

BIOGAS DISTRIBUTION CONCEPTS FOR THE TRANSPORTATION SECTOR

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Project overview

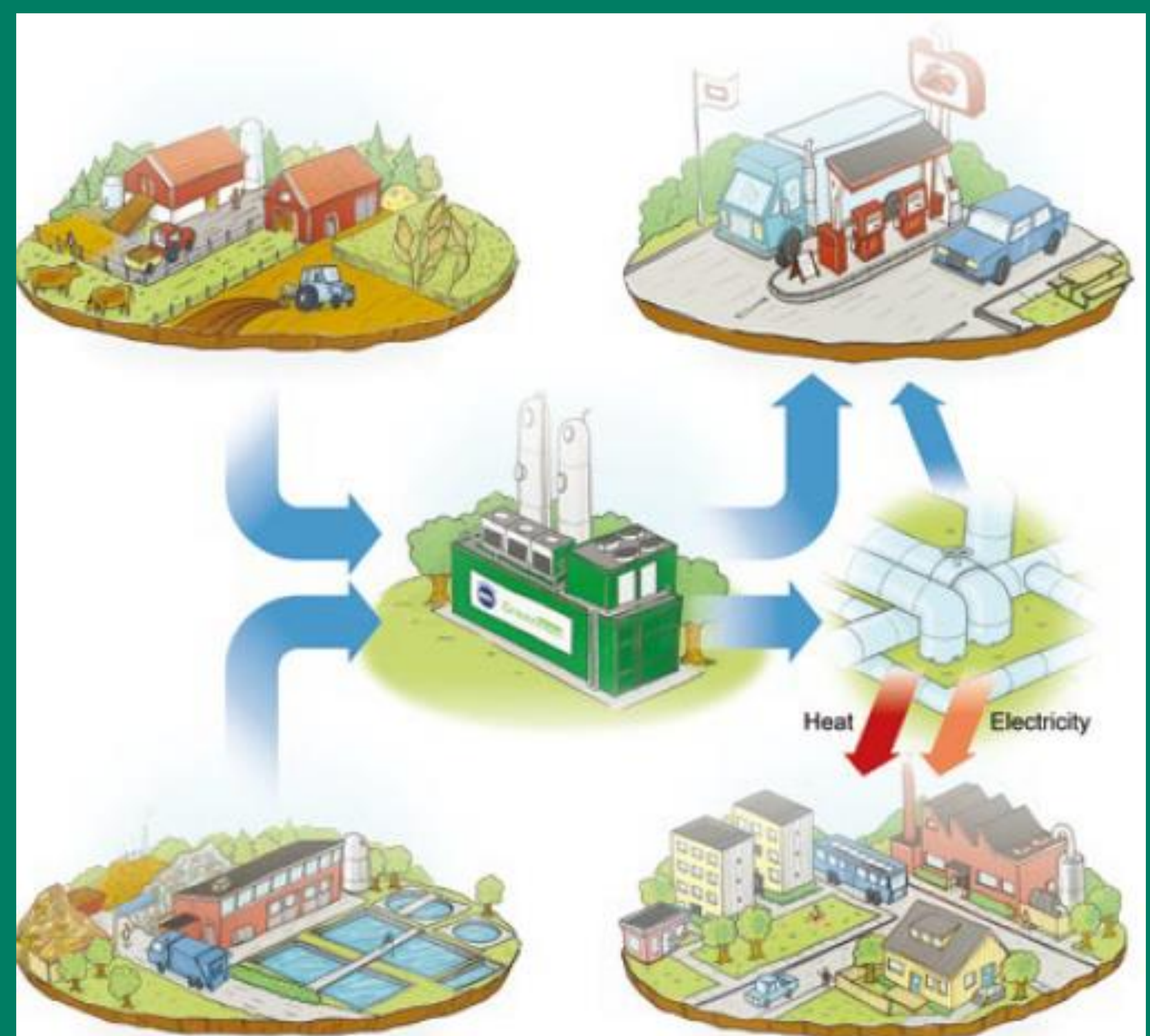
Biogas is mainly methane with lesser amount of other gases and can be extracted from various sources like landfills, anaerobic digestion plants, green waste collection sites and sewage treatment facilities.

This biogas research will predominantly concentrate on the storage and distribution concepts in the transportation sector, engaging with locals, communities, business people, biogas companies and filling stations.

