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Implications for Shaping Climate Futures

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This chapter's goal is to distill practical lessons from our findings. Whether you are an academic researcher, a policymaker, a business leader, or a concerned citizen, the insights shared here are designed to resonate with aspirations for climate futures in which the scenarios of deep decarbonization and sustainable climate change adaptation become more plausible.

There is no one-size-fits-all solution or quick fix to address the challenges posed by climate change. Our research highlights a sobering reality: The required societal transformation is still lacking. Although we have noted a growth of climate actions in many different fields of society, this is not enough for a decisive turning point toward preventing further climate change or for sufficiently adapting to the negative impacts of climate change in a sustainable manner. Numerous obstacles in politics, economy, and culture perpetuate the status quo of high carbon emissions, fueled by entrenched interests, inequalities, and power dynamics (Chapter 6).

Our study offers an empirical analysis. Furthermore, we provide a practical orientation that can help to better understand what supports and what inhibits the effectiveness of climate action. In this chapter we consolidate these implications into a core statement, followed by a set of general principles that we recommend to increase impact of climate action.

Core statement: Realistic assessments set expectations straight and help identify social conditions of effective climate action.

People live in the real world, not in an ideal world. This world is messy. We developed the Social Plausibility Assessment Framework to generate deep, realistic insights into how effective climate action is hindered by multiple strong and connected barriers. While the future remains open to a broad range of possibilities, it is preconditioned by existing circumstances; thus, grounding climate action on realistic expectations can establish a firm foundation for plausible desired climate futures.

To this end, it is crucial to acknowledge that the identified gaps in ambition and implementation are not only a matter of "political will", nor are they merely a technical question or a financial matter. Instead, they come from (1) existing power dynamics and inequalities; from (2) differences in climate change-related norms and practices; from (3) a lack of political coherence on different scales of climate governance; and from (4) climate change mitigation and adaptation being multifaceted and wicked problems. The 10 social-driver assessments give many hints at enabling conditions that could be strengthened, and at constraining conditions that need to be weakened. In particular, the dynamics of three drivers need to change direction: corporate responses, consumption trends, and fossil-fuel divestment.

Most importantly, the profitability of continued fossil-fuel engagements needs to be reduced. This can ultimately only come from binding legal rules and frameworks, provided by national political regulation and UN climate governance. Resources to strengthen the enabling conditions for political decision making can come from knowledge production, media reporting, climate activism, climate litigation, and transnational cooperation.

Starting from a realistic assessment is also crucial for developing local pathways to sustainable climate change adaptation. In nine case studies we identified a number of locally specific conditions in which physical parameters, the politico-administrative context, and socio-cultural dimensions are entangled in messy ways. They create difficult settings for turning from the mode of simply coping with occurring weather events to incremental adjustments or even more to transformative adaptation practices. As with deep decarbonization, climate change adaptation does not simply depend on technical solutions. Quite to the contrary, some technical solutions might lead to maladaptations that prevent sustainable transformation pathways. The case studies have shown that the increase in climate change impacts is pushing current measures and rules to the limits of their effectiveness. Incremental progress on existing paths runs the risk that adaptation will not be sufficient and that certain lock-in situations will lead to even greater risks and damage. Higher climate variability and increasing extreme events call for new approaches, including technological leaps, which can ultimately only be achieved through a transformation of social and governance practices beyond the usual lip services. Finally, our assessments have highlighted that global dynamics severely influence the financial, political, and knowledge capacities that are dedicated to local climate change adaptation.

Building on realistic assessments, we recommend to adopt the following set of general principles:

It is just as important to fight back constraining conditions as it is to strengthen enabling conditions for mitigation and adaptation.

Examples: Building up support for or pressure on policymakers or corporate leaders to adopt more stringent climate targets strengthens enabling conditions of national regulation or corporate responses.

Providing improved regional climate information, for example via higher spatial resolutions of global climate models, or initiating community-led stakeholder dialogs on transformative adaptation practices and involving the public at large can strengthen local capacities for sustainable climate change adaptation and thus contribute to more efficiency.

But going beyond that, engaging in climate litigation against insufficient climate action by corporations or national governments helps weaken constraining conditions, and fighting corruption of political or business elites can strongly reduce a constraining condition for sustainable climate change adaptation.

More climate action is important, but not enough in itself. It is essential to aim for qualitative shifts.

Examples: The assessments have shown many examples of goal-setting activities, both in the sense of emission reduction targets for decarbonization and, at least in some cases, in the sense of measures toward improved adaptation capacity. However, many of these declared goals are vague and non-binding. They are not backed by clear and measurable indicators and a binding obligation to implement these goals.

A translation of vague goals into targets that are monitored and implemented would mark a qualitative shift enabling more effective climate action. Another example would be the shift from non-binding rules and instruments, or what is commonly referred to as "soft law", to legally binding instruments and laws, or "hard law", in climate governance.

