

WORKSHOP REPORT

IMAGINED SOCIETIES AND POLICYMAKERS. THE POLITICS OF IPCC SCENARIOS AND A NEW ROLE FOR THE SOCIAL SCIENCES

Organisation: Stefan Aykut (Universität Hamburg), Oliver Geden (SWP Berlin)

Date and Venue: 14.-15.10.2019, Van-Melle-Park 9, room A215

WORKSHOP RATIONALE

Scenario-driven modelling is widely used in (global) environmental governance to assess uncertainties and inform policymakers and wider publics about possible and probable evolutions (Garb et al., 2008; Aykut, 2019). Such prospective expertise forms the backbone of “anticipatory governance” (Guston, 2014). It also shapes the ways in which problems are identified, debates framed and solutions designed (Brown et al., 2000; Beck and Mahony, 2017). While model- and scenario-development involve mostly scholars from economics, engineering and the natural sciences, they also entail wide-ranging assumptions about society and politics. Sometimes made explicit in the form of storylines in scenario-building or stylized policy interventions translated into model inputs, such assumptions frequently stay undisclosed, when they take the form of implicit choices embedded in model architectures or specific conceptions of policymaking and -relevance that inform the design of simulation exercises.

This discrepancy has repeatedly spurred calls for broader participation of social sciences scholarship in scenario-driven modelling (Pulver and VanDeveer, 2009). The workshop aims to contribute to this discussion. It adopts a dual perspective, combining *reflexive review and critique* of current practices with *constructive reflection* on possible ways in which the (non-quantifying) social sciences might productively contribute to prospective expertise.

The starting point for our discussions is that IPCC assessments have, over the last decade, heavily relied on a new scenario framework¹ that builds on three elements: Representative Concentration Pathways (RCPs) represent stylized forcing outcomes (Van Vuuren et al., 2011); Shared Socioeconomic reference Pathways (SSPs) describe typical evolutions of the world without additional climate

¹ A user-friendly introduction to the topic can be found here: <https://climatescenarios.org/primer/>

policies (O'Neill et al., 2014); and Shared Policy Assumptions (SPAs) enclose key characteristics of climate policies, concerning both mitigation and adaptation (Kriegler et al., 2014). All three are interdependent: RCPs and SSPs form a so-called “scenario matrix”, to which SPAs add a third dimension (Van Vuuren et al., 2014). The rationale for this new framework stems from practical considerations concerning the sequential organization of disciplinary modelling exercises for IPCC assessments, but also from reflections on the ways to ensure policy-relevance of simulations while avoiding policy prescriptiveness (Moss et al., 2008; Moss et al., 2010).

The current IPCC scenario framework both departs from previous approaches and is also inscribed in a long history of scenario-building, from the SA90 scenarios for AR1 to the IS92 scenario family and the 2000 SRES scenarios (Girod et al., 2009). We contend that these scenario architectures not only shape the ways in which researchers from different disciplines collaborate in the IPCC process; they also entail important, yet oftentimes implicit, assumptions about societal dynamics and on the needs of the policy process in terms of prospective expertise. The objective of the workshop is to make these assumptions explicit *and* to discuss possible contributions from the social sciences to this ongoing process.

WORKSHOP REPORT

The workshop began with a session where participants discussed the state of the art in IAM modelling and scenario making for the IPCC. Elmar Kriegler (PIK, Potsdam), one of the architects of the new scenario matrix, presented his views on the making of the framework, its role in current IPCC assessments, and ongoing discussions on its strengths and weaknesses, as well as avenues for reform. Glen Peters' (CICERO, Oslo) presentation focused on interactions between modelers and scenario users. He argued that the current procedure is too complex for users to understand and pointed to trade-offs between complexity and simplicity in modelling, as well as to problems regarding the interpretation of specific scenario families. Hence, RCP8.5 is frequently regarded as ‘baseline’ or ‘business-as-usual’, although it is not regarded as such in the modelling community.

