

BOX III Toward an Inclusive and Connected Repertoire of Climate Action

Assessing plausible climate futures is a key scientific practice in the highly interdisciplinary field of climate science. In light of the essential task of knowledge production, we see our own role in developing a “responsible assessment”. Assessing climate futures in this sense not only reflects underlying assumptions but also takes into account diverse visions of climate futures.

Box 3 illustrates ways to enhance the plausibility of both deep decarbonization and sustainable climate change adaptation. The selection of examples presented here resonates with specific stakeholder groups such as climate activists, carbon managers, and scientists. The examples also underscore the importance of fostering collaborative endeavors and forging synergies. The essence lies in proactively seeking interconnectedness and in leveraging novel resources forged across diverse sectors of society to drive progress in navigating the intricate dynamics of climate change. We reflect on selected principles and their potential implications by diving into the roles of knowledge, funds and power, and preparedness. In so doing, we dare employ a slightly normative tone, in contrast to the usually neutral character of the Outlooks.

Leverage and package diverse knowledges for just climate action:

We have shown in this and previous Outlooks that packaged knowledge can create new resources that enable social drivers to turn toward deep decarbonization. Packaged knowledge is understood as various forms of integrated and contextualized knowledge that can be enabling for climate action. The global environmental assessments institutionalized by the Intergovernmental Panel on Climate Change (IPCC) have become the most prominent packaging effort to date. The institutionalized quality of the IPCC reports is reflected in the IPCC’s participation in governance procedures and its important role in political and societal debates on climate change. More efforts in collaborating across fields need to be made to produce such packaged knowledge. Scientists in particular need to learn how to translate research results into information that can be used in other fields and that provides evidence for the connection between concrete climate impacts or risks and responsibilities. There is thus a need for formats of knowledge co-production that bring together the producers and users of knowledge across scientific disciplines, policy and advocacy groups, as well as society at large. The inclusion of diverse ways of knowing can help develop more relevant frames of perceiving threats of climate change and addressing injustices and can point to power relations that

are constraining the transformation toward deep decarbonization. Diverse ways of knowing need to be included to acknowledge local insights and needs, develop place-specific measures, and—not least—to build political alliances across different scales and interests.

The field of attribution science is another example of packaged knowledge that can create new resources for climate action, for example as a reference point in law suits. While attribution science typically relies on physical climate sciences, more packaged knowledge is required from economics and other social sciences, for instance knowledge on investment risks that addresses the Chief Financial Officers in large corporations. So far, sustainability managers in high-emitting companies have had a hard time to push their company toward low-emission-futures if they lack the support of top-level managers in the fields of finance and asset management.

However, despite knowledge being an important resource, it would be mistaken to expect a linear effect of “better knowledge” in shaping desired climate futures. Knowledge can always be instrumentalized for other purposes, and it can even be completely ignored.

Use political, legal, and financial pressure to phase out fossil fuels:

To achieve a more qualitative shift away from fossil-fuel profitability, more and new combinations of political, legal, and financial pressure will be needed to change the power relations, the inequalities, and relations of dependency that keep society locked in fossil-fuel engagements. Of particular relevance is combining public pressure on national governments, the use of legal options against corporate emitters or governments, and organizing as pressure groups to target large institutional investors such as pension funds, insurance companies, and banks. Investments in fossil-fuel engagements appear set to remain profitable for a long time, and this will only change if and when the majority of investors believe that the ambition and implementation gaps will be effectively minimized. Strategic alliances can try and enable this change. Such processes are often rather slow compared to the urgency inherent in the Paris Agreement, but examples from the past have shown that alliances across different fields can be effective in the long term.

One example is the Carbon Disclosure Project, which started in 2000 as a voluntary cooperation between financial experts, NGOs, investors, and representatives of large high-emitting corporations to create a new carbon reporting protocol. Over time, the Carbon Disclosure Project developed

into a major tool to identify direct and indirect climate-related risks of corporate strategies and business models. It has changed its form, governance, and coverage, and has now almost global reach. However, turning this and other reporting tools into mandatory standards requires even more legal steps both in national contexts and as part of international agreements. Such reporting tools can contribute to sending a decisive signal to all investors that fossil-fuel engagements will effectively turn into stranded assets soon.

Work across sectors and scales to improve preparedness for the impacts of climate change: It is paramount to recognize the importance of place-specific impacts and interdependencies of climate change as well as place-based knowledge, experiences, and perceptions as highlighted in the case studies in the current Outlook. While sustainable climate change adaptation is embedded in national and global policies, implementation and the development of appropriate solutions takes place at the regional and local scale. Instead of supporting the widespread diffusion of standardized, blueprint technological solutions to climate change adaptation, it is recommended to establish local participatory processes in which existing experiences can be voiced and competing visions negotiated. Implementation is a cross-sectoral challenge that should not stop at traditional jurisdictional boundaries, but instead prepare for interconnections.

Efforts to implement effective sustainable climate change adaptation are facilitated by processes on all scales of governance. On the global scale, political agreement can provide financial resources; it can also create impetus by setting goals for climate change adaptation as part of the UN's climate governance or by supporting the creation of networks and knowledge exchange via transnational cooperation. People in international organizations can work to increase capacities for sustainable climate change adaptation in many different ways. However, it is the national context in which the framework for preparedness is created and where the conditions are set that allow for specific adaptation measures to be implemented. At this level, a genuine interest in improving local situations and creating the necessary spaces for action is crucial. International

funds should be used to increase the preparedness of vulnerable groups and not only support the particular interests of the most powerful. Rather than exacerbating commonly experienced center-periphery or national-regional contrasts, such funds should be used to balance them out.

Institutionalizing local adaptation managers on a community level to act as gate-keepers and multipliers can support the practical implementation of climate change adaptation. However, if they are burdened with too many tasks and are only given strategies and political declarations instead of real decision-making power to work with, they will have little room to maneuver. Creating administrative leeway is therefore an important structural measure that can strengthen sustainable climate change adaptation locally. In addition, decision-making based on participation, trust, and mobilization reduces the risks of self-serving and corruption, further improving the conditions for sustainable climate change adaptation in the long run.

Sectoral authorities, goals, plans, and procedures often exist without considering the interdependencies of issues beyond climate change (e.g., nature conservation and biodiversity, sustainability and social justice, sufficiency and circular economy). If regulations and resource allocation in other policy fields do not consider adaptation needs and if responsibilities are distributed among separate authorities, the necessary linkages are often overlooked. The currently fragmented political, legal, and administrative structures lack the necessary flexibility and integration to enable new solutions to be developed for emerging or compounding climate challenges. Systematically checking for mismatches or lack of policy coherence can identify leverage points for improving the administrative context so that effective preparedness can be created and sustainable climate change adaptation achieved.

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