklin 2020)” (see: IPCC, AR 6 (2021-23), WG III, Chapter 2, p 270).

1744 The EU even enacted anti leakage legislation amendments within the EU ETS; see the Directive 2009/29/EC Of The European Parliament And Of The Council Of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.

1745 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1476.

it (by respecting its former CDD duties), country parties would have complied with the KP's obligations.

- Likewise, Canada's withdrawal further damaged international cooperation on that front.
- In any case, the lack of domestic reductions and the *territorial* non-compliance with Article 3 KP by all the developed countries may constitute *general* CDD breaches, as it requires States to carry out some minimal reductions domestically (see, notably, the *Urgenda* outcome, or the recent ITLOS advisory opinion).
- The KP's left aside all other developing nations, which was the main argument advanced by the US Senate to reject the KP. The IPCC reports at the time did not seem to point to an absolute need for developing countries to reduce their GHGs, though. Hence, the KP was only a first concretisation of the UNFCCC, but a very insufficient one. It is problematic that this multilateral instrument did not work out, despite its very moderate, if not insufficient ambition.

3.2.2.3 The 2001 IPCC AR3 Report showing the need for technological development while highlighting the costs of short-term aggressive mitigation

The IPCC AR3 (2001) report further contributed to the applicability of CDD as the physical evidence became more robust. To avoid repetitions with the subsections above on AR1 and AR2, this thesis briefly presents the main results of AR3 to highlight the main scientific evolutions and mainly focuses on the discussed mitigation measures (questions 6 and 7, usually addressed by WG III) to understand the reasonably expected conduct (i.e., substantive CDD) back then.

For the publication of AR3, the IPCC decided, for the first time, to formally establish a Synthesis Report for policymakers that would be “policy-relevant, but not policy-prescriptive”¹⁷⁴⁶. In this sense, the IPCC responded to nine questions posed by governments.

Concerning the first question (dangerous climate change¹⁷⁴⁷), the IPCC gave a very general and abstract response. It did not state whether a specific

¹⁷⁴⁶ IPCC, AR3 (2001), SYR, p 2.

¹⁷⁴⁷ The main part of the question reads as follows: “what constitutes dangerous anthropogenic interference with the climate system as referred to in Article 2 of the Framework Convention on Climate Change?”

concentration of CO₂ or GHG in the atmosphere is dangerous, nor did it position itself on the issue of whether 1.5°C, 2°C or any other global average temperature is hazardous. It mainly stated it can provide “essential information and evidence” to establish such a finding, which would entail “value judgements determined through socio-political processes, taking into account [...] uncertainties and risk.” This response, including consideration of the introduction, clearly invites policymakers to determine the level of dangerous anthropogenic interference. In this regard, the EU estimated in 1996, and confirmed in 2005, that warming beyond 2°C is dangerous and that, correspondingly, a 550 ppm path is needed to keep global temperatures below that threshold¹⁷⁴⁸. AR3 may have reinforced this position, as question 7, presented below, gives strong arguments in favour of the 550 ppm scenario due to the high GDP losses with a more ambitious scenario, such as the 450 ppm one, despite AR3 classifying the 550 ppm one as a 3°C scenario.

To question 2 (evidence of anthropogenic global warming), the IPCC responded that “There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities”¹⁷⁴⁹. However, the IPCC did not yet classify its findings on ongoing global warming as *unequivocal* but as *very likely* (90-100% certainty)¹⁷⁵⁰.

Concerning question 3 (the consequences of climate change), the IPCC projected that a CO₂ concentration increase of at least 540 ppm should occur, leading to an average of 1.4°C to 5.8°C increase in global temperatures¹⁷⁵¹. The IPCC stated with medium confidence that the more global warming increases, the more severe the adverse impacts will be¹⁷⁵². It would also exacerbate threats to human health and water shortages, particularly in vulnerable and poor countries, and small islands¹⁷⁵³.

As to question 4 (extreme weather events), the IPCC mainly responded that it projects an increase in extreme events, including more extreme temperatures such as heat waves everywhere (*very likely*), intense precipitations

1748 See European Commission, “Community strategy on climate change – Council conclusions”, 1996, p 7 under point 6, 1996 no.188, exhibit 129”. Council of the EU, Information note 7242/05 Climate Change: - Medium and longer term emission reduction strategies, including targets = Council conclusions, 11 March 2005.

1749 IPCC, AR3 (2001), SYR, § Q2.9-11.

1750 *Ibid*, § Q2.9-19.

1751 *Ibid*, § Q3.3-5 and Q3.6-7 & Q3.11.

1752 *Ibid*, § Q3.16.

1753 *Ibid*, § Q3.17 – 3.33.

everywhere (*very likely*), droughts over most mid-latitudes and continental interiors (*likely*), cyclones in the tropics (*likely*), intensified El Niño (*likely*), increased summer monsoons (*likely*), increased intensity of storms, etc¹⁷⁵⁴. Additionally, the IPCC also stated that large-scale and high-impact events become more likely as global warming intensifies (so-called tipping points, which may arise after the 1.5°C threshold is crossed according to current best available science).

Concerning question 5 (time lags and climate inertia): here, the IPCC made clear that there is a need to follow a certain mitigation pathway to prevent the harshest climate-related impacts, as they may be irreversible¹⁷⁵⁵. Moreover, safety margins must be considered when setting strategies and targets¹⁷⁵⁶.

Concerning question 6 (the effect of GHG reductions, as responded to by the WG III), the IPCC recalled that mitigation would “reduce damages”¹⁷⁵⁷, especially if low mitigation pathways such as the 450 ppm scenario were followed¹⁷⁵⁸. Furthermore, as was noted above in the subsection on AR2 (subsection 1.2.2.1), AR3 gave more reliable information on the impact of emission pathways on global average temperatures, finding that the 450 ppm scenario actually corresponds to warming around 2°C (but slightly above), and 550 ppm scenario around 3°C, and 650 ppm around 3,5°C (see graph below). Note, however, that these indications only considered the impact of CO₂ emissions, meaning that other GHGs such as methane, black carbon and others were left aside.

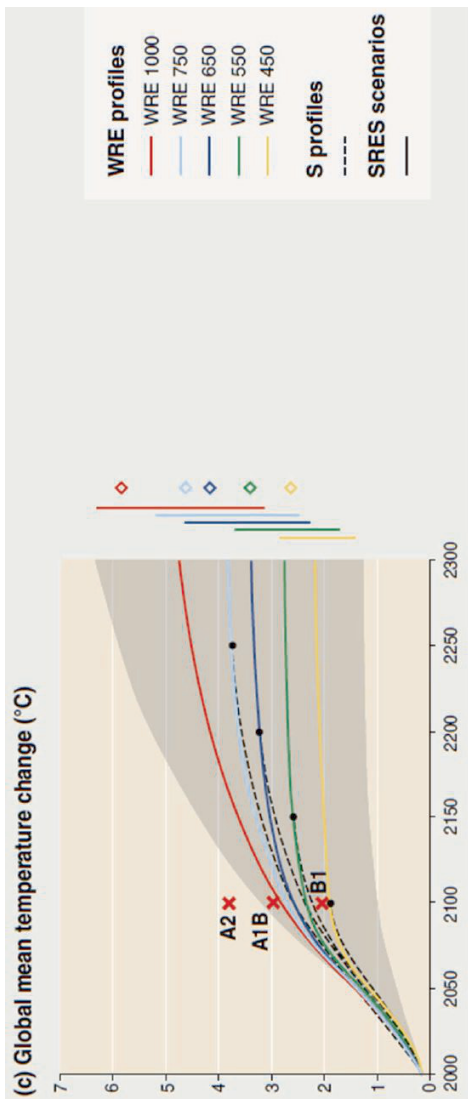
1754 *Ibid*, Table SPM-2.

1755 *Ibid*, § Q5.1-4, Q5.8, Q5.10-12, & Q5.14-17.

1756 *Ibid*, § Q5.18-20 & Q5.23.

1757 *Ibid*, § Q6.9.

1758 *Ibid*, § Q6.11.



Source: IPCC, AR3 (2001), SYR, p. 20, Figure SPM -6.

While the IPCC calculated the costs of mitigation (see below – question 7), it did not calculate the benefits and losses related to global warming in economic terms. Thus, no economic study could demonstrate the *net* economic effect of mitigating global warming.¹⁷⁵⁹

¹⁷⁵⁹ *Ibid*, § Q6.12.

The IPCC furthermore stated that mitigation “raises an important issue of equity”, but that it can, “if appropriately designed, advance sustainable development and equity both within and across countries and between generations.”¹⁷⁶⁰

Regarding the cost estimates of mitigation measures (question 7): Firstly, the IPCC noted the technological progress made concerning renewable energy (market introduction of wind turbines, advancement of cell technology – so, hydrogen –, demonstration of underground CO₂ storage, development of carbon removal and storage (CCS))¹⁷⁶¹.

Next, the IPCC addressed the costs of mitigation. It stated it could have been possible to bring global emissions by 2010 or 2020 below the year 2000, though the costs may have been substantial¹⁷⁶².

Concerning specifically the economic impact of the implementation of the Kyoto Protocol, the IPCC displayed GDP losses, which may have caused a chilling effect on climate mitigation. More precisely, the KP 5% GHG reduction obligation below 1990 levels by 2012 would have led to GDP losses “of about 0.2 to 2%” but only 0.1 to 1.1% of projected GDP with “full emissions trading”. One may infer the economic need to develop emissions trading schemes, as the EU did in 2003.

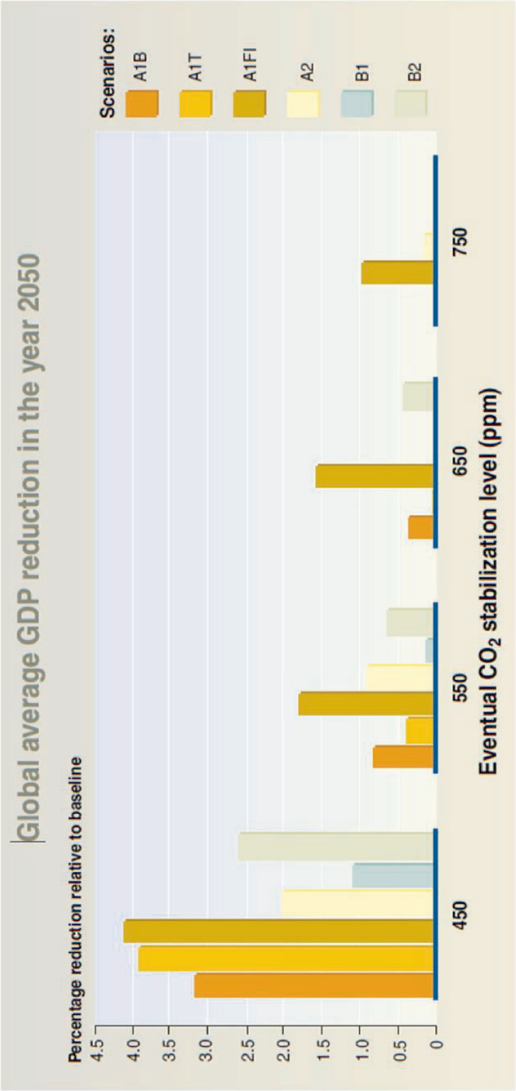
As we retrospectively know, the USA refused to ratify this treaty (see above subsection 1.2.2.2 on the KP). The Figure SPM-8 might have caused some reluctance in this regard, as it showed higher costs for the USA (0.91 to 1.96% GDP losses) and Canada, Australia (1.14 to 2.02% GDP losses) than the EU (0.81 to 1.50% GDP losses) and Japan (0.45 to 1.20% GDP losses). Furthermore, the IPCC reported that emission reduction measures in developed countries, such as higher carbon prices, may lead to “spill-over” effects, such as technology transfer to the global South, but also counterproductive effects, such as relocations of industries in the Global South, leading to “carbon leakage” in the order of 5-20%¹⁷⁶³. More generally, the IPCC showed significantly higher GDP reductions for the 450 ppm scenario until 2050 (1 to 4.5% GDP loss) than for the 550 ppm or higher scenario (0 to 1.8% GDP loss; see Figure SPM-9 just below).

1760 *Ibid*, § Q6.16-18.

1761 *Ibid*, § 7.3.

1762 *Ibid*, § Q7.15 & Q7 Table 7-1.

1763 *Ibid*, § Q7.19.



Q7.25

Figure SPM-9: Indicative relationship in the year 2050 between the relative GDP reduction caused by mitigation activities, the SRES scenarios, and the stabilization level. The reduction in GDP tends to increase with the stringency of the stabilization level, but the costs are very sensitive to the choice of the baseline scenario. These projected mitigation costs do not take into account potential benefits of avoided climate change.

Source: IPCC, AR3 (2001), SYR, p. 20, Figure SPM-9.

Commenting on this chart, the IPCC specified that long-term GDP should continue to grow in the long term. Additionally, it further noted that these economic studies did not consider the deployment of some decarbon-

isation technologies, such as CCS, and policies significantly incentivising technological innovation¹⁷⁶⁴.

Hence, the IPCC provided a weighty argument in favour of the 550 ppm scenario, as it labelled this latter scenario as a more balanced one, given the risks and uncertainties of climate-related impacts on one hand, and the benefits and costs of mitigation on the other. The fact that the climate literature in AR3 mainly assessed 550 ppm scenarios is another element showing the influence of the IPCC findings, according to which 550 ppm seems to be a more balanced and realistic scenario¹⁷⁶⁵. However, the publication of AR4 (2007) redirected arguments in favour of the 450 ppm scenarios due to the clear risks of overstepping 2°C, which would certainly materialise if the world exceeds 450 ppm.

It is interesting to note that, since AR4 (2007), climate mitigation is not seen as hindering economic and GDP growth anymore. The most recent IPCC and the IEA assessments even consider that climate mitigation (including 1.5°C pathways) will lead to as much growth as business-as-usual scenarios (see above, Box 2)¹⁷⁶⁶. These different figures on GDP impacts may be explained by the wider availability of low-emissions technologies today, as the IPCC economic studies assessed for AR3 did not consider these, as noted just above¹⁷⁶⁷. Were States right to comply with the KP back then?

Findings: The AR3 showed that 450 ppm scenarios, particularly short-term mitigation policies, led to high economic costs and GDP losses. This finding seems to reasonably advocate in favour of either delayed GHG reduction achievements, pending the availability of mitigation technologies, or alignment with 550 ppm scenarios, which were considered back then as less costly (but insufficient from AR4 (2007) onwards). One may, therefore, question whether the USA's refusal to access the KP should still be evaluated by 2001 as a CDD breach.

1764 *Ibid.*, § Q7.25.

1765 The IPCC AR4 SYR table SPM.6 shows that the IPCC considered 118 scenarios corresponding to 485 – 570 ppm scenario, whereas only 45 scenarios for lower levels of concentration. See as well Den Elzen M and Höhne N, “Reductions of greenhouse gas emissions in Annex I and non-Annex I countries for meeting concentration stabilisation targets: An editorial comment”, *Climatic Change* (2008) 91, p 259.

1766 See “Box Technical Briefing 2” of this thesis; referencing notably IPCC, AR6 (2021-23), WG III, SPM, § C.12, and IEA, WEO 2023, Table A.5c, p 281.

1767 IPCC, AR3 (2001), SYR, § Q7.25.

Despite this nuanced economic evidence, AR3 still stated that the more ambitious pathway is less risky in terms of climate-related losses and damages and incurred costs. It further highlighted the strong economic advantages of complying with the KP through full emissions trading schemes, in addition to the general need for developing mitigation technologies¹⁷⁶⁸. It also stated that “near-term action [...] may stimulate more rapid deployment of existing low-emissions technologies and provide near-term strong incentives to future technological changes.”¹⁷⁶⁹ Although the availability of groundbreaking low emissions technologies is expected for the mid to long run, measures incentivising them appear nonetheless even more useful than mere compliance with short-term GHG reduction targets.

In light of these findings, should the compliance analysis of substantive CDD restrict itself to the efforts by one actor to develop GHG reduction technologies, rather than complying with GHG reduction targets? Focusing solely on GHG reduction targets may lead to leakage and high costs if poorly implemented. Thus, while GHG reduction targets still seem necessary to keep track of the progress and the alignment with a given emissions scenario, it seems clear at this stage of the analysis that technological development is one of the top priorities a state or a private actor can undertake to comply with substantive CDD.

3.2.3 2007 - 2014: Lack of 2°C consistent action: the probable individual and collective CDD breaches

3.2.3.1 The 2007 AR4 “Bali-box”, pointing to a CDD duty to limit global warming to 2°C

In 2007, the IPCC released AR4.

The first and certainly one of the most prominent findings of AR4 is that “[w]arming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level”¹⁷⁷⁰. The IPCC cleared any remaining uncertainty about man-made climate change, and estimated that temperature increases reached 0.74 [0.56 to

1768 *Ibid*, § Q5.10-13 ; Q5.22 ; § Q7.9 - Q7.12 ; Q7.23 - 7.27.

1769 *Ibid*, § Q7.24.

1770 *Ibid*, p 2.

0.92]°C in 2005¹⁷⁷¹. Large-scale data collection on the evolution of global temperatures enabled the observation of their gradual increase, in addition to the observation of some changes, such as sea-level rise and retreats of glaciers (“so-called” slow onset events), clearly *attributable* to the causal effect of the accumulation of GHG.

However, the IPCC did not state in 2007 that anthropogenic GHGs are unequivocally the cause of global warming, but only that it is very likely the case¹⁷⁷². More precisely, concerning the physical causes of climate change, AR4 found that anthropogenic GHG increased by 70% between 1970 and 2004 “due primarily to fossil fuel use, with land-use change providing another significant but smaller contribution”¹⁷⁷³. More precisely, fossil fuel use caused approximately 66% of the GHG (56.6 of CO₂ emissions and a significant part of methane (CH₄)), whereas deforestation, decay of biomass and other land use changes caused 17.3% of the global GHG emissions¹⁷⁷⁴. Furthermore, the IPCC found that CO₂ concentrations reached 379 ppm in 2005, approximately 100 ppm above pre-industrial times¹⁷⁷⁵.

Concerning climate impacts, the IPCC found that global temperatures will continue to rise due to the lack of mitigation policies, causing further larger system-wide changes, including:

“Arctic late-summer sea ice disappears almost entirely by the latter part of the 21st century [...] very likely increase in frequency of hot extremes, heat waves and heavy precipitation [...] likely increase in tropical cyclone intensity [...] likely precipitation decrease in most subtropical land regions.”¹⁷⁷⁶

Finding: The physical science in AR4 became even stronger than AR3 (2001), thereby contributing to the full applicability of CDD, without any need to rely on the precautionary principle, given the removal of almost any uncertainty as to ongoing global warming caused by anthropogenic GHGs. In plain words, this finding repelled any excuse to remain inactive.

The IPCC WG II gave numerous examples of climate-related impacts for all the regions and continents of the world (see below) by issuing “very high confidence or high confidence statements [...], specifying that the]

1771 *Ibid*, p 2.

1772 IPCC, AR4 (2007), SYR, p 5.

1773 *Ibid*.

1774 *Ibid*, Figure SPM.3, p 5.

1775 *Ibid*, SYR, p 5.

1776 *Ibid*, p 8.

magnitude and timing of impacts that will ultimately be realised will vary with the amount and rate of climate change”¹⁷⁷⁷. The following reproduces some impacts that made some climate-related harms foreseeable from that specific moment in time:

- For Africa, the IPCC foresaw that “[b]y 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change”. Furthermore, concerning sea-level rise only, African countries could spend 5 to 10% of GDP by the end of the 21st century adapting to it.
- For Asia, changes in the hydrological cycle could cause floods and droughts in East, South and South-East Asia, generating other consequences such as “mortality due to diarrhoeal disease” and, more generally, lack of freshwater availability.
- For Australia and New Zealand, “[b]y 2020, significant loss of biodiversity is projected to occur in some ecologically rich sites, including the Great Barrier Reef” and increased droughts and fires in other regions.
- For Europe, the IPCC expected “increased risk of inland flash floods and more frequent coastal flooding [... and] health risks due to heat waves and the frequency of wildfires.” Besides, “[m]ountainous areas will face glacier retreat, reduced snow cover and winter tourism, and extensive species losses”.
- For Latin America, the IPCC anticipated that “[b]y mid-century, [...] gradual replacement of tropical forest by savanna in eastern Amazonia.”
- For North America, the IPCC estimated that “Coastal communities and habitats will be increasingly stressed”.
- For Polar Regions, the IPCC projected that the reduction of glaciers and ice will cause numerous detrimental effects on wildlife and indigenous communities.
- For Small Islands, the IPCC estimated that “[s]ea level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure.”¹⁷⁷⁸

With regard to heat waves, the IPCC stated they will most affect “elderly, chronically sick, very young and socially isolated” persons¹⁷⁷⁹.

1777 *Ibid*, Table SPM.2., p 11.

1778 *Ibid*, Table SPM.2., p 11 - 12.

1779 *Ibid*, Table SPM.3.

As to the assessment of which levels of warming are dangerous, the IPCC responded, as in AR3, that it unavoidably “involves value judgements”, but that “Science can support informed decisions on this issue, including by providing criteria for judging which vulnerabilities might be labelled ‘key’.” The IPCC reinforced this non-prescriptive policy position with other statements, considering that ecosystems (plant and animal species, biodiversity hotspots more generally) face significant extinction risks if global warming exceeds 1.5°C¹⁷⁸⁰. If warming remains beyond 2°C, the sea level will rise by 7 meters¹⁷⁸¹. The IPCC stressed the particular dangers of overlapping vulnerabilities arising from climate change and “current climate hazards, poverty and unequal access to resources, food insecurity, trends in economic globalisation, conflict and incidence of diseases such as HIV/AIDS”.¹⁷⁸²

Finding: These multiple statements, classified as *likely* or even *very likely*, already showed in 2007 how harmful global warming can be for both the environment and humans if the 1.5°C or 2°C thresholds are crossed. It is therefore arguable that CDD required limiting global warming to 2°C after the AR4 report.

