

A global sulphur emissions cap and a carriage ban to match: Considerations on the IMO 2020 prohibition on the carriage of non-compliant fuel oil

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A. Introduction

Nowadays international law applies to many areas of activity that have a global dimension, and shipping in particular maritime shipping, is no exception. To put this in perspective, over 80% of global trade by volume and more than 70% of its value is carried onboard ships and handled by seaports worldwide.¹ It is no surprise thus that the United Nations have set up a specialised agency, the International Maritime Organisation (IMO), which is the global standard-setting authority for the safety, security and environmental performance of international shipping. IMO currently has 174 Member States, including all of the EU Member States, and three Associate Members, i.e. Faroes, Hong Kong, and Macao. In addition, the IMO has entered into an agreement of cooperation with the European Commission on matters of common interest with a view to ensuring maximum coordination in respect of such matters, i.e. the European Commission has been granted observer status. However, the EU itself is

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¹ UNCTAD, Review of Maritime Transport 2017, available at: https://unctad.org/en/PublicationsLibrary/rmt2017_en.pdf (13/01/2020).

not, and cannot become, an IMO Member because the IMO Convention does not contain a clause allowing for membership of a regional organisation of economic integration.²

The IMO's main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented. Under the IMO's auspices, the International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted in 1973. This is the main international convention covering the prevention of pollution of the marine environment by ships from operational or accidental causes. In 1997, a Protocol was adopted to amend MARPOL and a new Annex VI was added that entered into force on 19 May 2005. MARPOL Annex VI limits the main air pollutants contained in ships exhaust gas, including sulphur oxides (SO_x) and nitrous oxides, and prohibits deliberate emissions of ozone-depleting substances. Although the EU is not an IMO Member, it has transposed most of the provisions of the IMO Conventions including MARPOL, mainly in Directive 2005/35,³ and in Directive 2016/802⁴ (the EU Sulphur Directive) specifically for MARPOL Annex VI.⁵

Pursuant to the current version of Annex VI, since 1 January 2020, a new cap for SO_x emissions from maritime vessels has entered into force, reducing the allowed mass-by-mass proportion from the current 3.5% limit to 0.5%.⁶ Albeit not as low as the cap for SO_x emissions within the emission control areas (ECAs), capped at 0.1% since 2015,⁷ the new limit is expected to reduce sulphur emissions by more than 80% – the global average sulphur content of ship fuel is estimated at around 2.7%.⁸

Whereas these efforts to curb SO_x emissions and the consequent benefits to the environment and human health should certainly be welcomed,⁹ the maritime sector may not be fully prepared to transition smoothly to compliance with the novel limits.

2 Schiano di Pepe, in: Govaere/Poli (eds.), p. 301.

3 Directive (EU) 2005/35 of the European Parliament and of the Council of 7 September 2005 on ship-source pollution and on the introduction of penalties for infringements, OJ L 255 of 30/09/2005, p. 11.

4 Directive (EU) No. 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels, OJ L 132 of 21/05/2016, p. 58 (the EU Sulphur Directive).

5 See e.g. Recitals 20-24 of the EU Sulphur Directive.

6 Regulation 14 of the International Convention for the Prevention of Pollution from Ships of 1973, as modified by the Protocol of 1978, Annex VI, as revised by Resolution MEPC.305(73) adopted on 26 October 2018, Section 1.

7 The four ECAs are: the Baltic Sea area; the North Sea area; the North American area (covering designated coastal areas of the United States and Canada); and the United States Caribbean Sea area (around Puerto Rico and the United States Virgin Islands).

8 <https://www.exxonmobil.com/en/marine/technicalresource/news-resources/imo-sulphur-cap-and-mgo-hfo> (30/12/2019).

9 The IMO based itself on a Finnish study on the health impacts of the sulphur cap, available at: <http://www.imo.org/en/MediaCentre/HotTopics/Documents/Finland%20study%20on%20health%20benefits.pdf> (30/12/2019).

Although the 1 January 2020 date was agreed upon back in 2008,¹⁰ at that time it was also agreed that a review of the standard should be completed by 2018, assessing above all whether the availability of compliant fuel would be sufficient to enable shipowners to abide by the 2020 deadline. If not, the stricter limit would have been postponed to 2025.¹¹ At the occasion of the 70th session of the Marine Environment Protection Committee (MEPC) (MEPC 70), held in October 2016, the IMO confirmed 1 January 2020 as the date of entry into force of the new sulphur cap pursuant to paragraph 1 of Resolution MEPC.280(70).¹²

Nevertheless, there were some within the sector that held hopes of the implementation date being pushed back. Even recently, in July 2019, Reuters reported that Indonesia would delay enforcement of the sulphur cap, at least until their abundant supply of non-compliant fuel was depleted,¹³ although one month later, the Indonesian Minister of Transport went back and affirmed that the country would comply with its international obligations of enforcing MARPOL Annex VI.¹⁴ In October 2019, Bloomberg reported that Russia was considering suspending the enforcement of the sulphur cap onto ships operating within its territory and in the waters of Kaz-

10 At the occasion of approval of Resolution MEPC.176(58), available at: [http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-\(MEPC\)/Documents/MEPC.176\(58\).pdf](http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-(MEPC)/Documents/MEPC.176(58).pdf) (30/12/2019).

11 “Review provision

8 A review of the standard set forth in paragraph 1.3 of this regulation shall be completed by 2018 to determine the availability of fuel oil to comply with the fuel oil standard set forth in that paragraph and shall take into account the following elements:

.1 the global market supply and demand for fuel oil to comply with paragraph 1.3 of this regulation that exist at the time that the review is conducted;
.2 an analysis of the trends in fuel oil markets; and
.3 any other relevant issue.

9 The Organization shall establish a group of experts, comprising of representatives with the appropriate expertise in the fuel oil market and appropriate maritime, environmental, scientific and legal expertise, to conduct the review referred to in paragraph 8 of this regulation. The group of experts shall develop the appropriate information to inform the decision to be taken by the Parties.

10 The Parties, based on the information developed by the group of experts, may decide whether it is possible for ships to comply with the date in paragraph 1.3 of this regulation. If a decision is taken that it is not possible for ships to comply, then the standard in that paragraph shall become effective on 1 January 2025.”.

12 <http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.280%2870%29.pdf> (10/01/2020).

13 *Christina Khasawneh*, Indonesia will not enforce IMO low-sulphur fuel rules on domestic fleet, available at: <https://www.reuters.com/article/indonesia-shipping-regulations/indonesia-will-not-enforce-imo-low-sulphur-fuel-rules-on-domestic-fleet-idUSL4N24R14F> (30/12/2019).

14 *Munthe/Nangoy*, Indonesia will implement IMO low-sulfur fuel rule on schedule: ministry, available at: <https://www.reuters.com/article/us-indonesia-shipping-regulations/indonesia-will-implement-imo-low-sulfur-fuel-rule-on-schedule-ministry-idUSKCN1VA0QR> (30/12/2019).

khstan, Kyrgyzstan, Belarus, and Armenia, until 2024.¹⁵ The country is a massive producer of sour crude oil (which contains high levels of sulphur) and has struggled to switch its refining capacity to produce enough low-sulphur fuel oil.

Despite prospects of a rough start, already at the occasion of the MEPC 73, held in October 2018, the IMO adopted a MARPOL amendment, Resolution MEPC.305(73), which goes beyond the wording of Regulation 14 of MARPOL Annex VI that sets out the SO_x emission limits.¹⁶ This Resolution establishes a prohibition not only of use but also of carriage of non-compliant fuel oil for combustion purposes for propulsion or operation on board a ship (“carriage ban”), unless the ship relies on an alternative compliance method, such as an Exhaust Gas Cleaning System – EGCS (scrubber), under applicable conditions.¹⁷ It is expected to enter into force on 1 March 2020.¹⁸ This prohibition aims primarily at supporting the implementation of the 1 January 2020 sulphur cap.

