

# Lessons from Phase 2 – Competition from the electric vehicle imaginary

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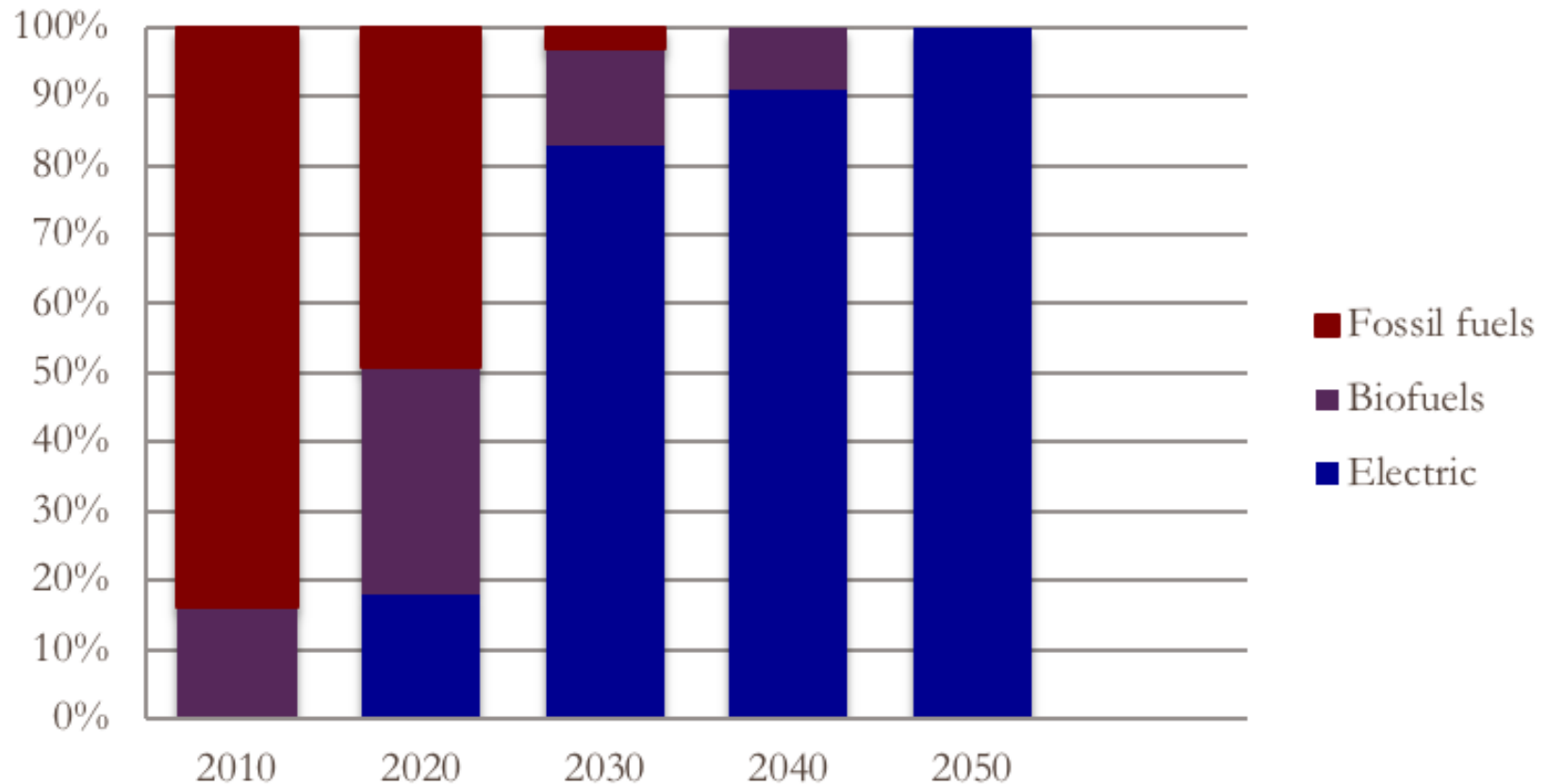
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# Sociotechnical Imaginary

*“collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology”*  
(Jasanoff & Kim, 2015)

## Share of city busses



( Adapted from SOU 2013:84 – Fossilfrihet på väg)

# Competition and complementarity among renewable fuels – Biogas and electricity in urban public transport

- How are biogas and electric technologies framed as competing or complementary by actors in the public transport system?
- What role does local context play in these interactions? How do regional, national, and international governance and expectations influence local systems?
- How do visions of the future influence actors' perceptions of the best technological choice in urban public transport systems? How do these visions influence the current system?



# Linköping



# Malmö

- Biogas based bus system
- Decision to electrify lines 3 & 7, with at least 6 more to follow
- Testing two different charging types
- Interviews with municipal & regional politicians, municipal planners, Skånetrafiken, E.ON, and Nobina



# Main Findings

- Different treatments of the electrification imaginary in Linköping and Malmö
  - Reconciliation in Linköping



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Original research article

# Mobilizing sociotechnical imaginaries of fossil-free futures – Electricity and biogas in public transport in Linköping, Sweden



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### ABSTRACT

In response to concerns about climate change and fossil fuel reliance, Swedish national policy has set the ambitious goal of a fossil fuel independent transport fleet by 2030, opening up a widespread debate on renewable fuel choice. Across sectors and regions, this debate inspires competing visions for how this transition can be achieved. Using sociotechnical imaginaries for a theoretical background, this paper will examine two competing visions in the case of urban public transport in Linköping, Sweden. While the biogas sociotechnical imaginary is based on the socio-material reality of the existing local infrastructure system, the electricity imaginary is gaining widespread support including from national and international interests. Using interviews with fourteen key actors and document analysis, this paper seeks to understand how local actors understand biogas and electric buses as competing technologies and how they mobilize these antagonistic imaginaries in their own visions of the future. Most often, actors mobilize both the biogas and the electric imaginary alongside each other, suggesting an attempt at reconciling them at the local level. This reconciliation sheds light on the challenge of applying national imaginaries to local cases and indicates that the complexity of multi-level systems must be considered in large scale sustainability transitions.

### 1. Introduction

choice, as the urban public transport system is already renewable thanks to the implementation of 100% biogas buses. Like in many local



# Main Findings

- Different treatments of the electrification imaginary in Linköping and Malmö
  - Reconciliation in Linköping
  - Ready acceptance in Malmö
- Obduracy of local biogas systems a result of local contexts
  - Embeddedness in politics and infrastructures
  - Perception of biogas sustainability
  - ”test bed” mentality

# Lessons learned from Phase 2

- Electrification imaginary is not going anywhere
- Competition among renewable sources
- Biogas framed as part of the larger sustainability picture
- All non-fossil fuels will be needed

# What is needed moving forward

- Better support for municipalities and regions
- Focus on what makes biogas systems strong/obdurate
  - Embeddedness in infrastructures of waste & agriculture
- Branch out from framing biogas as a transport solution

Questions?  
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