3.2.3.2 The precise AR4 indications on 2°C pathways taken up politically by States, specifying CDD requirements

The IPCC displayed the results concerning the economic effects of mitigation in a considerably different manner: in AR4 (2007), the IPCC found that “there is *high agreement* and *much evidence* of substantial economic potential for the mitigation of global GHG emissions over the coming decades that could offset the projected growth of global emissions or reduce emissions below current levels”¹⁷⁸³; whereas in AR3 (2001), the IPCC rather emphasised the substantive GDP reduction in cases of ambitious mitigation such as in the 450 ppm scenario (see above, subsection 3.2.2.3 on AR3). Nevertheless, AR4 also identified some GDP reductions for ambitious pathways such as the 450 ppm, albeit less than AR3¹⁷⁸⁴. The WG III SPM even found that the Kyoto Protocol’s implementation will lead to fewer

1780 *Ibid*, p 13.

1781 *Ibid*, p 12.

1782 *Ibid*, p 18.

1783 *Ibid*, p 14.

1784 *Ibid*, p 21.

negative economic impacts than those predicted in AR3¹⁷⁸⁵. More precisely, AR4 stated that numerous different low-emissions technologies need to be developed, which could lead to significant reductions by 2030 “with net negative costs”¹⁷⁸⁶. However, the IPCC concluded that significant net additional investments of 5–10% in low-carbon technologies would be required to return GHG emission levels to those of 2005 by 2030¹⁷⁸⁷.

The IPCC also identified the main state policies and obstacles to implementing climate mitigation. For instance, for the energy transition from fossil fuels to renewables and other lower-carbon energies, the IPCC stated, it should be accompanied by the phase-out of harmful subsidies and the phase-in of incentives for renewables. However, as the IPCC rightly predicted, the transition has faced “resistance by vested interests”, such as the fossil fuel companies¹⁷⁸⁸. With regard to the necessary technological developments in other sectors, the IPCC recommended the development of advanced electric vehicles with reliable batteries, solar photovoltaics in the building sector, and CCS for cement, ammonia and iron manufacture, while noting that cooperation between government and industry may be necessary.

Regarding the most effective climate mitigation measures, the IPCC cited “carbon price signal” combined with “induced technological change”¹⁷⁸⁹. Moreover, the IPCC deemed “with high confidence and much evidence” that mitigation benefits to health, thereby offsetting mitigation costs.

The IPCC also asserted that mitigation by developed countries “may affect the global economy and global emissions, although the scale of carbon leakage remains uncertain”¹⁷⁹⁰. The SPM of the WG III gave more details and confirmed the AR3 finding of likely carbon leakage resulting from the implementation of the KP of 5 – 20%, “which would be less if competitive low-emissions technologies were effectively diffused”.¹⁷⁹¹ As in AR3 (2001), this finding highlighted the need to i) develop the right technologies and ii) to adequately disseminate them.

Additionally, the IPCC estimated with a “*high agreement* but *medium evidence* that changes in lifestyle”, such as reducing individual energy con-

1785 IPCC, AR4 (2007), WG III, SPM, p 21 § 25.

1786 IPCC, AR4 (2007), SYR, p 14.

1787 *Ibid*, p 15.

1788 *Ibid*, p 16, Table SPM.5.

1789 *Ibid*, p 18.

1790 *Ibid*, p 16.

1791 IPCC, AR4 (2007), WG III, SPM, p 12, § 9.

sumption, may be useful to climate mitigation too¹⁷⁹². This finding also supports the need to mandate individual change to a certain degree.

Lastly, the IPCC noted the need and the significant advantages of cooperating internationally to tackle climate change, with the aim of making it effective and reducing costs, leakage, etc¹⁷⁹³. It also insisted multiple times on early investments in low-emissions technologies, including their worldwide diffusion and commercialisation¹⁷⁹⁴.

Concerning climate mitigation pathways:

The IPCC readjusted the AR3 results regarding the equivalence of global warming of ppm and found that:

- 450 ppm CO₂eq (all GHGs considered) scenario leads to global warming of around 2°C (or more), which means that a CO₂ concentration of about 350 ppm;
- 550 ppm CO₂eq (all GHGs considered) scenario leads to 3° or more, meaning that the CO₂ concentration is about 450 ppm;
- 650 ppm CO₂eq (all GHGs considered) scenario leads to 4°C or more, meaning that the CO₂ concentration is about 530 ppm;

Table SPM.6. Characteristics of post-TAR stabilisation scenarios and resulting long-term equilibrium global average temperature and the sea level rise component from thermal expansion only^a (Table 5.1)

Category	CO ₂ concentration at stabilisation (2005 = 379 ppm) ^b	CO ₂ -equivalent concentration at stabilisation including GHGs and aerosols (2005 = 375 ppm) ^b	Peaking year for CO ₂ emissions ^{c,e}	Change in global CO ₂ emissions in 2050 (percent of 2000 emissions) ^{c,e}	Global average temperature increase above pre-industrial at equilibrium, using 'best estimate' climate sensitivity ^{d,*}	Global average sea level rise above pre-industrial at equilibrium from thermal expansion only ^f	Number of assessed scenarios
	ppm	ppm	year	percent	°C	metres	
I	350 – 400	445 – 490	2000 – 2015	-85 to -50	2.0 – 2.4	0.4 – 1.4	6
II	400 – 440	490 – 535	2000 – 2020	-60 to -30	2.4 – 2.8	0.5 – 1.7	18
III	440 – 485	535 – 590	2010 – 2030	-30 to +5	2.8 – 3.2	0.6 – 1.9	21
IV	485 – 570	590 – 710	2020 – 2060	+10 to +60	3.2 – 4.0	0.6 – 2.4	118
V	570 – 660	710 – 855	2050 – 2080	+25 to +85	4.0 – 4.9	0.8 – 2.9	9
VI	660 – 790	855 – 1130	2060 – 2090	+90 to +140	4.9 – 6.1	1.0 – 3.7	5

Source: IPCC, AR4 (2007), SYR, p. 20, Table SPM.6.

More precisely, as to the so-called “Bali Box”, included in the AR4 full report, which spilt over to the COP 13 decision (Bali Action Plan):

1792 IPCC, AR4 (2007), SYR, p 18.

1793 *Ibid*, p 18.

1794 *Ibid*, p 20.

The “Bali Box” is an IPCC table¹⁷⁹⁵ from the full WG III report (863 pages) and technical summary, which became politically and judicially relevant and, to some extent, controversial¹⁷⁹⁶. It influenced international climate mitigation policies, especially the 2020 target for developed States, and ultimately constituted the scientific basis for the initial EU 2020 targets, and the *Urgenda* judgement¹⁷⁹⁷ - later confirmed in *Klimatzaak*¹⁷⁹⁸ and *KlimaSeniorinnen*¹⁷⁹⁹. More precisely, this box indicated what developed and developing countries need to do to achieve certain CO₂ scenarios, indicating GHG reductions for developed countries in the scale of 25-40% by 2020 compared to 1990, to achieve the 450 ppm scenario (2°C scenario).

Although this table was not part of the SPM or SYR, the 2007 COP decision held in Bali referenced it in a footnote of its fourth paragraph, which recalled the need for deep and urgent emission cuts to achieve the ultimate objective of the Convention (see the quote just below). According to some authors of the scientific and political literature, “[w]hen these negotiations started at COP 13 [2007] in Bali, the box played such a prominent role that it came to be known among negotiators and observers as the “Bali Box”¹⁸⁰⁰.

“Recognizing that deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency to address climate change as indicated in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. [...] (footnote 1: Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Technical Summary, pages 39 and 90, and Chapter 13, page 776).”¹⁸⁰¹

1795 The official name of the table is “Box 13.7”, available at IPCC, AR4 (2007), WG III, Chapter 13 p 776, or in the Technical Summary on pages 39 and 90.

1796 Winkler H et al, “Who picks up the remainder? Mitigation in developed and developing countries”, *Climate Policy* 9 (2009) p 638; Lahna B and Sundqvist G, “Science as a ‘fixed point’? Quantification and boundary objects in international climate politics”, *Environmental Science & Policy* 67 (2017).

1797 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379; Court of Appeal of The Hague, *Netherlands v Urgenda Foundation*, Case No 200.178.245/01, 2018, § 41 and 73; see as well: Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019.

1798 Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023, p 90.

1799 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 558.

1800 Lahna B and Sundqvist G, “Science as a ‘fixed point’? Quantification and boundary objects in international climate politics”, *Environmental Science & Policy* 67 (2017) p 9.

1801 See the first footnote of the fourth paragraph of the Bali Action Plan.

See below as well the so-called IPCC table:

Box 13.7 The range of the difference between emissions in 1990 and emission allowances in 2020/2050 for various GHG concentration levels for Annex I and non-Annex I countries as a group^a

Scenario category	Region	2020	2050
A-450 ppm CO ₂ -eq ^b	Annex I	-25% to -40%	-80% to -95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions
B-550 ppm CO ₂ -eq	Annex I	-10% to -30%	-40% to -90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-650 ppm CO ₂ -eq	Annex I	0% to -25%	-30% to -80%
	Non-Annex I	Baseline	Deviation from baseline in Latin America and Middle East, East Asia

Notes:

^a The aggregate range is based on multiple approaches to apportion emissions between regions (contraction and convergence, multistage, Triptych and intensity targets, among others). Each approach makes different assumptions about the pathway, specific national efforts and other variables. Additional extreme cases – in which Annex I undertakes all reductions, or non-Annex I undertakes all reductions – are not included. The ranges presented here do not imply political feasibility, nor do the results reflect cost variances.

^b Only the studies aiming at stabilization at 450 ppm CO₂-eq assume a (temporary) overshoot of about 50 ppm (See Den Elzen and Meinshausen, 2006).

Source: See references listed in first paragraph of Section 13.3.3.3

Source: IPCC, AR4 (2007), WG III, Chapter 13 p. 776; also available in the corresponding Technical Summary on pages 39 and 90.

Although the Bali Box prominence seems at first sight rather positive, it also caused many inconveniences, akin to those encountered around the KP's negotiations and implementation:

- Firstly, the USA refused to integrate the table indications directly into the negotiating text¹⁸⁰².
- Secondly, developed countries criticised the fact that no specific reduction was indicated for developing countries¹⁸⁰³.
- Thirdly, developing countries also complained that the Box required too important efforts from them, as the authors of the Box specified in a subsequent clarification publication that “a substantial deviation from baseline in all regions” means a 15 – 30% reduction by 2020. The EU then used this paper to request the Global South to carry out these reductions, which they eventually refused, as they believed these

1802 Lahna B and Sundqvist G, “Science as a ‘fixed point’? *op cit* (2017), p 12.

1803 *Ibid.*

results came too close to the reductions Western countries needed to implement¹⁸⁰⁴.

With some distance, developing countries may have misunderstood these findings, as the IPCC authors clarified that they did not have to bear the financial burden themselves regarding the indicated 15-30% reduction. Instead, they argued that Annex I countries need to meet the indications either way (whether domestically or through funding reductions overseas¹⁸⁰⁵) and that they should also take care of the indicated reduction in the developing world, through climate finance. In other words, if Annex I countries fund the reductions for Non-Annex I regions (through the Clean Development Mechanism of the Kyoto Protocol or other mechanisms), they can only come in addition to their own proper reductions.¹⁸⁰⁶

In 2009, the COP 15 Copenhagen Accord officially established that, to avoid dangerous levels of warming, the increase should not exceed 2°C¹⁸⁰⁷. Does this political-diplomatic recognition mean a need to limit global warming to 2°C? This doctoral thesis agrees since the COP interpreted the core objective of the UNFCCC, which is enshrined in Article 2. Furthermore, since then, the “2°C target” has been considered as an official target, requiring “deep cuts”. The Copenhagen Accord also called for equity consideration in this context, and even mentioned the 1.5°C limit¹⁸⁰⁸.

However, at COP 15, negotiators failed to draft a follow-up binding agreement to the KP, as the commitment period was planned to end in 2012. Thus, State parties did not agree on precise and adequate GHG reduction objectives.

In 2010, COP 16 adopted the Cancun agreements, which “urged” developed countries to reduce their emissions by 25% by 2020 compared to 1990 to limit global warming to 2°C, by referencing the Bali Box directly in the decision¹⁸⁰⁹.

1804 *Ibid*, p 15.

1805 Den Elzen M and Höhne N, “Reductions of greenhouse gas emissions in Annex I and non-Annex I countries for meeting concentration stabilisation targets: An editorial comment”, *Climatic Change* (2008) 91, p 263.

1806 *Ibid*, p 271.

1807 COP 15 Decision (Copenhagen Accord), *FCCC/CP/2009/11/Add.1*, 18 December 2009, p 5, § 1.

1808 *Ibid*, p 7, § 12.

1809 COP 16 Decision, *The Cancun Agreements*, Decision 1/CMP.6, 2010 (including “Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its fifteenth session”).

The relevant legal question for this thesis is as follows: does CDD require developed States to reduce GHG emissions by at least 25% by 2020 compared to 1990 jointly and/or individually, given that AR4 highlighted some harmful impacts beyond 1.5°C and 2°C, but also since the COP 13 (2009) recognised the necessity to limit global warming to 2°C, and since COP 16 urged countries to reduce their emissions by 25%?

Findings: Although one needs to remember that the Cancun Agreements were not binding, State parties still recognised the need to reduce developed countries' emissions by 25%. The recent COP 28 decision also found that the IPCC "had earlier indicated that developed countries must reduce emissions by 25–40 per cent below 1990 levels by 2020"¹⁸¹⁰. The Cancun COP decision was sufficient to make this target legally relevant under *general* CDD, as the Dutch courts confirmed in the *Urgenda* case, the Brussels Appeals Court in *Klimatzaak* and the Grand Chamber of the ECtHR in *Klimasenioren*¹⁸¹¹. In any case, CDD is required to adequately mitigate global warming by setting the right policies to advance and share technological progress, cooperate internationally, incentivise behavioural conduct and control GHGs. However, individual actors seem to have omitted the implementation of these measures. To ascertain this with more confidence, one needs to undertake further research to assess the adequacy of specific individual measures over time (see, however, the complementing analyses regarding compliance with GHG reduction obligations of the UN-FCCC, KP and Bali Box above).

Furthermore, in 2011, a *climate advisory opinion* was discussed within the UN and the legal literature. The Republic of Palau attempted to request such an opinion by initiating a campaign on that issue around 2011¹⁸¹². After having introduced the debate, the USA "blackmailed" Palau by letting it understand that it would stop foreign development aid if the small island Pacific State had gone forward with its request¹⁸¹³.

1810 COP 28, "First Global Stocktake", FCCC/PA/CMA/2023/L.17, 13 December 2023, § 17.

1811 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019; Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023, p 90; ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 558.

1812 Maljean-Dubois S, "Climate Change Litigation" (2019) *Max Planck Encyclopedia of Procedural Law* § 14.

1813 Mayer B, *The International Law on Climate Change* (Cambridge University Press 2018).

This manifestation of power is unacceptable. Since the USA knew – or should have known – that its CDD obligation was manifestly being breached due to its several withdrawal of climate mitigation measures (i.e., the reduction of subsidies directed to the solar energy industry in the 1980s; see Part 3 for further analysis), its opposition to international cooperation (i.e., its refusal to negotiate a carbon tax before the UNFCCC adoption, the rejection of the Kyoto Protocol, see Part 3 for further analysis), the blackmailing of Palau may be interpreted as a further *aggravated* violation of the due diligence obligation, namely its duty to cooperate in good faith component. Beyond the USA, developed state representatives “repeatedly opposed any discussion of the general legal principles applicable to climate change, arguing that such discussion would hinder international negotiations.”¹⁸¹⁴ In any event, the UNGA resolution 2023 requesting this opinion seems, therefore, a welcome development¹⁸¹⁵. In any case, the misuse of power by the USA – or others – which tried to hinder international legal developments, within the political realm of the COP, the UNGA, or the ILC, may also constitute a CDD breach¹⁸¹⁶.

3.2.3.3 The 2012 refusal of numerous developed countries to recommit under the Doha Amendment

In 2012, State Parties to the KP aimed to define another commitment period for 2012 – 2020.

Some European countries recommitted, including the EU Member States in addition to European countries (Iceland, Liechtenstein, Norway and Switzerland). Furthermore, some former Soviet Republics also recommitted

1814 Mayer quotes the following examples (Mayer B, “The Applicability of the Principle of Prevention to Climate Change: A Response to Zahar” (2015) 5 *Climate Law* p 21, footnote 107): Petr Válek (Czech Republic), in the summary record of the 18th meeting of the Sixth Committee of the un General Assembly’s 68th session, un Doc. a/c.6/68/sr.18 (2013), para. 102; and Andrea Tiriticco (Italy), and Todd Buchwald (United States), in the summary record of the 19th meeting of the Sixth Committee of the un General Assembly’s 68th session, un Doc. a/c.6/68/sr.19 (2013), paras. 10 and 118.

1815 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 14.

1816 See the ILC’s mandate for this work (ILC, sixty-fifth session, Supplement No. 10 (A/68/10), (6 May–7 June and 8 July–9 August 2013).

(Belarus, Kazakhstan, Ukraine), including those which later joined the EU¹⁸¹⁷, except Russia (see footnote 16 of the Doha Amendment).

Australia stated that it would only have recommitted under certain conditions (see footnote 3 of the Doha Amendment).

Other industrialised countries, such as Canada, Japan, and New Zealand, did not recommit (see footnote 13 – 15 of the Doha Amendment), which is not surprising, as they were not complying with the KP reduction obligation (see above, subsection 1.2.2.2 on the KP). Regarding the USA, it previously refused to ratify the Kyoto Protocol, allegedly due to the lack of concrete obligations for developing country parties. Therefore, the USA did not participate in negotiations on the Doha Amendment¹⁸¹⁸.

All the former Soviet Republics, which recommitted under the Doha Amendment, including those which joined the EU, did not have to carry out any climate measures for this purpose. In fact, a significant part of their industrial activity ceased after 1990, especially numerous high-emitting industrial activities. This economic breakdown led to substantial GHG reductions between 1990 and 2010 (almost 50% of GHG reductions in the former USSR countries¹⁸¹⁹).

Hence, the Doha Amendment essentially recommitted European States working with the EU under the ETS to *jointly* achieve a 20% reduction in GHG by 2020 compared to 1990 (footnote 4 of the Doha Amendment). However, this target is below the indications of the Bali-Box, requiring at least -25%, and it was particularly easy to achieve it for the EU, as the former Soviet Republics, which joined the EU, and whose industries broke

1817 Poland, Hungary, Romania, Bulgaria, Slovenia, Slovak Republic, Czechia, Croatia, Estonia, Lithuania, and Latvia.

1818 See the IPCC's confirmation of this fact as well: IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173.

1819 See the respective data of each country on the website of the IEA at this address: <https://www.iea.org/countries/russia/>; See how emissions fell after 1990 for former USSR countries: Climate Action Tracker (CAT), Kazakhstan, <https://climateactiontracker.org/countries/kazakhstan/>, last accessed 19 January 2025; CAT, Russian Federation, <https://climateactiontracker.org/countries/russian-federation/>, last accessed 19 January 2025; CAT, Ukraine, <https://climateactiontracker.org/countries/ukraine/2021-12-13/>, last accessed 19 January 2025.; see more generally this piece of the scientific literature: Schierhorn F et al, "Large greenhouse gas savings due to changes in the post-Soviet food systems", *Environmental Research Letters* 14 065009 (2019).

down, artificially reduced the EU GHGs for the reasons noted above¹⁸²⁰. Notably, the EU would have committed to -30% if other developed countries had committed to similar reduction levels and if developing countries had “contribute[d] adequately according to their responsibilities and respective capabilities” (see footnote 7 of the Doha Amendment). Iceland, Liechtenstein, and Switzerland laid out similar incentives (see footnotes 8 – 11 of the Doha Amendment). Norway even proposed a GHG reduction target of -40% if “major emitting Parties agree on emission reductions in line with the 2°C target” (see footnote 10 of the Doha Amendment), despite not even complying with the KP in 2020¹⁸²¹.

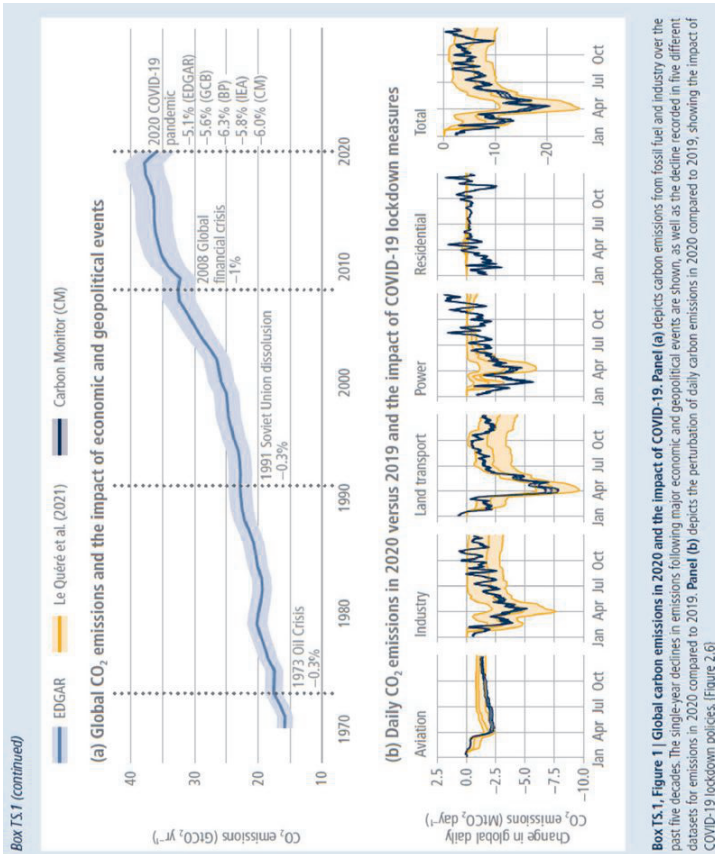
Even though the EU met its 20% reduction commitment according to the most recent and official data (the EU actually even achieved a 30% reduction by 2021¹⁸²²), one needs to remind that the exogenous factors such as the USSR breakdown in 1989, the financial crisis in 2008 and the COVID-19 pandemic in 2020-22¹⁸²³ significantly contributed to these reductions. These events even impacted global emissions, but more acutely the EU (see below).

1820 “West Germany” merged with “East Germany” in 1991, and in 2004 the following countries accessed the EU: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia; in 2007: Bulgaria, Romania; and in 2013: Croatia.