Proposed by the International Chamber of Shipping,¹⁹ the carriage ban is meant to work as an enforcement tool. It is designed to relieve enforcement authorities of the burden of proving usage of non-compliant fuel. Instead, enforcement authorities would have to prove solely that the non-scrubber-equipped vessel is carrying non-compliant fuel (for use, not as cargo).²⁰ Hopefully, such a ban will help consolidate a level playing field, making it harder for potential detractors to cheat the emissions cap. It should also compensate for potential disharmony in the level of enforcement in different States. Like the sulphur cap, however, the carriage ban brings along a set of questions.

15 *Pismennaya/Khrennikova/Wittels*, Russia May Delay Adopting Rules for Cleaner Ship Fuel, available at: <https://www.bloomberg.com/news/articles/2019-10-27/russia-may-throttle-back-in-adopting-rules-for-cleaner-ship-fuel> (30/12/2019).

16 Resolution MEPC.305(73), adopted on 26 October 2018; available at: <http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.305%2873%29.pdf> (30/12/2019).

17 More precisely, IMO has adopted the 2015 Guidelines for Exhaust Gas Cleaning Systems through Resolution MEPC.259(68) of 15 May 2015 (available at: [http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-\(MEPC\)/Documents/MEPC.259\(68\).pdf](http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-(MEPC)/Documents/MEPC.259(68).pdf) (30/12/2019)), replacing the 2009 Guidelines adopted through Resolution MEPC.184(59) of 17 July 2009 (available at: [http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-\(MEPC\)/Documents/MEPC.184\(59\).pdf](http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-(MEPC)/Documents/MEPC.184(59).pdf) (30/12/2019)).

18 Recital n. 3 of resolution MEPC.305(73) of 26 October 2018; available at: <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/19-Implementation-of-sulphur-2020-limit.aspx> (30/12/2019).

19 <http://www.ics-shipping.org/docs/default-source/Submissions/IMO/proposal-for-a-prohibition-on-the-carriage-of-non-compliant-fuel-oil-for-combustion-purposes-with-a-sulphur-content-exceeding-0-50-.pdf?sfvrsn=2> (30/12/2019).

20 Ibid, item 4.

B. What starts on 1 March 2020?

As mentioned, resolution MEPC.305(73) amended MARPOL to prohibit the carriage of non-compliant fuel oil for use aboard vessels.²¹ Nowhere in the amended text of MARPOL Annex VI is the date of 1 March 2020 specified, and, thus, some clarification is warranted. There are two particularities to the IMO framework that explain the said date as the entry into force of the carriage ban.

The first is the mechanism of ‘tacit amendment’, provided in Art. 16(2)(f)(iii) MARPOL. The customary rule in international law, as codified in the 1969 Vienna Convention on the Law of Treaties (VCLT), determines that treaty amendments shall be done by agreement between the parties, which in turn shall be governed, except where otherwise provided, by the same rules laid down for conclusion and entry into force of treaties.²² For multilateral treaties (treaties binding more than two states; MARPOL being one), this entails notifying all contracting States of the proposal and respecting their right to participate in any decision-making regarding the proposal, as well as their rights relating to the negotiation and conclusion of any agreement for the amendment.²³ Within the IMO framework, this is carried out by the MEPC, which was first established as a subsidiary body in 1973 and raised to full constitutional status i.e. made permanent in 1985. Since then it consists of all IMO Member States and is empowered to consider *inter alia* the matters addressed by MARPOL.²⁴ The MEPC convenes at least once per year²⁵ for the duration of five days to discuss and attempt to reach consensus on pressing issues regarding marine environment protection.²⁶

A permanent full-status committee, however, solves only one of the complexities of amending multilateral treaties. It is often the case, when agreeing on such amendments, that States manifest their consent under certain conditions, for instance, that enough other States have also consented to be bound by such obligations, or under the requirement that their national legislature successfully approves of the amended international obligations. Such conditions are often relevant for determining the moment of entry into force of the amended provisions/obligations.²⁷ Many jurisdictions, to address these matters, have adopted two-step procedures for concluding/acceding

21 <http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.305%2873%29.pdf> (30/12/2019).

22 Vienna Convention on the Law of Treaties (VCLT), Art. 39.

23 VCLT, Art. 40.

24 The MEPC replaced the Subcommittee on Oil Pollution, which had been established in 1954 as a subcommittee of the Maritime Safety Committee (MSC). The MEPC was firstly created informally as a permanent subsidiary body of the Assembly in 1975, but with the entry into force of the 1975 Amendments (amendments adopted by the IMCO Assembly by its resolutions A.358 (IX) of 14 November 1975 and A.371 (X) of 9 November 1977), it achieved formal institutional equality with the MSC; available at: https://treaties.un.org/doc/source/docs/A_358_IX-E.pdf (30/12/2019). See also Serdy, in: Baatz (ed.), p. 328.

25 Pursuant to Art. 40 of the Convention on the International Maritime Organisation (IMO Convention), but it has convened more frequently in recent times.

26 See IMO Convention, Arts. 38(a) and 38(b).

27 See VCLT, Art. 24.

to international treaties, as allowed by Art. 13 of MARPOL.²⁸ The first step consists of the manifestation of consent to the terms, i.e. through a signature, and the second step consists of the ratification, i.e. through the deposit/filing of the instruments of ratification, after the (national) legislature has given authorization thereto.²⁹ The MARPOL Convention, in its Art. 13(b), allows for such a double-step procedure.³⁰ Furthermore, it set a threshold of a number of States party to the Convention to determine its entry into force: Art. 15(1) provides that “*The present Convention shall enter into force 12 months after the date on which not less than 15 States, the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant shipping, have become parties to it in accordance with article 13.*”

As the number of States party to the international conventions under the auspices of the IMO Convention was expected to grow – it has now reached the point where MARPOL and its Annexes encompass over 96% of the world tonnage³¹ – amendment procedures had to be made simpler. To this end, provisions were put in some of the conventions, including MARPOL, to allow for ‘tacit acceptance’. For amendments dealing with technical matters, e.g. the sulphur cap and carriage ban in question, Art. 16(2)(f)(iii) provides that “*an amendment to an appendix to an Annex to the Convention shall be deemed to have been accepted at the end of a period to be determined by the appropriate body at the time of its adoption, which period shall be not less than ten months, unless within that period an objection is communicated to the Organization by not less than one third of the Parties or by the Parties the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet whichever condition is fulfilled*”. Furthermore, Art. 16(2)(g)(ii) determines that “*an amendment to Protocol I, to an appendix to an Annex or to an Annex to the Convention under the procedure specified in subparagraph (f)(iii), [...] shall enter into force six months after its acceptance for all the Parties with the exception of those which, before that date, have made a declaration that they do not accept it or a declaration under subparagraph (f)(ii), that their express approval is necessary.*” These provisions determined the date of 1 March 2020: Resolution MEPC.305(73) was

28 See also Serdy, in: Baatz (ed.), p. 330.

29 Art. 14 VCLT acknowledges such procedure.

30 Article 13, titled Signature, ratification, acceptance, approval and accession, states:

(1). The present Convention shall remain open for signature at the Headquarters of the Organization from 15 January 1974 until 31 December 1974 and shall thereafter remain open for accession. States may become Parties to the present Convention by:

(a). signature without reservation as to ratification, acceptance or approval; or
(b). signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
(c). accession.

(2). Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General of the Organization.

(3). The Secretary-General of the Organization shall inform all States which have signed the present Convention or acceded to it of any signature or of the deposit of any new instrument of ratification, acceptance, approval or accession and the date of its deposit.

31 <http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/StatusOfTreaties.pdf> (30/12/2019).

adopted on 26 October 2018, deemed accepted on 1 September 2019 pursuant to Art. 16(2)(f)(iii), and shall enter into force six months thereafter, on 1 March 2020, pursuant to Art. 16(2)(g)(ii).

