22

Political Context

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Overview

The explicit aim of the Intergovernmental Panel on Climate Change (IPCC) is to influence policymaking. By synthesising research on climate change and presenting it to policymakers, the IPCC tries to meet its self-imposed goal of being policy-relevant and policy-neutral, but not policy-prescriptive. The hallmark of the IPCC has been to offer a strong scientific voice demonstrating the necessity of climate policy and action, but without giving firm political advice. Yet scholars have contested the idea of maintaining such a strong boundary between science and policy in the IPCC, questioning whether upholding this boundary has been successful and whether continuing to do so offers a viable way forward. The Paris Agreement provides a new political context for the IPCC, implying a need for solution-oriented assessments. The IPCC itself has also argued that large-scale transformations of society are needed to meet the targets set by the Agreement. To be relevant and influence policymaking in this new political context, the IPCC needs to provide policy advice.

22.1 Introduction

The IPCC is a political organisation in the sense that its assessment reports are designed, decided upon and approved by national governments. Its ambition, however, is to determine the state of knowledge on climate change, and this knowledge assessment is undertaken by researchers. An additional aim of the IPCC is to perform this scholarly work in a way that is policy-relevant (see **Chapter 21**). This mainly means being relevant for political negotiations and decision-making under the UN Framework Convention on Climate Change (UNFCCC), which constitutes the primary political context for the IPCC. Hence the two organisations mutually influence each other.

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An early study by Agrawala (1998b) qualifies the discussion on political influence by making a distinction between *process* and *outcome*. He argued that the IPCC had been influential in terms of process – generating and maintaining societal interest and concern regarding climate change – but also in terms of outcome. Without the IPCC, neither the UNFCCC nor the Kyoto Protocol, with its binding agreements on emission reductions, would have been possible. Furthermore, the many lobby groups funded by the fossil fuel industry and devoted to finding weaknesses in the IPCC reports are (indirect) evidence that the IPCC has influenced policy and politics (Agrawala, 1998b: 639–640).

Other researchers have, however, questioned these conclusions, stressing that it is difficult to distinguish cause from effect when so many factors other than knowledge influence climate policies (Grundmann, 2006). De Pryck (2018) argues that unilateral causal connections between the IPCC assessments and climate policies are claimed rather than shown, and that this *assumed* influence is an important part of the IPCC's self-image. It is far too simple to claim that the IPCC's First Assessment Report (AR1) in 1990 (AR1) led to the formation of the Convention (1992), the Second in 1995 (AR2) to the Kyoto Protocol, the Third in 2001 (AR3) to a focus on climate adaptation, the Fourth in 2007 (AR4) to the 2 ºC target, and the Fifth in 2013/2014 (AR5) to the Paris Agreement. This oversimplified view of how science influences policy is based on a unidirectional linear model in which scientific knowledge constrains and guides policy actors.

In this chapter we present the political context of the IPCC. This context is external to the Panel, but is also an inherent and crucial factor in the design of its activities. We are therefore critical of a linear understanding of the IPCC's work, because it separates science from policy and politics, and assumes that knowledge is a necessary prerequisite for political action (Beck, 2011a; Lidskog & Sundqvist, 2015; Mahony & Hulme, 2018). Nevertheless, a linear understanding of the interplay between science and policy is an important part of the IPCC's self-conception, and is also presupposed by many commentators (Sundqvist et al., 2018). Contrary to the linear model, we hold that the work of the IPCC involves ongoing, close interaction between science and policy – something which, instead of being denied, should be fully acknowledged.

This contribution begins by presenting the relationship between the IPCC and the UNFCCC and its Paris Agreement. We argue that the Paris Agreement constitutes a new political context for the IPCC and thus imposes new conditions for how scientific knowledge can influence policy and political decision-making (see **Chapter 18**). We then analyse this new situation through one of the IPCC's best-known reports: the 1.5 °C report published in 2018 (hereafter SR15) and its demand for transformative change to meet the political goal of limiting global warming to 1.5 °C. To what extent does the IPCC influence policies and politics

when the crucial political task is more about initiating and governing transformative change than creating awareness of climate threats? We finally discuss our results in relation to the IPCC's ambition of not being policy-prescriptive, which means not giving advice to policymakers.

