

‘IPCC-envy’: Why do other science-policy issues want an IPCC, and should they?

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Abstract

The UN’s Intergovernmental Panel on Climate Change (IPCC) has been at the forefront of climate science and policy for more than 35 years. Many commentators hold it up the IPCC as a model for how global knowledge should be assessed, communicated and employed in complex, transnational, public policy challenges. In this essay I lay out some reasons why other science-policy issues might indeed be envious of the IPCC, but also suggest a number of reasons why replication of the IPCC in other topic areas might be difficult and why it might not necessarily be desirable.

Introduction

It is difficult to talk about what is happening to world climate and what may, or what should, happen to climate in the future without some reference to the UN’s Intergovernmental Panel on Climate Change (IPCC). This Panel, founded in 1988, has produced six (very) large assessments of scientific knowledge about climate change, together with 14 more focused Special or Technical reports. It has been awarded the Nobel Peace Prize (jointly, in 2007) and is frequently referred to by climate campaigners, policy-makers, lawyers, politicians, and by other scientists and scholars, as being the authoritative fount of knowledge about climate change. The IPCC has become for many ‘the Bible’ for climate change. Negotiating positions or policy goals have to be set in accordance with ‘IPCC science’ or ‘as indicated by the IPCC’. Its international and epistemic status is held up as emblematic of the role that science *should* play in policy-making, a role which gives primacy to science over non-science, to science over politics, to disinterested rationality over emotion, motivated reasoning and denialism.

It is not surprising therefore that the IPCC has become the subject of ‘envy’ for those who are heavily invested in other difficult issues where science, policy and public interest

meet. The IPCC has grown into an institution that is seen by many actors as a role model for organizing and applying policy-relevant knowledge to other global-scale problems. Most notable in this regard has been the creation of the Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES), established in 2012. IPBES has at times been referred to as ‘the IPCC for biodiversity’. For example, in a 2010 editorial in *Nature* titled, “Wanted: an IPCC for biodiversity”, the journal argued that the IPCC offered “a gold standard” for international scientific assessments, and that the governmental representatives meeting in Busan in June 2010 to discuss the establishing of IPBES “should do their best to reproduce those attributes [of the IPCC] to make the IPBES as strong” (Anon, 2010).

But beyond IPBES, calls have also been made to establish IPCC-like institutions for pressing problems such as anti-microbial resistance, migration and asylum, desertification, pandemics, food systems, chemical pollution and waste. For example, in an essay in the journal *Science* calling for a global science-policy body on chemicals and waste, Wang et al. (2021: 776) pointed to the IPCC as demonstrating that “the successful integration of natural scientific data, insights from social sciences, and local knowledge forms a strong basis for producing policy-relevant and usable information.” Similarly, an editorial in *Nature* in July 2021 focused on recent calls to develop a new science-to-policy process for food systems. The editorial pointed out the importance of learning from the IPCC with respect to structure and governance and “how to navigate topics that, like food systems, are both deeply political, and must take into account the voices of industry, non-governmental organizations, farmers, Indigenous people and others” (Anon, 2021: 332).

In this short essay I first lay out some reasons why other science policy issues might indeed be envious of the IPCC, before suggesting a number of reasons why replication of the IPCC in other topic areas may be not only impossible, but why it might also not be desirable.

Why ‘IPCC Envy’?

First, then, why might topics such as chemical and waste pollution, desertification or anti-microbial resistance want ‘an IPCC’ for themselves? And by ‘an IPCC’, I mean an institutionalised knowledge assessment process that is intergovernmental, expert-led, global in reach, interdisciplinary, and peer-reviewed (Hulme, 2017). One reason for this desire is that such a body helps to frame an issue as one worthy of sustained scientific engagement and draws attention—political, public and scientific—to the issue so addressed. Calling for an ‘IPCC-for’ an issue is a way of demonstrating seriousness of intent and purpose. It may simply be performative. Beyond this, however, establishing such a body can galvanise and lever new research funding into a topic area and, perhaps just as

importantly, initiate new coordinating mechanisms for international science, and maybe for connecting different disciplinary research communities, including social sciences and humanities. This co-ordinating outcome was certainly true for the IPCC and aspects of climate science; for example, the IPCC was able to catalyse and sustain the networking of climate modelling groups through the Coupled Model Intercomparison Project (CMIP), and it also gave major impetus to the coordination of efforts by the worldwide community of researchers to design future emissions scenarios.

