

Re-imagining the IPCC

A Proposal

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Overview

This chapter positions the Intergovernmental Panel on Climate Change (IPCC) in the context of global efforts to understand and combat climate change. Throughout its first three decades, as nations have sought to understand and prioritise climate change in global policy, the IPCC has served as the world's principal knowledge-making institution. It has created, authorised and narrated a new kind of global knowledge; profoundly shaped global public imagination of the climate emergency; and provided epistemic support to the call for collective global action to tackle it. Looking forward, however, it is less clear whether the IPCC is well positioned to help support the work of institutions around the world to end fossil fuel use and reduce greenhouse gas emissions. The chapter asks, therefore, whether the IPCC needs to be re-imagined if it is to help advance the transition to a climate-neutral global economy and energy systems.

27.1 Introduction

When the IPCC was established in 1988, it was intended as a space of global politics for translating climate science into the design and negotiation of coordinated global action (Miller 2004). That idea quickly broke down after the signing of the 1992 UN Framework Convention on Climate Change (UNFCCC). Instead, the IPCC was rebuilt as a scientific advisory body to review and synthesise scientific and social scientific knowledge about climate change for global policymakers. It has exercised that responsibility for nearly three decades (Beck et al., 2014).

The shift to science advice did not ultimately reduce the IPCC's political significance. In packaging assessed scientific knowledge for public and policy consumption, the IPCC constructed out of the cacophony of disjointed scientific

work a *global fact base* that establishes the existence of the Earth's climate system, illuminates the dangerous risks threatening that system, and demonstrates humanity's responsibility for creating those risks (Borie et al., 2021). In short, the IPCC helped fashion *the imaginary of a climate emergency* now shared broadly in the global public imagination (for one illustrative framing, see Ripple et al., 2021) and positioned its knowledge as the definitive source for understanding this planetary crisis. There are, to be sure, many framings of the climate emergency – and how to tackle it. Yet, there are also continuities: that climate change is an emergency; that it is a disturbance of the global climate system; and that solutions must be global. The IPCC has contributed deeply to shaping these continuities. It is no accident that the UN Secretary General specifically identified the 2021 IPCC Sixth Assessment Report (AR6) Working Group I (WGI) report as a 'code red' for humanity (Guterres, 2021).

This chapter reviews the IPCC's intertwined epistemic and political work over the past three decades. Scholars in science and technology studies (STS) label such work *co-production*, meaning the ways in which knowledge and social order are configured together (Jasanoff, 2004). The IPCC epitomises co-production, simultaneously helping create three key 'products': a new kind of global knowledge; a new class of global knowledge institutions to make it; and a new form of global politics centred on forging global policy responses to global problems (Miller, 2004). Few such exercises of global power go uncontested, however. From the 1990s through the 2010s, the IPCC was a lightning rod for opposition in fights over global climate science and policy. Critics challenged many aspects of the IPCC, and for many reasons (Feder, 1996; Hulme, 2009; Hajer, 2012; Martin, 2014; Beck & Mahony, 2018a; Sanford et al., 2021). Two sets of criticisms are especially relevant to this chapter. From one direction, opponents of climate action sought to undermine the credibility of *specific IPCC knowledge claims* and of the IPCC as a scientific institution in an attempt to protect fossil fuel industries. Others criticised *the IPCC's ways of knowing* as an illegitimate approach to making global knowledge and organising global governance. They argued that the IPCC excluded important groups and their knowledges, and inappropriately framed climate change as a singular, universal global problem.

The IPCC has largely defeated the first set of criticisms, amid broader shifts in climate policy and public opinion toward the foreseeable elimination of fossil fuels. Since 2020, global climate debates have passed an important turning point (see Fink, 2020, for an illustration of an influential financial institution adopting climate change as central to its own transformation). As witnessed at COP26 in Glasgow, a substantial majority of the world's governments and industries now publicly support systematic action to create a climate-neutral future and transform the global economy and energy systems by 2050 (for example EU, 2021).

Accomplishing this goal will not be easy, and knowledge will remain critical to informing world action. The kinds of knowledge and politics needed, however, may differ significantly from those developed and curated by the IPCC to date. This makes the second set of criticisms of the IPCC all the more poignant. What kinds of knowledge should guide action to end fossil fuel use and decarbonise the global economy? Who should participate in that knowledge-making? Is the global construction and organisation of knowledge that underpins imagination of the climate emergency what is now needed? It concludes, therefore, by asking ‘Now what?’ for the IPCC. The chapter argues that the IPCC should carefully consider the kind of knowledge and politics it is bringing into being and informing – and re-imagine itself as fit-for-purpose for the task(s) ahead. Understanding the challenge of transitioning to a post-carbon economy and the different possibilities for replacing it, and helping different communities and places advance that agenda, in differentiated ways, is a critical problem to which the IPCC could potentially contribute. Or not. Different pathways forward could lead to very different futures, and how both the science and politics of those pathways is narrated matters (Hulme, 2019).