In the second and third sessions, we discussed how practices of modelling and scenario-building unfold under public scrutiny. A first set of presentations shed light on the ways in which the IAM community organizes to produce policy-relevant expertise (Christophe Cassen, CIRED, Paris) and on common conceptions of objectivity and scientific neutrality within this community (Stefan Schäfer, IASS, Potsdam). In his comments, Oliver Geden (SWP, Berlin) highlighted the need to include power politics as part of IPCC scenarios. A second set of presentations showed that current practices of scenario-making follow a ‘consensus approach’ that aims at ‘cooling down’ issues instead of politicizing them (Bard Lahn, CICERO), and that they lack miss feedback and ‘learning loops’ that would enable modelers to adapt their productions to specific contexts and audiences (Erlend Hermansen, CICERO). The comment by Jochem Marotzke (MPI-M) further argued that a key difficulty in IPCC assessments is that some questions or objects – such as the assessment of the effects of specific policies – will not make it into the reports, as they are politically too sensitive.

The last session of the first day, ‘imagined societies and policy-makers’, started with a presentation on common understandings of ‘feasibility’ in IAM modelling (Sean Low, IASS). As modelers conceive their scenarios as both non-predictive and non-prescriptive, they implicitly refrain including strong assumptions on political or social feasibility. Stefan Aykut (Universität Hamburg) commented on the presentation, highlighting that such an approach is problematic, as it tends to foregrounding technological solutions such as CCS or BECCS, instead of deep political, societal or economic changes. In

the following discussions, the theme of feasibility was further explored, and contrasted with other notions, such as desirability or ‘enabling conditions’ for specific socioeconomic pathways.

The second day started with a session on performativity and uptake of IPCC scenarios. Silke Beck (UFZ Leipzig) presented her work on the ‘framing effects’ of scenarios, which shape the spectrum of political choices in public debate, and contribute to ‘opening up’ or ‘closing down’ specific pathways. Felix Schenuit’s (Universität Hamburg) input foregrounded the role of the IPCC as an intermediary between scientific research and political negotiations, arguing that the assessment body both ‘orchestrates’ global research agendas and is itself ‘orchestrated’ by the political process. Rob Bellamy’s (Manchester University) comment reflected on possible ways in which the IPCC could solve the problematic tension between political neutrality and performativity. He proposed three alternatives: institutionalized reflexivity, the inclusion of a wider range of economic theories in IAMs, or the boosting of alternative assessment bodies to the IPCC.

Sessions five and six centered on possible contributions from the social sciences. In the first of these sessions, Jan Petzold (Universität Hamburg) and Sara de Wit (Oxford University) presented research on adaptation scenarios. Both showed that so-called ‘response scenarios’ are difficult to implement on the ground: despite efforts to ‘disaggregate’ global scenarios depending on regions, they often lack the necessary detail to be relevant to local users; furthermore, conceptions of adaptation often build on problematic legacies of development policies, and disconnect the production of expertise from the populations affected by the implementation of response measures. The comment of Simone Rödder (Universität Hamburg) picked up on these points and reflected on the ways in which the social sciences could be mobilized to rethink scenarios, by proposing non quantitative approaches to scenario-making. In the second session, Markus Schulz (Universität Hamburg) focused on the tradition of futures’ research in sociology, arguing that the multi-paradigmatic nature of sociological research allows reflecting a multiplicity of views and approaches in scenario thinking. Bruno Turnheim’s (Manchester University) contribution demonstrated how insights from another strand of social science scholarship, ‘transition research’, could be used to assess different facets of the ‘feasibility’ of socioeconomic pathways. Hermann Held (Universität Hamburg) commented on both presentations, advocating for the inclusion of social science knowledge into IA models, which would allow to (partly) correct the existing ‘technological bias’ in transition scenarios.

KEY INSIGHTS AND NEXT STEPS

The final discussion took up some of the main points that ran through the two days. Participants highlighted that integration and linking of different types of knowledge in modelling has benefits and costs in terms of the type of knowledge produced and of the ways in which scientific research has to be organized to enable such integration. Another point that was raised pertained to the question of feasibility, which some argued should not be conceived in terms of ‘black and white’ (i.e. feasible vs. unfeasible), but rather as a set of contextual factors necessary to ‘enable’ or ‘realize’ specific scenarios. Concerning the contribution of the social sciences, different possible avenues were discussed: *enhancing models* through the integration of new processes and drivers; *rethinking scenarios and their publics* by using social science theory and research on societal relevance; *assessing the plausibility or feasibility* of transition pathways by studying their (oftentimes implicit) political and social implications and defining necessary conditions for their realization; *enhancing reflexivity* in scenario-making by research on performativity and the creation of feedback loops between scenario producers and –users; finally, *enlarging the discussion* by pluralizing the views that are present in public debate, i.e. through qualitative future-visions.