22.2 Solution-oriented Assessments

The use of synthesised assessments is well established today and characterises the international policy landscape on global environmental issues. These global environmental assessments (GEAs) have increased in scope and complexity over time, both in terms of content and focus. A survey shows a large increase in the amount of assessed material, as well as in the number of experts involved in the assessment work. This trend toward increased complexity in content and focus has been described as a shift from scientific evaluations to solution-oriented assessments (from GEAs to SOAs) (Edenhofer & Kowarsch, 2015; Jabbour & Flachsland, 2017). SOAs require more explicit treatment of the values, objectives and assessments of policy proposals, which makes them more obviously political than GEAs (Haas, 2017; Castree et al., 2021). The IPCC is no exception to this trend.

A radical change in the political context of the IPCC occurred with the adoption of the Paris Agreement in 2015. The Agreement stipulates that signatories must work to keep global warming below 2 ºC whilst 'pursuing efforts' to limit the temperature increase to 1.5 ºC. As part of the Agreement, the IPCC was asked to compile a Special Report on Global Warming of 1.5 ºC (2018) (SR15), comparing the effects of temperature increases of 1.5 and 2 ºC, and describing possible ways to achieve these goals. The Panel accepted this request, even though the task was more specified than usual for the IPCC (see **Chapter 5**). The requested report was solution-oriented; its aim was to present possible ways to achieve the temperature target. Yet there was not much research to compile; few studies had been conducted on possible ways to reach the 1.5 ºC target (Hulme, 2016; Livingston & Rummukainen, 2020).

The SR15 report states that to achieve the goal, radical measures will be needed, including new technologies (negative emissions technologies, NETs) such as bioenergy with carbon capture and storage (BECCS). However, these technologies have not been tested on a large scale or brought up for political discussion (Beck & Mahony, 2018a). Being commissioned to deliver this special report created a new context for the IPCC, both in terms of knowledge evidence and of policy relevance, and necessitated a substantial change in the Panel's working methods (Ourbak & Tubiana, 2017; Beck & Mahony, 2018a; Livingston et al., 2018). In SR15, the Panel compiled relevant scientific evidence to a lesser extent than in previous assessment reports, and contributed to formulating policy proposals to a greater extent. As a result, the report had a more solution-oriented and prescriptive

role, which is strengthened by its strong focus on scenarios – what SR15 calls 'pathways'. When the Panel includes large-scale investments in nuclear power and NETs as important components of many of the presented pathways, this can and will be interpreted as the Panel advocating these technologies.

The IPCC chairman Hoesung Lee has argued strongly for the use of solution-oriented assessments in order to better serve the UNFCCC (Lee, 2015). In practice, however, the IPCC has not taken advantage of this new post-Paris situation in any deeper sense (Hermansen et al., 2021), and it still sticks to its original position of being policy-neutral, not policy-prescriptive.

The challenge for the IPCC is not only to present conclusions with high certainty, or projections derived from scenarios, but also to address controversial policy-relevant topics that demand greater inclusion and involvement of the social sciences. Similarly, Carraro and colleagues claim that the IPCC must become better at evaluating policy options on various scales – subnational, national and international – including alternative options for measuring equity and efficiency (Carraro et al., 2015). However, this emphasis may lead to controversy; few governments would gladly have their policies evaluated by an international panel, and researchers may not be equipped to handle value-laden and politicised questions in the sensitive manner they require. According to Victor (2015), one of the few social scientists who served as a Coordinating Lead Author in AR5, the IPCC's ambition to seek consensus and avoid controversial topics has increasingly made it largely irrelevant to climate policy.

In our estimation, the shift to SOA means that the IPCC needs to present policy options and possible ways forward, i.e., pathways. But it must also assess the feasibility and viability of these pathways in order to provide decision-makers with relevant knowledge. This means that social scientific studies need to be better integrated into the assessment work of the IPCC.

22.3 The National Turn in the Paris Agreement

The basic design of the Paris Agreement consists of two interrelated parts. One is national, and is based on the signatory countries' own voluntary decisions about reducing greenhouse gas emissions – Nationally Determined Contributions, NDCs. The other is global, and sets the common target that the combined measures of the various countries should keep the global average temperature well below 2 °C, and preferably limit it to 1.5 °C.

The Paris Agreement implies a more decentralised global policy regime than previously envisaged, with a national focus and a strong, bottom-up governance system (Jordan et al., 2018; Aykut et al., 2021). After years of conflict over global distribution principles and which countries should reduce their emissions by how

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much and by what year, it is now up to individual states to set their own climate targets and deliver on them. Complicated international negotiations can no longer be used as an excuse for prevarication at the national level. However, every fifth year (starting in 2023), the NDCs will be globally reviewed in a process called the Global Stocktake of the Paris Agreement.