1821 See the GHG reduction profile of Norway by the CAT: <https://climateactiontracker.org/countries/norway/>, last accessed 19 January 2025.

1822 European Environment Agency, “EEA Greenhouse Gases”, *op cit*.

1823 See concurring opinion: Mayer B, “Construing International Climate Change Law as a Compliance Regime” (2018) 7(1) *Transnational Environmental Law* p 130 referring to : I. Shishlov, R. Morel & V Bellassen, ‘Compliance of the Parties to the Kyoto Protocol in the First ‘Commitment Period’ (2016) 16(6) *Climate Policy*, pp 768–82. Economic studies, however, suggest that the developed state parties to the Kyoto Protocol have, on average, emitted 7% or 8% less GHG than other states during that period: N. Grunewald & I. Martinez-Zarzoso, ‘Did the Kyoto Protocol Fail? An Evaluation of the Effect of the Kyoto Protocol on CO2 Emissions’ (2015) 21(1) *Environment and Development Economics*, pp 1–22; R. Aichele & G. Felbermayr, ‘Kyoto and the Carbon Footprint of ‘Nations’ (2012) 63(3) *Journal of Environmental Economics and Management*, pp 336–54.



Source: IPCC, AR6, WG III, TS, Box TS.1.

Were the developed countries obliged to achieve at least 25% emissions reductions by 2020 under any circumstances, including individually, as Dutch courts found in *Urgenda*, and as the Brussels Court of Appeal and the ECtHR have broadly confirmed it? Did the refusal to recommit and the low and conditional commitments under the Doha Amendment breach CDD obligations?

Findings:

One might argue that the 25% reduction figure for all EU countries individually was a bare minimum since the wider EU benefited from numerous different facilitating exogenous factors (i.e., the EU enlargement through the former Soviet Republics, the 2008 financial crisis, and the 2020 COVID crisis). In particular, it seems arguable that the initial members of the EU (France, Germany, Belgium, the Netherlands, Luxembourg, and Italy), in

addition to other very wealthy EU countries (Denmark, Sweden, and the UK), which have high economic capabilities and a rich industrial past, must at least have achieved a 25% reduction individually following the *Urgenda* outcome.

However, CDD goes far beyond simply requiring numerical compliance with this figure. It is indeed necessary to show the effective implementation of substantive and effective mitigation measures (i.e., development and use of low-carbon technologies) to comply with Article 4 UNFCCC and Article 2 KP, and ultimately CDD. Given that Spain, Portugal, Greece, Cyprus, and the former USSR countries had to go through economic difficult times, their individual CDD requirements were likely lower. Nevertheless, they must show that they did everything they could to reduce their GHG since 1990 while pursuing more sustainable industrialisation, like other EU countries. Although more granular and individual breach findings are out of the scope of this thesis, this PhD can add that the entire EU may be found in violation of CDD because it formally adopted its first mitigation measures only by 2001 (promotion of renewables) and 2003 (EU ETS), and because some countries may have remained inactive individually.

Regarding the other developed countries, the COP 28 confirmed that developed countries in general did not reduce their emissions by at least 25%, as indicated in the Bali Box¹⁸²⁴. There are compelling reasons to believe that the *Urgenda* outcome is equally applicable to other developed countries, as the IPCC and the COP did not restrict their indications to solely the EU. Moreover, all developed countries – except the EU – did not meet their KP's reduction obligations territorially. Since CDD arguably required domestic reductions in priority, further CDD breaches could be argued. Moreover, numerous developed countries did not recommit under the Doha Amendment, nor did they enact enough substantive mitigation measures. Thus, breaches of Article 4 UNFCCC, Article 2 KP and CDD seem as likely – or even more likely – for those countries.

Concerning Russia and all other former USSR countries, which numerically complied with the 25% reduction figure by 2020, they still may have breached CDD over time due to a lack of implementation of substantive mitigation measures as well. Thus, breaches of Article 4 of the UNFCCC, Article 2 of the KP and CDD appear likely for these countries as well.

1824 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 17.

Note that this compliance analysis is restricted in this subsection to States concerning domestic mitigation measures for territorial emissions. It did not consider the State's extraterritorial emissions at all (see UN-HRTB obligations in Part 2.2, which is likely part of CDD as well), nor the obligations to assist developing countries in mitigation and adaptation (enshrined in paragraphs 3 – 9 of Article 4 of the UNFCCC and part of the CDD concept), nor the conduct of private actors, which certainly also violated their CDD obligations due to their ongoing lobbying activities, greenwashing, lack of substantive mitigation measures and other failures¹⁸²⁵.

Lastly, the international community should have started concrete negotiations on an alternative framework, as it was clear that the USA and other countries like Canada were dismissing any international cooperation in the framework of the KP or the Doha Amendment. Given that the COP did not develop a substitute for the KP until the adoption of the PA in 2015, all States may be found in violation of CDD due to a lack of individual and collective efforts to solve the issue.

3.2.4 Provisional conclusion on CDD's historical shortcomings between 1988 and 2015

This period saw the publication of the first IPCC reports and climate conventions, but numerous implementation shortcomings, which potentially violated climate treaties and *general* CDD. In fact, the international community did not implement the 1988 Toronto call for a 20% cut in CO₂ emissions by 2005 compared to 1988. Instead, global emissions rose significantly, by more than 50% until 2019¹⁸²⁶. This situation may characterise the first substantive *collective* and *individual* failures.

Additionally, the first IPCC report in 1990, although very important, could only confirm the “natural greenhouse effect”¹⁸²⁷. Nonetheless, it has still recommended international and domestic efforts to reduce GHGs (see subsection 3.2.1.2.3).

1825 Supran G and Oreskes N, “Addendum to ‘Assessing ExxonMobil’s climate change communications (1977–2014)’”, *Environmental Research Letters* 15 (2020) 119401; Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021), p 6.

1826 IPCC, AR6, WG III, TS, Figure TS2, p 59.

1827 IPCC, AR1 (1990), WG III, Overview (SYR), § 1.0.1.

Despite this recommendation, the US federal government and Environmental Protection Agency (EPA) refused to regulate GHGs by pointing, among others, to the lack of certainty concerning anthropogenic warming in the years 1990 and 2000¹⁸²⁸, and to the reluctance of developing country parties to reduce their own emissions¹⁸²⁹. In parallel, many important industrial actors in the USA highlighted the uncertainty of climate physical science while publicly calling against climate regulations¹⁸³⁰. These different refusals to take climate action, or opposition to it, likely constitute individual *general* CDD breaches.

Additionally, although the European Commission proposed a carbon tax in the 1990s, the EU ultimately dismissed it, allegedly because of the US refusal to regulate this sector, and the lobbying of the fossil fuel industry¹⁸³¹. While the USA's refusal may count as a diminishing factor, *general* CDD still requires individual action as long as it is reasonable and proportionate. Instead of putting its regulation entirely on hold, the EU and its Member States *could* have led by example, by pressuring the US more, or at least by adopting further unproblematic “non-regret” measures not at risk of any carbon leakage, such as incentives and programs to develop low-carbon alternatives, which occurred only in 2001. Similarly, the private industry in Europe should not have lobbied against the proposed European eco-tax and further regulations¹⁸³². The USA enacted corresponding measures only by 2022, with the so-called “Inflation Reduction Act” setting up a large corresponding program to fund the development and implementation of decarbonisation techniques. Thus, one may use the evidence to argue CDD breaches by the USA, the EU, and private actors who lobbied against those regulations.

In 1992, the international community adopted the UNFCCC, the first climate convention and, in 1997, the Kyoto Protocol. The adoption of both international instruments may correspond to a period in which the global community approached collective compliance with CDD. However, the re-

1828 SCOTUS, *Massachusetts v EPA*, 549 U. S. (2007), p 10.

1829 *Ibid.*

1830 Supran G and Oreskes N, “Addendum to ‘Assessing ExxonMobil’s climate change communications (1977–2014)’”, *Environmental Research Letters* 15 (2020) 119401; Franta B, “Early oil industry disinformation on global warming”, *Environmental Politics* (2021) Vol 30, No 4, p 663–668

1831 Bonneuil C, Choquet P-L, Franta B, “Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021”, *Global Environmental Change* 71 (2021).

1832 *Ibid.*

duction obligations of these instruments were, in terms of ambition, below those of the Toronto conference. Additionally, individual breaches tainted this period, notably those by the USA, which never ratified the Kyoto Protocol. The USA even refused to regulate GHGs in the 1990s, after having repealed or significantly reduced solar energy support in the 1980s. Private actors, including fossil fuel businesses, and business associations such as the API and the Global Climate Coalition, also opposed climate action in the USA and beyond. These actions undoubtedly prompted the US to reject the Kyoto Protocol, seriously damaging international cooperation, and very likely constituting further CDD breaches. Moreover, no developed countries (except the former USSR countries) respected the UNFCCC obligation to bring down their emissions below 1990 by 2000, constituting a further ground to seek their shared and individual responsibility, including under the UNFCCC¹⁸³³. What's more, many developed countries (USA, Canada, Australia, New Zealand, Japan¹⁸³⁴) did not cut their *territorial* emissions by 5% by 2012; they profited from the available flexibilities under the so-called Clean Development Mechanism¹⁸³⁵ of the Kyoto Protocol. These issues may result in *general* CDD breaches. Lastly, numerical compliance with the Kyoto Protocol's reduction obligation was particularly easy for the EU, since the former USSR States, which experienced significant GHG reductions after a deindustrialisation process in the 1990s, joined the EU¹⁸³⁶. The lack of proper and sufficient mitigation policies in the EU may further ground CDD breaches.

In AR4 (2007), the IPCC removed any uncertainty surrounding the existence of global warming as it found *with very high confidence* that humans were responsible for it¹⁸³⁷. Moreover, the AR4 and its so-called “Bali box”, in addition to the subsequent COP decisions (Bali, Copenhagen,

1833 Maljean-Dubois S, “Climate Change Litigation” (2019) *Max Planck Encyclopedia of Procedural Law* § 17.

1834 Note that all countries complied formally with the Kyoto Protocol's reduction obligation, but only by using its flexibilities, as GHGs continued to grow in those countries well beyond 2012 (and still today for some); see IPCC, AR6 (2021-23), WG III, Chapter 14, p 1462.

1835 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1476.

1836 A significant portion of the former USSR's industrial activity ceased after 1990, leading to almost 50% of GHG reductions in some former USSR countries. See concurring opinion: Rosen A M, “The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change”, *Politics & Policy* (Wiley Online Library, 2015).

1837 IPCC, AR4 (2007), WG I, SPM, p 3.

Cancun), made clear that there was a need to go way beyond the reductions prescribed by the Kyoto Protocol by recommending a reduction of GHGs by at least 25% in 2020 compared to 1990 for developed countries. Nonetheless, developed states neither complied individually nor jointly with those figures according to the Global Stocktake of the COP 28¹⁸³⁸, with very rare exceptions (the EU only achieved numerical compliance thanks to external factors such as the joining by former USSR countries, the 2008 financial crisis and the 2020 COVID crisis). Note that this scientific basis (“Bali-box”) constituted the evidence of the injunction against the Netherlands in the *Urgenda* case.

Numerous developed countries (Canada, Japan, New Zealand, and the USA) did not recommit under the Doha Amendment to the Kyoto Protocol, except the EU, which did not seem to act enough, though. Overall, global emissions kept on rising, aggravating the ongoing individual CDD breaches found above, and therefore showing a need to find a replacement to the Kyoto Protocol to ensure global GHG reductions.

3.3 2014 – 2025: *The persisting individual and collective substantive insufficiencies after the Paris Agreement’s adoption*

Section 3.3.1 addresses AR5 (2014), which reinforced the CDD duty to accelerate substantive climate mitigation efforts in order to hold global warming well under 2°C, if not 1.5°C.

Section 3.3.2 finds that the global community returned to compliance with *procedural* CDD by adopting the PA; nonetheless, since the world was not – and still is not – on track to achieve the PA’s LTTG (4°C of warming was projected in 2015 and 2.4°C in 2023), and since best efforts to limit warming to 2°C were not carried out, the international community and key individual actors presumably remain in *substantive* non-compliance with CDD.

Section 3.3.3 argues furthermore that the international community complied with *procedural* CDD after COP 21 requested that the IPCC issue a special report on the consequences of overstepping the 1.5°C threshold, leading to a general recognition that it is necessary to limit global warming to 1.5°C, ultimately creating a momentum in favour of reinforced climate

1838 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 17.

action. However, humanity's actions still conflict with substantive CDD, as its concrete objectives lead in 2023 to roughly 2.4°C.

The last section 3.3.4 briefly touches upon the recent decisions of the COP in the years 2018-23 on the so-called Paris Rulebook, climate finance, loss and damages, and private actors, compares them with the latest AR6, and finds additional collective and individual CDD breaches.

3.3.1 The 2014 IPCC AR5 laying out high risks if the 2°C threshold is overstepped

The AR5 foreword directly addressed the most pressing issue by stating that “stabilizing temperature increase to below 2°C relative to pre-industrial levels will require an urgent and fundamental departure from business as usual.”¹⁸³⁹ This statement showed right at the beginning of the IPCC report that there was a political and scientific consensus on the need to limit global warming to 2°C and that the measures back then were drastically insufficient, as they were leading to 4°C of warming¹⁸⁴⁰.

CDD collective breach finding: Thus, right at the beginning of this report, the IPCC clarifies the evidence to find collective non-compliance with substantive CDD.

Concerning climate-related impacts (WG I):

The IPCC reaffirmed that “[w]arming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.”¹⁸⁴¹

As to the causes of climate change, the IPCC stated that human activities are “*extremely likely*” responsible for it:

“Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system

1839 IPCC, AR5 (2014), p v.

1840 *Ibid*, SYR, SPM, p 13 and 18.

1841 IPCC, AR5 (2014), SYR, SPM, p 2.

and are *extremely likely* to have been the dominant cause of the observed warming since the mid-20th century.”¹⁸⁴²

A worrying development was the continued increase of GHG “despite a growing number of climate change mitigation policies”.¹⁸⁴³

The IPCC further determined that climate change “caused impacts on natural and human systems on all continents and across the oceans.”¹⁸⁴⁴ In addition, global warming triggered “many extreme weather and climate events have been observed since about 1950”¹⁸⁴⁵. For instance, heat waves more than doubled in some locations.

Concerning future climate-related risks and impacts (WG II):

To introduce the WG II Work, the IPCC recalled one of its main findings as to the causes of warming and the measures to mitigate the risks: “Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.”¹⁸⁴⁶

The IPCC also compared the main global warming risks between past levels (2014), near-term levels (2030 – 2040) and long-term (comparison between 2°C and 4°C)¹⁸⁴⁷. While the chart sets out lower risks for 2°C levels of warming than 4°C, it still shows substantially higher risks for 2°C compared to present or near-term levels.

The IPCC underlined the inequalities due to economic differences between countries, and people in the same country: “Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development.”¹⁸⁴⁸

More precisely, concerning the risks on the ecosystems as such, the IPCC indicated that “[a] large fraction of species faces increased extinction risk due to climate change during and beyond the 21st century, especially as

1842 *Ibid*, p 4.

1843 *Ibid*, p 5.

1844 *Ibid*, p 6.

1845 *Ibid*, p 8.

1846 *Ibid*, p 7.

1847 *Ibid*, p 14 Figure SPM.8.

1848 *Ibid*, p 12.

climate change interacts with other stressors (high confidence)”¹⁸⁴⁹ This statement underlined the risks of species extinction on both plant and animal life (*fauna* and *flora*). In addition, it also hinted at the combined risks with other factors, leading to “cascading impacts”. In other words, climate change often increases some risks.

Concerning the risks to the population¹⁸⁵⁰, the IPCC highlighted the issue of water scarcity and food security due to the problems with ecosystem services, especially fisheries. Concerning the productivity of some basic crops (wheat, rice and maize), the IPCC determined that almost all regions will face significant challenges with a 2°C warming without adaptation, but that 4°C of warming, “combined with increasing food demand, would pose large risks to food security globally (*high confidence*)”.

In addition, the IPCC also recalled that global warming undermines global poverty reduction and economic growth¹⁸⁵¹. This factor underlines the need for climate mitigation since the UNFCCC and the Paris Agreement (2015) called for sustainable development and the fight against poverty (see notably, Article 4 (7) UNFCCC, Article PA). This finding should have even led to climate action in the developing world, although the UNFCCC labels economic development and poverty reduction as overriding priorities for developing countries in Article 4 (7).

Lastly, the IPCC stated that extreme weather events and other climate-related impacts will substantially increase climate migration, by associating this finding with “medium evidence, [but with] high agreement”. It also stated with less confidence, though, that this kind of event “can indirectly increase risks of violent conflicts”¹⁸⁵².

Concerning climate mitigation (WG III):

The IPCC started its summary by recalling the core findings on the benefits of climate mitigation to reduce the warming risks: “Substantial emissions reductions over the next few decades can reduce climate risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term and contribute to climate-resilient pathways for sustainable development.” More precisely, on balance, the IPCC makes the case for GHG reductions by finding more “pros” than “cons”:

1849 *Ibid*, p 12.

1850 *Ibid*, p 13.

1851 *Ibid*, p 16.

1852 *Ibid*, p 16.

“Without additional mitigation efforts beyond those in place today, and even with adaptation, warming by the end of the 21st century will lead to high to very high risk of severe, widespread and irreversible impacts globally (high confidence). Mitigation involves some level of co-benefits and of risks due to adverse side effects, but these risks do not involve the same possibility of severe, widespread and irreversible impacts as risks from climate change, increasing the benefits from near-term mitigation efforts.”¹⁸⁵³

The IPCC stressed here that adaptation as such is not enough, reinforcing the narrative on the need for global emission reductions.¹⁸⁵⁴ Still, the IPCC also issued at the same time something akin to a disclaimer on the unavoidable risks even in the case of sustained mitigation, as “some risks from climate damages are unavoidable, even with mitigation and adaptation.”

Concerning the global emission reduction pathways to “below 2°C”, the IPCC stated that they are feasible but also challenging¹⁸⁵⁵. The IPCC stated that these challenges are of technological, economic, social and institutional order, which only increase if those measures are delayed. The common characteristic of those pathways is that they “require substantial emissions reductions over the next few decades and near zero emissions of CO₂ other long-lived greenhouse gases by the end of the century.”

Then, the scientists recalled that if the international community does not reduce emissions, global temperatures may reach 4°C, which would entail serious dangers, as shown above¹⁸⁵⁶. More precisely:

“global emissions growth is expected to persist, driven by growth in global population and economic activities. Global mean surface temperature increases in 2100 in baseline scenarios—those without additional mitigation—range from 3.7°C to 4.8°C above the average for 1850–1900 for a median climate response. They range from 2.5°C to 7.8°C when including climate uncertainty.”¹⁸⁵⁷

The IPCC studied 2°C scenarios due to the political consensus around them at that time (see the previous discussions on the Bali Box). The so-called 2°C scenarios are generally consistent with 450 ppm CO₂eq sce-

1853 *Ibid*, p 17.

1854 *Ibid*, p 19.

1855 *Ibid*, p 20.

1856 *Ibid*, p 13.

1857 *Ibid*, p 20.

narios (CO₂ eq refers to the CO₂ and other GHG concentrations in the atmosphere).

Table SPM.1 | Key characteristics of the scenarios collected and assessed for WGIII AR5. For all parameters the 10th to 90th percentile of the scenarios is shown ^a. (Table 3.1)

CO ₂ -eq Concentrations in 2100 (ppm CO ₂ -eq) ^f Category label (conc. range)	Subcategories	Relative position of the RCPs ^d	Change in CO ₂ -eq emissions compared to 2010 (in %) ^c		Likelihood of staying below a specific temperature level over the 21st century (relative to 1850–1900) ^{4,e}			
			2050	2100	1.5°C	2°C	3°C	4°C
<430	Only a limited number of individual model studies have explored levels below 430 ppm CO ₂ -eq ⁱ							
450 (430 to 480)	Total range ^{h,g}	RCP2.6	–72 to –41	–118 to –78	More unlikely than likely	Likely	Likely	Likely
500 (480 to 530)	No overshoot of 530 ppm CO ₂ -eq		–57 to –42	–107 to –73	Unlikely	More likely than not		
	Overshoot of 530 ppm CO ₂ -eq		–55 to –25	–114 to –90		About as likely as not		
550 (530 to 580)	No overshoot of 580 ppm CO ₂ -eq		–47 to –19	–81 to –59		More unlikely than likely ⁱ		
	Overshoot of 580 ppm CO ₂ -eq		–16 to 7	–183 to –86				
(580 to 650)	Total range	RCP4.5	–38 to 24	–134 to –50	Unlikely		More likely than not	
(650 to 720)	Total range		–11 to 17	–54 to –21		Unlikely		
(720 to 1000) ^b	Total range	RCP6.0	18 to 54	–7 to 72		Unlikely ^b		More unlikely than likely
>1000 ^a	Total range	RCP8.5	52 to 95	74 to 178	Unlikely ^a		Unlikely	More unlikely than likely

Source: IPCC, AR5 (2014), SYR, Table SPM.1, p. 22.

Although the IPCC indicated that many pathways exist to limit global warming to 2°C, it still underscored in a larger and bold font the associated “substantial technological, economic, social and institutional challenges”¹⁸⁵⁸. In its more precise statements, the IPCC even indicated that the economic costs generally “increase with the stringency of mitigation”.¹⁸⁵⁹ Besides, the IPCC stated that 2°C scenarios “entail losses in global consumption”, increasing in time by 1.7% by 2030 to 4.8% in 2100. Clearly, these indications may affray governments again, after the delicate indications of AR3. In addition, the IPCC specified that the lack of “mitigation technologies” (meaning CCS and BECCS (bioenergy combined with CCS), but also nuclear, wind/solar) increases the transition costs. The IPCC even indicated that “[m]any models could not limit likely warming to below

1858 *Ibid*, p 20.

1859 *Ibid*, p 24.

2°C if bioenergy, CCS and their combination (BECCS) are limited (high confidence)”¹⁸⁶⁰.

