



Chaire Modélisation prospective
au service du développement durable



Mobilizing models and modelers to inform national low-carbon strategies

*Good practices from the
French experience and beyond*

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Christophe Cassen (cassen@centre-cired.fr), Franck
Lecoq (Lecocq@entre-cired.fr), Alain Nadaï
(Alain.nadai@cnrs.fr)

Context

- Need for enhanced NDCs and LTMS
- Stakeholders need quantified projections to navigate transformational changes
- To do so, use of numerical models is on the rise.
- But the way they are used remains a blind spot!

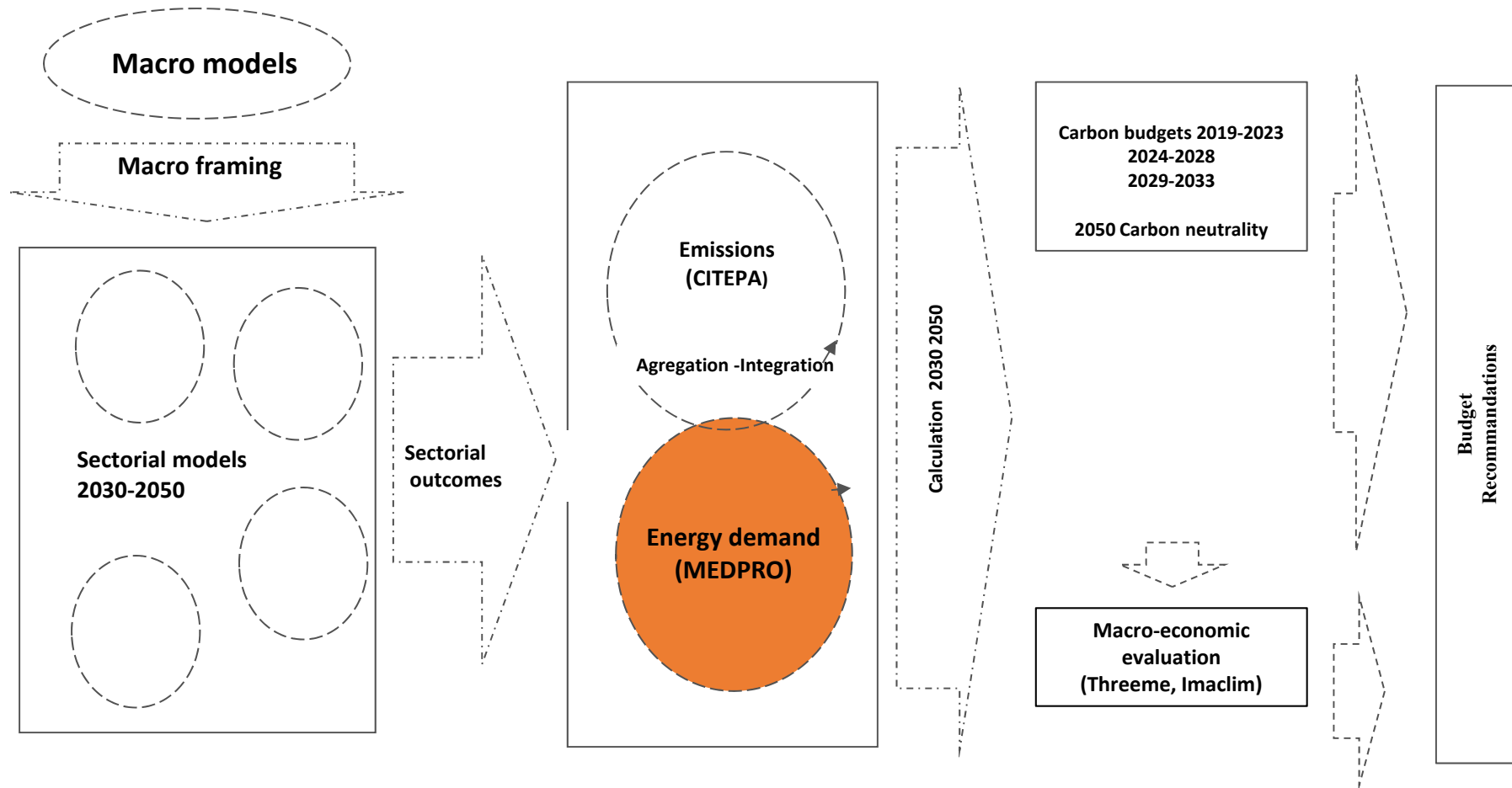
Research material

- **In-depth** analysis
 - France: Second National Low Carbon Strategy (SNCB2, 2018) and Commission Quinet (2018))
 - 15 interviews + literature review (reports, presentations, etc.)
- Complemented with analysis of:
 - Swedish ZNES (Climate Act, 2017)
 - US Mid-century Strategy for Deep Decarbonization (2016)
 - Brazilian NDC (IES project, 2015)

Key challenge #1: Coordinating multiple models

- A large number of technico-economic models are always mobilized
- Managing overlaps and aggregating results are underestimated challenges
- Time constraints add pressure and result in dirty 'bricolage'

SNBC2: Array of models loosely coupled + 'central aggregator'