Accordingly, this date marks the entry into force of the carriage ban within the international legal order. This means that from 1 March 2020, States party to MARPOL will be under the obligation to give effect to said provision, namely by establishing and enforcing the ban on the carriage of non-compliant fuel oil within their jurisdictions.³² It stands to reason that a State's failure to do so will constitute a breach of said State's obligations arising from Art. 4 MARPOL, which requires States party to the Convention to prohibit and sanction violations to requirements laid down therein.³³ As a long-recognized source of international law,³⁴ international conventions create obligations onto States, the breach of which may trigger international responsibility towards *inter alia* other signatory States.³⁵ Furthermore, it is well established in international law that a State cannot rely on its internal (municipal) law as an exculpating reason to breach its international obligations.³⁶ Instead, where compliance with a State's international obligations warrants it, there arises a duty onto that State to bring its internal law into conformity with its international obligations.³⁷ It

32 Art. 1 MARPOL states:

Article 1 – General obligations under the Convention

(1). The Parties to the Convention undertake to give effect to the provisions of the present Convention and those Annexes thereto by which they are bound, in order to prevent the pollution of the marine environment by the discharge of harmful substances or effluents containing such substances in contravention of the Convention.
(2). Unless expressly provided otherwise, a reference to the present Convention constitutes at the same time a reference to its Protocols and to the Annexes.

33 Article 4 – Violation

(1). Any violation of the requirements of the present Convention shall be prohibited and sanctions shall be established therefore under the law of the Administration of the ship concerned wherever the violation occurs. If the Administration is informed of such a violation and is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law.

(2). Any violation of the requirements of the present Convention within the jurisdiction of any Party to the Convention shall be prohibited and sanctions shall be established therefor under the law of that Party. Whenever such a violation occurs, that Party shall either:
(a). cause proceedings to be taken in accordance with its law; or
(b). furnish to the Administration of the ship such information and evidence as may be in its possession that a violation has occurred.

(3). Where information or evidence with respect to any violation of the present Convention by a ship is furnished to the Administration of that ship, the Administration shall promptly inform the Party which has furnished the information or evidence, and the Organization, of the action taken.

(4). The penalties specified under the law of a Party pursuant to the present article shall be adequate in severity to discourage violations of the present Convention and shall be equally severe irrespective of where the violations occur.

34 As demonstrated by its codification into Art. 38(1)(a) of Statute of the International Court of Justice (ICJ).

35 *Brownlie*, pp. 434 ff.

36 This has been codified in Art. 27 VCLT.

37 See *Brownlie*, p. 35.

follows logically therefrom, that from 1 March 2020 States party to MARPOL Annex VI shall implement and enforce the carriage ban, or risk being found in breach of its international obligations towards other signatory States, and potentially facing litigation.³⁸ But will private parties – ship owners, charterers, ship masters and others also be bound from said date onwards? Here, the answer might be uncertain.

Like the carriage ban, the global sulphur cap of 0.5% was also introduced into MARPOL through an amendment, resolution MEPC.176(58), which entered into force on 1 January 2010. The date of 1 January 2020 was set approximately 12 years from the date of the agreement on the resolution, on 10 October 2008, and almost 10 years from the date of entry into force of the amendment.³⁹ At least in theory, this gave time for the stakeholders to make preparations, including lawmakers. In contrast, because the carriage ban was envisaged to close an enforcement gap, the start date for its enforcement should ideally match the start date for the enforcement of the sulphur cap, were it not for the mandatory time periods of Arts. 16(2)(f)(iii) and 16(2)(g)(ii). In contrast to the sulphur cap, the carriage ban was rushed into MARPOL, which is why the date 1 March 2020 might not carry similar legal effects as that of 1 January 2020.

The tacit acceptance procedure is credited for allowing amendments to MARPOL and its annexes to be carried out in a timely manner so as to address emerging technological and environmental issues.⁴⁰ On the one hand, it speeds up the amendment process. On the other hand, it uncouples acceptance and entry into force from the ordinary two-step procedure of signature-ratification. As a result it allows for the possibility that an amendment is deemed accepted and thus enters into force under international law independently of the corresponding success at the national level to implement the necessary changes in national laws.⁴¹ A possible issue follows therefrom: the duties and rights arising from said amendments may produce different effects in different jurisdictions, depending on whether their legal systems allow for direct reliance upon international conventions/ treaties, or on how long it may take for their regulatory implementation.⁴²

38 As per Art. 10 MARPOL, which provides that:

Article 10 – Settlement of disputes

Any dispute between two or more Parties to the Convention concerning the interpretation or application of the present Convention shall, if settlement by negotiation between the Parties involved has not been possible, and if these Parties do not otherwise agree, be submitted upon request of any of them to arbitration as set out in Protocol II to the present Convention.

39 Resolution MEPC.176(58), Recital no. 3; available at: <http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.176%2858%29.pdf> (30/12/2019).

40 *Shi*, USF Mar. L. J. 1999/299, p. 302.

41 *Ibid.*, pp. 310-311.

42 See *Krieger*, in: Dörr/Schmalenbach (eds.), Vienna Convention on the Law of Treaties: A Commentary, Art. 24, p. 395.

C. The need for national implementation of the carriage ban

The case of Germany helps illustrate this issue. On the one hand, pursuant to Art. 59(2) 1st sentence of the German Basic Law (Grundgesetz – GG), international treaties which regulate political relations of Germany or relate to subjects of federal legislation require consent or participation of the incumbent legislative bodies. Treaties that fall within the scope of Art. 59(2) 1st sentence of the GG only produce legal effects internally through a bill of approval passed by the legislature.⁴³

On the other hand, executive agreements pursuant to Article 59(2) 2nd sentence of the GG may be executed on the basis of administrative regulations or statutory instruments issued by the Federal Government or a single federal ministry, provided that there is authorization thereto laid down in a regular law in accordance with Article 80 GG.

This allows the parliament to set out basic obligations for the executive and, at the same time, delegate competence to issue administrative regulations (*Rechtsverordnungen*) in a manner more flexible than if the matter was regulated through ordinary legislation.⁴⁴

The MARPOL Convention was transposed to the German legal order through the MARPOL-*Gesetz* of 1981. Art. 2 of said Act confers onto the Federal Ministry of Transport and Digital Infrastructure (BMVI) the powers to accept amendments to the MARPOL Convention through the tacit amendment procedure of Art. 16(2)(f)(iii) MARPOL.⁴⁵ It also confers onto the Ministry the power to enact the aforementioned administrative regulations to implement such amendments. Moreover, further powers are conferred onto said Ministry through Art. 15 of the German Maritime Responsibilities Act (*Seeaufgabengesetz* – SeeAufgG), by which the BMVI is also authorized to specify the offences to international environmental treaties that shall be punished in Germany, with a fine as high as €50,000.⁴⁶ Currently, MARPOL obligations (as well as those laid down in other multilateral environmental/ maritime treaties) are regulated in various ordinances; the most relevant for the carriage ban being the Ordinance on Environmentally Sustainable Behaviour in Maritime Shipping (*See-Umweltverhaltensverordnung* – SeeUmwVerhV, hereafter ‘the Ordinance’).

43 *Beemelmans/Treviranus*, in: Hollis/Blakeslee/Ederington (eds.), p. 318.

44 *Ibid.*

45 Art. 2 of the MARPOL-*Gesetz* of 1981 states:

(1) Das Bundesministerium für Verkehr und digitale Infrastruktur wird, vorbehaltlich der in den §§ 9 bis 9c des Seeaufgabengesetzes enthaltenen Rechtsverordnungsermächtigung, ermächtigt, durch Rechtsverordnung Änderungen des Übereinkommens gemäß dessen Artikel 16 und des Protokolls gemäß dessen Artikel VI, die sich im Rahmen der Ziele des Übereinkommens beziehungsweise des Protokolls halten, in Kraft zu setzen.

(2) Rechtsverordnungen nach Absatz 1 bedürfen der Zustimmung des Bundesrates, wenn sie Regelungen enthalten, die von den Ländern als eigene Angelegenheit auszuführen sind.

