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The Circular Relationship Between Knowledge and Action in Climate Politics

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Knowledge and how it informs and supports cooperation in policymaking is a central question within this issue. As Lazarus (2020: 1) quotes at the start of the introduction: *[T]he major conclusion in the literature [is] that direct and sustained relationships between researchers and policymakers are the optimal method for promoting the use of research in policy-making.* (French, 2019: 163). Frey and Burgess (2022: 4) pick up on the centrality of knowledge in the context of climate negotiations, framing their response around the question of: what scientific evidence is pertinent to improving climate change negotiations and implementation?

The organisation of knowledge to inform a collective response has been central to climate politics from the outset. Even before the Intergovernmental Panel on Climate Change (IPCC) was established in 1988, international attempts to coordinate the assessment of existing scientific understanding of global warming and potential response options played a pivotal role in bringing the issue to the attention of policy audiences (Agrawala 1999; Hecht and Tirpak 1995). The IPCC established an intergovernmental process for achieving this (Agrawala 1998a; 1998b). The intergovernmental nature of this scientific assessment body has been criticised for enabling governments to gain control over the science and for impacting the credibility and legitimacy of science advice (Haas, 2004; Haas and Stevens, 2011). However, this organisational form has meant that from the first report, published in 1990, member governments approved key findings from the assessment on the scientific basis (Working Group I), impacts (Working Group II) and policy response options (Working Group III) to climate change. This government approved knowledge base informed negotiations that established the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and the regular IPCC assessments and special reports continue to underpin the process as unpacked below.

It is worth for a moment describing the role that IPCC member governments have in the assessment's production to make clear how the 'direct and sustained relationship' between researchers and policymakers has been built in climate politics. As an organisation, the IPCC can be broken down into constituent parts: the panel, the bureau, the secretariat, the technical support units and the authors (Hughes 2023). The panel is composed of the IPCC's member

