

Bridging the Gap between Climate Scenarios and Law

1 Introduction

To bridge the knowledge gap between climate scenarios and law, this research is aimed to demonstrate mutual contributions by legal professionals and integrated assessment modellers. The structure of the research is visualised in Figure 1 below. Parts a) and b) demonstrate how two disciplines can mutually influence each other, and part c) broadly addresses cross-cutting issues of interdisciplinary collaboration in this context.

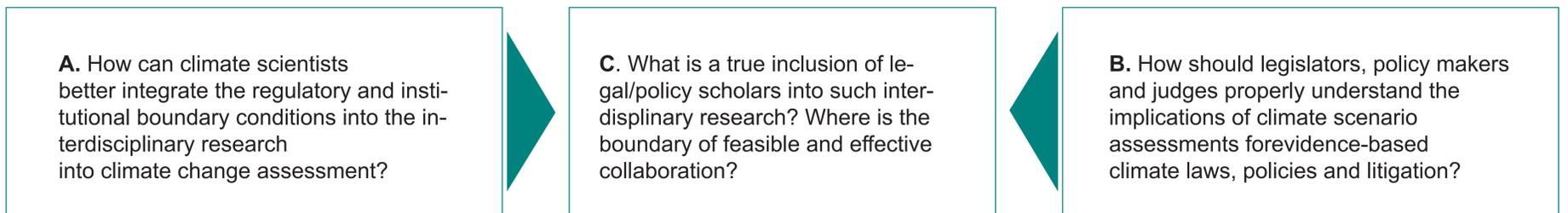


Figure 1: the structure of research: mutual influence between two disciplines.

2 Methodology

We combine qualitative empirical research and legal case studies. The research into part a) includes interviews and focus-group discussions with 28 experts in total from a variety of fields of expertise and a one-day interdisciplinary workshop. In addition, the research into part b) also took a survey of climate change cases (*Urgenda, Neubauer, etc.*) which adopted authoritative scientific evidence from climate scenarios - typically the projections referred to in the IPCC reports - in climate litigation cases.

Box 1:

- Factors in determining the admissibility of scientific evidence:
- whether the theory or technique in question can be and has been tested,
 - whether theory or technique in question has been subjected to peer review and publication,
 - whether it has a known or potential error rate,
 - the existence and maintenance of standards controlling its operation,
 - whether it is widely accepted in the relevant scientific community

Source: *Daubert v Merrel Dow Pharm., Inc.*, 509 U.S. 579, 594 (1993)

3 Results

Regarding a), four main legal aspects should be integrated into scenario assessments (Figure 2).

Actionable steps for integration in a short term:

- 1) Revising storylines to integrate key legal boundary conditions - legal obligations that safeguard justice, fairness and fundamental human rights, traceable to various treaties, to narratives of the global futures.
- 2) Interpreting modelling results by scrutinising the 'shared feasibility space' between law and modelled scenarios.

Regarding part b), we observed:

- 1) the rapidly growing climate cases, the reference to the IPCC reports is being done in more detail;
- 2) climate change assessments will become more relevant for addressing equity considerations;
- 3) courts are required to interpret and evaluate in a normative manner the scientific knowledge brought forward by claimants and defendants, including the uncertainties noted by the IPCC; and
- 4) the political debate over the "correctness" of courts' decisions will increase in cases involving long-term reduction targets and fair share considerations.

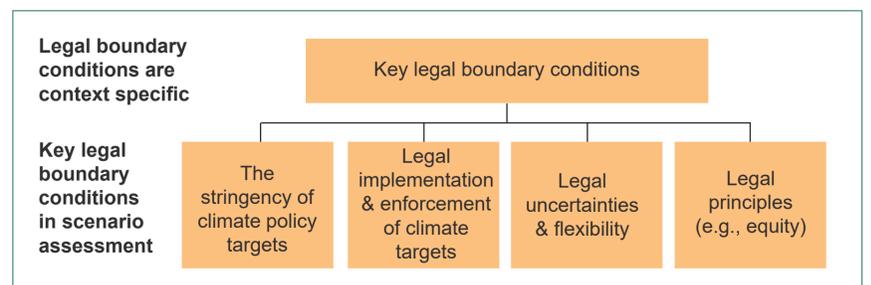


Figure 2: key legal boundary conditions that should be integrated in scenario frameworks.

4 Discussion and Conclusion

a) Consider the challenges of integration due to epistemic distinctions between disciplines, experts held different opinions on the feasibility of integrating those four. In particular, the value and feasibility of quantifying certain legal boundary conditions is subject to further debate.

b) Beyond the IPCC reports, future climate litigation will deal with more diversified claims which require judges to select and interpret various scenarios and modelling results for different geological, hierarchical, and economic conditions. Determining the admissibility of such scientific evidence will become one of the core research areas (Box 1).

c) We call for shared language, early involvement of legal scholars, and the transparency of scientific methodologies. Also, do not underestimate the power of narratives and qualitative study in this field.