46 § 15 of the SeeAufgG states that:

(2) Die Ordnungswidrigkeit kann in den Fällen des Absatzes 1 Nummer 1a, 2, 4 Buchstabe a, Nummer 5 Buchstabe a, Nummer 6 Buchstabe a und Nummer 7 Buchstabe a mit einer Geldbuße bis zu fünfzigtausend Euro, in den übrigen Fällen mit einer Geldbuße bis zu zehntausend Euro geahndet werden.

The Ordinance provides the legal basis for the imposition of fines for violations of the obligations laid down in MARPOL Annex VI. It provides in its Section 13(1) that “[t]he master or other person in charge of the ship shall ensure that on the water areas listed in Section 3(1)(1) and within an Emission Control Area, only marine fuel that meets the requirements set out in [...] regulation 18 in conjunction with paragraph 1.2, 1.3, 4.2 or 4.3 of regulation 14, [...] of Annex VI to the MARPOL Convention is used.”⁴⁷ Notably, because it was last amended in December 2019,⁴⁸ its Section 13(1) contains no reference to any prohibition of carriage of non-compliant fuel.⁴⁹ Particularly interesting is that, come 1 March 2020, Regulation 14 will no longer contain paragraphs 1.2 and 1.3. Indeed, regulation 14 still (at the time of writing) reads “*1 The sulphur content of any fuel oil used on board ships shall not exceed the following limits: 1 4.50% m/m prior to 1 January 2012; 2 3.50% m/m on and after 1 January 2012; and 3 0.50% m/m on and after 1 January 2020.*” With the entry into force of resolution MEPC.305(73), which amended Regulation 14, its paragraph 1 will instead read “*1 The sulphur content of fuel oil used or carried for use on board a ship shall not exceed 0.50% m/m*”.⁵⁰ A very similar change will occur in regards to paragraphs 4.2 and 4.3 regarding the ECAs.⁵¹

Thus, technically, Section 13 of the Ordinance not only lacks for now a legal basis for enforcing the carriage ban, but it will also lose – to some extent – some of its objects of reference (namely, paras. 1.2 and 1.3, as well as 4.2 and 4.3). This is an inherent risk to enacting legislation or ordinances which refer to provisions of international texts, rather than laying down the substantive rules themselves (which, in contrast, Art. 6 of

47 § 13 of the Ordinance, titled, Einhaltung der Anforderungen an niederschwefligen Schiffs-kraftstoff, states that:

(1) Der Schiffsführer oder der sonst für den Schiffsbetrieb Verantwortliche hat dafür zu sorgen, dass auf den in § 3 Absatz 1 Nummer 1 bezeichneten Wasserflächen und innerhalb eines Emissionsüberwachungsgebiets nur Schiffskraftstoff verfeuert wird, der den in Anlage VI Regel 18 Absatz 3.1.1.1 Satz 1, Absatz 3.1.1.2, 3.1.1.3 oder Absatz 3.2.2.1 in Verbindung mit Regel 14 Absatz 1.2, 1.3, 4.2 oder Absatz 4.3, Regel 18 Absatz 3.2.2.2 oder Absatz 3.2.2.3 des MARPOL-Übereinkommens genannten Anforderungen entspricht.

48 Bundesgesetzblatt Jahrgang 2019, Teil I, Nr. 50, 19/12/2019, p. 2739.

49 See fn. 19 above.

50 MEPC 73/19/Add.1 Annex 1, page 2; available at: <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Documents/Air%20pollution/MEPC.305%2873%29.pdf> (30/12/2019).

51 Currently, Regulation 14, paragraph 4 reads “4. While ships are operating within an Emission Control Area, the sulphur content of fuel oil used on board ships shall not exceed the following limitations: 1. 1.50% m/m prior to 1 July 2010; 2. 1.00 m/m on and after 1 July 2010; and 3. 0.10% m/m on and after 1 January 2015.” However, with the entry into force of resolution MEPC.305(73), which amended Regulation 14, its paragraph 4 will read “4 While a ship is operating within an emission control area, the sulphur content of fuel oil used on board that ship shall not exceed 0.10% m/m.”

the EU Sulphur Directive does).⁵² Nevertheless, insofar as the BMVI amends Section 13 of the Ordinance in time to meet the mark of 1 March 2020, it will be possible to enforce the carriage ban within German jurisdiction as set out in MARPOL Annex VI. On the contrary, should the BMVI face delay in amending said provision, the date of 1 March 2020 will merely represent the start of Germany's international obligation (towards other countries) to enforce the carriage ban, but not the start of internal enforcement, due to the lack of a corresponding legal basis for taking action against offenders. Considering that similar circumstances may also occur in the other EU Member States, the carriage ban could receive a disharmonic implementation throughout the EU. In other words, different legal consequences could arise depending on which EU Member State can claim jurisdiction over the specific instance of violation of the carriage ban.

This is a result of the fact that the EU is not, and cannot become, a party to MARPOL, although all of the EU Member States are parties. Thus, the EU is not bound by MARPOL, not even indirectly, and, consequently, the provisions of MARPOL do not have direct effect. The Court of Justice of the EU (CJEU) has held that the EU has not *assumed, under the [Lisbon] Treaty, the powers previously exercised by the Member States in the field to which Marpol 73/78 applies, nor that, consequently, its provisions have the effect of binding the Community [...]. In this regard, Marpol 73/78 can therefore be distinguished from GATT 1947 within the framework of which the Community progressively assumed powers previously exercised by the Member States, with the consequence that it became bound by the obligations flowing from that agreement.*⁵³ However, the CJEU would take account of MARPOL provisions when in-

52 Article 6 of the EU Sulphur Directive states:

Maximum sulphur content of marine fuels used in territorial seas, exclusive economic zones and pollution control zones of Member States, including SOx Emission Control Areas, and by passenger ships operating on regular services to or from Union ports

1. Member States shall take all necessary measures to ensure that marine fuels are not used in the areas of their territorial seas, exclusive economic zones and pollution control zones if the sulphur content of those fuels by mass exceeds:

- (a) 3,50 % as from 18 June 2014;
- (b) 0,50 % as from 1 January 2020.

This paragraph shall apply to all vessels of all flags, including vessels whose journey began outside of the Union, without prejudice to paragraphs 2 and 5 of this Article and Article 7.

2. Member States shall take all necessary measures to ensure that marine fuels are not used in the areas of their territorial seas, exclusive economic zones and pollution control zones falling within SOx Emission Control Areas if the sulphur content of those fuels by mass exceeds:

- (a) 1,00 % until 31 December 2014;
- (b) 0,10 % as from 1 January 2015.

This paragraph shall apply to all vessels of all flags, including vessels whose journey began outside the Union.

The Commission shall have due regard to any future changes to the requirements pursuant to Annex VI to MARPOL applicable within SOx Emission Control Areas, and, where appropriate, without undue delay make any relevant proposals with a view to amending this Directive accordingly.

53 CJEU, case C-308/06, *Intertanko and Others*, EU:C:2008:312, para. 48.

terpreting the relevant Union law, e.g. the EU Sulphur Directive.⁵⁴ This Directive has not been amended to include the prohibition of the carriage of non-compliant fuel.

D. The probable collage of penalties

The uncertainty stemming from these different legal consequences may be exacerbated by the variety of penalties for the violation of the carriage ban, as well as the sulphur cap, existent in the different States. This would be a relevant consideration regarding the choice of necessary fuel in particular for ships setting out on journeys spanning multiple days and passing through multiple jurisdictions, e.g. a large cargo ship en route from China to Europe that calls at Hamburg.