On the other hand, the IPCC also highlighted the “co-benefits” of climate mitigation, improving air quality, ecosystem protection, and energy security. The IPCC also stated that the CCS availability may reduce the financial risks (including stranded asset risks) for fossil fuel companies.¹⁸⁶¹

The IPCC shortly highlighted the great risks of using geoengineering techniques, or SRM [Solar Radiation Management], which aim to spread aerosols and increase the albedo effect to cool down the weather. For the IPCC, they “entail numerous uncertainties, side effects, risks and shortcomings and ha[ve] particular governance and ethical implications. SRM would not reduce ocean acidification. If it were terminated, there is high confidence that surface temperatures would rise very rapidly, impacting ecosystems susceptible to rapid rates of change.”¹⁸⁶²

The IPCC eventually issued a subsection in its SYR on the “Common enabling factors and constraints for adaptation and mitigation responses”, which pretty much constitutes a recommendation on making climate policies effective. In this section, the IPCC underscored its findings that no single adaptation and mitigation measure “is sufficient by itself”. The IPCC highlights in a larger and bold font that “[e]ffective implementation depends on policies and cooperation at all scales”¹⁸⁶³. Thus, as identified in the introduction, tackling climate change requires a high level of polycentricity, meaning a holistic and systemic set of policies, like a spider’s web.

Moreover, the IPCC believes “[w]ell-designed systemic and cross-sectoral mitigation strategies are more cost-effective in cutting emissions than a focus on individual technologies and sectors, with efforts in one sector affecting the need for mitigation in others (medium confidence).” Beyond the cross-sectoral energy sector, there is also the land-use sector, whose carbon sinks need to increase. More generally, “[m]itigation options are available in every major sector”¹⁸⁶⁴; improvements in terms of “coordination and cooperation in governance” on the domestic and international level are helpful; and significant investments are needed to limit global warming to 2°C¹⁸⁶⁵. Thus, it is necessary to tackle both energy supply and

1860 *Ibid*, p 24.

1861 *Ibid*, p 25.

1862 *Ibid*, p 26.

1863 *Ibid*, p 26.

1864 *Ibid*, p 28.

1865 *Ibid*, p 30.

demand, meaning “reduce energy use and the greenhouse gas intensity of end-use sectors”, i.e., decarbonisation, energy efficiency and behavioural changes¹⁸⁶⁶.

To carry out this holistic and polycentric approach, numerous means can be deployed. For instance, to combat “the inertia in many aspects of the socio-economic system [...] innovation and investments in environmentally sound infrastructure and technologies can reduce GHG emissions and enhance resilience to climate change (very high confidence)”¹⁸⁶⁷. Furthermore, the general culture influences the social acceptability of climate policies, showing the need for “regionally appropriate changes in lifestyle or behaviours”¹⁸⁶⁸. Concerning this latter point, the IPCC used here the term “incentivising” instead of “mandating”. An important debate in democracies, especially after the COVID pandemic, concerned the extent to which the State should intervene in triggering these changes. The “ecological dictatorship” or “eco-authoritarianism” crystallised significant attention¹⁸⁶⁹.

In the “energy supply sector”, the share of low-carbon energy (renewables, bioenergy, CCS, BECCS, nuclear) must significantly increase¹⁸⁷⁰. The IPCC indicated that no fossil fuel without CCS can remain in a 2°C scenario by 2100. Concerning energy demand, its reduction is “an important element” as it enabled flexibility in the management of the energy transition, “avoid[ing] lock-in to carbon-intensive infrastructures” and providing multiple other advantages¹⁸⁷¹.

Regarding global equity, the IPCC addresses this topic in a more elusive manner, and only in the full report. Although it explains the methodology for assessing national fair shares, the full report does not provide precise

1866 *Ibid.*, p 26.

1867 *Ibid.*

1868 *Ibid.*

1869 This term arises in numerous political contexts and adoption of policies (the debate on reducing energy and meat consumption can trigger strong social opposition (see the yellow vest movement in 2018-19 in France or the debate about reducing meat consumption in Germany); the issue on the need to safeguard employments also led to the conceptualisation of the term just transitions for workers). Even lawyers increasingly address the need to safeguard basic liberties when implementing climate policies (Mayer Mayer B, “Climate Change Mitigation as an Obligation under Human Rights Treaties?” (2021) 115(3) *American Journal of International Law* DOI: 10.1017/ajil.2021.9; Hautereau-Boutonnet M, “La lutte contre le réchauffement climatique ferme la porte à tout débat sur l’atteinte aux libertés individuelles à laquelle elle conduit” (2023) *Le Monde*).

1870 IPCC, AR5 (2014), SYR, SPM, p 28.

1871 *Ibid.*, p 29.

reduction indications, akin to those in AR4, leaving this matter to the political process. Thus, compared to the previous edition, the IPCC restricted its indications, although numerous equity results were available in the literature.

Finding: When it issued AR5, the IPCC clarified that there was almost no uncertainty concerning man-made global warming anymore. It also made clear that warming beyond 2°C would be very dangerous. There was, therefore, a CDD *general* duty to limit global warming to well below 2°C (see corresponding findings by the Dutch courts in *Urgenda*, the Brussels Appeals Court in *Klimatzaak*). Collectively, the world was not on track with a 2°C pathway, thus leaving the door open for finding individual violations of this duty (see also the previous breach findings for individual developed states and other private actors in the subsections on the UNFCCC, KP, and Doha Amendment above).

3.3.2 The 2015 Paris Agreement, not enough to ensure substantive compliance with CDD

The international community adopted the Paris Agreement (PA) in 2015. Currently, 194 States have ratified the treaty, making it almost universally applicable.

As opposed to the KP, which is a top-down agreement that directly sets out the emission reduction targets for some State parties¹⁸⁷², the PA is taking a somewhat bottom-up approach as it does not impose any short-term GHG reduction obligations but only a long-term temperature target (LTTG), therefore, leaving – *inadmissible?* – room for manoeuvre for its State Parties¹⁸⁷³.

1872 Bodansky D, “Climate Change Transnational Legal Order or Disorder?” in Terence C Halliday and Gregory Shaffer (eds), *Transnational Legal Orders* (Cambridge University Press 2015), p 302.

1873 Voigt C and Ferreira F, “Dynamic Differentiation: The Principles of CBDRRC, Progression and Highest Possible Ambition in the Paris Agreement”, *Transnational Environmental Law*, 5(2), 2016.

3.3.2.1 The absence of alignment with the PA's objectives, potentially constituting substantive CDD violations

Certainly, the most quoted provision of the PA is its Article 2, which lays out the temperature goal (LTTG):

“This Agreement [...] aims to strengthen the global response to the threat of climate change [...] by:

- (a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;
- (b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
- (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.”

As the quoted article shows, the PA's objectives do not only encompass the LTTG on climate mitigation (i), but also adaptation (ii), and finance (iii), and this, for mitigation and adaptation. This triptych structures the procedural and substantive obligations of the remainder of the agreement.

Moreover, paragraph 2 of Article 2 recalls on its end the equity and CBDRRC principle, by stating that the PA's implementation will reflect those. This provision establishes a general expectation without imposing any concrete obligation¹⁸⁷⁴.

The cross-cutting Article 3 then makes the junction with the remainder of the treaty's expectations, providing that State Parties will implement the agreement in an ambitious manner (i), by constantly progressing (ii), including by supporting developing countries.

Findings: While the PA's general mitigation goals seem adequate in light of the AR5 findings, the adoption of the PA might result in collective *procedural* compliance with CDD. However, the world is not substantively on track with these goals (i.e., current projections rather lead the world to 2.1 – 2.8°C according to the COP itself¹⁸⁷⁵). This finding may ground *individual* treaty or CDD breaches, as individual State and corporate actors

1874 See the concurring opinion in the IPCC commentary, which quotes Rajamani (IPCC, AR6 (2021-23), WG III, Chapter 14, p 1464).

1875 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 2 and 18.

may not carry out their best efforts to achieve those targets (see findings in subsection 3.3.2.2 just below). However, since Article 2 PA only sets out global objectives, it cannot constitute a legal base as such to establish liability. Thus, the international community, notably through the COP, must find measures to achieve collective compliance; as long as it does not perpetuate its ongoing breach, which started when it was clear that the KP would not work out.

3.3.2.2 The PA's mitigation provisions and the insufficient commitments

The architecture of the PA's mitigation dimension mainly rests on articles 2 and 4. Read in combination, they require State Parties to set emissions targets by communicating nationally determined contributions (NDCs) to reduce emissions and, thereby, achieve the LTTG enshrined in Article 2 (1), being the limitation of “the temperature increase to 1.5 °C”, and, in any case, “to well below 2 °C”.

Regarding Article 2 (1) (a) and the interpretation of the LTTG: the IPCC considered the different interpretations in the literature with respect to the two mentioned goals¹⁸⁷⁶, and the issue of only having a long-term target, which may leave too much discretion to State parties in the short term¹⁸⁷⁷. While the formulation of the LTTG is certainly not very straightforward and clear-cut, it still recognises the reduced risks and benefits of limiting global warming to 1.5 °C. This is explicitly confirmed by the IPCC since its 2018 special report on 1.5°C (SR1.5) (see subsection 3.3.3.1 below for further information). Given the PA's LTTG and the 2018 scientific results showing the dangers of overstepping 1.5°C, one may, therefore, infer from that point in time a proper need to limit global warming to 1.5°C (see the CDD 1.5°C duty applicability finding from 2018 onwards, notably discussed in subsection 3.3.3).

Regarding Article 4 – the communication obligations and substantive expectations: the PA also spells out that State Parties “*will*” exhibit progression and their “highest possible ambition” in their successive NDCs, reflecting their CBDRRC, as provided by Article 4 (3). Further, developed Parties “*should*” continue taking the lead by undertaking economy-wide absolute emission reduction targets”, as set out in Article 4 (4). While those

1876 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1464.

1877 *Ibid.*

substantive provisions do not exhibit any strict legally binding expectations, the modal verbs “will” or “aim to” still indicate an expectation that needs to be realised, thus an obligation¹⁸⁷⁸. In the last quoted provision, the modal verb “should” is used, meaning no legal obligation as such, but only a legitimate expectation.

Moreover, in line with the LTTG and the equity principles, Article 4 (1) provides that “Parties aim to reach global peaking of greenhouse gas emissions as soon as possible” while recognising that achieving this objective “will take longer for developing countries”. This provision operationalises the equity principle between the global North and South.

Article 4 expects reaching net zero GHG emissions “in the second half of the century”, which allows reaching net zero between 2050 and 2099. To do that, and follow a 1.5°C pathway, the IPCC found that CO₂ emissions should be neutralised by 2050 and all other GHGs by 2070, implying a roughly halving of CO₂ emissions by 2030 compared to 2010¹⁸⁷⁹.

Moreover, NDCs shall meet the standards of “clarity, transparency and understanding” (Article 4 (8)) and be submitted every five years (Article 4 (9)). This provision uses the modal verb “shall” and thereby establishes unambiguous legal obligations.

Findings: In 2022, 88 State Parties, covering 79% of global emissions, committed to reaching net zero emissions between 2050 and 2070¹⁸⁸⁰. However, the world is still heading towards 2.4°C according to IEA’s WEO 2023¹⁸⁸¹, which is not consistent with the LTTG. This state of affairs was officially confirmed by COP 28 itself in its 2023 global stocktake¹⁸⁸², which shows that States are collectively not on track to achieve the LTTG. A ray of hope came from scenarios foreseeing the full implementation of NDCs, conditional NDCs, and proposed policies. In that case, the IEA estimate global warming may be limited to 1.7-1.8 °C. However, this scenario was

1878 For a similar opinion, see Rajamani L, “Due Diligence in International Climate Change Law” in Heike Krieger, Anne Peters and Leonhard Kreuzer (eds), *Due Diligence in the International Legal Order* (OUP 2020) p 172, p 169.

1879 IPCC, AR6 (2021-23), WGIII, Chapter 14, p 1465.

1880 According to the UNEP Emissions Gap Report 2022, p XXII.

1881 IEA, WEO 2023, p 22.

1882 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 2 and 18.

deemed unrealistic¹⁸⁸³ and still incompatible with the PA's objectives by the IEA director¹⁸⁸⁴.

Indeed, as has been mentioned several times, global emissions are still rising¹⁸⁸⁵, in almost all countries, except in the EU since 1990¹⁸⁸⁶, in the USA since 2007¹⁸⁸⁷ and in Japan since 2013¹⁸⁸⁸. Other developed country parties (Australia, Canada, New Zealand, Norway) did not achieve a peak in their GHG emissions. The COP 28 decision confirmed that developed countries overall did not reduce their emissions by at least 25%, as indicated in the Bali Box¹⁸⁸⁹.

More generally, countries – especially those of the Global North – most likely do not carry out their *highest* possible ambition or their “best efforts” following *general* due diligence standards, neither over time (see above the previous non-compliance findings with the UNFCCC, KP, and CDD), nor with regard to global equity (see – notably – the CAT's analyses, which can be used as one *indicator* to demonstrate clear inconsistency and the *lacunae* with respect to compliance with CDD¹⁸⁹⁰).

Regarding transparency, while an individual compliance assessment of State NDCs is out of the scope of this thesis, a first glance of the NDCs submitted so far (see, for instance, the one of the EU) shows that country parties do not provide much specific information¹⁸⁹¹.

1883 UNEP Emissions Gap Report 2022, foreword; IEA, WEO 2022, p 106-107.

1884 Fatih B, “C.O.P. 26 climate pledges could help limit global warming to 1.8°C, but implementing them will be the key”, *Commentary*, IEA Website, 4 November 2021.

1885 IPCC, AR6, WG III, TS, Figure TS2, p 59.

1886 The decrease from 1990 to 2000 is mainly due to the dismantlement of the industrial sector in former USSR countries; emissions started to decrease in other countries by 2005 (see findings in subsections 3.2.1.3 on the UNFCCC and 3.2.2.2 on the KP above).

1887 Climate Action Tracker, USA, <https://climateactiontracker.org/countries/usa/>, last accessed 19 January 2025.

1888 Climate Action Tracker, Japan, <https://climateactiontracker.org/countries/japan/>, last accessed 19 January 2025.

1889 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 17.

1890 See the “*Klimaseniorinnen v Switzerland*” case (n° 53600/20) and the *Duarte Agostinho v 32 States* case (n° 39371/20); both cases rely on the CAT's analyses; however, they tried to directly enforce the CAT indications.

1891 The European Scientific Advisory Board on Climate Change was established by the European Climate Law of 2021. Its mandate is to serve as a point of reference for the EU on scientific knowledge relating to climate change. This body has confirmed that the EU has not met the requirements, see: European Scientific Advisory Board on Climate Change, “Scientific advice for the determination of an

In all those respective points, the non-consistency of the ongoing collective and individual conduct may characterise *substantive* general due diligence breaches.

Regarding State responsibility beyond territorial emissions and required support for developing countries: the PA states that each State party “shall be responsible for its emission level” (Article 4 (17)), certainly meaning territorial emissions. The IPCC elaborated in 2006 precise guidelines to account for and report domestic emissions directly stemming from the domestic territories¹⁸⁹², which were updated and refined afterwards. The COP also validated these IPCC accounting methods¹⁸⁹³. Although neither the IPCC guidelines nor the COP decisions are binding, States widely adopted these reporting mechanisms. While this accounting system means that countries are not required to account for extraterritorial emissions (such as consumption-based emissions, export-related emissions, emissions linked to transnational corporations, value chains and financial transactions, etc), the PA does not limit the breadth of its objectives and mandates to territorial emissions.

Article 6 of the Paris Agreement provides State parties with further flexibility by allowing them to use “internationally transferred mitigation outcomes towards NDCs”. This provision, akin to Article 12 KP, aims to provide flexibility to country parties by allowing the attribution of some reduction of emission levels in one country – even carried out by a private party – for the benefit of another, and “to deliver an *overall* mitigation in global emissions” (Article 6 (4) (d)).

More generally, the PA sets a global LTTG, and correlated finance flows target in its Article 2 (1), thereby touching upon State parties’ collective, and individual, including *transnational* emissions. While no provision specifies

EU-wide 2040 climate target and a greenhouse gas budget for 2030–2050”, 15 June 2023.

1892 IPCC, “Guidelines for National Greenhouse Gas Inventories”, Institute for Global Environmental Strategies, 2006, Vol. 1: General Guidance and Reporting; see concurring opinion on the fact that those guidelines are restricted to territorial emissions: Mayer B, “The Contribution of Urgenda to the Mitigation of Climate Change” (2023) 35(2) *Journal of Environmental Law*.

1893 Decision 18/CMA.1, ‘Modalities, Procedures and Guidelines for the Transparency Framework for Action and Support Referred to in Article 13 of the Paris Agreement’ (19 March 2019), UN Doc. FCCC/PA/CMA/2018/3/Add.2, para 20: “Each Party shall use the 2006 IPCC Guidelines, and shall use any subsequent version or refinement of the IPCC guidelines.”

that Article 2 (1) (c) encompasses extraterritorial emissions¹⁸⁹⁴, one may logically infer from the concept of financial flows that they are, by nature, to a very large extent, borderless, making extraterritorial emissions *de facto* part of the PA.

Moreover, to increase the chance of global emissions reductions, Article 4 (5) posits that “[s]upport *shall* be provided to developing country Parties for the implementation of this Article, in accordance with Articles 9, 10 and 11, recognizing that enhanced support for developing country Parties will allow for higher ambition in their actions.” Although the preceding paragraph concerned the legitimate expectations due by developed countries with respect to their mitigation actions (the “taking the lead” provision), this paragraph implicitly imposes an obligation on them to deliver support to developing states.

Specifically, the PA also requires developed country parties to contribute to climate finance, capacity building, and technology transfer for the benefit of developing countries’ mitigation and adaptation measures (see commentaries of Articles 9 – 11 of the PA below). These provisions are part of a global cooperation system and may also be interpreted as an extended responsibility for developed countries to ensure that global and overseas emissions in developing countries are curbed.

In any case, neither the PA nor the UNFCCC explicitly limit the responsibility of State parties to their domestic territorial emissions. This openness seems consistent with CDD, which is not restricted to territorial emissions or direct emissions (for more information, see subpart 2.2 on causation and attribution of indirect and extraterritorial emissions).

Findings: The COP 28 Global Stocktake in Dubai estimates that developing countries need USD 5.8–5.9 trillion for the pre-2030 period. However, the support given to developing countries does not even reach USD 100 billion annually¹⁸⁹⁵. This support does not seem sufficient to meet the developed country parties’ climate finance obligations.

These COP 28 findings are in concord with the CAT’s assessments, which found that no developed country sufficiently reduced its domestic emissions, nor that they compensated for their domestic failures with suffi-

1894 Article 4 requests State parties to submit and implement NDCs to operationalise the LTTG in Article 2 (1) (a); one may read this latter provision as encompassing finance flows as well. Also, Article 3 PA cross-references Article 2 in a general manner, meaning that Article 3 demands “ambitious” measures to address Article 2 (1) (c), including financial flows.

1895 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 67 and 80.

cient climate finance (i.e., by spending grants or using them in conjunction with market-based mechanisms such as internationally transferred mitigation outcomes). Thus, as long as developed States do not carry out their individual best efforts to mitigate global warming and/or contribute to climate finance sufficiently, they likely breach their PA and/or their *general* due diligence obligations.

As for the goal of addressing finance flows, which had been a blind spot until COP 26 in Glasgow and COP 27 in Sharm-El-Sheikh¹⁸⁹⁶, State Parties eventually recognised the need for a complete overhaul of the financial system (see below, the work of Glasgow financial alliance in the following COP 26 “Glasgow Climate Pact” subsection and COP 27 decision)¹⁸⁹⁷. Either way, the level of climate finance for mitigation remains well below what’s needed.

In any case, those elements suggest that the lack of sufficient climate finance can be framed as individual and collective breaches, in a context in which a court of law may interpret the PA in conjunction with preexisting due diligence norms, as specified above. The PA places the burden on States to show the consistency of their approach (as the ECtHR does, see *KlimaSeniorinnen* analysis in subsection 2.3.2.5). And given the dissensus on the required level of mitigation and climate finance, there is difficulty in imposing clear-cut obligations on each individual actor based on general due diligence. Thus, both the treaty-based and the general or customary due diligence rules place the burden on States to demonstrate the consistency of their approach regarding mitigation and related financial assistance.

3.3.2.3 The PA’s provisions on adaptation, loss and damage and the resulting questions on State responsibility

As mentioned in the first subsection of the PA above, Article 2 (1) (c) of the treaty establishes the global adaptation goal by recalling the concurrent LTTG and food production goal¹⁸⁹⁸.

1896 Bodle R and Noens V, “Climate Finance: Too Much on Detail, Too Little on the Big Picture?” (2018) 3 *Carbon and Climate Law Review (CCLR)* p 250–252.

1897 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, §30-31.

1898 Article 2 (1) (c) PA.

On its end, Article 7 operationalises adaptation. The first paragraph recalls the adaptation goal alongside the sustainable development goal¹⁸⁹⁹, while the second points to the universality of the adaptation challenge, stressing that the most pressing issues occur in developing countries, which are particularly vulnerable to climate-related impacts¹⁹⁰⁰.

Article 8 addresses “loss and damage”. The Warsaw Mechanism, which was put in place in 2013, will be responsible for operationalising this PA provision. Note that the COP 27 and COP 28 decisions at Sharm-El-Sheikh in 2022 and Dubai in 2023 accepted the establishment of loss and damage funding arrangements (see below the corresponding subsection).

Although “adaptation” is separated from “loss and damage”, the incurred measures and costs may overlap. The PA does not provide any criteria to distinguish between them. Two different hypotheses exist:

- Given the LTTG, it may be argued that as long as it is not overstepped, the corresponding climate impacts are lawful, thus requiring adaptation measures, whereas all the impacts arising beyond 2°C are undoubtedly unlawful, therefore, constituting “losses and damages”¹⁹⁰¹. In any case, Article 7 (4) recognises that “greater levels of mitigation can reduce the need for additional adaptation efforts”, making the case for climate mitigation again as an overarching priority. Prioritising mitigation seems particularly useful as some territories may reach “adaptation limits” where “no adaptive actions are possible to avoid intolerable risks”¹⁹⁰².
- Nonetheless, the LTTG is not necessarily an adequate criterion to separate adaptation from loss and damage, since climate-related impacts and harms already arise with the current warming levels and will only worsen. Thus, another distinction is possible and needed, namely that adaptation could have a preventative purpose while loss and damage aim to characterise definite losses. For example, in cases of floods, exacerbat-

1899 Article 7 (1) PA.

1900 Article 7 (2) PA.

1901 This position also reflects roughly the IPCC estimations on the risks, see, among others: IPCC, AR5 (2014), SYR, Box 2.4 “Reasons For Concern Regarding Climate Change”, p 72. According to the AR5 Glossary (p 126), Reasons For Concern (RFCs) are “Elements of a classification framework, first developed in the IPCC Third Assessment Report (IPCC, 2001b), which aims to facilitate judgments about what level of climate change may be dangerous (in the language of Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC)) by aggregating impacts, risks and vulnerabilities.”

