

# ELECTRIC MOBILITY IN GERMANY: UNDERSTANDING PIONEERS AND MARKET NICHE IN COMMERCIAL TRAFFIC

## Motivation

Electric mobility is an innovation which can turn the today's mobility into a sustainable mobility. However, it is also an innovation which obviously requires a great technological transition. Many nations invest much on the support of the diffusion of electric mobility since 2009. In case of Germany the public investment comprises approx. 1.6 Bn \$ for 200 projects.

Innovations theories focusing on Technological Transition assume niches to be an initial point for social changes and innovations' development becoming a mass market. This research supports future public investments in investigating the niches realized to date and their potential to grow.

Research questions:

1. Which niches of electric mobility are realized?
2. Which further potential to grow exists for these niches?

Research focus:

- Vehicles in commercial usage (not privately owned)

Research area:

- Germany

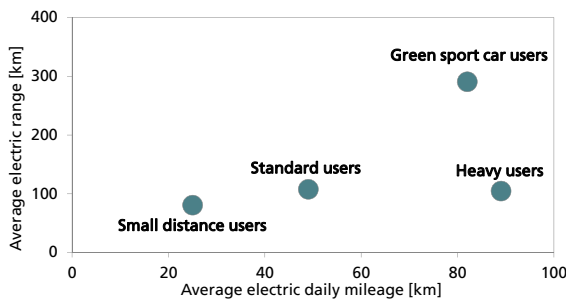
## Methodological highlights

- Group electric vehicle users in commercial traffic by their user behavior (cluster analysis)
- Apply group characteristics on a national representative survey to assess the potential (analysis of the niche expansion potential)

## Results

1. Cluster analysis: four realized niches (user groups) of electric vehicle usage in commercial traffic are identified.

Figure 1: Current niches of commercial electric mobility in Germany



### Commonalities of niches:

- a) 3/4 niches operate vehicles not on a cost-covering base
- b) Most relevant drivers of purchase are interest in innovative technology and reduction of environmental impact of mobility in all niches

### Differences of niches:

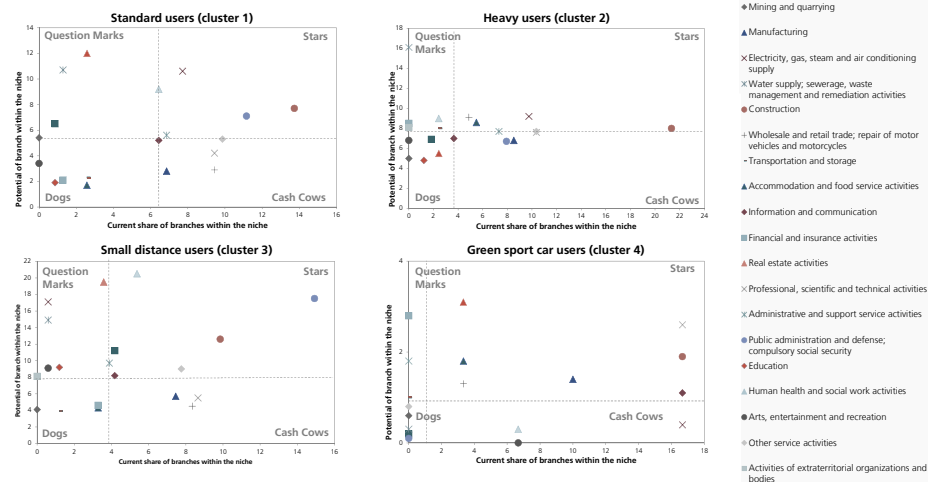
- a) Use profiles and vehicle types chosen
- b) Image is relevant for Green sport car users and Small distance users

2. Analysis of the niche expansion potential: Up to 20 % of the commercial deployment of ICEVs directly fits to the described niche profiles.

Figure 2: Realized niches and its expansion potential

Four branches fit to three of four niche profile:

- Electricity, gas, steam and air conditioning supply
- Water supply, sewerage, waste management, remediation activities
- Real estate activities
- Human health and social work activities



## Major concluding remarks

1. Concerning niches realized:
  - a) Financial incentives do not effectively affect today's drivers of purchase
  - b) Current electric ranges deal with current niche requirements (development of loading infrastructure is mid-term requirement)
2. Concerning niche's potential to expand
  - a) Public and public related branches are high potentials for niche expansion
  - b) Niche demand can be expanded up to 20% what could be a critical mass. For more growth a loading infrastructure is needed.