At the end of the workshop, it was agreed that the organizers will prepare a draft for a collective discussion paper, which will be sent to the participants for comments. The paper will focus on the ways in which the social sciences could engage more closely with the IPCC scenario process.

WORKSHOP PROGRAMME (FRIST DAY)

Monday, 14.10.2019

10h45-11h Welcome coffee

11h-13h Welcome and state of the art

- **Introduction** by the organizers (15 min) & presentation round (15 min)
- **Elmar Kriegler**: The role of the scenario matrix in the IPCC process (20 min)
- **Glen Peters**: Reflections on the SSP / RCP process from a user perspective (20 min)
- **Discussion** (50 min)

13h-14h Lunch

14h-15h15 Modelling under public scrutiny I

- **Christophe Cassen**: The IAM epistemic community and its role (15 min)
- **Stefan Schäfer**: The Politics of Objectivity in IA Modeling (15 min)
- Comment **Oliver Geden** (10 min)
- **Discussion** (35 min)

15h15-16h30 Modelling under public scrutiny II

- **Bård Lahn**: Science in the Paris stocktake: 'heating up' or 'cooling down' political issues? (15 min)
- **Erland Hermansen**: The missing learning loops in IAM processes
- Comment **Jochem Marotzke** (10 min)
- **Discussion** (35 min)

16h30-16h50 Coffee

16h50-18h Imagined societies and policy-makers

- **Sean Low**: Understandings of 'feasibility' and 'agency' in IA modeling (15 min)
- Comment **Stefan Aykut** (10 min)
- **Discussion** (45 min)

20h30 Dinner at Restaurant Brodersen, Rothenbaumchaussee 46, 20148 Hamburg

WORKSHOP PROGRAMME (SECOND DAY)

Tuesday, 15.10.2019

9h-9h15 Coffee

9h15-10h45 *Performativity and uptake*

- **Silke Beck**: What does it mean to say that IPCC scenarios are 'performative'? (15 min)
- **Felix Schenuit**: Performativity in practice: the IPCC 1.5°C report (15 min)
- Comment **Rob Bellamy** (10 min)
- Discussion (35 min)

10h45-11h Coffee

11h-12h30 *Contributions from the social sciences I: adaptation*

- **Jan Petzold**: The potential and limitations of IPCC response scenarios (15 min)
- **Sara de Wit**: How qualitative approaches could enrich quantitative scenarios (15 min)
- Comment **Simone Rödder** (10 min)
- Discussion (50 min)

12h30-13h30 Lunch

13h30-15h *Contributions from the social sciences II: mitigation*

- **Markus Schulz**: Sociology and prospective knowledge / scenario thinking (15 min)
- **Bruno Turnheim**: Evaluating the 'feasibility' of transition pathways (15 min)
- Comment **Hermann Held** (10 min)
- Discussion (50 min)

15h-16h30 *Wrap-up and discussion of next steps*

16h30 End of the Workshop

PARTICIPANTS

Name	Institution
Oliver Geden	SWP, Berlin
Stefan Aykut	Universität Hamburg
Felix Schenuit	Universität Hamburg
Dorothea Hanke	Universität Hamburg
Christophe Cassen	CIREN, Paris
Stefan Schäfer	IASS, Potsdam
Bruno Turnheim	Manchester Uni
Jochem Marotzke	MPI-M, Hamburg
Elmar Kriegler	PIK, Potsdam
Glen Peters	CICERO, Oslo
Silke Beck-	UFZ, Leipzig
Sean Low	IASS, Potsdam
Rob Bellamy	Manchester University
Sara De Wit	Oxford Uni
Markus S. Schulz	Universität Hamburg
Erlend Andre T. Hermansen	CICERO
Bård Lahn	CICERO
Hermann Held	Universität Hamburg
Simone Rödder	Universität Hamburg
Jan Petzold	Universität Hamburg

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