

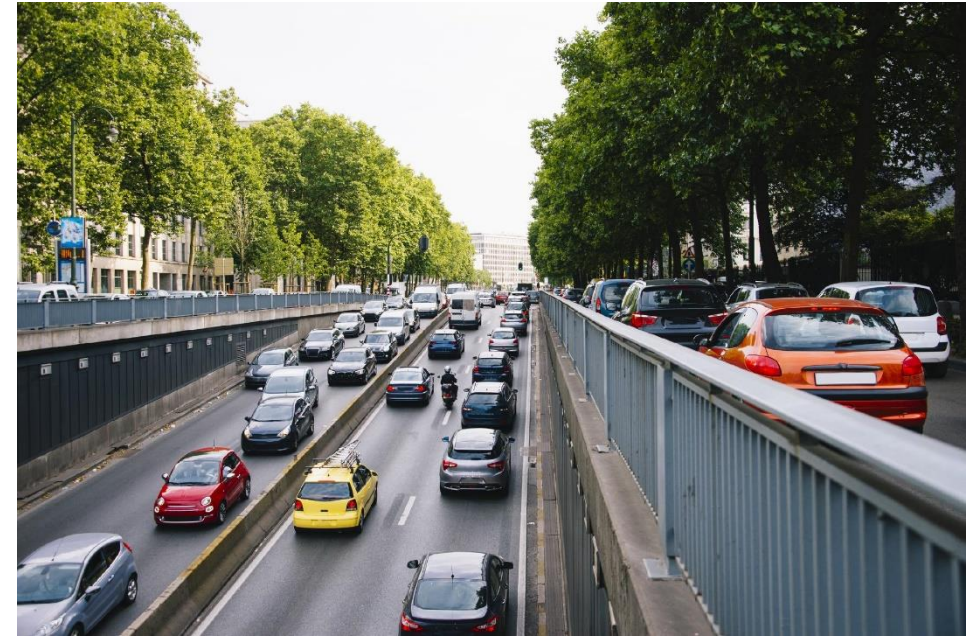
The Elusiveness of Exnovation Impacts

Contribution of Sustainability Assessment & Insights from the Brussels Low Emission Zone Case

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EU-SPRI session - 15. How are technologies abandoned?

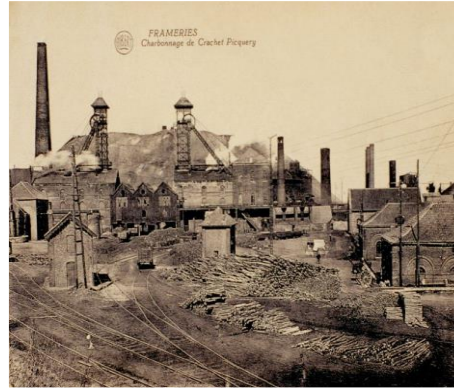
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1. Our project Governance of the Sustainable Economy Transition: Challenges of Exnovation (GOSETE)

• Focus

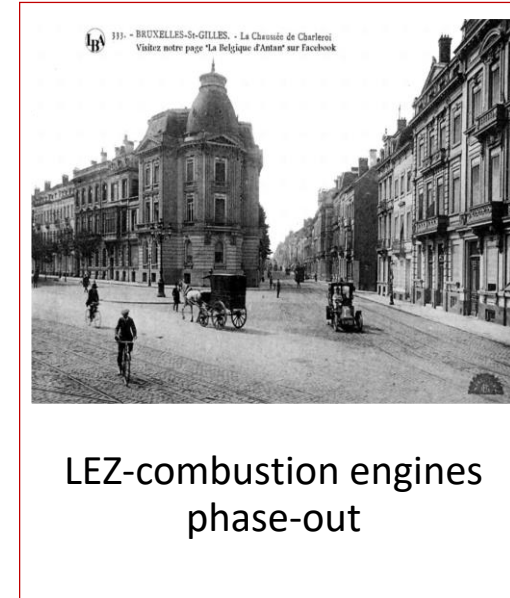
- Transitions in-the-making
- Metropolitan perspective
- To support Brussels in dealing with related challenges



Circular/linear economy



E-commerce/
traditional retail



LEZ-combustion engines
phase-out

• 3 research areas

- Transitions research
- Legal studies
- Sustainability assessment

• Research questions

- What can bring sustainability assessment to transitions studies, incl. to exnovation research?
- How to combine both research areas to clarify sustainability impacts of exnovations?

