



**HAL**  
open science

# Organising policy-relevant knowledge for climate action: Integrated Assessment Modelling, the IPCC, and the emergence of a collective expertise on socioeconomic scenarios

Béatrice Cointe, Christophe Cassen, Alain Nadaï

## ► To cite this version:

Béatrice Cointe, Christophe Cassen, Alain Nadaï. Organising policy-relevant knowledge for climate action: Integrated Assessment Modelling, the IPCC, and the emergence of a collective expertise on socioeconomic scenarios. 11th IAMC conference, Nov 2018, Séville (SP), Spain. . hal-04553774

**HAL Id: hal-04553774**

**<https://hal.science/hal-04553774>**

Submitted on 21 Apr 2024

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



## 1 Context and objectives

- ❖ We retrace the recent history of IAM in the IPCC AR5 (2005-2014)
- ❖ We analyse how socioeconomic scenarios in the IPCC AR5 were made (processes, people, institutions, devices)
  - Input for climate system models → RCPs
  - Socio-economic storylines → SSPs (Not ready on time)
  - Baseline and mitigation pathways in the literature → Transformation pathways
- ❖ We investigate the vocation of IAM research for policy relevance, (organization and its relations with institutions (IPCC and the EU))

## 2 Methodology: a STS approach

- ❖ IAM has three intriguing features for STS
  - Interdisciplinary approach
  - Not a shared theoretical core
  - Explicit vocation for policy relevant
- ❖ We investigate the formation of epistemic communities + the conditions for the applicability of research to policy
- ❖ We analyse 'repertoires' of practices of this community
- ❖ Materials: interviews, participation to meetings and conferences, publications and projects archives.

"As a community we need to establish norms and procedures that distinguish good analyses from bad ones, to be more reflexive about our own analyses, and to make all efforts to guard against *our* analyses falling prey to political expediency. Otherwise, we run the risk of **not being heard at all**, or of **speaking with the wrong voice** in the political clamor over climate change"  
- Risbey et al., 1996: 370, emphasis added

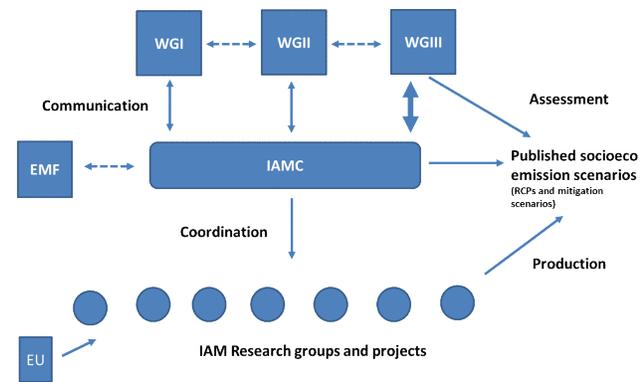
## 3 The production of scenarios for AR5: a catalyst for structuring the IAM community

"Development and analysis of global to regional and country scenarios has been **at the heart of integrated assessment modelling from its earliest days**: scenarios to underpin the **1<sup>st</sup> Assessment Report** of the IPCC were elaborated with **1<sup>st</sup> generation IAMs**." (IAMC Website)

April 2006	25th session of the IPCC: coordination of new scenarios <b>delegated</b> to the scientific community
Nov. 2006	Creation of the Integrated Assessment Modelling Consortium (IAMC)
Sept. 2007	Expert meeting on new scenarios (Noordwijkerhout, Netherlands)
Sept. 2008	First meeting of the IAMC (Baden, Austria)



## 4 Beyond the formal process, the structuring of an epistemic community



## 5 The IAM community's repertoire

### The IAMC

- ❖ Founded to coordinate the RCP production, has become a disciplinary organization
- ❖ A focal point: coordination, visibility, communication with other communities
- ❖ A Strong overlap with the authorship of IPCC WGIII lead authors (Chapter 6)
- ❖ But still a relatively loose organization



### Modeling Intercomparison Projects

- ❖ 95% of scenarios considered in WGIII (AR5) generated in MIPs
- ❖ Mostly EUFP7 projects + Energy Modeling Forum (EMF) sessions
- ❖ Develop standardized protocols
- ❖ « A question of pedigree » (interview)
- ❖ Sites of practical and theoretical reflections (organisation, comparability, validation)
- ❖ Influence of EU policy objectives on the issues investigated



### Databases

- ❖ Open call of the IAMC for scenarios and a public database of scenarios hosted and managed by IIASA (1184 scenarios, 31 models)
- ❖ A way to organise collaboration, order scenarios and transmit knowledge
- ❖ "Standards to read data" used as "a way to learn the model" (interviews)
- ❖ Provide "huge services to other communities" (interviews), but also delineate the boundaries of the IAM community



## 6 Conclusions and perspectives

### Reference

- ❖ Coite, B., Cassen, C., Nadaï, A., 2018, Organizing policy-relevant knowledge for climate policy action: Integrated Assessment modeling the IPCC and the emergence of a collective expertise on socio-economic emission scenarios, Science and Technology Studies, forthcoming

- ❖ IAMs have established themselves as the main providers of socio-economic emissions scenarios for the IPCC
- ❖ Catalytic roles of the EU and IPCC and concerted efforts among research groups have reshaped IAM research
- ❖ Community around a repertoire constituted in lead up to AR5: frames modeling practices and articulates an ambition for policy-relevance with the pursuit of a scientific agenda
- ❖ A community still working to reinforce and maintain this position in the face of competing expertise (e.g. National expertise of NDCs) and an evolving international climate context (Post COP21)
- ❖ Reflecting on the organisation of the community can help understand and navigate its unique interface position