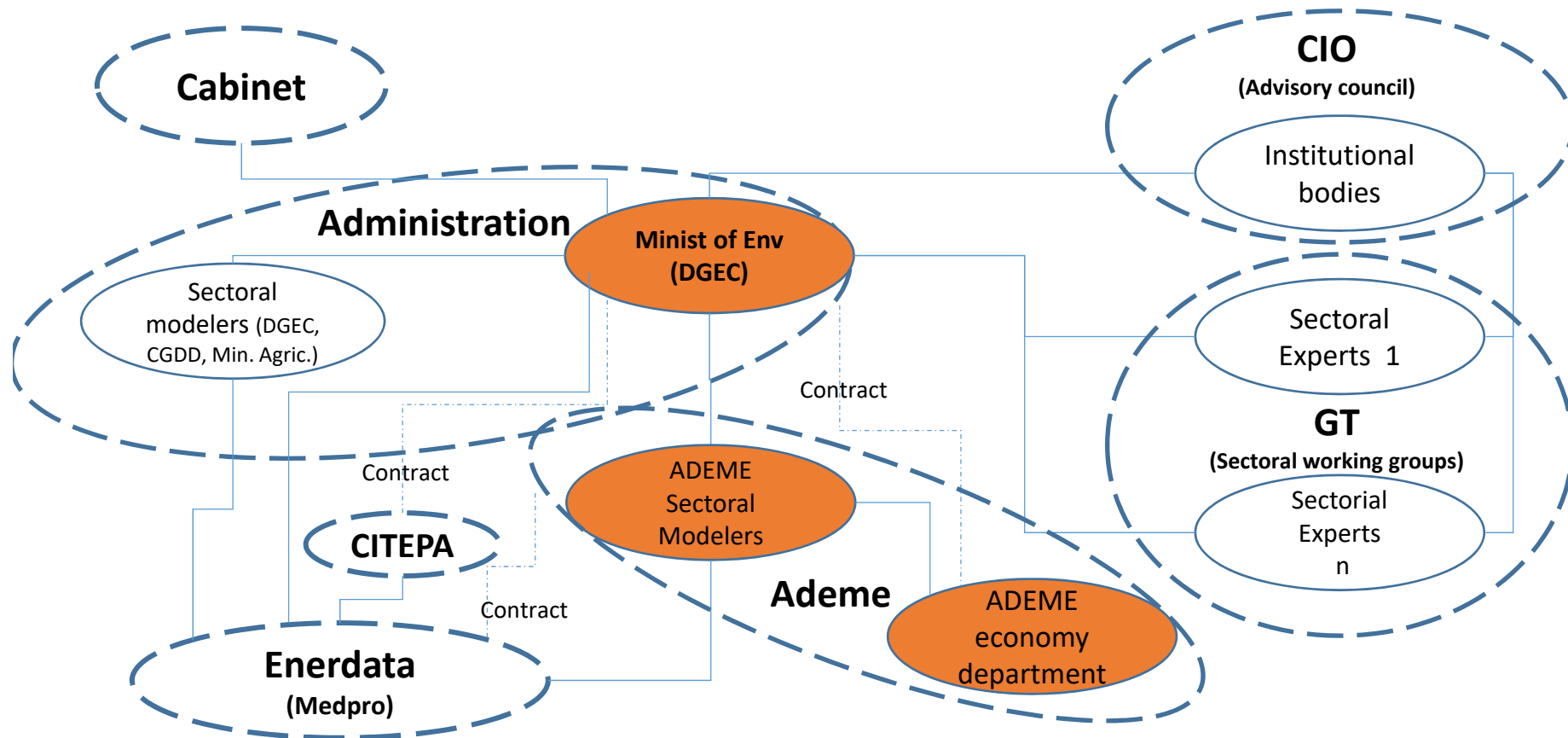
Lecocq et al., 2022

Model
aggregator

2: Organizing the dialogue btw stakeholders and modelers

- Dialogue btw stakeholders and modelers differs across countries
- Model technicalities are lost in translation with stakeholders
- Quality of the dialogue strongly depends on past experiences

Multi-modeling/multi-stakeholders assemblage (SNBC2)



#3: Avoiding to focus on technology only

- The processes that inform NDCs/LTMS tend to focus on sectoral change and on technology
- Limited emphasis on sufficiency and changes in lifestyle
- Economic aspects are often an afterthought

4: Ensuring model sustainability

- Public demand for modelling is often unpredictable
- Transmission of experience over time is often poor (high turnover, experience is rarely recorded)

Main lessons and recommendations

- Models produce numbers **and** relationships
- Developing multiple scenarios captures the complexity of low-carbon transition
- Supporting emergence and consolidation of “hybrid communities” of modelers, stakeholders, and public agencies is critical
- International cooperation: build modeling capacity and share experience on how to use them

Publications and perspectives

Lecocq, F., Nadai, A., Cassen, C, 2022 'Getting models and modellers to inform deep decarbonisation strategies ', *Climate Policy*, 22(6), 695-710.

Nadai, A., Cassen, C., & Lecocq, F., 2023. 'Qualculating' a low-carbon future—Assessing the performativity of models in the construction of the French net zero strategy. *Futures*, 145, 103065.

Mascaro, O., Cassen, Ch. 2023. *Modelling low carbon strategies in the global South : the role of innovative capacity building initiatives*, WP

Merci!