A third reason for seeking to initiate an ‘IPCC-like’ knowledge assessment is that it can accelerate the formation of a knowledge consensus on a specific topic where such a consensus may previously have been lacking. This was again true of the IPCC during its first three assessment cycles in the 1990s. For example, in the foreword to the IPCC First Assessment’s Working Group I report on the physical science of climate change published in 1990, the Co-Chair Sir John Houghton wrote “... peer review has helped ensure a high degree of consensus amongst authors and reviewers regarding the results presented” (IPCC, 1990: v). For some, forging such a knowledge consensus is seen as an essential prerequisite for gaining political traction for an issue and hence necessary to enable serious policy development. In other words, some argue that a scientific consensus is essential before governance of an issue can be established (for a counter-argument, see Pearce et al. 2017). Finally, there are advocates who would value an ‘IPCC-like’ body because they regard it as one way of helping to resolve difficult political or value conflicts. Asayama (2024) examined the evidence of this function of the IPCC, using the controversial cases of greenhouse gas emissions accounting from land use change and the desirability of carbon capture and storage technologies.

And Why Not?

The above list suggests some of the reasons for wanting to replicate the successes of the IPCC for other science-policy issues. But why might such replication not be achievable, or even desirable? First, and most directly, is to recognise that the conditions that enabled the initial successes of the IPCC were unique to the time—the late 1980s/early 1990s—and to the topic. As explained in a *Nature* editorial (Anon, 2023), the governmental ownership and sponsorship of the IPCC was facilitated in large measure by governments’ existing support of climate science and modelling, whether through their commitment to the World Meteorological Organisation or to national meteorological centres. Furthermore, after the ratification of the UN Framework Convention on Climate Change in 1994, the IPCC was able to gain purpose and strength from the annual meetings—from 1995 onwards—of the Conference to the Parties to the Convention, a cycle that continues to the present-day. This

tight coupling between climate science and climate diplomacy offered the IPCC a ready-made status and role at the top-table of international climate politics.

Related to this, is the question of scale. The knowledge assessments of the IPCC gained much of their scientific authority and performative power from the hegemony of global climate models, later called Earth System Models. For good or ill, these comprehensive models of the climate system buttressed the idea of a global-scale assessment of climate change and the possibility of a unity of knowledge organised around such comprehensive analytical and predictive tools. The later experience of IPBES shows that such knowledge universalism does not so easily apply to other science-policy issues (e.g. Borie et al., 2021); indeed, it can be argued that it should *not* apply in the case of climate change either (Van Bavel et al., 2022). In the new cultural conditions of the 2020s, such universalist ambition to get all knowledge holders to ‘speak with one voice’ is unlikely to gain as much support as it did a generation ago (see Dudman and de Wit, 2021).

Which leads to my third qualification: the limited scope of knowledge that is assessed by the IPCC. Its success has been achieved at the expense of enthusiastically embracing a wider set of knowledge disciplines, especially from the social sciences, humanities, and locally-held knowledge (Petersen, 2022). This argument has also been advanced recently by Berg and Lidskog (2024). They argue that in global environmental assessments such as the IPCC, “the understanding of social processes and structures remains underdeveloped, despite such knowledge being critical for transformative change”. Their point is that the design of the IPCC requires substantial change, including the creation of “complementary institutional science–policy relations through which social scientific research can assist policy actions to promote deep transformative change.” Rather than seeking to replicate the science-heavy approach of the IPCC, other science-policy issues need to consider carefully the relevant knowledge politics of the issue and how this should best be reflected in the design of the assessment process.