This national turn shifts the focus towards defining potential pathways for reaching specified goals (Beck & Mahony, 2018a). The IPCC now finds itself in a position where national-level policy processes will be decisive, while the global level will continue to be relevant with the Global Stocktake process ratcheting up national ambitions. Of great importance is how the IPCC can fulfil its mandate and remain policy-relevant in this more complex, polycentric and nationally oriented post-Paris policy terrain, where the responses to climate change are becoming more diverse (Hermansen et al., 2021). As argued earlier, in this situation characterised by a national turn, the IPCC will have to give more thought to how to support and inspire ongoing work on national and regional levels (Carraro et al., 2015; Victor, 2015; Livingston et al., 2018; see also Hulme et al., 2010). The need for this kind of support will increase, as exemplified by NGO initiatives such as 'Climate Action Tracker', 'Climate Analytics' and 'Climate Interactive'.

In line with the design of the Paris Agreement, it is mainly at the national level that decisions will be taken that can make the IPCC's knowledge relevant and thereby increase its ability to influence climate policy. An important reason why the UNFCCC invited the IPCC to produce SR15 in the first place was to 'inform the preparation of nationally determined contributions' (UNFCCC, 2015: §20), and SR15 is accordingly expected to support policy formation at the national level, in line with post-Paris global climate policy. Thus, there is a strong link between the Paris Agreement's national turn and the SR15 report, something which the IPCC has not reflected on to any greater extent. In our view, the IPCC needs to become more self-aware of its important role of providing support, including advice, to ongoing and future national climate-transformation efforts.

22.4 The IPCC on Transformative Change

The topic of transformation, or transformative societal change, in response to climate change has increasingly attracted research attention in the social sciences (O'Brien, 2012; Linnér & Wibeck, 2019). It has been argued that the IPCC plays an instrumental role in producing the visions of societal change used by those arguing for its necessity (Beck et al., 2021). In SR15, it is explicitly claimed that 'limiting global warming to 1.5 °C would require substantial societal and technological transformations' in terms of energy production, land use (agriculture and food), urban infrastructure (transport and buildings) and industrial systems

(IPCC, 2018a: 56). It also states that the work of achieving a resilient future is fraught with complex moral, practical and political difficulties and inevitable trade-offs.

SR15 presents a manifold of pathways to reach the 1.5 °C target, four of which are selected as illustrative model pathways (IPCC, 2018a: Chapter 2). These involve different portfolios of mitigation measures combined with different implementation challenges, including potential synergies and trade-offs with sustainable development. At the same time, they all presuppose a decoupling of economic growth from energy demand and carbon dioxide emissions, and new low-carbon, zero-carbon or even carbon-negative technologies. The differences between the pathways are presented with the help of global indicators, such as final energy demand, renewable share in electricity, primary energy source, and carbon capture and storage. Thus, the SR15 report strongly stresses the need and opportunity to make changes in energy supply.

When it comes to necessary change in the social and economic order, which is stressed at a general level, the pathways do not propose any radical changes. Societal conditions are only taken into consideration in so far as they enable or obstruct technological development. This is the case for all the different pathways that rely heavily on BECCS, whether they are based on reduced energy demand, include a broad focus on sustainability, or imply intensive use of resources and energy. SR15 states that to implement the pathways it is crucial to strengthen policy instruments, enhance multilevel governance and institutional capacities, and enable technological innovations, climate finance, and lifestyle and behavioural change (IPCC, 2018a: section 4.4). But apart from these sweeping statements, there is no further elaboration on how to create these conditions in relation to different pathways.

SR15 thus exhibits a paradoxical view of transformative change. It stresses its necessity, but in practice places great hope in technological fixes – technical solutions that do not require structural changes in the current economic and social order. The economic and social order is reduced to a resource for facilitating technical innovation. This view is reinforced in the report's discussion of the risks and trade-offs – for the environment, people, regions and sectors – that are associated with the pathways. For example, the novel technology of BECCS is recognised to be unproven and to pose substantial risks for environmental and social sustainability (IPCC, 2018a: 121), but it is considered manageable. It is only *if* BECCS and other NET options are poorly implemented that trade-offs will be required (IPCC, 2018a: 448). Similarly, risks associated with nuclear power (IPCC, 2018a: 461) are mentioned, but nothing is said about whether these should have any bearing on which pathways to choose. Thus, despite the overall stress on trade-offs in the report, there seems to be a strong belief that they will be manageable and will not constitute any substantial obstacles to implementing the pathways. This makes it possible for the IPCC to present risks and trade-offs, while

at the same time not according them any implications for the suggested pathways, and thereby not politicising them.