Reducing social inequalities can increase the plausibility of climate change mitigation and adaptation.

Examples: The lack of access to economic, political, and social resources undermines the plausibility of both deep decarbonization and sustainable climate change adaptation. Affluent groups contribute, through their very-high-carbon consumption patterns, in a direct way to growing emissions and have greater financial capacity to deal with or sometimes even escape from climate-related impacts. In turn, the vast majority of the world population, and particularly vulnerable communities, who contribute little to global emissions, lack of access to economic, political, and social resources to adapt to climate change, let alone to adopt more sustainable practices.

Minimizing these types of inequalities via policies, regulation, and financial programs can strengthen social cohesion, enable climate action, and even reduce the deadliness of extreme climate events. Reducing inequalities affects the distribution of costs and benefits, rights and duties along the complete spectrum of income and wealth, for example via a reduction of very-high-carbon consumption patterns of affluent groups, via compensating low-income households for disproportionately high climate change-related costs or for climate related lossess and damages, and via improving their access to critical infrastructure.

There is never just one agreed climate goal or one way to achieve that goal. Fair and just negotiation processes can create synergies and generate goals and measures acceptable to all affected parties.

Examples: Forests provide a range of ecosystem services. In addition to habitats for flora and fauna, they provide oxygen, take up CO_2, yield timber as a renewable resource, protect from natural hazards, and offer space for recreation. These various services provide benefits to very different beneficiaries, leading to competing or even conflicting interests. As a consequence, the decision whether forests are managed to optimize mitigation, to contribute to climate adaptation, or to supply merchandizable timber that can then be used for climate-friendly construction can lead to divergent management approaches. These trade-offs must be negotiated and, in the best case, synergies between the interested parties and beneficiaries can be found. Procedures are needed that weigh the physical and socio-economic implications and that create technological and social synergies between climate mitigation, climate adaptation, and other potential goals.

Reinforcing connections between drivers generates new resources for more effective climate action. Such connections are strengthened by new alliances across different fields of society, strategic networks, and trust-building.

Examples: Our assessments include examples of a broad range of resources that are produced in one driver and used in other drivers. In climate litigation, for instance, we see the use of specifically produced attribution knowledge strengthening litigation cases. Likewise, a new type of case uses private standards and state regulations to denounce corporate climate-washing. Climate mobilization highlights the crucial role of climate movements in translating claims-making into implementing steps with regard to adaptation and loss and damage. Strategic alliances and networks across fields are facilitated if actor groups can rely on pre-existing trusting relations.

However, joint forces are not only necessary where new effectiveness is to be achieved, but also where traditionally separate responsibilities reach their limits and cross-sector cooperation is needed. This can become particularly relevant for regions facing different types of climate change impacts and compound events, which are typically dealt with separately in different administrative, sectoral bodies. Sea level rise, torrential rains, and floods coming from the hinterland need cross-sectoral collaboration to handle cascading effects if such—not

necessarily extreme—events happen in quick succession or simultaneously and thus become extreme events. Handling such compounded and extreme climate change effects requires openness and trust-building in new connections, the willingness to step out of familiar routines, and the implementation of cooperative, cross-sectoral responsibilities.

The integration of diverse ways of knowing, for instance from local communities or Indigenous Peoples, is crucial for the social meanings of mitigation and adaptation practices and broadens the understanding of climate change impacts.

Examples: Many of our assessments have demonstrated that knowledge is contested or simply ignored, while integrated and contextualized knowledge can be an enabling condition for climate action. The inclusion of diverse ways of knowing is needed to acknowledge local insights and needs, develop place-specific suitable measures, and build political alliances across the Global South–North divide. There is enormous yet rarely tapped potential for societal mobilization and co-production of knowledge on the barriers to and opportunities for sustainable climate change adaptation, in particular, if this knowledge is developed in an equitable and ethical manner. This could, for example, draw on local and Indigenous knowledge in dealing with extreme weather events as well as climate-related risks and vulnerabilities. Public policies for sustainable climate change adaptation could be informed by these, exploring synergies between the need to adapt to climate change on the ground while at the same time fostering socio-economic development, and human health and well-being.

In summary, our assessment findings already provide guidance for those who wish to realize climate futures that are characterized by deep decarbonization and sustainable adaptation to the level of climate change that cannot be avoided. Having said that, we acknowledge that research on what might contribute to this realization of desired climate futures is in its infancy. We are convinced that the Outlook 2024 marks a valuable starting point for this research.

Authors:
Anita Engels, Jochem Marotzke, Beate Ratter, Eduardo Gonçalves Gresse, Andrés López-Rivera, Anna Pagnone, Jan Wilkens