1902 The IPCC defines “Adaptation limits” as follows in its SRI.5, Glossary, p 542.

ed by global warming, two different types of costs arise: first, adaptation costs, to better protect the surroundings against the flood risks or to relocate to another safer place if necessary (such as the transfer of the whole city of Jakarta due to sea-level rise, erosion and other factors¹⁹⁰³); and second, if property losses occur, compensation for the loss and damages may be needed. This distinction may be relevant to separate Article 7 climate impacts from Article 8. The IPCC also endorses this view¹⁹⁰⁴. Yet, while the distinction between adaptation and loss and damages may remain somewhat difficult in practice, the question of the responsibility (who carries out the adaptation measures) and of “who pays” seems even more difficult to answer.

Concerning the responsibility for adaptation, all countries are, in principle, responsible with respect to their own territories. Article 7 (9) imposes on State parties a proper obligation to “engage in adaptation planning processes and the implementation of actions”. The German Constitutional Court¹⁹⁰⁵ and the UN Human Rights Commission in the *Torres Island* case¹⁹⁰⁶ furthermore pronounced that States are responsible for adapting their territories to climate-related impacts. In addition, note that Benoit Mayer and Alexander Zahar, who are both very sceptical as to the use of climate litigation in the human rights field, still consider that States have

1903 Brown H, “Indonesia unveils construction site of new capital city. Will it be a ‘massive ecological disaster’?”, *Euronews*, 2023.

1904 See the definition of the IPCC of “Loss and Damages” and “losses and damages” (without capital letters) as such: Research has taken Loss and Damage (capitalized letters) to refer to political debate under the UNFCCC following the establishment of the Warsaw Mechanism on Loss and Damage in 2013, which is to ‘address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change’. Lowercase letters (losses and damages) have been taken to refer broadly to harm from (observed) impacts and (projected) risks (see Mechler et al, in press). (See SRL5, Glossary, p 553).

1905 Constitutional Court of Germany, Climate Protection Law, 1 BvR 2656/18, 24 March 2021, § 181.

1906 Human Rights Committee, *Torres Islands case (Daniel Billy et al v Australia)*, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, CCPR/C/135/D/3624/2019, 22 September 2022.

a human rights duty to protect their inhabitants against climate-related damages¹⁹⁰⁷.

The PA complements this State obligation concerning adaptation with regard to their own territories by setting out extraterritorial (finance) obligations for developed countries. Paragraphs 10 – 13 of Article 7 recommend submitting adaptation communications as regularly and exhaustively as possible to properly prevent harm and coordinate international support, especially for developing country Parties. While State parties remain free to choose the suitable measures (Article 7 (9)), paragraph 13 asserts that “[c]ontinuous and enhanced international support shall be provided to developing country Parties” for adaptation. The rationale behind this basic principle is that adaptation costs can be very high (for instance, 5 to 10% of the GDP in Africa might have to be spent there to adapt to sea level rise by the end of the 21st century, according to AR4 – see above), and that developed countries have considerably more contributed to global warming and benefited from industrialisation than their developing counterparts. Article 9 also obliges developed country parties to financially support their developing counterparts regarding mitigation and adaptation (see just below). Nonetheless, no provision establishes a precise quantified obligation or any precise effort-sharing mechanism. Thus, the individual obligations remain very much unclear¹⁹⁰⁸, and important questions remain unanswered:

- Article 7 (13) PA and the provisions on Loss and Damages (under current operationalisation by the COP since COP 27 at Sharm-El-Sheikh) obligate developed countries to provide (financial) support to their developing counterparts, or to compensate them for their losses and damages. However, it is unclear how much support for adaptation and compensation they must provide, and whether the amounts can be objectively determined rather than purely voluntary.
- What is the difference between providing finance for adaptation and funding or compensation for losses and damages? Must developed countries only provide monetary contributions for losses and damage if they commit faults, i.e., if they breach specific PA obligations or general CDD?

1907 Zahar A, “The Urgenda Appeal Decision and the Argument from Physical Necessity”, 2018; Mayer B, “Climate Change Mitigation as an Obligation under Human Rights Treaties?” (2021) 115(3) *American Journal of International Law* p 415.

1908 Bodansky D, “The Paris Climate Change Agreement: A New Hope?” (2016) 110 *American Journal of International Law* p 288.

Is this question of liability only relevant for finding secondary obligations to compensate for loss and damages?¹⁹⁰⁹

- What about private actors? Must they financially contribute to adaptation, as the applicant *Lliuya* requested against RWE in this German climate case? Do carbon majors have a duty to compensate for the costs of building dams to protect US cities against sea-level rise?¹⁹¹⁰ Or will they be obliged to contribute to general compensation funds, set up by the COP, and for which each State determines the funding rules?

3.3.2.4 The PA's finance provisions and the insufficient commitments

The important Article 9 sets out in its first paragraph a proper obligation for developed state parties to support their developing counterparts “with respect to both mitigation and adaptation” (since it uses the modal verb “shall”). While the second paragraph only encourages “other parties” (certainly meaning emergent countries such as China, Brazil, and South Africa) to contribute voluntarily, the third paragraph expects the global north “to take the lead [in] mobilizing climate finance from a wide variety of sources” and to make progress over time (this expectation is linked with the verb should). These obligations remain, however, very general and do not specify the required quantitative contribution of any individual country, which is problematic as it remains unclear what individual States must do¹⁹¹¹.

Paragraphs 3 and 4 of Article 9 underscore again the important equity aspect of considering the needs of the most vulnerable countries, such as the least developed countries and small island developing States. Paragraph 5 also concretises the general obligation by requiring developed country parties to biennially disclose “quantitative and qualitative information” related to those latter paragraphs. In other words, these provisions aim to ensure that these latter countries have access to mitigation and adaptation finance.

1909 For a summary of the corresponding current debate by a leading legal scholar, see: Bodansky D, “The Forever Negotiations” (EJIL: Talk!, 2022).

1910 US District Court for the Northern District of California (William Alsup), *City of Oakland v BP et al*, 25 June 2018, p 15; Deva S, “Climate Change: Looking Beyond Human Rights Due Diligence?” (*Nova Centre on Business, Human Rights and the Environment Blog*, 7 May 2021).

1911 Bodansky D, “The Paris Climate Change Agreement: A New Hope?” (2016) 110 *American Journal of International Law* 288.

Article 9 (3) recognises the “significant role of public funds”, a contrasting position with the purpose of some climate lawsuits, which directly seek monetary compensation from private enterprises (so-called carbon majors) based in the global North.

As noted above, the COP 27 committed to creating the loss and damages funding arrangements, which the COP 28 concretised in 2023, complementing the already existing funds on mitigation and adaptation¹⁹¹². This achievement represents a breakthrough in international climate policies¹⁹¹³, but quantified individual obligations aimed at determining how much one State must contribute remain absent. The question remains whether these general PA provisions suffice to comply with *general* due diligence.

Findings: This PhD assumes that CDD requires effective prevention (mitigation by reducing GHGs), effective protection against climate-related impacts (adaptation) and compensation for losses and damages. Even if a breakthrough occurred concerning the loss and damage fund, one needs to remember that the developed countries still have not delivered on their COP 21 pledge to jointly mobilise USD 100 billion per year for mitigation and adaptation¹⁹¹⁴. This promise has not yet met and, in any case, is significantly behind what is necessary to enable developing countries and the most vulnerable countries to cope with climate change¹⁹¹⁵:

- Only 20% of UNFCCC climate finance is in the form of grants, with the remainder being loans. This distribution is hugely problematic since loans must be repaid, sometimes with interest, and therefore mostly concern mitigation (power generation projects) rather than mitigation¹⁹¹⁶.

1912 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, footnotes 7 and 8.

1913 UNFCCC Website, “COP27 Reaches Breakthrough Agreement on New “Loss and Damage” Fund for Vulnerable Countries”, *Press Release*, 20 November 2022: <https://unfccc.int/news/cop27-reaches-breakthrough-agreement-on-new-loss-and-damage-fund-for-vulnerable-countries>, last accessed 29 October 2025.

1914 COP 21 Decision (Paris), *FCCC/CP/2015/L.9/Rev.1*, 12 December 2015, §54 and §115; The COP 27 Decision notes this failure at its paragraph 33: COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 33.

1915 COP 26 decision, “Glasgow Climate Pact”, *FCCC/PA/CMA/2021/10/Add.1*, 13 November 2021, § 43.

1916 Editorial, “Global climate action needs trusted finance data: An agreed system for measuring funding of green projects in poorer nations will be vital to achieving action on climate change in 2021”, *Nature*, 6 January 2021.

- Some distrust exists in the mechanism because of a lack of transparency on both sides, namely between developed and developing countries¹⁹¹⁷.
- The COP 28 in 2023 estimated that developing countries need “USD 5.8–5.9 trillion for the pre-2030 period” to reach their mitigation commitments (NDCs) and “USD 215–387 billion annually up until 2030” for adaptation, clearly showing the gap between the commitment and what’s needed¹⁹¹⁸. The closure of this immense gap “will require a transformation of the financial system and its structures and processes, engaging governments, central banks, commercial banks, institutional investors and other financial actors” as the COP 27 Decision lucidly noted it¹⁹¹⁹. The UNEP’s director, Inger Andersen, stated in the editorial of the Emissions Gap Report that the global community has “missed the opportunity to invest in a low-carbon recovery from the COVID-19 pandemic.”¹⁹²⁰
- And, while the COP 28 ended up recognising the *need* to establish a “new climate finance goal” at COP 29, in 2024¹⁹²¹, the global community still lags behind any pertinent consensus on this front.

Thus, one may interpret this state of affairs as ongoing collective CDD violations, leaving the door open to find instances of *individual* treaty or CDD breaches, akin to the findings with respect to mitigation and adaptation.

Lastly, regarding Article 10 PA on technologies development and transfer: this article is mainly about cooperation, and the importance of sharing relevant technologies. This component could be important since decarbonisation involves the deployment of numerous technical innovations and technologies (renewable energy, hydrogen, CCS, etc). Paragraph 5 recognises this importance by stating that technology development and transfer “is critical for an effective, long-term global response to climate change and promoting economic growth and sustainable development.” To implement this article, paragraph 6 expresses an implicit obligation for developed

1917 *Ibid.*

1918 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 67 – 68.

1919 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 31.

1920 UNEP, “Emissions Gap Report 2022: The Closing Window”, 2022.

1921 UNFCCC Website, “COP28 Agreement Signals ‘Beginning of the End’ of the Fossil Fuel Era”, *Press Release*, 13 December 2023, <https://unfccc.int/news/cop28-agreement-signals-beginning-of-the-end-of-the-fossil-fuel-era>, last accessed 19 October 2025.

country Parties as it grounds a right for their counterparts to obtain “support, including financial support” in order to receive and develop technology. Paragraphs 3 and 6 mention collaborative global mechanisms to facilitate this article’s purpose (Technology Mechanism and Financial Mechanism). Nonetheless, these provisions contradict the purpose of intellectual property, and thus, may encounter large opposition in their implementation. The COP 28 decision highlights these barriers¹⁹²².

Finding: To ensure collective compliance with CDD, there is a need to make the WTO rules and other trade-related rules compatible with the need for climate requirements, including technology transfer. This is manifestly not the case.

3.3.2.5 The PA’s soft compliance mechanisms, insufficient as such

While the KP took a top-down approach with potential sanctions, the PA leaves leeway to the Parties. For example, its provisions only aim to “facilitate implementation” and “promote compliance”¹⁹²³. More precisely, there are three mechanisms in this regard:

The first is the mechanism enshrined in Article 13 (1), which establishes “an enhanced transparency framework for action and support”. It should be implemented in “a facilitative, non-intrusive, non-punitive manner, respectful of national sovereignty, and avoid placing undue burden on Parties.”¹⁹²⁴ It is aimed at ensuring clarity and progress on mitigation, adaptation, climate finance, and technology transfer.

The second is the mechanism enshrined in Article 14, which sets up the so-called “global stocktake”, which is the official review mechanism of the State commitments with respect to mitigation (NDCs), adaptation and all other objectives. The “First Global Stocktake” took place in December 2023 at COP 28 in the United Arab Emirates, but is in practice conducted almost annually by the COP and other bodies as well (UNEP, IEA etc), as there is a need to keep track of the progress made.

The third is the mechanism enshrined in Article 15, which introduces the compliance committee, another mechanism which “shall be expert-based and facilitative in nature and function in a manner that is transparent, non-

1922 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 103.

1923 These words stem from Article 15 (1) PA.

1924 Article 13 (3) PA.

adversarial and non-punitive”¹⁹²⁵. While this committee should focus more on the substantive aspects of the PA’s implementation, it surely overlaps with the transparency framework of Article 13 since the “transparency arrangements” of the PA are primarily disclosure obligations (NDCs) linked to general standards of conduct close to due diligence (highest possible ambition, CDBRRC – see below subsection 3.3.2.1 for more information).

Thus, the PA does not provide for the possibility of *directly* sanctioning States for any kind of breach, a common criticism according to some authors quoted by the IPCC¹⁹²⁶. There is an overarching and multidisciplinary question in the literature on what’s better: either voluntary cooperation with significant freedom and flexibility or a top-down approach with binding provisions, enforcement and sanctions capabilities. Does the lack of proper enforcement mechanisms constitute a violation of CDD?

Findings:

For some, the issue is not so much the “power to enforce compliance or sanction non-compliance, but the level of ambition”, as “implementation of specific commitments tends to be high once countries have ratified and a treaty or an agreement is in force (Bodansky 2016; Rajamani 2016).”¹⁹²⁷ Although I could agree with this theory, one can only observe that it does not properly reflect the facts so far.

Firstly, the PA has an ambitious global LTTG (well below 2°C and 1.5°C), but the NDCs are not aligned with it. In fact, as already shown, the concrete measures enacted by States lead to approximately 2.1 – 2.8°C of global warming, which is still way above the Paris LTTG (note, however, that 4°C of warming was projected when the PA was adopted¹⁹²⁸). Thus, in this sense, States still do not set out the necessary measures to be on track with the global LTTG.

Secondly, if States fully comply and implement their NDCs and other domestic climate pledges (numerous State Parties announced in a high-level policy document to achieve net zero emissions by 2050 or some years

1925 Article 15 (2) PA.

1926 IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173.

1927 IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 – 173 referencing Rajamani L and Bodansky D, “The Paris Rulebook: Balancing International Prescriptiveness with National Discretion” (2019) 68 *International and Comparative Law Quarterly* p 1023-1040.

1928 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 18.

later¹⁹²⁹), global warming could be limited to 1.7°C – 1.8°C, which is very close to the upper limit of the PA's LTTG¹⁹³⁰.

Thirdly, the COP 28 decision called on States to issue updated NDCs by 2025 at the latest to fully align with the 1.5°C goal¹⁹³¹. This second fact shows that States do not comply with their long-term domestic targets either, which need to be complemented with consistent short and medium-term targets. In any case, however, the PA relies on the principle of progression over time, by creating a transparency framework, a *de facto* annual global stocktaking process, a capacity-building mechanism, and an international climate finance mechanism (the concrete rules of which were only agreed upon in 2018 – see the Paris Rulebook) etc. Hence, there is still *hope* that State parties will increase their cooperation and ambition and ultimately come along with adequate measures to achieve the PA LTTG, which still remains *physically* possible¹⁹³².

The IPCC noted other the recurrent critiques on the successive COPs, mentioning the “‘organised hypocrisy’ where proclamations are not matched with corresponding action (Egnell 2010).”¹⁹³³ This hypocrisy argument resonates with the fact that numerous state and non-state actors adopted net zero commitments, which today resemble more to greenwashing than anything else, as the concrete measures do not suffice to meet the declared ambition.

The PA does not seem fit to proscribe the “free riding” phenomenon (*passager clandestin*) due to the lack of sanctions. Still, the PA introduced a compliance committee, a global stocktaking process, and transparency mechanisms, to incentivise progress, capacity building, and collaboration, making name and shaming possible (although stigmatisation does not seem to be the spirit of COPs).

Yet, even the PA would foresee sanctions and enforcement proceedings, like the KP, but no one can guarantee that all State parties would remain in it and keep complying. The experience around the KP and the Doha Amendment may illustrate the issue (see the subsection above). On the other hand, the PA mandates its State Parties to constantly progress, so, by

1929 According to the UNEP Emissions Gap Report 2022, p XXII.

1930 IEA, WEO 2022, p 106-107.

1931 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 37 – 39.

1932 See the similar conclusion in Rajamani L and Bodansky D, “The Paris Rulebook: Balancing International Prescriptiveness with National Discretion” (2019) 68 *International and Comparative Law Quarterly* p 1023-1040.

1933 IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 - 173.

setting NDCs which shall reflect their highest possible ambition, equity, etc (see below – on the interpretation of the PA as a due diligence obligation).

Thus, the flexibility and the collaborative spirit in the PA seem more adequate than a top-down instrument, which may lead to full rejection, as the KP experience has shown¹⁹³⁴.

3.3.2.6 Provisional conclusion concerning the PA's sufficiency with respect to CDD

The PA's objectives are in line with the IPCC AR5 (2014) findings, as identified above. And, although the PA may lead to further cooperation and progress, the mere existence of those provisions is unlikely to be self-sufficient to achieve the LTTG and the other objectives in adaptation, finance, and loss and damage. This partial adequacy only leads to compliance with *procedural* CDD. Complementary provisions, measures, and mechanisms may certainly be needed. Introducing strategic climate litigation on the basis of *general* CDD, as shown in Part 2, could reinforce the PA, as it could bolster and catalyse its provisions through lawful and legitimate complementary means.

Box Technical Briefing 3: The success of the Montreal Protocol compared to the climate treaties

The 1987 Montreal Protocol “successfully” regulated HCFCs (including chlorofluorocarbons, halons and hydrochlorofluorocarbons), which are ozone-depleting substances and very potent GHG¹⁹³⁵. According to the IPCC, the result of the Montreal Protocol in terms of emission reduction is “substantially greater than the first commitment period” of the KP¹⁹³⁶.

However, the scale of the climate problem is significantly more complex than that of the ozone-depleting substances. The latter essentially required some marginal fixes in products: the HCFCs were simply replaced with hydrofluorocarbons (HFCs)¹⁹³⁷, which are not ozone-depleting, but are still very potent GHGs. As the graph below shows, CFC + HCFCs decreased substantially, but HFCs + PFCs + SF6 partly “compensated” for this.

1934 For concurring opinions, see Rajamani, Bodansky quoted in IPCC, AR6 (2021-23), WG III, Chapter 1, p 172 – 173; see also Viñuales, ‘The Paris Climate Agreement: An Initial Examination’, in C-EENRG Working Papers, no. 6, 15 December 2015.

1935 IPCC, AR6 (2021-23), WG I, Full Report, p 180.

1936 IPCC, AR6 (2021-23), WG III, Chapter 14, p 1496.

1937 *Ibid*, Chapter 1, p 172 - 173.

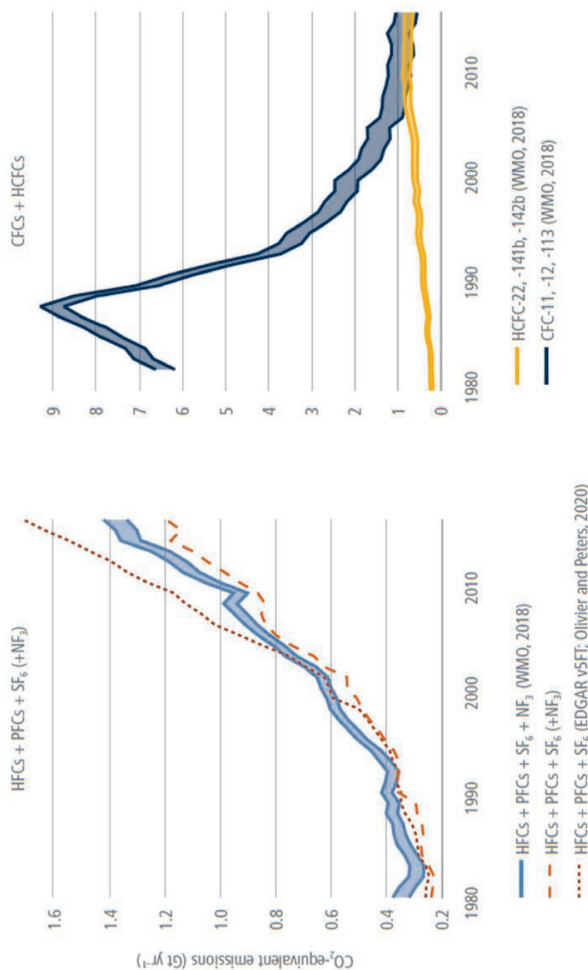


Figure 2.SM.7 | Comparison between top-down estimates and bottom-up EDGAR inventory data on GHG emissions for 1980–2016. Left panel: Total GWP100-weighted emissions based on IPCC AR6 (Forster et al. 2021) of F-gases in Oliver and Peters (2020) (EDGARv5F1) (red dashed line, excluding C₂F₆, C₃F₈ and C₂F₄) and EDGARv6 (purple dashed line) (Crippa et al. 2021) compared to top-down estimates based on AGAGE and NOAA data from WMO (2018) (blue lines; Engel and Rigby (2018); Montzka and Velders (2018)). Right panel: Top-down aggregated emissions for the three most abundant CFCs (–11, –12 and –113) and HCFCs (–22, –141b, –142b) not covered in bottom-up emissions inventories are shown in green and orange. For top-down estimates the shaded areas between two respective lines represent 1σ uncertainties. Source: Minx et al. (2021).

Therefore, an amendment to the Montreal Protocol was enacted: the “Kigali Amendment”, which notably requires developed country parties to reduce HFCs by 85% by 2036 compared to 2013¹⁹³⁸; the implementation of which could “reduce future global average warming in 2100 from a baseline of 0.3°C–0.5°C to less than 0.1°C”¹⁹³⁹. Again, these objectives are possible thanks to alternative commercially available and approved technologies¹⁹⁴⁰, such as, for instance, “highly efficient cooling technologies” in refriger-

1938 *Ibid*, Chapter 14, p 1496.