1 governments that meet once or twice a year in plenary session. These are delegates, often
2 identified as the country focal point, that reside within the national meteorological service,
3 environment department or a dedicated international office, such as the State Department in
4 the United States (Hughes 2022). Membership to the panel is open to all member countries of
5 the World Meteorological Organisation (WMO) and the United Nations Environment
6 Programme (UNEP) and there are currently 195 member countries (IPCC, no date).
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10 The IPCC produces assessment reports that are published every 5-7 years, special reports and
11 methodological reports, which may be invited by the UNFCCC. The reports are authored by
12 scientists and experts that either self-nominate or are nominated by a government or
13 international organisation and are appointed by the relevant Working Group bureau. While
14 member governments are not directly involved in authoring the scientific assessment reports,
15 they input to the report's scoping, approve the report outline, nominate authors, elect the
16 bureau, review draft reports, and accept and approve the Summary for Policymakers (SPM)
17 'line by line' (Hughes, 2022). Financially, the IPCC is dependent on donations, and all IPCC
18 expenditure is agreed by the panel, which gives governments the final decision over the
19 organization's continuation, its assessment activities and the expert meetings and workshops
20 supporting these. This level of involvement ensures the relevancy of the reports to its main
21 stakeholders: member governments and the UNFCCC. The line by line approval process also
22 means that a shared knowledge base for the negotiation of climate action is endorsed by
23 parties to the climate negotiations (de Pryck, 2022). However, this 'direct and sustained' role
24 of governments in the assessment process has effects. As the stakes of climate action have
25 become increasingly apparent, as parties have deepened their involvement in the IPCC and
26 the UNFCCC, and as the impact of the knowledge on negotiations has become evident,
27 negotiation dynamics have increasingly marked the approval process of an assessment's key
28 findings, as presented in the SPM.
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38 As a researcher observing both the knowledge body (IPCC) and the negotiating process
39 (UNFCCC), the resemblance in delegate participation and diplomatic practice between these
40 two sites is apparent and has led scholars to conceptualise intergovernmental scientific bodies
41 as sites of negotiation in global environmental agreement-making (Hughes and Vadrot, 2019;
42 Hughes et al, 2021; Hughes and Vadrot, 2023). There are now numerous author accounts of
43 how their contribution to the SPM was either extensively revised or removed altogether, and
44 the shock and frustration over witnessing the political manoeuvring during the approval
45 sessions to achieve this is palpable (Broome, 2014; Schneider, 2009; Stavins, 2014). This
46 political struggle is most evident when a figure, concept or term has the potential to have a
47 direct bearing on the negotiations, which may lead governments to attempt to remove it from
48 the assessment by objecting to its inclusion during the approval of the report outline. For
49 example, China objected to the inclusion of black carbon in the outline of Working Group I's
50 Fifth Assessment Report (AR5) (Carter, Schulz and Yamineva, 2009: 4). When other
51 governments opposed China agreed to keep the bullet point unaltered, "stating that they
52 appreciate the need for an assessment of black carbon but noted that many aerosols also play
53 an important role" (ibid).
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1 These attempts to shape the IPCC's constructions of climate change have been present from
2 the outset. During the finalisation of the first assessment report, the American delegation
3 wanted the uncertainty of the science emphasized (Leggett 1999; Lunde 1991, 82), the former
4 USSR wanted caveats added and possible benefits to agriculture highlighted (Hecht &
5 Tirpak, 1995; Leggett, 1999: 15-6; Lunde, 1991: 96) and the Brazilian delegation arrived
6 with a new study that contested the report's depiction of the contribution of tropical
7 deforestation (Lunde 1991: 97). One of the most significant actors in this regard is Saudi
8 Arabia, who have historically focused on the confidence levels assigned to the scientific
9 findings in the text, with preventing carbon dioxide (CO₂) being distinguished from other
10 greenhouse gases (Leggett 1991: 17), and in the most recent assessment, adding "unabated"
11 to references to fossil fuel or CO₂ emissions (Templeton et al. 2022). In the case of the Fourth
12 Assessment Report (AR4) published in 2014, the Earth Negotiation Bulletin (ENB) report
13 details four Saudi Arabian objections to the certainty language employed (Gutiérrez, Muñoz
14 and Johnson 2007; Gutiérrez, Kulovesi and Muñoz 2007). In one case, China and Saudi
15 Arabia proposed reducing or qualifying the probability that anthropogenic greenhouse gas
16 increase has *very likely* caused most of the observed increase in global temperature by
17 removing the adverb "very" or adding the term "increasingly" *very likely* (Gutiérrez, Muñoz
18 and Johnson 2007: 5).

26 This level of government interest in IPCC knowledge can be explained by the legitimating
27 role that the assessment practice has on knowledge to inform targets and policy options and
28 the methodologies for operationalising these, a connection that is most readily observed in
29 special reports invited by the UNFCCC. The Special Report on Land Use and Land Use
30 Change and Forestry (LULUCF) (IPCC, 1997) was requested by the Subsidiary Body for
31 Science and Technological Advice (SBSTA) of the UNFCCC in June 1998 to assess the state
32 of scientific and technical understanding on carbon sequestration in response to controversial
33 policies agreed in the Kyoto Protocol (IPCC, 2000; Fogel 2005). Through observational
34 research of both the UNFCCC negotiations and the IPCC approval (Fogel, 2005: 193),
35 Fogel's study reveals how ultimately the final report provided the scientific basis and method
36 for operationalising decisions and policy options created in the Kyoto Protocol that were
37 primarily crafted and adopted 'for political and economic reasons' (Fogel, 2005: 206).