The amendments to Annex VI of MARPOL do not specify the consequences for a shipowner or charterer whose vessel is caught carrying non-compliant fuel for use on board. Regulation 14 of Annex VI also contains no provision on penalties for burning non-compliant fuel. Penalty-wise, MARPOL requires there to be sanctions, but leaves it to each individual State to define their nature and extent. In a similar fashion, the EU Sulphur Directive commands the EU Member States to determine the penalties applicable to breaches of the provisions implementing *inter alia* the emissions cap. Furthermore, its Art. 18 determines that such penalties shall be *effective, proportionate and dissuasive and may include fines calculated in such a way as to ensure that the fines at least deprive those responsible of the economic benefits derived from the infringement of the national provisions [...] and that those fines gradually increase for repeated infringements.*

Consequently, it is reasonable to expect that penalties supporting the carriage ban, like those for violations of the sulphur cap, will vary considerably between States. A comparison between Germany, France, and the United States may shed some light onto how different the degrees of severity of penalty may be. In Germany, the offences to MARPOL obligations are specified by BMVI in the Ordinance. However, the SeeAufgG establishes in Sec. 15(2) a statutory limit of €50,000 to the applicable fines. There are no provisions in either the Act or the Ordinance specifying how fines are to be calculated. However, there are guidelines for the administration on imposing fines for infringements in relation to inland and maritime navigation (BVKatBin-See). They provide that, for the burning of fuel, the sulphur emission of which is equal or greater than 0.11% and lower or equal to 0.15%, the fine should amount to €350.⁵⁵ For burning of fuel the sulphur emission of which is greater than 0.15% and lower or equal to 0.9%, the applicable fine is calculated on the basis of the relation between duration and engine power, in that for every hour above three hours it is increased by

⁵⁴ Ibid., paras 47-52.

⁵⁵ Ifd. Nummer 39.150410, available at: <https://www.elwis.de/DE/Schifffahrtsrecht/Allgemeine-Informationen/BVKatBin-See/3-Zu widerhandlungen-Seeschiffahrt/39-000000/39-10000/39-150000/39-150000-node.html> (30/12/2019).

€250 and for every extra 5,000 kW engine power the amount is doubled.⁵⁶ The applicable fine ranges, thus, from €750 for engines up to 5,000 kW operating up to three hours to 22,000 € for engines greater than 30,000 kW operating up to 12 hours.

According to statistics provided by the *Bundesamt für Seeschifffahrt und Hydrographie* (BSH), a higher federal authority under the auspices of the BMVI responsible *inter alia* for enforcing and penalizing MARPOL-related violations,⁵⁷ in 2015 there were a total of 430 identified violations to Annex VI obligations. Of these which 186 were penalized as minor infractions, i.e. incurring maximum fines of €55; whilst the other 175 triggered administrative procedures, of which 166 resulted in the imposition of fines. The aggregate total of fines amounted to €83,762. Disregarding minor infractions, the average amount in fines for each infraction identified through the administrative procedure was €504.⁵⁸ This certainly brings into question whether the BSH's enforcement practice is adequate to meet the greater challenges coming in 2020.

Recently in France, a court in Marseille imposed an €100,000 fine against an American cruise ship master for breaching the sulphur emissions cap.⁵⁹ Indeed, this is a high-profile case, which was heard before a judicial court and brought by State prosecutors. But nonetheless noteworthy is that, pursuant to Article L218-15(II) of the French Environmental Code, penalties for breach of the sulphur cap could go as high as a €200,000 fine accompanied by a one year imprisonment sentence.⁶⁰ Furthermore, if the fine is imposed on a legal person, the maximum amount is multiplied by five times that which would be applicable to natural persons, thus, potentially going as high as €1 million, pursuant to Article 131-38 of the French Penal Code.⁶¹ It is clear then that, even within the European Union, in spite of the applicable EU Sulphur Directive, EU Member States may provide for widely diverging degrees of sanctions.

56 See Anhang 1 zur Tabbestandsnummer 39.150410 BVKatBin-See, available at: <https://www.elwis.de/DE/Schiffahrtsrecht/Allgemeine-Informationen/BVKatBin-See/3-Zuwiderhandlungen-Seeschifffahrt/39-000000/39-100000/39-150000/Anhang-1-Bild-2/Anhang-1-Bild-2-node.html> (30/12/2019).

57 § 28 SeeUmwVerhV.

58 Statistiken über die Verfolgung von Umweltverstößen gegen MARPOL-Übereinkommen in den Jahren 2013 – 2015, available at: https://www.bsh.de/DE/THEMEN/Schiffahrt/Umwelt_und_Schifffahrt/MARPOL/_Anlagen/Downloads/Statistik_2013_2015.pdf?__blob=publicationFile&v=2 (30/12/2019).

59 Reported by many news outlets. For instance, see <https://www.lefigaro.fr/flash-eco/2018/11/26/97002-20181126FILWWW00046-france-premiere-condamnation-d-un-capitaine-d-e-navire-pour-pollution-de-l-air.php> (30/12/2019).

60 Article L218-15 states:

II. – Est puni d'un an d'emprisonnement et de 200 000 € d'amende le fait, pour tout capitaine d'un navire, de se rendre coupable d'infractions aux dispositions des règles 12, 13, 16 et 18 de l'annexe VI de la convention MARPOL, ainsi qu'aux dispositions des I à IV de l'article L. 218-2.

61 Article 131-38 states :

Le taux maximum de l'amende applicable aux personnes morales est égal au quintuple de celui prévu pour les personnes physiques par la loi qui réprime l'infraction.

Lorsqu'il s'agit d'un crime pour lequel aucune peine d'amende n'est prévue à l'encontre des personnes physiques, l'amende encourue par les personnes morales est de 1 000 000 euros.

This may be problematic, because if enforcement of the sulphur cap and carriage ban is not dissuasive enough, the new sulphur standard may harm the shipping industry by not ensuring a level playing field. For instance, were the premium between compliant and non-compliant fuel oils (which even at the time of writing remains largely unpredictable) to stabilize around 200 US\$ /mt for an average container ship (8,000 TEU capacity) consuming 100 tonnes of fuel per day, the difference between burning compliant fuel or non-compliant fuel could amount to hundreds of thousands of dollars on a long route. If applicable fines are capped at tens of thousands of euros, the penalties will arguably fail to accomplish their purpose.

Considering a different perspective, and perhaps in mitigation of the above observation, enforcement of the carriage ban as well as the sulphur cap may be made more stringent by its form of application, rather than through a higher statutory maximum. For the sake of comparison, in the United States, the Act to Prevent Pollution from Ships (APPS), 33 U.S.C. § 1901 *et. seq.*, which implements MARPOL Annex VI, establishes a civil penalty with a statutory maximum of \$25,000 per violation, per calendar day for violations of the sulphur cap.⁶² Pursuant to section 1907(f)(2) of APPS, the U.S. Environmental Protection Agency (EPA) has the authority to take enforcement action for violations of certain provisions of APPS. To this end, the EPA set in 2015 an internal penalty policy.⁶³ The penalty policy was developed to primarily address violations of the fuel sulphur standard contained in Regulation 14.4 of Annex VI as it applies to the U.S. portion of the ECAs, but it also encompasses other potential violations of other requirements set by MARPOL committed by a ship burning non-compliant fuel.⁶⁴ The latter may relate, for instance, to the requirement to maintain

62 § 1908, titled Penalties for violations, states:

- (b) Civil penalties; separate violations; assessment notice; considerations affecting amount; payment for information leading to assessment of penalty
A person who is found by the Secretary, or the Administrator as provided for in this chapter, after notice and an opportunity for a hearing, to have—
(1) violated the MARPOL Protocol, Annex IV to the Antarctic Protocol, this chapter, or the regulations issued thereunder shall be liable to the United States for a civil penalty, not to exceed \$25,000 for each violation; or
(2) made a false, fictitious, or fraudulent statement or representation in any matter in which a statement or representation is required to be made to the Secretary, or the Administrator as provided for in this chapter, under the MARPOL Protocol, Annex IV to the Antarctic Protocol, this chapter, or the regulations thereunder, shall be liable to the United States for a civil penalty, not to exceed \$5,000 for each statement or representation.