Content

- 1. Our project GOSETE**
- 2. Sustainability impacts of exnovations matter**
- 3. Sustainability assessment to clarify impacts of exnovations**
- 4. An illustrated methodological issue: scenario building**
- 5. Conclusions & references**

2. Sustainability impacts of exnovations matter

- **The rise of the Gilets jaunes movement**

- The peculiar context that inspired GOSETE

- **Sustainability impacts: an unresolved limitation in Transitions Studies**

- Sustainability impacts (Geels 2019)
- Ethical aspects of transitions (Distribution, justice, poverty) (Köhler et al. 2019)

- **... But untenable for exnovation research**

- A radical change, with major potential impacts
- Losers (replacement rather than adding)
- There is the risk of insufficient attention to impacts on local communities and workers (Johnstone and Hielscher 2017) → “just transitions”



2. Sustainability impacts of exnovations matter

- **Assessment of sustainability impacts to verify:**
 - Whether policy objectives are effectively met;
 - Impacts on other sustainability aspects (though less prominent on policy agenda)
- **And to prevent or to compensate impact displacements:**
 - To other geographical areas
 - \searrow in air pollution (from use) locally, but : \nearrow in air pollution (from production) in China
 - To other impact categories
 - \searrow in air pollution + GES emissions globally but \nearrow soil acidification + \searrow affordability + non-decent work



→ Sustainability assessment



3. Sustainability assessment to clarify exnovation impacts

• Sustainability assessment?

- Since 2000's, former "impact assessment", with the sustainability concept
- "Any process that aims to direct decision-making towards sustainability" (Bond et al. 2012)
- Wide range of tools (Ness et al. 2007)

2. Which object? Which level/unit of analysis?

Object	i) an existing situation, e.g. at national level (indicators and indices) ii) a product/industry (life-cycle sustainability assessment) iii) a policy change or project implementation (integrated assessment)
Time-horizon	Retrospective/ex-post Prospective/ex-ante
Scope	Single-issue environmental assessment to multidimensional assessment, including the all sustainability pillars

1. Which impacts should be considered?

3. How decision-making can be informed?

=> Building of scenarios (because in-the-making exnovations and uncertainties)

• To study exnovations?

- Raises a range of methodological issues

4. An illustrated methodological issue: scenario building

- **Some recommendations on scenarios building (Fransolet 2019, 2020):**

- Considering social and behavioural changes, in addition to technologies
- Considering social justice
- Be built through participatory approaches?

- **Some contextual elements**

- What was decided and what is foreseen
 - 2018: Low emission zone (LEZ);
 - 2025: phasing out of Diesel vehicles;
 - nay 2030 of gasoil and natural gas
 - Grounds? Air pollution, climate, and congestion (BE, 2019)
- Unstable decisions
 - LEZ legally challenged in 2020
 - COVID implications
 - Next steps under discussion, with ongoing impact assessment



4. An illustrated methodological issue: scenario building

- **Preliminary results of step 1)**
 - Diverging positions of actors

Actors	Exnovation of	to be replaced by
Policy making/ administration	specific technologies, i.e. the low-ambition option which is the LEZ and thermal engines ban	soft mobility and car sharing
Industry	Ban according to impacts of various technologies (whatever diesel or electric, principle of technology neutrality)	A change in transport/ mobility
NGOs/civil society	Disagree with technology neutrality (cf. Dieselgate) Ban based on business model/practice, e.g. ban of individual cars, congestion charge or according to vehicle weight	Public transport, soft mobility and shared vehicle



Next steps

- Completion of scenario building
- Identification of impacts and impacted actors
- Assessment for the various scenarios

5. Conclusions – key messages

- The nature and implications of exnovations imply their sustainability impacts to be considered in a systematic manner
 - including socioeconomic and distributive impacts, in the perspective of just transitions
- The LEZ case exemplifies the elusiveness of the impacts involved
 - multiple kinds of impacts, multiple scenarios of exnovation and substitution, instable policy context, etc.
- Integrating sustainability assessment to exnovation research seems promising in this regard (as evidence basis for decision-making on sensitive issues)
 - GOSETE takes up these challenges of impact assessment and scenario development
- We would be happy to hear about any advances on this front in other projects and decision-making contexts
 - Thank you for your attention
 - Email: ssureau@ulb.ac.be



Some references

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