A fourth concern with ‘IPCC-envy’ is the danger that creating such a knowledge institution ends up offering *de facto* governance of an issue—the accusation that the IPCC shapes and constrains policy (inadvertently perhaps) via the back door of science. The much-repeated claim that the IPCC is ‘policy-relevant but policy neutral’ is no longer tenable—even if it once was (Beck and Mahony, 2018). This concern about science usurping due political process has been well-articulated by Wagner et al. (2024; also see Hulme et al., 2020, for the parallel case of COVID-19). Wagner et al. observe that commentators on the IPCC and other science-policy interfaces often portray them as objective and policy-neutral. While lauding their ‘success’, what is overlooked is the power these knowledge institutions exert over the processes of environmental governance. These authors conclude, “under the

guise of policy neutrality, [science-policy interfaces] may inadvertently promote certain interests or agendas over others” (p.1).

Finally, and bringing together the above four arguments against regarding the IPCC as a model template for designing science-policy interfaces is the danger of mission creep. The IPCC started out in the late 1980s with a rather modest ambition, namely to assess the state of scientific knowledge about the changing climate and the human influences on it. But 35 years later its very success and longevity means that with regards to the complex, multi-layered politics of climate change more and more political actors and advocates want the IPCC to serve their own specific needs. The IPCC is caught in a complex web of its own making as it seeks to become ‘all things to all people’ or, metaphorically speaking, a Swiss-army knife (de Pryck and Hulme, 2022). This widening of mission and heightening of expectation is reflected in the argument advanced by Castree et al. (2021) to fundamentally re-design the scope and ambition of global environmental assessments to make them much more politically-overt, in effect a call to merge the IPCC and the UNFCCC. I do not find this argument convincing.

Conclusion

If longevity is one marker of ‘success’, then the IPCC has been a successful institution operating at the interface between climate science and policy for over a third of a century. It is therefore understandable that it is scrutinised by outsiders, keen to discover the ‘secret to success’ with a view to emulation with respect to other pressing global problems. However, I offer three concluding remarks, which each point in rather different directions about whether or not ‘IPCC-envy’ is appropriate.

First, is to recognise the problems that accompany success. The weight of expectation bears heavily on the IPCC as it considers its own future. How best can it continue to serve society at large when it has come to mean a widening diversity of things to different political actors? Given that the IPCC may need to evolve in potentially quite radical directions—see, for example, Asayama et al. (2023) and De Meyer et al. (2024)—it is no longer clear than the IPCC offers a distinctive template for knowledge assessment for other areas of science-policy interaction that can or should be replicated. Quite different designs for a science-policy interface may be appropriate for different issues, as has occurred in the case of desertification (see Akhtar-Schuster et al., 2016). Second, is to note that at least for some commentators, the IPCC has already exhausted its purpose by clearly identifying the scientific dimensions of the climate problem and that simply assessing more knowledge in such an institutional setting will do nothing to advance solutions. Glavovic et al. (2021), for example, argue that the IPCC has *not* been a success and so should *not* be

envied. Climate change remains as much of a problem as it was in the 1980s before the IPCC existed. In their view, the case of climate change shows that the contract science has with society has been ruptured and it therefore “would be wholly irresponsible for scientists to participate in a 7th IPCC assessment. We therefore call for a halt to further IPCC assessments” (p.4).

A third viewpoint is different again, and one with which I have some sympathy. This is the view that a proliferation of ‘IPCC-like’ knowledge institutions tackling a range of global problems would be a good for promoting issue pluralism. If issue attention is a zero-sum game when it comes to international political negotiations and multi-scale policy development, then the dominance of the IPCC in multi-lateral arenas—and by association the dominance of climate change—is not desirable. The drive to ‘stop climate change’ squeezes out necessary attention being paid other important global problems, for example as represented in the Sustainable Development Goals, an argument I have made elsewhere (Hulme, 2020). Enhancing the salience of other pressing global issues, such as some of those mentioned earlier, by multiplying high status, politically attentive, ‘IPCC-like’ knowledge assessments might, in this sense, be a good thing.

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References

- Akhtar-Schuster, M., et al. (2016) Designing a new science-policy communication mechanism for the UN Convention to Combat Desertification. *Environmental Science & Policy*. 63: 122-131.
- Anon (2010) Wanted: an IPCC for biodiversity. *Nature*. 465: 525.
- Anon (2014) Look ahead. *Nature*. 516: 8.
- Anon (2021) Food science faces its ‘IPCC’ moment. *Nature*. 595: 332.
- Anon (2023) Will the world ever see another IPCC-style body? *Nature*. 615: 7-8.
- Asayama, S. (2024) The history and future of IPCC special reports: A dual role of politicisation and normalisation. *Climatic Change*. 177: 137.
- Asayama, S., De Pryck, K., et al. (2023) Three institutional pathways to envision the future of the IPCC. *Nature Climate Change*. 13(9): 877-880.

