Missions in policy: Making the right choice(s)

Teis Hansen
Dept. of Food and Resource Econ., UCPH
Dept. of Tech. Management, SINTEF

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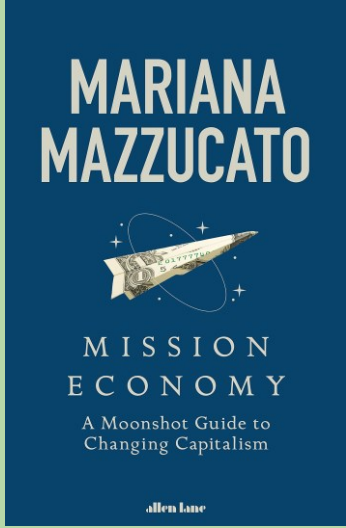
What says Mazzucato about selecting missions?

They should be bold
They should have a target with a timeline
They should be high-risk, but also realistic
They should be cross-sectoral
They should open up for many possible solutions

Helpful exclusion criteria – insufficient to guide actual funding decisions



Fundamental question: how do we decide on which missions to prioritise?

Green solutions of the future

Strategy for investments in green research, technology, and innovation

September 2020

1. **Carbon capture and storage or utilisation**
   Development of cost-effective solutions for carbon capture and storage that can be used to reduce carbon emissions and create negative emissions from large industrial emitters, waste incineration plants, biogas plants, and biomass based combined power and heating plants. Together with hydrogen from renewable energy the captured carbon can supply carbon for new climate neutral solutions.

2. **Green fuels for transportation and industry (Power-to-X etc.)**
   Development of solutions to convert electricity from renewable energy to products that can be used to reduce emissions from parts of the transport and energy sectors where there are no existing cost-effective alternatives to fossil energy.

3. **Climate and environment-friendly agriculture and food production**
   Development of technologies and solutions significantly reducing climate and environmental impacts from conventional as well as organic food production and agriculture, including emissions from livestock, fertilisation, and land reducing derived effects on nature. This may be through technologies and more circular and sustainable solutions regarding carbon sequestration in soil and forests, bio-refining including pyrolysis, new food and feed products with smaller carbon footprints, plant breeding, and support of knowledge needs in relation to efficient regulation, including documentation of emissions.

4. **Recycling and reduction of plastic waste**
   Development of new technologies and manufacturing methods making way for waste reduction and better sorting and recycling of plastic waste into new plastics products. Development of plastic-containing products designed for reuse or recycling, with regard to chemical composition of feedstock and additives and the composition of materials in each product.

The Danish Government's expert group on the contribution of research for the green transition – terms of reference

Strengthen the **knowledge base** regarding the impact of research and innovation initiatives

Develop an **analytical framework** to assess the effect of research and innovation initiatives on the development of solutions contributing to greenhouse gas reductions

Engage with relevant **stakeholders** to contribute to the expert group's work

- Missions are everywhere today!
- Surely, someone has elaborated a framework supporting prioritisation between different possible missions…

- It was not possible to identify other countries that have established good practices for systematically and structurally assessing missions' potentials

The expert group's proposal for a tool to assess green research and innovation initiatives

Description of the Initiative

Step 1: Reduction potential

- National emissions
- Projections
- Climate footprint
- Global emissions

Step 2: Conditions

Investment and financing
- Investment need
- Financing opportunities

Research and business strength
- Research strength
- Business strength

Capacity
- Human capital
- Infrastructure
- Other input factors

Governance
- Policy instruments
- Backing
- Adaptability of society

Step 3: Important considerations

- Political considerations
- Strategic considerations

Considered for both territorial and global emissions:
- Time frame for expected impact?
- Complexity – easy or hard to abate?
- Risk of obsolescence?

All details on data sources, operationalisation, etc.

Reflections on the use of the assessment tool I

- The tool does not provide a definitive answer and cannot stand alone. It contains many quantitative and qualitative assessments that are not automatically summarised into something like an index
  - But decisions will (hopefully) be taken on a more informed basis!

- Not all elements of the framework will be relevant for all initiatives, for example:
  - Would business strengths be relevant for initiatives focused on behavioral changes?
  - Would reduction potentials be relevant for initiatives focused on DACCS (Direct Air Carbon Capture and Storage)?

Reflections on the use of the assessment tool II

- The assessment tool was developed with resource limitations in mind in an administrative context
  - Need to balance this with the complexities of socio-technical transition processes
  - Resource demands might vary depending on the initiative and the level of detail required for each parameter

- Some of the identified barriers may be addressed by political initiatives

Big picture relevance

- Considering ‘potential impact’ + ‘conditions for success’ + ‘other considerations’ relevant beyond climate missions
  - ‘Potential impact’ needs tailoring to other priorities

- Improving selection processes is crucial
  - Maximizing chances of getting value for money
  - Improving legitimacy of mission-oriented innovation policy

- Remember: mission-oriented innovation policy is still a young policy approach
  - Patience!

Thank you!

Teis.Hansen@ifro.ku.dk