27.2 The Organisation of Global Knowledge-making

At its most basic meaning, the idea of co-production emphasises (i) that new knowledge is made – i.e., it is a product of human work – through the design and organisation of new social and institutional practices; and (ii) that new ways of ordering social organisation and practices are orchestrated through the making and application of new kinds of knowledge (Miller & Muñoz-Erickson, 2018). The emergence of a new kind of politics of planetary emergency is no exception. Throughout its history, the IPCC has pioneered both the globalisation of knowledge-making and its use to inform and drive global politics (Miller & Edwards, 2001). The IPCC has worked to characterise and establish the ontological reality of the climate system as a global object at risk from human affairs (Edwards, 2010). It presents itself as an institution that represents and synthesises scientific and social scientific knowledge from all peoples and countries (Ho-Lem et al., 2011); can thus present its findings credibly to policy audiences across the globe (Mahony, 2014a); and is capable of identifying and analysing global problems so as to inform and coordinate collective global action to correct them (Turnhout et al., 2016). See **Chapters 7** and **23** for a thorough and appropriate critique of that self-image.

Even the earliest statements of the IPCC present the basic outlines of this framework. In presenting the findings of the IPCC First Assessment Report (AR1) in 1990, for example, Bert Bolin, the first chair of the IPCC, emphasised the factual

reality of climate change – ‘there is a greenhouse effect’; its global ontology – ‘how the global climate system operates’; and the ability of the IPCC to guide collective action – ‘clear justification for the need to start the process of combating climate change now’ (Bolin, 1991: 19–20). Over time, these core elements of IPCC knowledge-making became even clearer and more ambitious, as the IPCC incrementally ratcheted up the immediacy of its warnings and the need for rapid, global action to combat it (IPCC, 2021a).

This epistemic and narrative work by the IPCC played a central role in establishing climate change as a widely shared global fact in the imagination of publics around the globe. It has also shaped and delimited what people know about climate change, and built causal narratives that connect these evidentiary foundations to visions and values of action within a global imaginary of climate emergency. In a recent survey of 1.2 million people in 50 countries, ‘nearly two-thirds (64 per cent) of people in 50 countries believe that climate change is a global emergency’ (UNDP, 2020: 15), including 58 per cent in the least developed countries and 61 per cent or more in every region of the world.

The drip, drip, drip of three decades of IPCC reports, responses to and criticisms of them by policymakers, business leaders, activists and scientists around the globe – and its coverage in global media – has had an enormous impact on global public imagination (Kunelius et al., 2017). Today, the IPCC stands at the centre of a world-spanning – admittedly somewhat decentralised – global machinery, extending throughout diverse policy, economic, media, social media and non-governmental institutions in every country, dedicated to creating and distributing knowledge about climate change among global publics (Boykoff & Yulsman, 2013). Within those networks, the ideas about climate change that the IPCC articulates are the grist around which all sorts of knowledge-making gets spun (Boykoff & Pearman, 2019).

27.3 The Conflict over Global Knowledge-making

The IPCC’s success in creating a global fact base for understanding and acting on climate change catalysed a multi-decade conflict over global knowledge-making. One facet of this conflict has centred on attacks on the credibility of the IPCC and its knowledge claims (Hulme, 2013). These attacks have come from very different directions – some motivated by a narrow desire to protect carbon economies, some by a fear that knowledge of global risks will support rising calls for stronger global governance, and some by deep concerns about the narrative of emergency that circulates in and around IPCC reports. These attacks – and responses to them – have done little to slow the global spread of the imaginary of a climate emergency. They have, however, done damage – for example polarising the IPCC among some groups, slowing policy responses, and contributing to the

rise of post-truth knowledge politics in global discourses, especially but by no means exclusively in the United States (Fischer, 2019).

A second facet of the conflict has focused on efforts to extend the model of the IPCC into other domains of global governance. This criticism has focused more on the legitimacy of the IPCC's ways of knowing, practices of inclusion and governance, and role in framing climate change. In important ways, the IPCC has become the model for making knowledge about global risks, especially in the health, environmental and biological sciences (Beck et al., 2014). In biodiversity conservation, for example, scientists have sought to articulate the diversity of life on Earth as 'an irreplaceable natural heritage' at risk of a global 'biodiversity crisis' and to establish 'a mechanism akin to the IPCC' to build a global fact base that justifies global action to halt the loss of species and habitats around the world (Loreau et al., 2006). The World Health Organisation (WHO) adopted similar strategies on tobacco and emerging diseases. It cast both as 'global health risks'. It established, in 2003, a Framework Convention on Tobacco Control – note the similarity in language to the Framework Convention on Climate Change. Finally, in 2005, upgrades to the WHO's International Health Regulations allowed the WHO to declare global health emergencies (Miller, 2015a).