- Beck,S. and Mahony,M. (2018) The IPCC and the new map of science and politics. *WIREs Climate Change*. 9(6): 547.
- Berg,M. and Lidskog,R. (2024) Global environmental assessments and transformative change: the role of epistemic infrastructures and the inclusion of social sciences, *Innovation: The European Journal of Social Science Research*, DOI: 10.1080/13511610.2024.2322642
- Borie,M., Mahony,M., Obermeister,N. and Hulme,M. (2021) Knowing like a global expert organisation: comparative insights from the IPCC and IPBES. *Global Environmental Change*. 68: 102261. 14pp.
- Castree,N., Bellamy,R. and Osaka,S. (2021) The future of global environmental assessments: Making a case for fundamental change. *Anthropocene Review*. 8(1): 56-82.
- de Bruin,W.B., Rabinovich,L., Weber,K., et al . (2024) Improving figures for climate change communications: Insights from interviews with international policymakers and practitioners. *Climatic Change*. 177: 57.
- de Meyer,K. et al. (2024) *IPCC AR7 Idea Generation Workshop Report*. London: UCL Climate Action Unit. 103pp.
- de Pryck,K. and Hulme,M. (2022) What has this book achieved? Chapter 28 (pp.262-271) in: *A Critical Assessment of the Intergovernmental Panel on Climate Change*. (eds.) De Pryck,K. and Hulme,M. Cambridge: Cambridge University Press. 319pp.
- Dudman,K. and de Wit,S. (2021) An IPCC that listens: introducing reciprocity to climate change communication. *Climatic Change*. 168, 2. <https://doi.org/10.1007/s10584-021-03186-x>
- Glavovic, B.C., Smith, T.F. & White, I. (2021) The tragedy of climate change science. *Climate and Development*. 14: 829-833.
- Hulme,M. (2017) The IPCC. Entry in: *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. (eds.) Richardson,D., Castree,N., Goodchild,M.F., Kobayashi,A.L., Liu,W. and Marston,R. Malden,Oxford: John Wiley & Sons. 9,120pp.
- Hulme,M. (2020) One Earth, many futures, no destination. *One Earth*. 2(4): 309-311.
- Hulme,M., Lidskog,R., White,J.M. and Strandring,A. (2020) Social scientific knowledge in times of crisis: what can climate change learn from Coronavirus (and vice versa?) *WIREs Climate Change*. 11(4): e656, 5pp.
- IPCC (1990) *Climate Change: The IPCC Scientific Assessment*. (eds.) Houghton,J.T., Jenkins,G.J. and Ephraums,J.J. Cambridge: Cambridge University Press. 364pp.

- Pearce,W., Grundmann,R., Hulme,M., Raman,S., Kershaw,E.H. and Tsouvalis,J. (2017) Beyond counting climate consensus. *Environmental Communication*. 11(6): 723-730.
- Petersen,A.C. (2022) Disciplines. Chapter 12 (pp.106-115) in: *A Critical Assessment of the Intergovernmental Panel on Climate Change*. (eds.) De Pryck,K. and Hulme,M. Cambridge: Cambridge University Press. 319pp.
- Van Bavel,B. et al. (2022) Indigenous knowledge systems. Chapter 13 (pp.116-125) in: *A Critical Assessment of the Intergovernmental Panel on Climate Change*. (eds.) De Pryck,K. and Hulme,M. Cambridge: Cambridge University Press. 319pp.
- Wagner,N., Sarkki,S. and Dietz,T. (2024) More than policy neutral: Justifying the power of science-policy interfaces through legitimacy. *Earth System Governance*. 21: 100219.
- Wang, Z., Altenburger, R. and co-authors (2021) We need a global science-policy body on chemicals and waste. *Science*. 371: 774-776.