1939 IPCC, AR6 (2021-23), WG III, Chapter 4, p 439.

1940 *Ibid*, See also Chapter 14, p 1496.

Source: IPCC, AR6 (2021-22), WG III, Figure 2SM.7, p. 2SM-20.

ation and air conditioning¹⁹⁴¹. Nonetheless, akin to the KP, the success of the Kigali Amendment depends on the ratification of the USA and key other countries, which is not the case yet¹⁹⁴².

In any case, mitigating global warming in line with the PA's objective involves a full-scale transformation of our societies and economies worldwide. Clearly, the ozone and climate issues are not comparable in that sense.

3.3.3 The focus on the need to limit warming to 1.5°C after the publication of the 2018 IPCC SRI.5

3.3.3.1 The SRI.5: a COP request resulting in procedural CDD compliance but in deeper substantive gaps

In 2015, the COP 21 in Paris requested a special report from the IPCC on the consequences of overstepping the 1.5°C, in the same decision in which it adopted the PA¹⁹⁴³. At this point in time, the 1.5°C target was mentioned relatively marginally in the AR4 and AR5, with the harmful consequences of exceeding the 2°C threshold being specifically highlighted (see *supra*, corresponding subsections 1.2.3 and 1.3.1). On the political and diplomatic level, the Copenhagen Accord¹⁹⁴⁴ and Cancun Agreements¹⁹⁴⁵ briefly mentioned the possibility and necessity to limit the global temperature increase to 1.5°C. Additionally, when some small island states ratified the PA, they stated that the PA's LTTG and provisions do not suffice to protect their interests and keep warming below this threshold¹⁹⁴⁶.

Findings: Requesting a special report on the consequences of overstepping the 1.5°C threshold led the international community of States to comply even more with *procedural* CDD. Nonetheless, as identified and repeated above multiple times, adequately identifying the risks and setting

1941 *Ibid*, see also Chapter 9, p 974.

1942 *Ibid*, Chapter 14, p 1496.

1943 COP 21 Decision (Paris), *FCCC/CP/2015/L.9/Rev.1*, 12 December 2015, § 21.

1944 COP 15 Decision (Copenhagen Accord), *FCCC/CP/2009/11/Add.1*, 18 December 2009, p 7, § 12.

1945 Mayer B, "Editorial: Special Issue – Legal Aspects of the 1.5°C Target" (2018) 1 *Carbon & Climate Law Review (CCLR)* referencing Decision 1/CP.16, paras 4 and 138-139. The Supreme Court of the Netherlands in *Urgenda* also mentions the Cancun Agreements as being the first time ever the COP addressed the 1.5°C target, see Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 2.1.

1946 Cook Islands, Marshall Islands, Micronesia, Nauru, Niue, Solomon Islands, Tuvalu, and Vanuatu.

sufficient global targets does not suffice to comply with substantive CDD, which requires corresponding concrete measures to achieve the LTTG. To assess the latter, one can check if the world is on track to achieve the LTTG and the general consistency of the policies in practice, which is not the case today, necessarily showing global non-compliance (see the non-compliance findings of subsection 1.3.2.1.2 on the PA's mitigation provisions).

In 2018, the IPCC delivered its special report on global warming of 1.5°C (SR1.5). There are mainly two reasons why the SR1.5 report can be considered groundbreaking.

Firstly, the IPCC established the significant risks beyond 1.5°C by detailing the threats of crossing the 1.5°C threshold and by comparing the impacts between 1.5°C and 2°C. The IPCC asserted that 1.5°C is more risky than the current levels of global warming, estimated in 2018 at more or less 1°C¹⁹⁴⁷. It becomes clear that limiting to 1.5°C is *significantly safer*, both for human societies (meaning individuals, present, and future generations etc¹⁹⁴⁸) and the environment (global and local ecosystems, biodiversity, wildlife, forests¹⁹⁴⁹).

Secondly, for the elaboration of the SR1.5, the IPCC studied 90 global pathways limiting warming to 1.5°C¹⁹⁵⁰ (so-called “1.5°C pathways”). It concluded that limiting global warming to that level requires unprecedented changes in society and the economy, i.e., “rapid and far-reaching transitions in energy, land, urban and infrastructure”¹⁹⁵¹.

The 1.5°C carbon budget is moreover rapidly depleting. In fact, “[i]t is likely that global warming will reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate (high confidence).”¹⁹⁵²

To avoid this depletion, the world needs to reduce by 45% its CO₂ emissions by 2030 compared to 2010 and achieve CO₂ net zero emissions by 2050. The 2°C scenarios meet those respective milestones around 20 years later¹⁹⁵³.

This data shows the urgency of the matter and the radicality of the action required to achieve a 1.5°C limitation (see the graph next to the text here stemming from the SR1.5, Figure SPM 1 showing the steepness of the pathway).

1947 IPCC, SR1.5 (2018), SPM, § A3.

1948 *Ibid*, § B1 and B5.

1949 *Ibid*, § B3.

1950 *Ibid*, Chapter 2, Supplementary Material, Table 2.SM.11, p 18.

1951 *Ibid*, SPM, § C2.

1952 *Ibid*, § A1.

1953 *Ibid*, § C1.

Finding: Before the SR1.5, the scientific discussion already labelled the 2°C objective as too onerous and burdensome, leading some scientists and other relevant commentators to doubt its actual feasibility¹⁹⁵⁴. The recognition of the need to reinforce efforts to limit global warming to 1.5°C may, thus, appear very surprising. It brought a much-needed sense of urgency to tackle climate change, leading the world to act more rapidly together, but still not sufficiently, as warming may still reach 2.1°C to 2.8°C according to the last official COP estimations¹⁹⁵⁵. Consequently, there is still no substantive compliance with CDD (see the non-compliance findings of subsection 1.3.2.1.2 on the PA's mitigation provisions).

3.3.3.2 The diplomatic reception of the SR1.5, only leading to procedural compliance

In 2018, after the SR1.5 just came out, the COP 24 acknowledged its publication¹⁹⁵⁶. However, COP 24 did not endorse or recognise the SR1.5 main results; it only invited “Parties to make use of the information contained in the [SR1.5] report”¹⁹⁵⁷. Since the time between the SR1.5 release and the COP was just 2 months, it may be understandable that the world community did not react more substantively to the SR1.5 results. In 2019, the COP 25 in Madrid did not address the SR1.5 either. And, in 2020, the COP was cancelled due to the COVID-19 crisis.

In 2021, the COP 26 in Glasgow finally quoted the main results of the SR1.5¹⁹⁵⁸. Concerning the first part on “Science and Urgency”, the COP recognised that “human activities have caused around 1.1 °C of warming

1954 Viñuales, ‘The Paris Climate Agreement: An Initial Examination’, in C-EENRG Working Papers, no. 6, 15 December 2015: “From an equity perspective it seems clear that 1.5 °C would be preferable, but such a target would have complex signalling effects 10 because, scientifically, it looks extremely difficult to achieve and, perhaps unrealistic [referencing in a footnote the following piece: Carraro C and Massetti E, “The Improbable 2°C Global Warming Target”, *Vox*, 3 September 2009; See as well Mayer B, “Editorial: Special Issue – Legal Aspects of the 1.5°C Target” (2018) 1 *Carbon & Climate Law Review (CCLR)* referencing “Victor and Kennel, ‘Climate policy: Ditch the 2 °C warming goal’ (2014) 514 *Nature* 30”.

1955 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 18.

1956 COP 24 Decision (Katowice), *FCCC/CP/2018/10/Add.16*, 19 March 2019, § 27.

1957 *Ibid.*

1958 COP 26 decision, “Glasgow Climate Pact”, *FCCC/PA/CMA/2021/10/Add.1*, 13 November 2021, § 15 – 17.

to date” and that the carbon budgets are rapidly depleting¹⁹⁵⁹. It stressed moreover “the urgency of enhancing ambition and action in relation to mitigation, adaptation and finance in this critical decade to address the gaps in the implementation of the goals of the Paris Agreement”¹⁹⁶⁰. The specific subsection on mitigation eventually highlighted the importance of limiting warming to 1.5°C and found that:

“21. Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C and resolves to pursue efforts to limit the temperature increase to 1.5 °C;

22. Recognizes that limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid century, as well as deep reductions in other greenhouse gases;

23. Also recognizes that this requires accelerated action in this critical decade, on the basis of the best available scientific knowledge and equity, reflecting common but differentiated responsibilities and respective capabilities in the light of different national circumstances and in the context of sustainable development and efforts to eradicate poverty.”¹⁹⁶¹

The COP 27 and 28 in Sharm-el-Sheikh and Dubai recalled similar findings¹⁹⁶². The focus on limiting warming to 1.5°C is a source of numerous scientific and policy debates, as the carbon budgets are depleting rapidly, even for the 2°C scenario, as recognised by the COP¹⁹⁶³. In light of these difficulties, the global community of States merely found the need to reinforce the “efforts to limit the temperature increase to 1.5 °C”, without declaring this temperature threshold as the only admissible one¹⁹⁶⁴. In other words, the COP manifestly formulated a best-efforts obligation for 1.5°C, but not an obligation of results.

Notably, France argued before the ITLOS that the court should consider the COP 26 decision when interpreting the PA, and the due diligence

1959 *Ibid*, § 3.

1960 *Ibid*, § 4.

1961 *Ibid*, § 15 – 17.

1962 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 4, 11, 12; COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 4, 25 – 28.

1963 COP 26 decision, “Glasgow Climate Pact”, *op cit*, § 15 – 17.

1964 *Ibid*.

norm contained in UNCLOS¹⁹⁶⁵, by quoting the ICJ, which has stated in another case that consensual recommendations “may be relevant for the interpretation of the Convention”¹⁹⁶⁶.

Given the COP decisions, Mayer and Van Asselt argue that the global community knows in principle very well what needs to be done and that if an international or domestic court only recalls the need to limit global warming to 1.5°C, by associating it with due diligence, its outcome would be merely redundant¹⁹⁶⁷. This PhD thesis partially disagrees for the following reasons. COP decisions are not binding as such and are drafted in a global context. In other words, COP decisions do not necessarily reflect individual State ambitions or intentions. Therefore, even though the information on what an alignment with 1.5 requires is widely available and accepted on the international level politically, the decision makers at the national levels (members of Parliaments, domestic, regional institutions and so on) may not be on the same page, let alone individual citizens, who cannot necessarily follow these developments. And since numerous countries, especially developed ones, are democracies based on free markets, it is even more important to inform citizens, as they have some leverage as voters, consumers, or affected individuals. They can notably vote for politicians in favour of climate action, reduce their energy consumption, switch to alternative fuels, eat less meat, take legal action based on CDD (see subpart 3.1 on standing), choose to engage professionally in the development of low-carbon technologies, and so on. Thus, given this need for coordination and synchronisation, there is no harm if international, regional or domestic legal actions address climate mitigation and ultimately lead to decisions which specify the best efforts requirements to achieve 1.5°C alignment.

1965 France, Written Statement Of France, International Tribunal for the Law Of the Sea, Request for an Advisory Request submitted by the Commission Of Small Island States on Climate Change and International Law, (Case No. 31), 16 June 2023, § 103 – 113: “France concludes that the “CMA’s decisions are therefore relevant for the purposes of interpreting the Paris Agreement; specifically, they strengthen the scope of the objective of limiting temperatures to 1.5°C relative to the letter of the Paris Agreement and emphasize the urgency of taking action.”

1966 ICJ, Judgment, 31 March 2014, Whaling in the Antarctic (*Australia v Japan: New Zealand intervening*), I.C.J. Reports 2014, p 248, § 46: “[t]hese recommendations, which take the form of resolutions, are not binding. However, when they are adopted by consensus or by a unanimous vote, they may be relevant for the interpretation of the Convention”.

1967 Mayer B, “International Advisory Proceedings on Climate Change” (2023) 44 *Michigan Journal of International Law* p 49-50. ; see also Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 8.

Analysts and legal experts such as Mayer should recall the very nature of the climate problem, which is a “highly polycentric issue”¹⁹⁶⁸, meaning that everyone needs to act at all levels in order to harmoniously prioritise climate action in the different governance and legal systems, with the ultimate aim to achieve the LTTG and overall CDD compliance. Furthermore, there is a necessity to spell out for each systemic actor the minimum level of CDD compliance.

It is also remarkable that the COP started to address private parties and climate finance more prominently from COP 26 onwards (see below). However, numerous initiatives have voiced critiques on the insufficiency of private actors’ actions, and no legal framework exists to compel private actors to achieve the PA’s LTTG. This state of affairs justifies relying on CDD to ensure that corporate actors deploy best efforts to be on track with the LTTG, or at least, not hinder its achievement.

Findings: The COP started to implement the SRI.5 results from 2021 onwards, but still failed to bring the world on the 1.5°C track, as it is on course to 2.1°C – 2.8°C according to COP 28. Thus, the COP only achieves procedural CDD conformity and must carry out much more substantive effort to achieve substantive compliance, by addressing equity, climate finance, private actors’ commitments, adaptation, losses and damages, etc.

The implications of a 1.5°C scenario alignments are “extraordinarily ambitious”, almost a “revolution” as Mayer labelled it¹⁹⁶⁹, which is even more the case for developed countries when one takes into account equity aspects. While courts may be reluctant to enforce specific GHG reduction figures linked to the 1.5 objective, they can still verify whether states (or other private actors) did everything they could to attain individual 1.5 alignments. The dynamics that climate litigation introduced, next to the incremental PA implementation, may spur progress. It is, however, entirely unclear whether the PA and general CDD may ultimately suffice to avoid the worst climate-related impacts.

1968 Mayer B and van Asselt H, “The Rise of International Climate Litigation” (2023) *RECIEL* p 4.

1969 Mayer B, “Editorial: Special Issue – Legal Aspects of the 1.5°C Target” (2018) 1 *Carbon & Climate Law Review (CCLR)* p 3.

3.3.4 The insufficient progress achieved by COP 26 – 28

Beyond inferring some broad objectives from the SRI.5, the COPs did not appear to achieve significant breakthroughs.

In fact, the so-called “Paris Rulebook”, which intends to specify how some PA provisions ought to be interpreted, still leaves a considerable margin of appreciation¹⁹⁷⁰. For instance, concerning mitigation and equity, which are at the core of the climate conventions architecture, the Paris Rulebook did not achieve further specification¹⁹⁷¹. While developing countries argued in favour of an exhaustive equity approach, including in the global stocktake, developed States dismissed it, arguing that there is no international consensus on the equity criteria yet¹⁹⁷². The Global North position reflects some “organised hypocrisy” as there was and is some irrefutable amount of consensus since AR4 in this regard (see Bali-Box).

Findings: The persistent refusal by developed state parties to agree to implement best efforts towards achieving more mitigation efforts and equity constitutes a significant hurdle in advancing climate mitigation, and could aggravate their CDD breaches, which potentially began from the first IPCC report onwards, or the 1992 adoption of the UNFCCC (see above).

In 2021-23, the IPCC published AR6. It published first the WG I report on the physical science basis, which confirmed that there is no uncertainty at all anymore on the front of anthropogenic warming findings (i.e., this finding is unequivocal, thus the precautionary principle does not need to apply at all anymore)¹⁹⁷³. The AR6 WG II further emphasised the dangers of global warming exceeding 1.5°C by notably showing that loss and damages already occurred and will worsen soon¹⁹⁷⁴.

In 2022, the COP 27 in Sharm-El-Sheikh achieved a significant development regarding loss and damage, notably creating corresponding funding arrangements¹⁹⁷⁵. To justify this stance, it notably relied on the AR6 report, which shows “the growing gravity, scope and frequency in all regions of

1970 Rajamani L and Bodansky D, “The Paris Rulebook: Balancing International Prescriptiveness with National Discretion” (2019) 68 *International and Comparative Law Quarterly* p 1023-1040.

1971 *Ibid*, p 1031.

1972 *Ibid*.

1973 IPCC, AR6 (2021-23), WG I, SPM, § A.1 – A.1.3 – A.1.

1974 See, for instance, IPCC, AR6, SYR, SPM, § A2: “A.2.

1975 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 24.

loss and damage associated with the adverse effects of climate change, resulting in devastating economic and non-economic losses, including forced displacement and impacts on cultural heritage, human mobility and the lives and livelihoods of local communities”¹⁹⁷⁶. The COP 27 also expressed its “deep concern” for developing countries, which face growing debts and other vulnerabilities¹⁹⁷⁷.

In 2023, the COP 28 operationalised the loss & damage funding arrangement¹⁹⁷⁸. Some already contributed to the fund, as stated in the official press release¹⁹⁷⁹, but the COP decision itself “[a]cknowledges the significant gaps, including finance, that remain in responding to the increased scale and frequency of loss and damage, and the associated economic and non-economic losses”.¹⁹⁸⁰

Findings: While the creation of funding arrangements is a welcome development in international climate law, and responds to the AR6 findings, the loss and damage fund still needs to be filled by further relevant and steady or increasing contributions to adequately compensate for the damages, notably by developed states, and certainly some private actors which historically delayed climate mitigation (see above, corresponding non-compliance findings for private actors). Thus, the state community followed the same pattern as previously, achieving partial compliance on the procedural level, but not substantively.

As to private pledges, the UN Secretary General brought together an expert group, the so-called High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities (HLEG), which issued a report at COP 27 (2022)¹⁹⁸¹, setting out climate expectations for all non-state actors – especially large multinational business enterprises from the Global North, including financial actors. More precisely, the report sets out criteria to make the businesses compatible with a 1.5°C world, including combating greenwashing, as climate pledges, especially net-zero ones, were trending.

1976 *Ibid*, § 22.

1977 *Ibid*, § 23.

1978 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, footnotes 7 and 8.

1979 UNFCCC Website, “COP28 Agreement Signals ‘Beginning of the End’ of the Fossil Fuel Era”, *Press Release*, 13 December 2023: “Commitments to the fund started coming in moments after the decision was given, totalling more than USD 700 million to date.”

1980 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 128.

1981 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 60.

Additionally, the COP 26 Decision called on private, public and multilateral banks “to accelerate the alignment of their financing activities with the goals of the Paris Agreement”¹⁹⁸², and, therefore, facilitated the launch of the Glasgow Financial Alliance on Net Zero (GFANZ)¹⁹⁸³.

More generally, an overhaul of the functioning of the financial system is required, as the COP acknowledged¹⁹⁸⁴.

Findings: These steps and measures are welcome but are late, not legally binding, and do not ensure any implementation by private parties¹⁹⁸⁵. Obliging private actors to do their fair share is necessary as they are not on track to achieve the LTTG, nor are they manifestly implementing best efforts¹⁹⁸⁶. As UN-HRTB clarified, the obligations to protect HR require state parties to implement binding due diligence regulations on corporate groups, including multinationals. Consequently, as long as States do not require private actors to do their part to achieve the LTTG for private actors, they will not comply with CDD.

3.3.5 Provisional conclusion on CDD’s violations after 2015

When the international community adopted the PA, commentators deemed that a breakthrough was achieved despite the elusive character of many

1982 COP 26 decision, “Glasgow Climate Pact”, *op cit*, § 55.

1983 GFANZ was launched in April 2021 by UN Special Envoy on Climate Action and Finance Mark Carney and the COP26 presidency, in partnership with the UNFCCC Race to Zero campaign, to coordinate efforts across all sectors of the financial system to accelerate the transition to a net-zero global economy. [...] GFANZ was founded for two equally important purposes: to expand the number of net zero-committed financial institutions and to establish a forum for addressing sector-wide challenges associated with the net-zero transition, helping to ensure high levels of ambition are met with credible action. GFANZ brings together independent, sector-specific Alliances to tackle net-zero transition challenges and connects the financial community to the Race to Zero campaign, climate scientists and experts, and civil society.

1984 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, §31.

1985 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019, § 3 and 5.

1986 No significant multinational is aligned with the Paris Agreement target, despite having considerable carbon footprints according to numerous assessments, according to the following: Climate Action 100, “Progress-Update: Five years of Climate Action 100+”, (2022) and the World Benchmarking Alliance, “Oil and Gas Benchmark”, 2023.

provisions (i.e., the PA is a so-called bottom-up agreement requiring iterative implementation by State parties)¹⁹⁸⁷. Certainly, the Agreement may be seen as the best possible mechanism because of the dismissal by the majority of States of binding reduction commitments. In addition, one may consider the COP 21 order to commission a study by the IPCC on the impacts of global warming beyond 1.5°C as an adequate CDD measure to identify dangerous global warming. Therefore, this period may be partially classified as a *collective* compliance period, but only from a *procedural* angle since the specific GHG reduction measures in place do not suffice to achieve the temperature goals, nor do they *manifestly* reflect best individual efforts (see the outcomes of the corresponding case law in Part 2).

More precisely, despite some uncertain progress, the global community is not on track to achieve the Paris Agreement's temperature target: the IPCC estimated in AR5 (2014) that warming would reach 3.7°C - 4.8°C by 2100¹⁹⁸⁸, and in 2023 the COP 28 decision estimated that the world's current measures would lead to 2.1-2.8°C by 2100. If all countries achieve their conditional NDCs and pledges announced by 2022, global warming could be limited to 1.8°C by the end of the century¹⁹⁸⁹. However, this scenario was not considered credible in 2022¹⁹⁹⁰. Since the USA withdrew for a second time from the Agreement and deregulated important domestic climate policies¹⁹⁹¹, the projections will likely worsen by the end of 2025. Either way, beyond the USA, these collective insufficiencies are due to numerous *individual* ongoing failures by many States¹⁹⁹² and private actors¹⁹⁹³, which *manifestly* do not carry out their best efforts, thus likely characterising generalised *individual* CDD breaches.

Furthermore, given the lack of mitigation, there is a need to increase adaptation. Developed countries bear a specific responsibility towards de-

1987 Viñuales Jorge E, "The Paris Climate Agreement: An Initial Examination", *C-EEN-RG Working Papers*, no 6, 15 December 2015.

1988 IPCC, AR5 (2014), SYR, SPM, p 20.

1989 IEA, WEO 2022, p 20 – 21.

1990 *Ibid*, p 32.

