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The capacities of public actors in transformative innovation

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Setting the scene

- Current debate about the purpose of science, technology and innovation policy => three complementary goals:
  1. For advancing human knowledge frontier (human curiosity)
  2. For improving industrial competitiveness (economy)
  3. For solving grand challenges (f.ex. Mitigating climate change, ageing societies, etc)

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Science, technology and innovation policy for solving grand challenges

- What are grand challenges?
  - Complex, non-market, problems
  - Long-term, require different technologies & changing behavior

- Putting STI policy to solve grand challenges….is not easy:
  - Is about defining specific missions – setting clear goals
  - Is about the transformation of existing socio-technical systems.
  - This requires the interaction of many different actors (public, private, society)

The role of public actors is key

- The role of public actors is very important:
- Define the goals of those missions, and
- Create incentives and create contexts allowing new technologies and actively engaging in transforming existing systems.
- Not only about new technologies, but about transforming socio-technical systems and breaking technological path dependencies.

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”CAPACITOR”

is a new research project at Copenhagen Business School

- Public actors (municipalities, national agencies, public utilities) are taking the lead in the governance of green transitions.

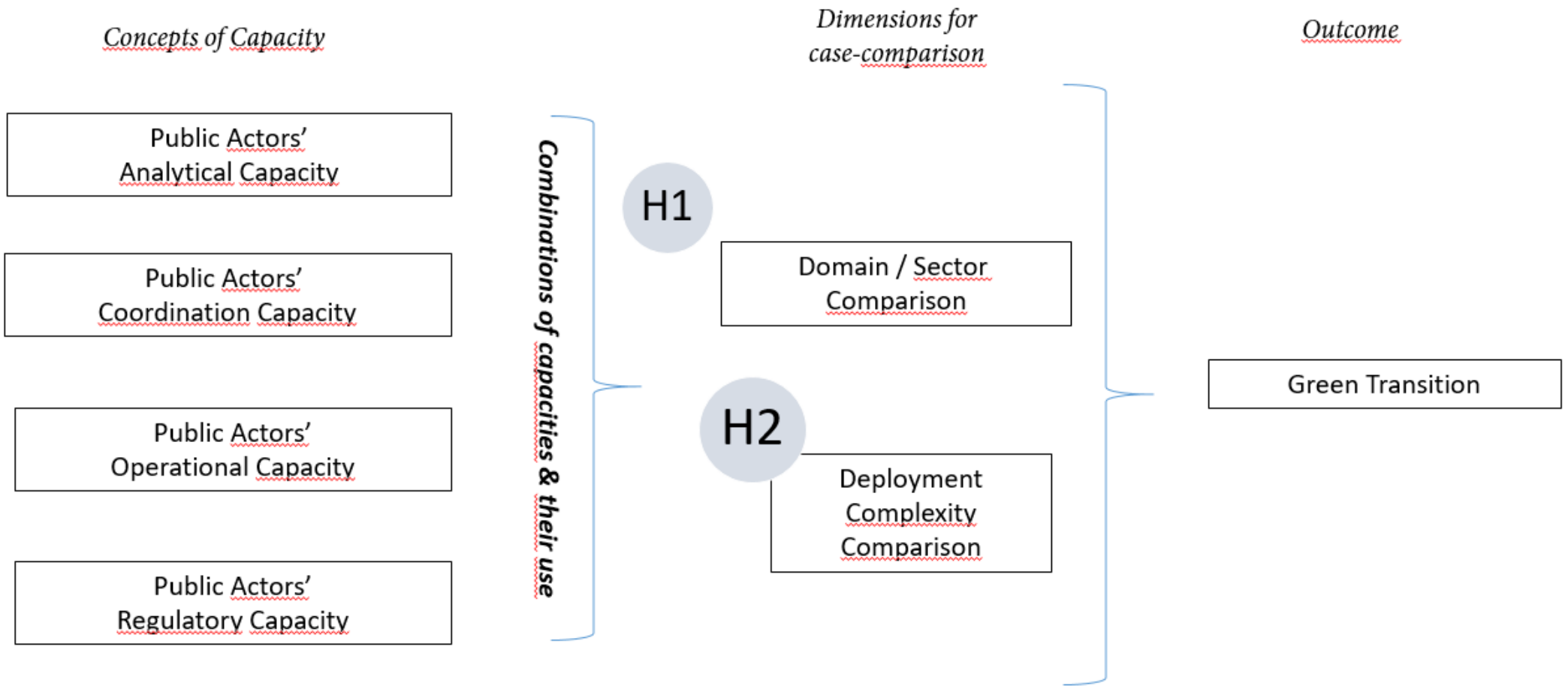
- However, the governance of green transitions is complex (coordinating many stakeholders, creating market and institutional contexts for investments, adapting standards and safety regulations, etc.).

- Public actors need organizational capacities:
  - What capacities? How are those capacities developed & used?

Research Questions:

RQ1: How are public actors developing and using their organizational capacities in the complex governance processes of green transitions?

RQ2: What specific combinations of public actors' capacities are required for achieving green transitions?


Concepts of Capacity
Dimensions for case-comparison
Outcome
Public Actors' Analytical Capacity
Public Actors' Coordination Capacity
Public Actors' Operational Capacity
Public Actors' Regulatory Capacity
Combinations of capacities & their use
H1
Domain / Sector Comparison
H2
Deployment Complexity Comparison
Green Transition

- We will compare 24 in depth cases in:
  - Renewable energy sector, and
  - Sustainable maritime transport sector

- We will collect data from 250+ interviews, 24 observations, and 450+ documents.
- The findings will help developing a theory on public actor's capacities for green transitions, and identifying deficiencies in current capacities.

Our hypothesis

H1: Combinations of public actors' capacities vary across sectors.

- Our previous studies show important cross-sectoral differences in socio-technical systems (Borrás and Edler, 2014).
- The renewable energy sector isbased on national-level initiatives, and is spatially geographically located, as depends on specific energy sources (i.e. wind, but no waterfalls in DK).
- The maritime sector is highly global, operating on footloose, mobile assets (the ships). In energy, the problem for green transitions is integrating and storing renewable energy systems in specific geographical contexts

H2: Combinations of public actors' capacities vary across levels of deployment complexity.

- Our 24 cases (see Table 1) show variation in terms of multi-level and cross-border deployment complexity.
- Cross-border and multi-level governance refers to "decision - making processes that involve the simultaneous mobilization of public authorities at different jurisdictional levels as well as private actors and non - governmental organizations" (Piattoni, 2010).
- We expect that, the higher the deployment complexity in the case, the stronger and wider public actor's capacities are required for successful green transition.

An example

(watch video)

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　システムの関係上閲覧できないことをご了承ください

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Thank you!

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