These efforts to globalise science, risk, and governance for biodiversity and health ultimately backfired. Viewing them as threats to national sovereignty – over, respectively, the ownership of national biological resources and health security decision-making – key countries refused to countenance the globalisation of either knowledge-making or policy authority. Under Chinese leadership after 2006, WHO capacity to detect and respond to infectious diseases was systematically dismantled. This contributed to slower and less effective responses to Ebola in 2013–2016 and COVID in 2020–2021, as well as to political conflict over the scientific guidance and proper role of the WHO in both instances. In parallel, opposition from Brazil, Indonesia and other large, biodiverse countries, slowed the development of international scientific advisory processes for biodiversity conservation. When the Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services (IPBES) was finally established in 2012, it followed a very different model to the IPCC. It emphasised cultivating distributed and diversified scientific capacity and governance at local and national scales (Beck et al., 2014; Borie et al., 2021). This was despite repeated agitation by the scientific community for stronger, more centralised knowledge-making and action (Wilhere, 2021).

27.4 Knowledge-making and Public Imagination

The tremendous impact of the IPCC in shaping global public imagination – and the conflicts it engendered – is a reminder that it matters *how* global knowledge is

chosen to be made and *how* global knowledge is made to entwine with global politics. Scholarship on knowledge politics has long emphasised this point – knowledge is power, forms of knowledge-making are forms of governance, and the modern state incorporates a wide diversity of institutional arrangements for making knowledge and applying it to the exercise of political muscle (Jasanoff, 1990; Ezrahi, 1990; Foucault, 1991; Miller, 2015b). It is no surprise that similar dynamics are at play in global governance.

What next, then, for the IPCC? The current form of knowledge politics produced by the IPCC – global, emergency, centred on the threat to planetary systems – demands a global policy response and mirrors those that, historically, have helped buttress the creation of strong national states (Scott, 1995) and state regulatory apparatuses for controlling resources and protecting against risk (Rueschemeyer & Skocpol, 1996; Hays, 1999). Thus, given the current IPCC orientation, it is no surprise to note high levels of anxiety over the persistent failures of the UNFCCC Conferences of Parties (COP) to write strong global climate rules (Dauvergne, 2021), recurring calls to establish a world environment organisation (Biermann, 2020), or calls for emergency global powers to address the climate crisis (Gills & Morgan, 2020).

Is that really the way to go, however? Mike Hulme has argued that the politics of emergency are a treacherous foundation on which to build a sustainable future for humankind (Hulme, 2019). Especially at a time when democracy seems fragile, and many see a growing gap between the world's citizens and the governments that represent them (Castells, 2018), it is appropriate to ask whether an alternative politics of climate change might exist.

Although the IPCC has always framed its work as informing and motivating global policymakers, an alternative, bottom-up social movement has also formed to accelerate climate action. Worldwide, cities, communities, businesses, energy organisations, local governments, countries and other kinds of organisations are setting their own targets to achieve climate-neutral futures and, more importantly, making plans and investments to reduce greenhouse gas emissions (Kuramochi et al., 2020). This movement – far more than the prospects of a global treaty or extensive new national investments in clean energy infrastructures (IEA, 2021) – gives me hope that climate change will be tackled over the next few decades.

I see in all of this frenetic activity a validation of recent scholarship on *sociotechnical imaginaries* – the shared, socialised forms of public imagination that permeate modern societies (Jasanoff & Kim, 2015). Two aspects of this literature are especially interesting: the centrality of organised practices of fact-making to the creation of sociotechnical imaginaries among democratic publics; and the decentralised processes of knowledge uptake, engagement and interpretation through which those epistemic claims are transformed into social organisation and collective action. In his book *Imagined Communities*, Benedict Anderson

depicts the contribution of maps, museums and censuses, all products of State knowledge-making, to the rise of collective national identities in the transition from colonial and monarchic rule to democracy (Anderson, 1991). Similarly, in *Imagined Democracies*, Yaron Ezrahi argues that a foundation of ‘reality’ – built on shared factual resources, often produced by the state, describing what exists in the world and the causal relationships among its parts – forms an important element in the imaginative resources of publics through which they imagine themselves as democratic (Ezrahi, 2012; Miller, 2015b).