Each day of a continuing violation shall constitute a separate violation. The amount of the civil penalty shall be assessed by the Secretary, or the Administrator as provided for in this chapter or his designee, by written notice. In determining the amount of the penalty, the Secretary, or the Administrator as provided for in this chapter, shall take into account the nature, circumstances, extent, and gravity of the prohibited acts committed and, with respect to the violator, the degree of culpability, any history of prior offenses, ability to pay, and other matters as justice may require. An amount equal to not more than ½ of such penalties may be paid by the Secretary, or the Administrator as provided for in this chapter, to the person giving information leading to the assessment of such penalties.

63 <https://www.epa.gov/sites/production/files/2015-03/documents/marinenewspolicy.pdf> (30/12/2019).

64 Ibid.

written procedures and logs recording fuel change-over details, or the requirement to receive and maintain bunker delivery notes for determined periods after the delivery onboard, or the requirement to keep a representative sample of fuel oil delivered to the ship for a period of twelve months from the time of delivery. In such cases, according to the EPA's penalty policy, each failure, on each day it occurred, is considered a separate violation and may be fined accordingly.⁶⁵ As of this moment, it is unclear how its penalty policy will apply to the carriage ban, but the flexibility that the EPA enjoys in enforcing MARPOL may allow it to consider carrying and burning non-compliant fuel as separate violations, each warranting its own daily penalty. Such flexibility appears to be lacking in the regulatory frameworks of France and Germany.

But perhaps the most effective enforcement tool against the carriage ban will not take the form of monetary fines nor threat of imprisonment, but merely the obligation to immediately de-bunker the non-compliant fuel. Vessels carrying non-compliant fuel may, depending on the circumstances, not only be precluded from continuing their voyage, but also impeded from de-bunkering their fuel, thus finding themselves stuck in certain ports. One of the reasons why that could happen is the potential classification of non-compliant fuel as hazardous waste.

Furthermore, stakeholders should not expect leniency in this regard: this matter was debated in the 74th session of the MEPC (MEPC 74) with a proposal from the International Bunker Industry Association (IBIA), Australia, and United States (MEPC 74/10/7),⁶⁶ with a similar proposal from India (MEPC 74/10/1),⁶⁷ to allow for burning of non-compliant fuel under very exceptional circumstances. However, both were rejected by the majority of the IMO Member States, which held that de-bunkering was the only acceptable measure. Ultimately, the IMO issued the "Guidance for Port State Control on Contingency Measures for Addressing Non-Compliant Fuel Oil" (MEPC.1/Circ.881)⁶⁸ in May 2019, wherein it is left largely to the port State to decide on how the situation should be handled, including the possibility of allowing the carrying of non-compliant fuel. In our view, however, given that proper enforcement of the sulphur cap and carriage ban will be paramount to ensuring a level playing field in the shipping industry, the latter possibility will remain an exceptional measure.

E. The recurring topic of scrubbers

Under MARPOL Annex VI regulations, a ship may, in order to comply with the sulphur emissions cap and the carriage ban, rely on emissions abatement methods.⁶⁹

65 Ibid.

66 <https://www.transportstyrelsen.se/contentassets/cc9a6651e83046e8a5f78cf92ceb231f/74-10-7.pdf> (30/12/2019).

67 <https://www.transportstyrelsen.se/contentassets/cc9a6651e83046e8a5f78cf92ceb231f/74-10-1.pdf> (30/12/2019).

68 MEPC.1/Circ.881 of 21 May 2019, available at: <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Documents/MEPC.1-Circ.881.pdf> (30/12/2019).

69 MARPOL Annex VI, Art. 4(1).

Because MARPOL Annex VI is concerned with air pollution from emissions, compliance with the sulphur cap can be achieved in different ways. Other than using ultra low-sulphur compliant fuel oil (marine fuel that produces 0.5% m/m SO_x emissions or less), ships may burn liquefied natural gas (LNG) and/or marine gas oil (MGO), or “hybrid” fuels or blends (all options which also emit low sulphur oxides). Alternatively, in order to lawfully burn non-compliant high-sulphur fuel, and hence be allowed to carry it, a ship must be fitted with an exhaust gas cleaning system (EGCS), a “scrubber”.

The acceptance of scrubbers was a compromise reached at the occasion of drafting Annex VI⁷⁰ and kept when agreeing on Resolution MEPC.305(73) establishing the carriage ban.⁷¹ The last few years, however, have seen a heated debate on the adequacy of scrubbers (more specifically of wet open-loop scrubbers⁷² – which represent the majority of scrubbers being used), within the broader efforts aimed at environmental protection. Critics of open-loop scrubbers refer to them as “emissions cheat systems” and claim that open-loop scrubbers merely take the sulphur oxides from the exhaust gas and discharge them with the discharged scrubbing water, achieving nothing in terms of environmental protection. Concerns relating to the environmental risks posed by open-loop scrubbers have led some States and port authorities to either ban their use or prohibit the discharge of scrubbing water in certain areas under their jurisdictions. Despite certain independent studies suggesting that the washwater discharge from open-loop scrubbers is not detrimental to the environment,⁷³ they were already banned, or have become so since 1 January 2020, from the waters of many jurisdictions, such as certain parts of United States (California allows for scrubber use only under research exemptions⁷⁴ and Connecticut bans washwater discharge)⁷⁵ and

70 Annex VI to MARPOL was introduced by the Protocol of 1997, which entered into force on 19 May 2005.

71 For a summary of MEPC 73, see <http://www.imo.org/en/MediaCentre/MeetingSummaries/MEPC/Pages/MEPC-73rd-session.aspx> (30/12/2019).

72 ‘Scrubbers’ are classified as either ‘dry’ (those requiring no input of seawater for the emissions abatement) or ‘wet’ (those which do). ‘Wet scrubbers’ operate either in ‘closed-loop’ (those where no washwater is discharged) or ‘open-loop’ (those which discharge washwater at sea). Hybrid ‘scrubbers’ are able to operate either in ‘closed-’ or ‘open-loop’.

73 These are available at: [http://carnivalaaqs.com/files/Report-by-the-expert-board-for-the-environmental-impact-assessment-of-discharge-water-from-Scrubbers-Japan\[1\]\[3\].pdf](http://carnivalaaqs.com/files/Report-by-the-expert-board-for-the-environmental-impact-assessment-of-discharge-water-from-Scrubbers-Japan[1][3].pdf) (30/12/2019); <https://safety4sea.com/csa-2020-welcomes-studys-results-on-scrubber-wash-water/> (30/12/2019); <https://www.sciencedirect.com/science/article/abs/pii/S0141113617301447?via%3Dihub> (30/12/2019); <https://www.cedelft.eu/en/publications/2399/the-im-pacts-of-egcs-washwater-discharges-on-port-water-and-sediment> (30/12/2019); <https://www.carnivalcorporation.com/static-files/04941d32-f011-46ce-b4e6-4d18a789ede8> (30/12/2019).

74 https://www3.arb.ca.gov/ports/marinevess/documents/marineneote2017_1.pdf; <http://www.polb.com/civica/filebank/blobdload.asp?BlobID=7587> (30/12/2019).

75 <https://law.justia.com/codes/connecticut/2013/title-22a/chapter-446k/section-22a-427/> (30/12/2019).

Europe (select ports and inland waters of Belgium,⁷⁶ Germany,⁷⁷ Norwegian heritage fjords,⁷⁸ and Ireland)⁷⁹ as well as from Singapore,⁸⁰ Fujairah,⁸¹ China,⁸² Malaysia,⁸³ Panama,⁸⁴ and possibly India.⁸⁵

Although only 5-10% of the world's relevant fleet of ships relies on scrubbers to comply with emission standards, that number is expected to increase.⁸⁶ On top of that, around 80% of the EGCS installed or being installed in ships operate in open-loop, as they are the cheaper option.⁸⁷ Even though retrofitting EGCS systems is costly, estimated at around \$2million (but up to tens of millions, depending on the size of the vessel),⁸⁸ analysts predict that the investment may be recouped within one to two years, as it enables vessels to burn cheaper fuel (this will of course depend on the premium between compliant and non-compliant fuels). Amidst the uncertainty regarding the availability of compliant fuel in the market as well as its expected price volatility, many shipowners saw scrubbers as the best form of compliance with the

⁷⁶ Law of 26 March 1971 on the protection of surface waters from pollution – Flanders region (in French: 26 MARS 1971. – Loi sur la protection des eaux de surface contre la pollution – REGION FLAMANDE; in Dutch: Wet van 26 maart 1971 op de bescherming van de oppervlakewateren tegen verontreiniging (Vlaams Gewest)), available at: http://www.ejustice.just.fgov.be/cgi_loi/change_lg.pl?language=fr&la=F&ccn=1971032631&table_name=loi (30/12/2019).