1991 Popli N, "What Happened the Last Time Trump Left the Paris Agreement", *TIME*, January 2025.

1992 See the CAT analyses for states – especially developed states: Climate Action Tracker, Countries Assessments, <https://climateactiontracker.org/countries/>, last accessed 30 October 2025.

1993 See the numerous assessments showing the insufficiency of climate action by systemic private parties, by Climate Action 100+, a broad coalition of investors: Climate Action 100, "Progress-Update: Five years of Climate Action 100+", (2022). the World Benchmarking Alliance, "Oil and Gas Benchmark", (2023).

veloping countries in this regard, too, especially as regards climate finance. Nonetheless, they have not delivered any sufficient support so far, as subdivisions 3.3.2 - 3.3.4 show.

Lastly, if the world recently managed to negotiate global loss and damage funds, they remain at this stage underfunded. Developed countries and their business enterprises should logically contribute to these funds to compensate for their past historical failures to comply with CDD.

Overall, even if some progress in terms of mitigation was achieved, some important rollbacks occurred. So far, the Paris Agreement has not put the international community on track with its LTTG. There is a need to go further to prevent dangerous global warming. Initiating climate litigation based on CDD before domestic and international courts is one possible avenue to bolster action. Notably, a judicial body may carry out this type of historical compliance analysis to question the need to impose “secondary obligations”, to know, among others whether systemic Global North actors (i.e., developed States and multinational corporations) must reinforce climate mitigation to compensate for the past failures (see below, interim conclusion), or provide for adaptation and compensation for loss and damage.

3.4 Interim Conclusion on the potential secondary obligations

In a nutshell, Part 3 found that the overarching due diligence duty to identify and prevent serious harm to others and the environment, including climate change, became applicable in the late 1960s. Additionally, it fleshed out that the USA and private actors headquartered there (such as Exxon) are particularly responsible for climate inaction since they refrained from implementing climate mitigation measures despite significantly developing and accessing scientific knowledge about global warming. The USA’s actions may also have had a bearing on the international community, which did not implement adequate and proportionate substantive measures either. This finding does not alleviate CDD failures by other systemic Global North actors (i.e., developed States and multinational corporations) from the 1990s onwards, as they also had a significant influence on the course of the events, especially the EU, and private corporations headquartered in this region, including Shell and TotalEnergies.

Given those findings, a judicial body may carry out this type of analysis to question and ground the existence of “secondary obligations” linked to non-compliance with *general* CDD, such as:

- (i) Reinforcing mitigation measures to redress past shortfalls.
- (ii) Providing compensation for loss and damages.

The question is whether both redress shall be provided or only one. Under UK nuisance law, courts review whether the injunction is a more adequate, fair and just solution than providing monetary compensation¹⁹⁹⁴. Other judges could also consider this question, especially if they are faced with those two types of requests. If so, the following considerations may unfold.

3.4.1 The secondary obligation to reinforce mitigation to make up for historical responsibility

As this thesis demonstrated in length, especially in Parts 1 and 2, every person needs to reduce GHG emissions, even if they are not significant, as recognised by the US Supreme Court in *Massachusetts*¹⁹⁹⁵, the Dutch Supreme Court in *Urgenda*¹⁹⁹⁶, the German Constitutional Court with respect to its climate law¹⁹⁹⁷, or the Hague District Court in a case against a private company Shell¹⁹⁹⁸. Said differently, there is a primary general *individual* and *collective* CDD duty to limit global warming as much as possible by carrying out best efforts¹⁹⁹⁹.

Injunctions to mitigate warming are thus needed to prevent the contribution to the aggravation of the harm as much as possible, even if the world oversteps the 1.5°C threshold, or even the 2°C threshold²⁰⁰⁰. In fact, only the reduction of GHGs can safely mitigate the aggravation of warming, without having recourse to dangerous technologies such as geo-engineering, which aims to artificially control the global weather²⁰⁰¹. Thus, mitigation remains an overarching priority in light of the hard adaptation limits²⁰⁰², which, if crossed, would consequently imply even more losses and

1994 UK Supreme Court, *Coventry v Lawrence*, [2014] UKSC 13, 26 February 2014, § 121.

1995 SCOTUS, *Massachusetts v EPA*, 549 U. S. ____ (2007), p 22.

1996 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 6.3.

1997 Constitutional Court of Germany, 1 BvR 2656/18, 24 March 2021, § 99.

1998 District Court of The Hague, *Milieudefensie v Shell*, 26 May 2021, C/09/571932 / HA ZA 19-379, § 4.4.49.

1999 ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 545.

2000 WMO, “WMO confirms 2024 as warmest year on record at about 1.55°C above pre-industrial level”, Press Release, 10 January 2025.

2001 IPCC, AR5 (2014), SYR, SPM, p 26.

2002 IPCC, AR6 (2021-23), SYR, § B.4.2.

damages. In other words, it is necessary to grant enhanced climate mitigation obligations, including as an overarching secondary obligation, aimed at remedying the historical shortcomings as much as possible.

3.4.1.1 Increasing climate mitigation by considering historical responsibilities

While an increased ambition in terms of mitigation is, in principle, necessary to remedy a wrongful mitigation shortfall, the precise amount to be compensated may remain unclear. The quantification of historical responsibility in fair share studies is one way of determining the more precise amount of compensation, as these studies use various criteria to calculate shortfall²⁰⁰³. However, Part 2 found that judicial bodies do not impose any precise reduction obligations in the absence of consolidated scientific and political consensus. Accordingly, when imposing secondary obligations to remedy past shortfalls, it may be necessary to leave a margin of appreciation or some discretion²⁰⁰⁴.

Following this approach, courts could still impose secondary obligations on States to require demonstrating the consistency of their mitigation ambition in the light of their historical shortcomings. Thereby, States would keep some discretion on the overall mitigation ambition and its implementation. The report of the European Scientific Advisory Board on Climate Change, created by the European Climate Law²⁰⁰⁵, illustrates this approach

2003 Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 1; see as well: Robiou du Pont Y and Meinshausen M, “Warming assessment of the bottom-up Paris Agreement emissions pledges”, *Nature Communications* 9 (2018) 4810; see as well Kemp-Benedict E, Holz C, Baer P, Athanaisou T and Kartha S, *The Climate Equity Reference Calculator* (Berkeley and Somerville: Climate Equity Reference Project (EcoEquity and Stockholm Environment Institute), 2019), [Online], available at: <https://calculator.climateequityreference.org>, last accessed 31 October 2025.

2004 See ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 569 - 571. See as well for companies: Court of Appeal, *Shell*, ECLI:NL:GHDHA:2024:2100, 200.302.332/01, 12 November 2024; and CSDDD.

2005 The European Scientific Advisory Board on Climate Change was established by the European Climate Law of 2021. Its mandate is to serve as a point of reference for the EU on scientific knowledge relating to climate change. The Board has confirmed that the EU has not met the requirements, p 9.

by calculating the EU's fair share, including its historical responsibility, and subsequently confirming that it is necessary to increase ambition in mitigation²⁰⁰⁶. While official studies do not exist for each developed State, the *procedural* dimension of due diligence should require the elaboration of those studies. Meeting this duty before any judicial condemnation could enable state actors to compensate for their historically insufficient and wrongful mitigation actions by preparing enhanced future mitigation ambition.

This logic should apply to private actors as well, as there is no reason in principle to exonerate them from a secondary obligation to remedy their historical wrongful conduct²⁰⁰⁷.

Given what precedes, a secondary obligation may arise in case of past wrongful conduct aimed at ceasing the negligence and/or to repair it by increasing the ambition of GHG reductions. More precisely:

- The cessation obligation could take the form of stopping the potentially continuing unlawful contribution to the harm, including by offering “appropriate assurances and guarantees of non-repetition”, such as through the establishment of an effective and credible 1.5°C transition plan and corresponding measures.
- The compensation must be supported by more stringent future GHG reductions, which are deemed adequate and proportionate to remedy the past mitigation insufficiencies²⁰⁰⁸.

3.4.1.2 Financially supporting emission reductions overseas

Compensating for historical shortcomings may pose questions of feasibility given the need to close wide emissions gaps, which are particularly demanding for developed countries. To solve this problem, scientific and legal experts argued that providing financial resources to third parties to

2006 *Ibid*, p 14.

2007 See the somewhat concurring opinion regarding the need for companies to do their fair share: UN High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities, “Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions”, 2022, p 15.

2008 This may be achieved by compelling the consideration of the historical responsibility criterion of the fair share literature when setting out mitigation measures to *increase* the ambition of current mitigation measures (see, for more details, subpart 3.4).

ensure GHG reductions may be an acceptable method for complying with domestic reduction obligations²⁰⁰⁹. For example, the European Scientific Advisory Board on Climate Change recommended that:

“The EU must therefore ensure that it does the following. 1. Aim for the highest level of ambition in domestic emission reductions and carbon dioxide removals, [...] 2. Contribute to direct emission reductions outside the EU, in the light of the shortfall identified between the feasible pathways and fair share estimates.”²⁰¹⁰

The Dutch Supreme Court has also considered that reductions overseas *could* have been relevant in meeting the domestic fair share if the state had been able to demonstrate the precise quantities of GHG reductions achieved overseas²⁰¹¹. Furthermore, the climate regime authorises States to fund emissions reduction overseas, notably through Article 6 of the Paris Agreement. Consequently, reducing emissions directly overseas seems to be an acceptable measure to compensate for a lack of territorial emissions if implementation domestically is not possible or would cause significant hardship. Similar conclusions should apply to private actors.

Can measures other than *direct* emission reduction transfers (such as the mechanism provided under Article 6 of the Paris Agreement or Article 12 of the Kyoto Protocol) satisfy the CDD (primary or secondary) duty to make its fair share?

For instance, the provision of “climate finance” was once proposed by the scientific literature to meet the individual fair shares²⁰¹². However, the notion of climate finance does not seem compatible with the legal notion of compensation, which allows loans. Indeed, it is estimated that loans account for as much as 80% of climate finance²⁰¹³. Furthermore, providing

2009 See, among others, Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 18.

2010 European Scientific Advisory Board on Climate Change, “Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030–2050”, 15 June 2023, p. 15.

2011 Supreme Court of the Netherlands, *Urgenda*, 19/00135, 20 December 2019, § 7.3.5.

2012 Climate Analytics, *Achieving the 1.5°C Limit of the Paris Agreement: An Assessment of the Adequacy of the Mitigation Measures and Targets of the Respondent States in Duarte Agostinho v Portugal and 32 other States*, 7 January 2022: p 44.

2013 Editorial, “Global climate action needs trusted finance data: An agreed system for measuring funding of green projects in poorer nations will be vital to achieving action on climate change in 2021”, *Nature*, 6 January 2021.

climate finance is manifestly an outstanding primary obligation according to Article 9 of the Paris Agreement (see section 3.3.2.4). Thus, reducing domestic emissions responds to a different obligation than providing climate finance, a separate requirement for developed countries.

Otherwise, can extraterritorial emissions (including regulatory measures instead of direct emission reduction transfers) satisfy individual *domestic* fair shares? For instance, can the EU legitimately argue that it is doing its fair share by relying on its extraterritorial legislation, which is ultimately aimed at reducing greenhouse gases overseas (see CBAM or the CSDDD)? In the view of this thesis, the response should be negative. The ECtHR specified that the territorial and extraterritorial obligations found in *KlimaSeniorinnen* are *primary* duties²⁰¹⁴, which corresponds with the UN Committee's view²⁰¹⁵. Consequently, territorial and extraterritorial obligations should be tackled in tandem as primary obligations: States must do their fair share with respect to domestic or territorial emissions, which includes compensating for the lack of fair share through funding reductions overseas, and, in parallel, regulate extraterritorial emissions. In other words, akin to the duty to provide climate finance, reducing extraterritorial emissions is a self-standing primary obligation, which should not count towards the lack of doing its domestic fair share regarding territorial emissions²⁰¹⁶.

Given the above, direct emission reductions overseas seem the only measure to compensate for a lack of fair share domestically.

3.4.2 The secondary obligations to provide monetary compensation in case of loss and damage

While it is difficult to estimate the extent to which compensation for loss and damage must be provided and whether courts can grant compensation requests, this thesis does not rule out these possibilities for the following reasons.

2014 See ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 287; see as well, the individual opinion of partly concurring partly dissenting opinion of Judge Eicke, § 5.

2015 See, among others, Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019.

2016 Furthermore, the control over territorial emissions is not the same as over extraterritorial emissions; therefore, it seems impossible to equate corresponding obligations.

Despite significant difficulties in attributing emissions *exclusively* to one actor due to the shared responsibility dimension in the context of global warming²⁰¹⁷, it is not impossible to attribute climate-related actions or omissions to public and private actors (i.e., GHG emissions, or other acts, such as opening up fossil fuels, lobbying etc.). Furthermore, these acts become legally relevant if they have a bearing on the courses of the events, i.e., if they caused a loss of opportunity to remain unharmed or if their absence “could have had a real prospect of altering the outcome or mitigating the harm”, as the ECtHR has put it²⁰¹⁸. Thus, individual systemic actors, such as States or corporate groups, must do their part to limit global warming as much as possible, and face liability risks if they do not comply with this standard.

Although the amounts of the climate-related losses and damages are likely to be significant and may be partly unrecoverable²⁰¹⁹, no reparation or compensation at all is not an option either, as it may constitute a denial of justice, an aggravated violation of rights and a disregard for the principle of (shared) responsibility. Nonetheless, it seems rather clear that the application of the principle of joint and several liability (or full liability “*in solidum*”) is problematic, as it could ultimately be unfair to the condemned actor to bear the entire compensation costs, given that it is in any case only *partially* responsible for the current levels of global warming (see in subsection 2.2.1 the exception of the State duty to protect at the territorial level, as applied in the *Torres Islands* case, in which the Australian State was found responsible for bearing the entire costs for adapting its territory to climate change, given the *full* applicability of the duty to protect in territorial circumstances²⁰²⁰).

2017 See causation, subpart 2.2: i.e., the territorial emissions that States can regulate are directly emitted by private persons – in turn, direct emissions of private companies are, in principle, allowed and regulated by democratic decision-making institutions.

2018 See section 2.3.2 and Part 3 for more analysis and especially, ECtHR, *KlimaSeniorinnen*, n°39371/20, 9 April 2024, § 444.

2019 Additionally, the required funding for adaptation is equally considerable: the COP 28 in 2023 estimated that developing countries need “USD 215–387 billion annually up until 2030” for adaptation (see COP 28, “First Global Stocktake”, FCCC/PA/CMA/2023/L.17, 13 December 2023, § 67 – 68).

2020 Human Rights Committee, *Torres Islands case (Daniel Billy et al v Australia)*, Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, CCPR/C/135/D/3624/2019, 22 September 2022. See the following for some relevant lessons of tort law in comparative law:

On the other hand, providing monetary compensation in a casuistic manner to only some litigants in pending cases does not seem to be a satisfactory *modus operandi* in a context in which an infinite number of climate-related losses and damages are occurring²⁰²¹. Moreover, granting damages to specific plaintiffs in proportion to the share of responsibility of any respondent(s) actor(s) would only redress the harm of those *specific* plaintiffs in a very incomplete fashion.

Given the need for systemic solutions, courts could order States to set up corresponding regulatory frameworks for compensation, such as the creation of domestic climate-related funds²⁰²², and/or, in a similar vein, order the State do its part to ensure that the recently created international funds work adequately²⁰²³. At the end of the day, there is a need to ensure that every potential climate-related victim is compensated and that every GHG contributor contributes to repairing the loss and damages. Liability without fault (strict liability) should also be considered further, an opinion echoed by the recognition in the Paris Agreement of “the significant role of public funds” in tackling those issues²⁰²⁴, the literature²⁰²⁵, as well as the ICJ advisory opinion²⁰²⁶. Having said that, it is particularly important that private actors contribute adequately to loss and damages funds. The CDD’s

Spier J (ed), *The Limits of Liability: Keeping the Floodgates Shut (Principles of European Tort Law Set)*, Kluwer Law International, 22 December 1995.

2021 One US judge stated for instance that climate change is a worldwide problem that “deserves a solution on a more vast scale than can be supplied by a district judge” (see US District court For the Northern District of California (William Alsup), *City of Oakland v BP et al*, 25 June 2018, p 15).

2022 Can a court order the creation of such a fund in a case against the State or private actors?

2023 COP 27, “Sharm el-Sheikh Implementation Plan”, *FCCC/CP/2022/L.19*, 20 November 2022, § 24.

2024 See Article 9 (3) of the PA, which notes “the significant role of public funds” with respect to climate finance, for which “developed country Parties should continue to take the lead”.

2025 Deva S, “Climate Change: Looking Beyond Human Rights Due Diligence?” (*Nova Centre on Business, Human Rights and the Environment Blog*, 7 May 2021); see as well, Mougeolle P, “Business and Human Rights Symposium: Climate Change Litigation Against Corporations and the Role of Civil Liability” (2021) *Opinio Juris*.

2026 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 160.

duty to regulate private persons and the “polluter pays” principle form the basic principles underpinning these considerations²⁰²⁷.

Last but not least, the applicable margin of appreciation in case of lack of consensus concerning the required measure may represent a further difficulty in the context of calculating damages (see subpart 2.3, especially the *KlimaSeniorinnen* ruling). Note that, until now, contributions to climate finance and loss and damage were given on a voluntary basis on the international level (see section 3.3.2 and section 3.3.4). This voluntary system is not working properly because the commitments are neither delivered nor sufficient²⁰²⁸. Thus, it may be necessary to leave aside the “margin of appreciation” when potentially awarding monetary compensation, as the provided leeway may be too close to the voluntary system. As a solution, a lump sum may be calculated by using a standardised method of determining the share of responsibility, i.e., taking into account the direct and indirect emissions of the concerned actor, the extent of the wrongful conduct, and the available financial means of the responsible persons. It is noteworthy that the ICJ concluded its climate advisory opinion on a similar note, arguing the usefulness of providing “global sums” in this context²⁰²⁹.

2027 Five UN human rights treaty bodies, Joint Statement on “Human Rights and Climate Change”, *op cit*, 16 September 2019; Administrative High Court of Justice of London, *Plan B. Earth & Others v The Prime Minister & Others*, [2021] EWHC 3469 (Admin), § 3.

2028 COP 28, “First Global Stocktake”, *FCCC/PA/CMA/2023/L.17*, 13 December 2023, § 67 and 80.

2029 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 454.

4 General Conclusion

4.1 Reflection on the adequacy of the comparative methodology

Despite some challenges related to the scope of the work, this PhD has demonstrated the transnational emergence – or even existence – of CDD, including by exploring its potential and limitations through the use of comparative legal methodologies outlined in the introduction.

The dissertation notably identified due diligence norms across legal systems not only through their names, but above all through their functions and characteristics. Although due diligence norms often bear different names in different legal systems, they share similar criteria, which facilitates their identification using a functional approach. Furthermore, it was established that the assessed domestic liability systems share common roots in Roman law and that international law has developed analogies with these domestic tort law principles²⁰³⁰. These shared foundations across legal systems help to identify and understand due diligence norms.

Part 1 thus demonstrated the transnational applicability of the concept to climate change within international law, human rights law, and domestic laws in European jurisdictions and the United States, ultimately applying to both public and private actors. The growing number of judgments affirming or hinting at the existence of CDD (2017–2025)²⁰³¹ also confirms with much more authority the applicability of general norms such as due diligence to climate change (see for example, the *KlimaSeniorinnen* outcome by the ECtHR and internationally the ICJ advisory opinion). In the view of the author of this dissertation, it is not surprising that other domestic and international courts have confirmed the principles found in *Urgenda*, given the preexistence and ubiquity of due diligence, and the generality of the problem.

Next, Part 2 fleshed out transnational trends in comparative case law on the extent to which Courts are ready to enforce CDD. Courts across the world have accepted the enforcement of CDD under the following conditions:

2030 See subsection 0.2 of the introduction.

2031 The “inflation” of cases and “climate-related news” was challenging to grapple with.

- If the framing of the injury reflects the individual and collective dimensions of the harm, namely global warming, bearing in mind that its aggravation and scientific progress make the injury easier to demonstrate;
- If causation and the attribution of legal obligations are grounded in the concept of shared responsibility;
- If the requested redress of CDD is either enshrined in *specific* legislation, or if the interpretation of *general* CDD reflects scientific and institutional consensus, either by providing precise injunctions or by leaving a margin of appreciation.

The analysis in Part 2 and its main results illustrate the conditions under which courts are ready to judicially intervene and interpret CDD. They highlight that the judicial system cannot usurp its powers and create norms *ex nihilo*. Nor can courts enforce GHG reduction goals without any flexibility, given the scope of the concrete mitigation measures, which touch upon any aspect of human life and society.

Nonetheless, a line of case law across jurisdictions has previously granted the interpretive primacy over CDD to the political branches, especially with regard to setting overall mitigation ambitions and adopting concrete mitigation measures. Courts in France, Ireland, the United States and the United Kingdom have followed this path. This is particularly problematic in the United States, given the political opposition to climate action, notably during the Trump administration²⁰³². Hence, despite the growing – one may even say “consolidated” – recognition of CDD transnationally, the judicial and political situation in the USA sets out a fragmentation. Still, international law and customary CDD bind the USA²⁰³³, even if its political

2032 While this thesis argues that *specific* legislation must aim to implement *general* CDD (otherwise, it faces liability risks – see Part 3), the SCOTUS will unlikely enforce *general* CDD due to its (strong) tendency to give prevalence to the interpretation of the Constitution by Parliament. Additionally, while judicial review of the actions of the US government remains available under US law, the possibility of the review is firstly dependant on the survival of certain laws in Congress (which is unsure given that the Republicans hold there the majority), and then, the breath of the judicial review may be limited given the recent decision *West Virginia v EPA* of the SCOTUS concerning the Clean Air Act (it remains to be seen how this will play out with the Inflation Reduction Act, which provides significant funding to industries for decarbonisation).

2033 See, for instance, ITLOS, *Advisory Opinion on Climate Change and International Law*, 21 May 2024, see especially, § 405.

or judicial branch may continue to oppose or ignore it²⁰³⁴. While these circumstances illustrate the limitations of CDD and the law more generally, it is worth recalling that the conduct of the USA during Trump's second term may constitute a serious breach of CDD, which may give rise to secondary obligations, as discussed in Part 3.