SR15's recommendations – the pathways – have a radical view of technology, putting great faith in future technological innovations, but are conservative in their view of societal change: they do not propose any transformation of the economic and social order. This is remarkable, since no connections are made between technological and social change. For decades, research in the social sciences has stressed the need for *societal* changes and *social* or *socio-ecological* transformation (Díaz et al., 2019), in the sense of fundamentally redirecting social organisation and human activities, including technology. SR15 on the other hand, when presenting possible pathways for limiting global warming, puts its hope in technological innovations isolated from social change. If the IPCC wants to be policy-relevant, it needs to adopt a wider and more comprehensive understanding of transformative change when developing pathways, and conceptualise society as more than just a set of conditions enabling or restricting technological innovation.

We thus find that the IPCC needs to incorporate more profound knowledge about transformative change into its assessments, including a deeper understanding of the mechanisms of social change on different spatial and temporal scales. A prerequisite to being influential is being policy-relevant, and in the post-Paris context this means presenting and assessing different options for how to initiate and facilitate transformative change without losing sight of social factors.

22.5 Achievements and Challenges

The IPCC is undoubtedly one of the most ambitious efforts ever undertaken to develop and communicate science to inform environmental policy globally. Among its greatest successes is its impressive mobilisation of the scientific community to allocate substantial resources – in the form of researchers' time – to produce knowledge syntheses on an urgent issue. Determining whether this mobilisation has influenced policymaking, however, is more difficult. The IPCC has been surprisingly stable in its method of working: making systematic assessments and delivering – on a regular, if not frequent, basis – comprehensive reports that accurately summarise the current state of knowledge. The cornerstone of their work is not to be policy-prescriptive and thereby not to politicise the results. In practice, this means that the IPCC has primarily focused on developing and maintaining its epistemic authority, and only to a very limited extent has been interested in providing guidance to policymakers. However, this strategy is an insufficient way to proceed in the post-Paris political context.

There are several ways to further increase the relevance of the IPCC's work to support national (and thus global) societal transformation. With the shift towards

SOAs and the need for transformative change, the Panel should pay more attention to the socio-political aspects of these extremely demanding challenges, and adopt a deeper understanding of how politics (and society) works. For example, proposed technical innovations and solutions need to be embedded in realistic social conditions, otherwise the pathways will work on paper only. This demands better integration of social science in the IPCC's assessments, which will be a challenge, because the Panel's assessment work is not well-suited for assessing social science with its diverse epistemologies and methodologies. In the post-Paris political context, the Panel should focus more on regional and national contexts to be policy-relevant for national climate policies. This includes emphasising realistic policy options that consider regional and national variation, not least in relation to the development and implementation of technological solutions.

This does not imply that the IPCC needs to be policy-prescriptive in a narrow sense, telling governments what they should do. It is possible to assess studies on transformative change and present policy options – including evaluating their feasibility – without advocating one particular way forward. Social science has a long history of assessing policy development, analysing political experiments and exploring the conditions for transformative change, while not being prescriptive in the sense of giving firm advice. However, assessing such studies will require addressing controversial topics. To increase its policy relevance, the IPCC needs not only to outline possible policy options, but also to provide knowledge about their feasibility and viability. By utilising social science research, the IPCC can assess different options, which in fact means to give policy advice.

Three Key Readings

Castree, N., Bellamy, R. and Osaka, S. (2021). The future of global environmental assessments: making a case for fundamental change. *The Anthropocene Review*, 8(1): 56–82. http://doi.org/10.1177/2053019620971664

This article gives an overview of global environmental assessments and proposes a fundamental change of them in order to be of political relevance.

Hermansen, E. A. T., Lahn, B., Sundqvist, G. and Øye, E. (2021). Post-Paris policy relevance: lessons from the IPCC SR15 process. *Climatic Change*, 169(7): 1–18. http://doi.org/10.1007/s10584–021-03210-0

This article concludes with a set of empirically grounded recommendations for how the IPCC may approach its goal of policy relevance after the Paris Agreement and the IPCC SR15.

Linnér, B.-O. and Wibeck, V. (2019). *Sustainability Transformations: Agents and Drivers Across Societies*. Cambridge: Cambridge University Press. http://doi.org/10.1017/9781108766975

This book provides an overview of the meanings of sustainable transformation and examines examples of societal transformation across the world.