⁷⁷ Pursuant to Articles 1 and 3 of the Convention on the Collection, Deposit and Reception of Waste Produced during Navigation on the Rhine and Inland Waterways (CDNI Convention).

⁷⁸ <https://www.sdir.no/contentassets/046ced2d174b490a9d371c411f45c3fe/30-may-2012-no.-488-environmental-safety-for-ships-and-mobile-offshore-units.pdf?t=1566983032628> (30/12/2019).

⁷⁹ <http://www.dublinport.ie/wp-content/uploads/2018/06/37-2018-Prohibition-on-the-Discharge-of-Exhaust-Gas-Scrubber-Wash-Water.pdf> (30/12/2019).

⁸⁰ *Khasawneh*, Singapore to ban 'wash water' discharge at top ship refueling port from 2020, available at: <https://www.reuters.com/article/us-singapore-shipping-environment-imo/singapore-to-ban-wash-water-discharge-at-top-ship-refueling-port-from-2020-idUSKCN1NZ07C> (30/12/2019).

⁸¹ *Khasawneh*, Fujairah joins other ports to tighten exhaust rules ahead of 2020 fuel rules, available at: <https://www.reuters.com/article/us-shipping-scrubbers/uae-fujairah-to-ban-ship-exhaust-cleaner-when-imo-2020-kicks-in-idUSKCN1PG21U> (30/12/2019).

⁸² *Xu/Singh Schmolinger*, China to expand discharge ban on open-loop exhaust scrubbers – draft, available at: <https://www.reuters.com/article/china-marine-fuel-pollution/china-to-expand-discharge-ban-on-open-loop-exhaust-scrubbers-draft-idUSL4N24P26O> (30/12/2019).

⁸³ <http://www.marine.gov.my/jlmv4/sites/default/files/MSN072019.pdf> (30/12/2019).

⁸⁴ <https://www.pancanal.com/eng/op/notices/2019/N01-2019.pdf> (30/12/2019).

⁸⁵ https://www.dgshipping.gov.in/WriteReadData/News/201908280257527557422Eng_Cir_02of2019.pdf (30/12/2019).

⁸⁶ <https://shipsandports.com.ng/over-10-of-containership-capacity-will-have-scrubbers-by-january-2020/> (30/12/2019).

⁸⁷ *Hand*, 80% of scrubbers are open-loop: DNV GL, available at: <https://www.seatrade-maritime.com/asia/80-scrubbers-are-open-loop-dnv-gl> (30/12/2019).

⁸⁸ <http://www.pacificgreentechnologies.com/articles/fitting-scrubbers-in-time-for-2020-has-that-ship-sailed/> (30/12/2019).

sulphur cap in a cost-competitive fashion.⁸⁹ Consequently, the recent calls for broadening its prohibition have had a disorienting effect on the industry.

Aside from environmental concerns relating to washwater discharged by wet open-loop scrubbers, arguments regarding the latter's unreliability have also been presented in objection thereto. In April 2019, a U.S. federal judge published a previously confidential report delivered by a Court Appointed Monitor on the abidance of a major cruise-ship liner with an Environmental Compliance Program as part of its probation after pleading guilty to several environmental felonies.⁹⁰ According to the report, there had been several instances of hours-long violations of burning heavy fuel oil by EGCS-fitted vessels without the countervailing water scrubbing, resulting from either equipment malfunction, in the form of unexpected shutdowns, or human error.⁹¹ This prompted representatives of environmental groups to address the Secretary-General of the IMO with a letter advocating for a moratorium on the use of EGCS "while the [MEPC] and the Pollution Prevention and Response Subcommittee continue their review of the marine and air pollution impacts of EGCS".⁹² In addition to the uncertainty as to the environmental impact of the discharge of scrubbing water, the letter claimed that the use of scrubbers should be suspended because of their technical unreliability.⁹³

In any event, an IMO-wide ban on scrubbers, open-loop or not, does not seem likely, at least for the initial period of enforcement of the global sulphur cap. It is worth mentioning that the IMO has published the MEPC circular "*Guidance on indication of ongoing compliance in the case of the failure of a single monitoring instrument, and recommended actions to take if the EGCS fails to meet the provision of the Guidelines.*"⁹⁴ The Guidelines draw attention to three instances in which the EGCS may breach the applicable emissions cap. Firstly, 'system malfunction', which should be rectified promptly. If it cannot be rectified within an hour, the occurrence is to be regarded as an 'accidental breakdown', and the ship should switch to burning compliant fuel. If it carries no compliant fuel or an insufficient amount, the authorities should be contacted. In any event, malfunctions of the EGCS should be recorded in an EGCS Record Book.⁹⁵ Secondly, what it calls 'short-term exceedances', which the

89 See fn. 86.

90 This was widely reported. For instance, *Hancock*, Carnival reaches \$20m settlement over pollution allegations, available at: <https://www.ft.com/content/0eac4946-8644-11e9-97ea-05ac2431f453> (30/12/2019).

91 "The CAM Team identified over thirty reported incidents on Covered Vessels related to EGCSs during ECP Year One. Many of these incidents relate to unexpected EGCS shutdowns resulting in violations of air emission requirements." p. 46-47, available at: <https://www.stand.earth/sites/default/files/US%20v.%20Princess.%20First%20Annual%20Report%20of%20the%20Monitor.pdf> (30/12/2019).

92 Full letter is available at: https://safety4sea.com/wp-content/uploads/2019/05/Letter-from-ten-environmental-organisations-to-IMO-Secretary-General-Kitack-Lim-2019_05.pdf (30/12/2019).

93 Ibid.

94 MEPC.1/Circ.883 of 21 May 2019, available at: <http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Documents/MEPC.1-Circ.883.pdf> (30/12/2019).

95 Ibid., paras 5-6.

Guidelines specify should not be considered a malfunction. Short-term exceedances are instances of emissions ratio above the applicable limit, which occur (commonly, the Guidelines stress) whenever there is a sudden change in the exhaust gas flow rate to the EGCS.⁹⁶ However, the typical operating conditions that may result in short-term exceedances should be specified by the EGCS manufacturer in the EGCS Technical Manual that is approved at the time the EGCS is certified.⁹⁷ Thirdly, the Guidelines acknowledge that there may be cases of ‘sensor failure’, consisting of instances where a single sensor signal starts to deviate (or not display) and the variations are not accompanied by changes in the readings of other monitoring instruments.⁹⁸ If the other parameters continue at normal levels, the assumption that a mere sensor failure is taking place may be excused.⁹⁹ The Guidelines provide that records of interim indication should be kept to demonstrate compliance.

Noticeably, the Guidelines address most of the concerns over the unreliability of scrubbers, but it remains to be seen whether its determinations will appease critics.