Part 3 provides an analysis of further *potentialities* of CDD, namely, historical responsibility, an area where courts have yet to deliver substantial rulings. It presents a *prima facie* and *in abstracto* analysis to know whether private and public Global North actors complied or not with CDD. To do so, the evolution of climate science was considered, and the common criteria of *general* due diligence were applied, implying shared responsibility principles or individual and collective responsibility principles. The assumption is that significant discrepancies between individual action and climate-related consensus on what should be done may constitute breaches of *general* CDD. Given the numerous discrepancies identified, Part 3 concluded that there are as many potential periods of historical responsibility, which likely last until today. These failures could and should be remedied by secondary obligations implying higher mitigation outcomes or contribution to damages, to redress these periods of non-compliance. This higher responsibility in case of historical wrongful conduct is a logical consequence of the breach of the primary obligation of CDD, as it requires acting in *due* time and in accordance with one's means.

The study in Part 3 was enabled by the research done by litigants in several cases seeking responsibility for historical wrongful conduct, which is available on databases such as the "climate case chart". Nonetheless, the counter-assessment for this manuscript was challenging, requiring evaluation of each argument's merit. For example, complaints filed in the United States disregarded the issue of collective responsibility and omitted an analysis of whether the responses of industrial actors were *reasonable* in light of the *foreseeability* criterion. Revisiting this work led to extensive additional research, which may ultimately enable the finding of more plausible instances of breach findings.

2034 I did not research how SCOTUS dealt with international law in its past jurisprudence and the traditional views of conservative judges in this respect, which now form the majority of the Court. Nonetheless, given the recent stances of the Court in climate matters (see *West Virginia v EPA*) and its general willingness to give prevalence to the lawmakers as to the interpretation of the US Constitution and federal statutes in case of lack of clarity (see *Dobbs v Jackson*), SCOTUS would certainly dismiss international *customary* CDD as well if the political branches still object to it (which is the case so far).

In light of the foregoing, the comparative and interdisciplinary methodology employed was well-suited to assessing the existence, limitations, and potentialities of CDD across legal orders.

4.2 Reflection on the usefulness of CDD

The demonstration of the existence of CDD is useful as it counters the argument that there is unlimited freedom in the absence of any specific treaties or other domestic legislation.

As this dissertation showed, CDD *aims to* increase climate action. However, it remains uncertain whether it can truly counter persistent legal and political unwillingness. The following situations will serve as important tests in this regard:

- The implementation of general State CDD in light of the international advisory opinions and the ECtHR's *KlimaSeniorinnen* ruling²⁰³⁵, particularly since Swiss courts and other European courts (notably in France and the UK) had previously rejected the interpretation of *general* CDD articulated in *Urgenda*, and based on human rights.
- The confirmation and implementation of corporate CDD duties in the current political context, which aims to weaken climate legislation, such as the Corporate Sustainability Due Diligence Directive (CSDDD). In fact, the removal of Article 22 of this latter Directive, which formerly required the establishment and implementation of climate transition plans, illustrates this trend. The ongoing legal proceedings in this area, such as those against Shell and TotalEnergies, among others, should provide further clarification on the existence of the general CDD duty (see section 2.3.3).
- The broader political backlash against climate policies worldwide²⁰³⁶ has been reinforced recently by Trump's second election and withdrawal

2035 As a reminder, Switzerland contested the ECtHR decision and claimed to comply with the criteria laid out by the Court shortly after, see Conseil fédéral de la Suisse, “Le Conseil fédéral clarifie sa position sur le verdict de la Cour européenne des droits de l’homme concernant la protection du climat”, Berne, 28 August 2024.

2036 Goar M, “Le ‘backlash’ contre la transition écologique, un nouveau levier du populisme”, *Le Monde*, 2025.

from the Paris Agreement in 2025²⁰³⁷. This context is a significant challenge for CDD, particularly within the US federal legal system, whose Supreme Court, composed of “conservatives”, has shown a strong tendency to defer to the political branches, including for interpreting the US Constitution²⁰³⁸. The USA and its federal legal system represent a significant fragmentation risk for global climate mitigation efforts, including CDD.

In this light, the *effective* contribution of CDD to climate action remains unclear. Further empirical research in this respect *could* be insightful, but one should be mindful of the inherent difficulties of linking a ruling to concrete mitigation outcomes²⁰³⁹. Against this background, the results of this PhD thesis still highlight the CDD’s boundaries and potentialities.

- Assess whether the respective actors meet their voluntary climate-related commitments.

This step enables the intervention by courts to ensure the implementation of *specific* CDD elements, as seen in the USA, Ireland, France, Belgium and the UK²⁰⁴⁰. This type of judicial review may extend to voluntary climate-related commitments, such as those made under the Paris Agreement, as shown in *Urgenda* and *Klimatzaak*²⁰⁴¹. This thinking could also extend to corporate commitments, as shown in the French *Total Erika* case²⁰⁴². While this remedy *could* increase the effectiveness of *voluntary* measures, the ambition of the underpinned objectives and measures would remain unchecked, although they may be insufficient. This is a significant limit of this type of CDD remedy.

2037 Schonhardt S, “Why Trump’s 2nd withdrawal from the Paris Agreement will be different”, *Politico*, November 2024; Popli N, “What Happened the Last Time Trump Left the Paris Agreement”, *TIME*, January 2025.

2038 Totenberg N, “The Supreme Court is the most conservative in 90 years”, *NPR*, July 2022.

2039 Mayer empirically assessed the effective contribution of *Urgenda* to the reduction of emissions, however, as he admits, his results remain speculative (see Mayer B, “The Contribution of *Urgenda* to the Mitigation of Climate Change” (2023) 35(2) *Journal of Environmental Law*). In any case, he should carry out further empirical assessment with a broader team to evaluate the impact of climate litigation more generally (see Mayer B, “Call for applications: Real-World Impact of Climate Litigation”, 2024).

2040 See above, especially section 2.3.1 of the thesis.

2041 Court of Appeal of Brussels, *Klimatzaak*, 2021/AR/1589, 2022/AR/737 et 2022/AR/891, 30 November 2023.

2042 Cour de cassation, crim., *Erika*, n° 10-82-938, 25 septembre 2012.

- Devise *precise* injunctions based on an interpretation of *general* CDD if a consolidated scientific and political consensus exists.

Interpreting *general* due diligence in light of robust consensus or voluntary commitments could contribute to shaping climate action and law, such as the -25% by 2020 reduction figure found in *Urgenda*. However, issuing this kind of injunction depends on the pre-existence of highly consensual elements to ensure courts do not overstep their powers (see section 2.3.2). These conditions are difficult for plaintiffs to meet. One may even infer that the factual elements in *Urgenda* were almost unique (see subsection 2.3.2.1), as no analogous scientific consensus was established for the upcoming time horizons (2030, 2040 or 2050). Even the outcome in *Klimatzaak* differed from *Urgenda* since the Brussels Court of Appeal's injunction was based on the *specific* EU law of -55% by 2030, which had just been adopted, and was still in force – including at the time of writing²⁰⁴³. In other words, the consensus in *Klimatzaak* stems from *specific* legislation rather than scientific evidence. These facts regarding the required level of consensus explain the absence of *Urgenda*-type injunctions in other cases, such as *KlimaSeniorinnen*²⁰⁴⁴. The lack of consensus was also a reason for the Court of Appeal in The Hague to overrule the injunction in the *Shell* case (i.e., to reduce emissions by 45% by 2030)²⁰⁴⁵. The same reason also contributed to the dismissal of the *Juliana v USA* case, as subsection 2.3.2.2 of this thesis argues.

- Ensure public and private actors are truly making their best efforts to limit warming to 1.5°C (or at least, well below 2°C).

Allowing courts to review whether key public and private actors are making their best efforts allows for the scrutiny of the implementation of substantive measures. Indeed, if the duty bearers do not plan any significant GHG reductions, courts can find insufficiencies, violations of the law, or “lacunae” as the ECtHR did in *KlimaSeniorinnen*. Indeed, as Maljean-Dubois ar-

2043 Court of Appeal of Brussels, *Klimatzaak*, *op cit*, p 107, § 203.

2044 ECtHR, *Klimaseniorinnen v Switzerland*, no. 53600/20, 9 April 2024, § 657. See furthermore the discussion of the ECtHR's decisions before and after their issuance in subsection 2.3.2.5

2045 Court of Appeal of The Hague, *Milieudefensie v Shell*, C/09/571932 / HA ZA 19-379, 12 November 2024, § 7.111; see as well, the following short commentary: Van Asselt H and Savaresi A, “Corporate Climate (Un)Accountability? Landmark Shell Ruling Overturned on Appeal”, *Centre for Climate Engagement, Hughes Hall, University of Cambridge*, 13 November 2024.

gued, “only very significant GHG reduction measures could be considered proportionate”²⁰⁴⁶. This PhD thesis agrees and argues that courts should closely monitor whether systemic actors abide by this standard, and if not, require compliance through injunctive relief as a secondary obligation to address the shortfalls.

Furthermore, monitoring the implementation of *general* CDD obligations *could* prompt stronger reactions from the relevant actors, as this process would publicly expose unlawful emissions gaps and the imposition of potential penalties. However, implementing concrete and substantive mitigation actions would still depend on political willingness, as courts need to provide the duty-bearers with some level of discretion. This is one of the limits of CDD and the law. The assessment of its effectiveness remains largely outside the scope of this thesis.

– Remediating historical wrongful conduct?

Given the manifest lack of adequate climate action these last decades, as the ECtHR has briefly pointed out²⁰⁴⁷, judicial bodies should extend their compliance assessments by not only looking at current discrepancies, but also considering potential historical shortcomings. This task would be fully consistent with the courts’ judicial functions, as the ICJ has established²⁰⁴⁸.

In this regard, Part 3 identified numerous historical responsibilities that persist to this day. If courts reach similar conclusions, they could impose secondary obligations to remedy these failures, which could ultimately reinforce the need for each country to do its fair share. This would further tie the CDD duty to equity and CBDRRC, gradually transforming the principle of historical responsibility from an ethical one to a legal one and implying more stringent obligations for actors in the Global North. These types of secondary obligations could further restrict the margin of appreciation with regard to the required level of ambition, and would ensure that courts do not permit developed states to pursue the same level of ambition

2046 Maljean-Dubois S, “The No-Harm Principle as the Foundation of International Climate Law” in *Debating Climate Law* (2021) p 4.

2047 See ECtHR, *KlimaSeniorinnen et al v Switzerland*, no. 53600/20, 9 April 2024, § 542.

2048 ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025, § 429 *et seq.*

as developing countries, a phenomenon that is structurally unfair and is referred to as “grandfathering” in the climate equity literature²⁰⁴⁹.

– Award compensation for loss and damage?

In light of the escalating impacts of climate change, securing monetary compensation for the most serious climate-related harms will become necessary. The interim conclusion of Part 3 on historical liabilities proposed potential secondary obligations, including monetary compensation, in a manner compatible with the concept of shared responsibility and CDD. While those findings are speculative, they cannot be ruled out from the outset; on the contrary, they are increasingly more likely after the recent RWE ruling of the Hamm Court of Appeal and the ICJ advisory opinion. The pending “loss and damages cases” or “polluter cases” may provide further answers in this respect.

4.3 Overall conclusion and outlook

CDD exists across legal systems and is, to a certain extent, enforceable. This finding is novel, as no previous work has demonstrated the consolidation of CDD of States and corporations on such a transnational scale. Furthermore, Part 3 showed that case law has certainly not exhausted the possibilities for CDD intervention, as courts could make important contributions when assessing historical shortcomings. The recent judgement of the Hamm Court of Appeal in the RWE case and the ICJ advisory opinion demonstrate the validity and credibility of this approach²⁰⁵⁰. Consequently, this thesis has drawn consequences from a rapidly growing set of legal cases and judicial decisions in Parts 1 and 2, and paved the way for the further development of litigation and case law in Part 3.

Regarding the potential impacts of CDD, while it clearly had the potential to catalyse climate action after the adoption of the Paris Agreement,

2049 Rajamani L, Jeffery L, Höhne N, Hans F, Glass A, Ganti G and Geiges A, “National ‘Fair Shares’ in Reducing Greenhouse Gas Emissions within the Principled Framework of International Environmental Law” (2021) 21(8) *Climate Policy* p 10; see as well, Knight C, “What is grandfathering?”, *Environmental Politics* (2013) 22(3) p. 410–427.

2050 Court of Appeal of Hamm, *Sàul Luciano Lliuya v RWE*, Az. 5 U 15/17, 28 May 2025; ICJ, *Obligations of States in respect of Climate Change*, Advisory Opinion, 23 July 2025.

when reinforcing climate policies was a political priority, the situation changed after 2024. By the time this thesis was completed in 2025, a significant political backlash against climate measures was underway. In this context, CDD is more likely to serve a “damage limitation” function with regard to climate action, helping to prevent the dilution and deregulation of existing climate commitments from becoming too significant²⁰⁵¹.

The reasons for the limited contribution of climate change mitigation to climate action are, among other things, respect for core democratic principles and the separation of powers. Indeed, as a finding of a breach of *general* CDD may be very intrusive, courts are reluctant to intervene in a far-reaching manner, as demonstrated in subpart 2.3. In this regard, it is important to recall that non-compliance can be remedied by a mere court declaration, leaving the defendant with the discretion to achieve compliance at a later date. Alternatively, a return to compliance can be compelled while granting a margin of appreciation. Granting this discretion seems to be the most appropriate way to lean towards compliance without placing an excessive burden on public and individual actors. Nonetheless, the effectiveness of *general* CDD in such a pattern is all but clear and may be difficult to reconcile with other usual court remedies, such as providing monetary compensation, which requires, in principle, clear criteria to calculate the amount of damages. However, given the complexities in the climate area, a simpler approach may be required, such as granting lump sums, as argued in the literature and by the ICJ.

Overall, while CDD is not the ultimate silver bullet or the panacea for climate action, it may remain the most effective legal tool for tackling the climate crisis due to its pervasiveness and pre-existence across jurisdictions. Thanks to this legal concept, courts can fulfil their role and strive to deliver justice in these turbulent times.

2051 See concurring opinion: Eilstrup-Sangiovanni M, Hall N, Vanhala L, Setzer J, Highan I, Van Asselt H, “Reorienting climate litigation in a time of backlash”, *Nature Climate Change* (2025).

Glossary of core concepts

Burden sharing: The concept of burden sharing is particularly relevant in the climate context and requires a solution to determine who does what, not only in terms of mitigation, but also in terms of climate finance and loss & damages.

Bottom-up v top down: These concepts are widely used in the context of climate change, especially to define the structure of climate conventions. However, they can also be used in other contexts. While the Kyoto Protocol (KP) took a top-down approach by prescribing precise reductions to specific states, the Paris Agreement (PA) does not define the required conduct precisely. Instead, it recognises specific principles while leaving a margin of appreciation to states. Therefore, it is a bottom-up agreement.

Climate action: It includes all types of “climate measures”, such as mitigation (GHG reduction), adaptation (to climate-related impacts), finance for mitigation and adaptation, loss and damage compensation, etc.

Climate adaptation: Measures to adapt to climate-related impacts, including slow-onset events such as sea-level rise.

Climate change: Changes in the global climate system caused by greenhouse gases (GHG) and their global warming effect.

Climate-related adverse effects or impacts: This term refers to changes and adverse impacts in the physical environment resulting from climate change, which have significant deleterious effects on natural and managed ecosystems and on human societies, health and welfare.

Climate cases or lawsuits: Legal proceedings requesting climate action, particularly mitigation. However, climate legal actions can also request further adaptation, finance, and loss and damage.

Climate due diligence (CDD): The CDD duty aims to (i) *identify* the extent to which one can mitigate and (ii) *prevent, mitigate or cease* climate-related impacts. The first duty to identify (i) climate-related impacts and the mitigation measures is rather of a *procedural* nature (i.e., procedural CDD), while the second dimension to prevent, mitigate or cease (ii) is of a *substantive* nature (substantive CDD). Additionally, CDD can be enshrined in *legi generali* (tort law, human rights law, constitutional provisions – i.e., “general CDD”) and specific implementing statutes or regulations of general CDD. Moreover, it can concern public or private actors (State CDD, corporate CDD).

Climate finance: Financial measures generally provided by developed states to developing states to mitigate or adapt to global warming.

Climate loss and damages: The global warming-related effects harming ecological and human interests, potentially requiring compensation in some cases, such as for particularly vulnerable developing countries.

Climate mitigation: Measures and behaviour that aim to reduce greenhouse gases (GHG).

Corporate CDD refers to the climate due diligence obligation of corporate and business actors (see above, definition of CDD).

Direct emissions refer to direct GHG emissions of States or business actors (also known as scope 1 emissions).

Due diligence: One must exercise due diligence (i.e., carefully identify the risks and implement all substantive measures to prevent and mitigate the risks) to avoid causing harm to others or the environment; this basic principle seems to be at the core of any legal system.

Fair share: The extent to which one specific actor needs to mitigate global warming, or to contribute to climate action more generally, according to global equity and fairness considerations.

Free riding: The incentive to refrain from taking climate action due to the perceived minor contribution that can be made to climate mitigation, and the perceived or real disproportionate disadvantage that it causes, mostly economic. The assumption that others are free-riding can lead to further climate inaction. This phenomenon exists in both interstate and private relationships.

General CDD (climate due diligence) is the duty to (i) *identify* the extent to which one can mitigate and (ii) *prevent, mitigate or cease* climate-related impacts as flowing from *legi generali* (tort law, human rights law, constitutional provisions, customary international law – i.e., “*general CDD*”). This type of duty differs from “*specific CDD*”, i.e., *specific* legislation aimed at implementing *general CDD*. For more information on CDD, see its definition just above.

Greenhouse gases (GHG): Emissions released in the atmosphere which have a warming effect, such as carbon dioxide (CO₂), methane (CH₄), chlorofluorocarbons (CFCs), nitrous oxide, and others.

Indirect emissions: This notion can encompass State territorial emissions if they are released by private actors. Otherwise, States are also linked to extraterritorial emissions, stemming from imports, multinational corporations, etc. Corporate actors’ indirect emissions are scope 2 and 3 emissions (see below).

Lex specialis: Special laws may prevail over general laws in particular circumstances, especially if the former is inconsistent with the latter.

Leakage (carbon leakage, emission leakage) and substitution effects: The displacement or replacement of greenhouse gas emissions to another location through the climate mitigation measures of a particular State or company, leading to “substitution effects”. According to the IPCC, “Industry has so far largely been sheltered from the impacts of climate policy and carbon pricing due to concerns about carbon leakage and reducing competitiveness (high confidence)”. (See IPCC, AR6 (2021-23), WG III, TS, p. 107).

Specific implementation of general CDD (climate due diligence): Specific obligations to (i) *identify* and (ii) *prevent, mitigate or cease* climate-related impacts enshrined in *special laws* (or “*specific CDD*”). These specific legislations or regulations should, in principle, comply with *general CDD* in international, human rights, or constitutional law. For more information on CDD, see its definition just above.

LTTG: It generally refers to the Long Term Temperature Goal of the Paris Agreement (PA), which sets out an objective to pursue best efforts to limit warming to 1.5°C.

Pathways or scenarios are climate models containing scientific projections of the future showing what measures are needed to keep global warming under a certain threshold, or the manner in which the future can evolve if a certain *status quo* is upheld (also known as descriptive, exploratory, or business-as-usual scenarios).

Procedural CDD (climate due diligence) is the duty to (i) *identify* climate-related impacts and the extent to which one can mitigate those, which is of a *procedural* nature (i.e., procedural CDD). For more information on CDD, see the definition just above.

Regulation of polycentric issues: The usual definition of polycentric is “having more than one centre”²⁰⁵². A polycentric issue or situation may also be defined as follows: one specific “central” problem requires its addressment by a multitude of actors (public and private) and levels of governance. For example, it requires the collaboration between public and private actors, international and domestic organisations, States and municipalities, etc²⁰⁵³. Since there is no world government and a corresponding “monocentric” governance body, but a plethora of sovereign governments, the governance issues related to globalisation can be seen as polycentric. Climate change falls in this category, as do numerous other issues related to globalisation, including the regulation of multinational or transnational business enterprises.

Scope 1 GHG emissions: Direct emissions physically stemming from the activities of one company; for more information, see the GHG Protocol.

Scope 2 GHG emissions: Indirect emissions related to the use of energy produced elsewhere; for more information, see the GHG Protocol.

Scope 3 GHG emissions: All other indirect emissions, including those related to the use of products and services (category 11 – such as the use of fossil fuels), or financial services (category 15); for more information, see the GHG Protocol.

State CDD: The climate due diligence obligation of States and other public actors (see above, definition of CDD).

Substantive CDD (climate due diligence): The duty to *prevent*, *mitigate* or *cease* climate-related impacts flowing from *legi generali* (tort law, human rights law, constitutional provisions – i.e., “general CDD”) or *special laws* (or “specific CDD”). For more information on CDD, see the above definition.

Substitution effect: See the definition of carbon leakage above.

Systemic and/or framework mitigation cases: Lawsuits aimed at contributing to the reduction of GHGs by taking “a whole-of-system approach” and by challenging the adequacy of mitigation measures from public or private actors (see definition provided by Setzer et al).

2052 <https://dictionary.cambridge.org/dictionary/english/polycentric>

2053 Ostrom E, “A Polycentric Approach for Coping with Climate Change”, Background Paper to the 2010 *World Development Report*, Policy Research Working Paper 5095, 2009.

Systemic integration and harmonious interpretation and fragmentation of the law:

When interpreting treaties, Article 31 (3) (c) of the Vienna Convention on the Law of Treaties requires the consideration of the “context” and “[a]ny relevant rules of international law applicable in the relations between the parties.” Beyond international law, regional and domestic courts also apply the doctrines of “harmonious interpretation” and “living instrument” or simply consider other legal instruments not directly applicable to their cases if the context so requires; thereby avoiding the fragmentation of the law and enabling the shaping of consistent law beyond borders (see in the glossary, the terms “transnational law” and “global law”).

Transnational business enterprises: Large businesses are often organised in a corporate group, comprising many different entities, including parent and subsidiary companies. Those companies may also have value chains, involving the ordering and purchasing of products and services from third-party businesses (subcontractors, suppliers, etc).

Transnational law (global law): The legal principles, statutes, or customs (and even so-called “soft law” principles) which are recognised beyond borders. Transnational law differs from international law (including customary law), as the latter concerns, in principle, interstate relationships, while the former also encompasses the relationships between private actors and private law.

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