The question is whether there are ways that the IPCC could leverage its power in global knowledge-making to help create new kinds of knowledge capabilities that both support decentralised, polycentric climate action (Ostrom, 2009; Keohane, 2015) *and* strengthen democratic public imaginations around the world. Unfortunately, the current focus of the IPCC on knowledge of global environmental systems offers little to no informational value to sub-global entities seeking to map out paths to reducing greenhouse gas emissions, for example the world’s ten thousand electric utilities. Nor is it immediately clear how the current approach of the IPCC helps support the imagination and construction of post-carbon futures by diverse communities around the world.

Maybe the IPCC shouldn’t try to help communities find local climate solutions. The power of global scientific institutions like the IPCC to crowd out local ways of knowing must be taken seriously. However, it is worth also taking seriously the possibility of redesigning the IPCC to provide support to regional knowledge institutions and energy transitions. Ending humanity’s addiction to fossil fuels will be complex, arduous and tricky. It will take different forms in different communities and places, yet also need to be coordinated to avoid catastrophic risks to regional energy infrastructures – especially in the context of growing weather and climate extremes.

Could the IPCC help develop and distribute the know-how necessary to undertake this work, in a way that supports rather than imposes itself on local communities and actors? For example, the IPCC could leverage its position as an influencer of global public imagination to advocate for new investments in developing the substantial sub-global knowledge capabilities needed to inform decentralised climate action. And it could re-orient and re-imagine its own work in terms of engaging, motivating and supporting polycentric action. Such an approach could potentially help strengthen communities and facilitate democratic imagination and action by helping foster public understanding of what is happening, in detail, at sub-global scales. This would improve deliberation of the adequacy, orientation and justice of sub-global economic and energy transitions (Dryzek, 2012). At the same time, the IPCC could serve as a counterweight to other global actors seeking to inappropriately influence and shape local efforts to imagine and create post-carbon futures. These are ideas worth exploring.

27.5 Achievement and Challenges

In this moment of deep despair for the prospects of the planet, democracy and the human future, it is worth reflecting on what the IPCC has achieved, despite its shortcomings. Today, publics and institutions worldwide understand the need for and are working to achieve climate neutrality by 2050. That new climate social movements and shared climate imaginaries exist is – in no small part – due to the work of the IPCC.

What responsibilities does the IPCC have to these movements to support their work? Correspondingly, what risks does the IPCC face in continuing to support a narrative of climate emergency without also supporting those working, at all levels, to tackle climate change? Up to this point, the IPCC has chosen not to invest substantially in helping diverse actors mobilise or build distributed capacity for the knowledge and expertise necessary to understand how the world's diverse energy systems work, how these energy systems intertwine in complex ways in particular places with a host of other critical infrastructure systems, and what it will take to transform them to achieve a climate-neutral future. Nor has the IPCC sought to track or assess in any significant way the work underway by distributed actors to transform the global economy and global energy systems. The result, unfortunately, is that the IPCC helps perpetuate the idea that the world is not acting sufficiently to tackle climate change, while simultaneously also not working to help those institutions that *are* pursuing that effort.

If the IPCC is to help the world's diverse peoples tackle climate change through collaborative action – and in the process help usher in a transformation of the global economy and energy systems – it needs to reflect on and re-imagine itself as a maker of global *social order*, not simply a maker of global *facts*. It needs to ask what kind of global social order it wants to help call into being. This would be a radical departure for the IPCC and the alternatives are stark. Continued climate emergency is one possibility, along with the treacherous forms of global politics it entails. Another possibility is for the IPCC to reconstitute itself to support a robust, decentralised movement to undertake the essential work of navigating the transition to climate-neutrality – which has to happen everywhere, anyways. Such a movement might make real contributions to shoring up, or even reconstituting, global democracy.

Three Key Readings

Miller, C. A. (2004). Climate science and the making of a global political order. Chapter 3 in: Jasanoff (ed.), *States of Knowledge: The Co-Production of Science and Social Order*. London: Routledge. pp. 46–66.

This chapter provides an overview of the IPCC as an agent of co-production in climate science and politics.

Jasanoff, S. (2015). Future imperfect: science, technology, and the imaginations of modernity. Chapter 1 in: Jasanoff, S. and Kim, S.-H. (eds.), *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*. Chicago: University of Chicago Press. pp. 1–33.

This chapter introduces readers to the concept of sociotechnical imaginaries.

Beck, S. et al. (2014). Towards a reflexive turn in the governance of global environmental expertise. The cases of the IPCC and the IPBES. *GAIA-Ecological Perspectives for Science and Society* 23(2): 80–87. <http://doi.org/10.14512/gaia.23.2.4>

This article highlights the design differences between the IPCC and IPBES and their implications for the variations of science and politics co-produced by the two institutions.