F. Is there a right to rely on scrubbers?

MARPOL Annex VI itself does not guarantee shipowners any right to rely on EGCS in order to meet the sulphur cap, it merely enables individual States to allow them.¹⁰⁰ Consequently, States may – within the MARPOL framework – (continue to) ban scrubbers.¹⁰¹

Moreover, this raises the question of whether EGCS-fitted ships sailing in such jurisdictions will be allowed to carry non-compliant fuel, even when they have switched to burning compliant fuel. At the moment, prohibitions of open-loop scrubbers do not affect vessels equipped with a closed-loop or with a hybrid scrubber.¹⁰² Those equipped with open-loop scrubbers may nevertheless switch to burning compliant fuel whenever they enter such restricted jurisdictions.¹⁰³ But if on the one hand switching fuels allows for compliance with sulphur caps without activating open-loop scrubbers, on the other hand, from 1 March 2020 onwards such a vessel may potentially still be found in breach of the carriage ban. It may depend on whether jurisdictions will allow the carriage of non-compliant fuel by vessels equipped with scrubbers that are not allowed in those jurisdictions.

⁹⁶ Ibid., para. 7.

⁹⁷ Ibid., para. 8.

⁹⁸ Ibid., paras 9-10.

⁹⁹ Ibid., para. 12.

¹⁰⁰ MARPOL Annex VI, Regulation 4(1).

¹⁰¹ This may not be the case under the EU Sulphur Directive, for reasons given below.

¹⁰² See fn. 72.

¹⁰³ This is, for example, the approach delineated in “*A Guide for Ships Calling to Port of Singapore*” – a guidance note produced by the Maritime and Port Authority of Singapore (MPA), in collaboration with the Singapore Shipping Association, available at: <https://www.mpa.gov.sg/web/wcm/connect/www/93d8bea0-de9a-4038-94cd-1349ced38024/Ships+calling+Singapore+Port+-+final.pdf?MOD=AJPERES> (30/12/2019).

It is reasonable to expect that, whilst some countries may prohibit ships from using open-loop scrubbers to burn high sulphur fuel oil, either on the grounds of purported unreliability of the technology or out of fear of the environmental impact of washwater, EGCS-fitted ships should be allowed to carry non-compliant fuel as long as they burn compliant fuel within such particular jurisdictions, pursuant to Regulation 14 MARPOL Annex VI. This is, for example, the approach taken by some authorities when interpreting the provisions of the Convention on the Collection, Deposit and Reception of Waste Produced during Navigation on the Rhine and Inland Waterways (CDNI).¹⁰⁴ Otherwise, such a prohibition would be at odds with international comity. However, seeing how the carriage ban is intended to close the enforcement gap, in the sense that it prevents ships from carrying non-compliant fuel that they could burn in high seas away from any enforcement mechanisms, and especially considering how their technical reliability has been brought into question, the same precautionary rationale could potentially be extended to EGCS-fitted ships in jurisdictions where such EGCS are not admitted.

Conversely, in our interpretation – which is in accordance with that of Proelß and Schatz, shared in a study commissioned by the German Federal Environmental Agency (*Umwelt Bundesamt*)¹⁰⁵ – the EU Sulphur Directive restricts EU Member States' freedom to prohibit scrubbers. Whereas regulation 4 of MARPOL Annex VI permits, "*any fitting, material, appliance or apparatus to be fitted in a ship as an alternative to that required by this Annex*", Art. 8(1) of the EU Sulphur Directive instead sets a binding provision: "*Member States shall allow the use of emission abatement methods by ships of all flags in their ports, territorial seas, exclusive economic zones and pollution control zones, as an alternative to using marine fuels that meet the requirements of*

104 Interpretations of the CDNI as prohibiting the discharge of washwater stem from Art. 3(1), which states:

“PARTICULAR PROVISIONS OBLIGATIONS INCUMBENT ON THE STATES
Article 3

Prohibition of dumping and discharging

(1) Dumping or discharging waste generated on board or any part of the cargo from vessels into the waterways referred to in Annex 1 shall be prohibited.

(2) The Contracting States shall ensure compliance with the prohibition referred to in paragraph 1 of the present Article.

(3) Exceptions to this prohibition shall only be authorised in compliance with the provisions contained in Annex 2 and its appendices, referred to hereafter as the “Implementing Regulation”.

See also the note from Hamburg Port Authority, available at: http://www.hamburg-pilot.de/Scrubber_Infosheet_A4_DE.pdf (30/12/2019).

105 Proelss/Schatz, Rechtliche Vorgaben zum Umgang mit Schiffsabwasser Völker-, unions- und nationalrechtliche Anforderungen an Einleitungen von Scrubber-Abwasser, Ballastwasser und häuslichem Abwasser durch Schiffe, p. 62.

*Articles 6 and 7, subject to paragraphs 2 and 4 of this Article*¹⁰⁶. This interpretation is in line with the purpose that EU Directives have- ensuring a degree of substantive harmonization within the Union without dictating the precise rules to be adopted by each EU Member State.¹⁰⁷ Following that logic, were open-loop scrubbers to be found acceptable at EU level, national restrictions to their use could be challenged on the basis of Art. 8(1) of the EU Sulphur Directive. This is arguably not yet the case, because specifically in regards to scrubbers, Annex II of the Directive sets as criteria for compliance with its Art. 8, aside from those laid out in resolution MEPC.184(59), that the ship does not discharge washwater, “unless it is demonstrated by the ship operator that such washwater discharge has no significant negative impacts on and does not pose risks to human health and the environment”.¹⁰⁸ Therefore, pending further scientific studies settling the matter at EU level, the legality of open-loop scrubbers is still left for each EU Member State to decide. Meanwhile, the EU Commission has suggested further discussion on their admissibility.¹⁰⁹

G. Conclusion

The forthcoming IMO 2020 global sulphur cap was agreed upon over a decade ago, presumably giving States and stakeholders enough time to adopt measures for its implementation. From a legal perspective, this also entails the implementation into national laws of the contracting States. Conversely, because the addition of a carriage ban occurred rather recently, its entry into effect at the international level, i.e. between contracting States, set to start 1 March 2020, may not coincide with an entry into effect at the national level of the involved jurisdictions, for not every country has carried out the necessary legislative changes. Until this is done, the consequence for stakeholders will consist of disharmonic enforcement practice.

106 Art. 8(2) reads “Ships using the emission abatement methods referred to in paragraph 1 shall continuously achieve reductions of sulphur dioxide emissions that are at least equivalent to the reductions that would be achieved by using marine fuels that meet the requirements of Articles 6 and 7. Equivalent emission values shall be determined in accordance with Annex I.”, whereas Art. 8(4) reads “The emission abatement methods referred to in paragraph 1 shall comply with the criteria specified in the instruments referred to in Annex II.”.

107 Art. 288 of the Treaty on the Functioning of the European Union, OJ C 326 of 26/10/2012, p. 47.

108 The full text of Annex II states: ‘Washwater resulting from exhaust gas cleaning systems which make use of chemicals, additives, preparations and relevant chemicals created in situ’, referred to in point 10.1.6.1 of Resolution MEPC.184(59), shall not be discharged into the sea, including enclosed ports, harbours and estuaries, unless it is demonstrated by the ship operator that such washwater discharge has no significant negative impacts on and does not pose risks to human health and the environment. If the chemical used is caustic soda it is sufficient that the washwater meets the criteria set out in Resolution MEPC.184(59) and its pH does not exceed 8,0.

109 In preparation for the MEPC 74, the EU Commission submitted a proposal for a new output to draw up harmonised rules on the discharge of liquid effluent from Exhaust Gas Cleaning Systems; available at: <https://ec.europa.eu/transparency/regdoc/rep/10102/2019/EN/SWD-2019-17-F1-EN-MAIN-PART-1.PDF> (30/12/2019).

As a late addition to the regulatory framework of maritime emissions, the carriage ban brings along also questions with respect to how it will be enforced. In a similar fashion to the sulphur cap, MARPOL Annex VI determines that penalties shall be provided for at the national level and, consequently, it is to be expected that they should vary considerably from State to State. Aside from monetary fines, those in breach of the carriage ban may be required to de-bunker non-compliant fuel. Logically, the possibility of relying in abatement methods extends to the carriage of non-compliant fuel; nevertheless, stakeholders should be wary of environmental concerns in the political landscape and how these could impact the acceptance of scrubbers. The year 2020 is promising to be one of much indefiniteness and uncertainty for the shipping sector.

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