44 The IPCC was invited to provide a Special Report on the impacts of 1.5°C in the Paris
45 Agreement. Scholarly accounts indicate that 1.5°C was not an object or target originating
46 from the scientific literature (Tschakert, 2015; Livingston and Rummukainen, 2020; van
47 Beek et al., 2022; Cointe and Guillemot, 2023). Instead, it emerged through the negotiating
48 process towards a post-Kyoto agreement as small island states, such as the Caribbean, and
49 non-party stakeholders, such as Desmond Tutu, protested that the 2°C long-term goal of the
50 Copenhagen Accord threatened the existence of their communities (Tschakert, 2015: 2;). The
51 scientific interest in the 1.5°C target and research for this assessment was initiated by the
52 invitation for the special report (Livingston and Rummukainen, 2020). Thus, what is clear
53 from the studies conducted is that the origin of constituent objects of climate negotiations and
54 agreement formation do not follow a linear pathway from the scientific community to the
55 IPCC or from the IPCC to the negotiations or in reverse, from the UNFCCC to the IPCC and
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1 wider climate science community. Instead, this relationship appears circular, with objects
2 passing between these different bodies in and with the documents (publications, reports,
3 decisions) and actors (delegates, bureau members and authors), which inform, participate and
4 constitute their formation. In this respect, objects of science and negotiation – such as the
5 temperature target – take shape through the processes of assessment, negotiation, approval
6 and the agreement-making that these attempt to realise in the IPCC and the UNFCCC.
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10 Why does this matter? I have described ‘a direct and sustained relationship’ between
11 researchers and policymakers that has been created through the IPCC’s assessment practice
12 and conscious attempts to link IPCC and UNFCCC activities. The Paris Agreement deepened
13 and diversified the relationship between knowledge and action in global climate politics by
14 establishing two new processes: the Local Communities and Indigenous Peoples Platform
15 (LCIPP) and the Global Stocktake. Some of the greatest criticism of the IPCC has been
16 around the geographical representation of authorship and the exclusion of Indigenous
17 knowledge in its assessments of climate change (Hulme and Mahony, 2010; Ford, Vanderbilt,
18 and Berrang-Ford, 2012; Ford et al., 2016; Corbera et al., 2016). The IPCC’s assessment
19 practice is informed by and built upon scientific conventions, including scientific practices of
20 peer review and scientific measures of authority, such as degree, institutional affiliation and
21 publication record (Hughes and Paterson 2017). As a result, it has struggled to accommodate
22 diversified forms of participation and knowledge systems in the way that the more recently
23 formed Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
24 (IPBES) has (Díaz-Reviriego; Turnout and Beck 2019). The establishment of the LCIPP
25 creates a process for bringing together diverse ways of knowing for the design and
26 implementation of climate policies (LCIPP no date). It aims to increase the capacity and
27 engagement of Indigenous Peoples and local community actors in the UNFCCC by creating a
28 site and mechanisms for exchanging knowledge and best practices to inform climate
29 mitigation and adaptation actions nationally and internationally.
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39 The Global Stocktake is another institutional formation of the Paris Agreement. It formalises
40 practices that existed on a more ad hoc basis, such as structured expert dialogues and the
41 Talanoa dialogues. These dialogues facilitate presentation and discussion of “the best
42 available science” and bring IPCC authors, other experts, UNFCCC parties and non-party
43 stakeholders in direct conversation and exchange, as in the structured expert dialogues on the
44 long-term global goal (UNFCCC 2014; Tschakert, 2015; Livingston and Rummukainen,
45 2020). The Global Stocktake is designed to enable a collective stock take of the
46 implementation of the Paris Agreement and assessment of progress towards achieving its
47 long-term goals (UNFCCC 2015, Article 14). The outcome of this five-yearly stock-taking
48 process, the first of which will conclude in 2023, will inform parties “in updating and
49 enhancing” nationally determined contributions and collective efforts (ibid). In many
50 respects, the global stocktake is the mechanism that enables and ensures that the scientific
51 evidence that is pertinent to “improving climate change negotiations and implementation”
52 (Frey and Burgess 2022: 4) is known, acted upon, measured against and where insufficient,
53 used to lever greater collective ambition. Through bringing parties in direct contact with the
54 knowledge and its producers, and by using this knowledge as a benchmark to assess
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1 collective progress, the global stocktake has the potential to complete the circle between the
2 IPCC (knowledge) and the UNFCCC (action). Although, as activists and scholars alike have
3 made apparent, a diversified knowledge base is critical to an equitable response to climate
4 change, which means that the LCIPP too will need to have a place in the flow and circular co-
5 production between collective climate knowledge and action.
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