Assessment approach

This biogas research project is divided into various sections which will be researched over the course of this study. The key research areas and questions are:

- ✓ Biomethane transportation options, using trailers and tank lorries to supply local gas or electricity networks.
- ✓ Investigation into biogas infrastructure upgrade. Centralised or localised?
- ✓ Location identification for natural gas fuelling stations for complementary biomethane supply.
- ✓ Evaluation of biogas upgrade production facilities and investigation into distribution models.
- ✓ Selection of optimum biomethane transportation methods, logistics concepts, appropriate usage of gas vehicles, and possible locations for gas fuelling stations.

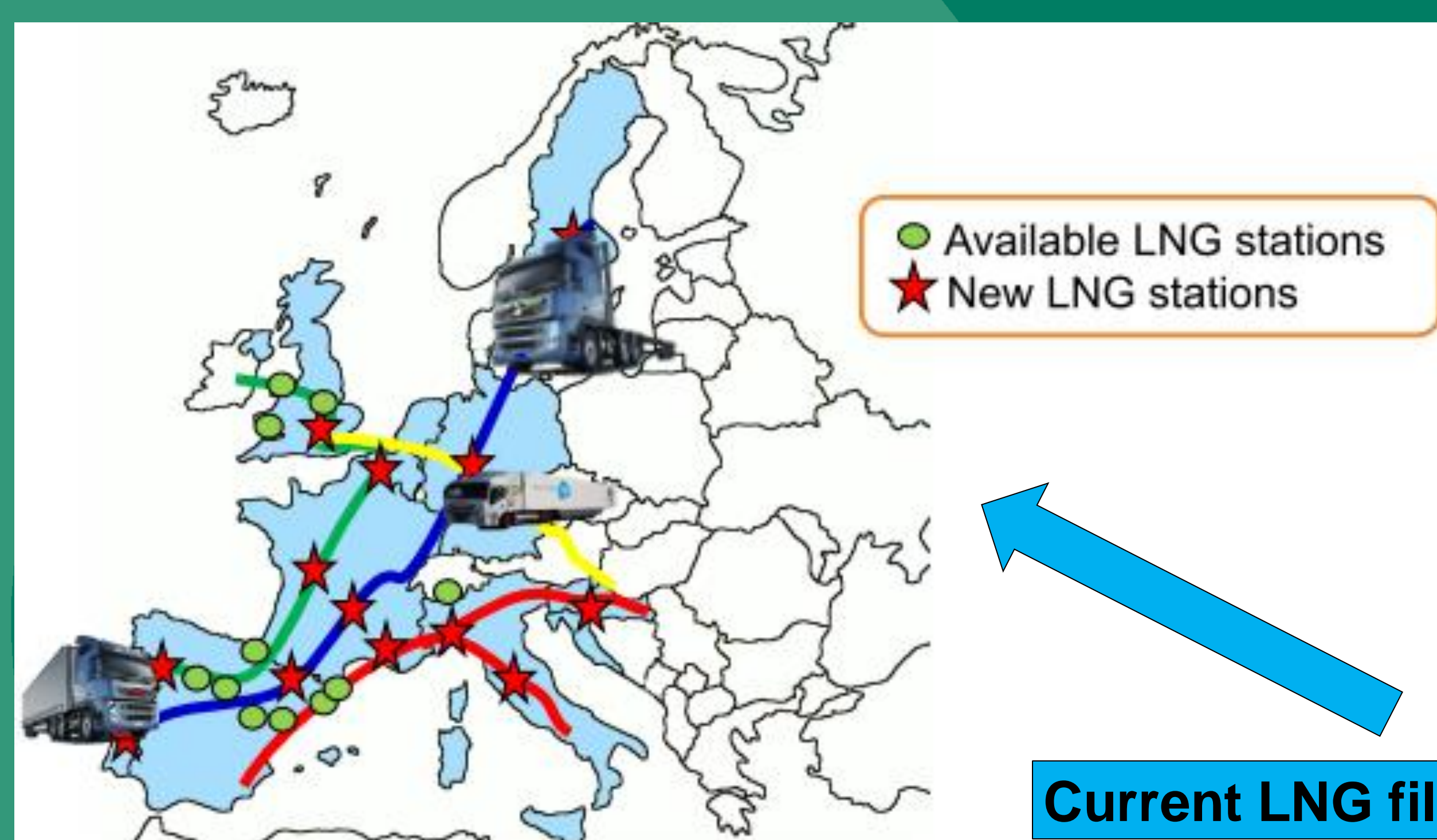


Source: (Biomethane by Greenlane - Reliable Solutions for Renewable Biomethane, March 2013)

Filling station Information: 2 x LNG filling pumps and 1 x CNG filling pump with the capacity of refuelling 150 -200 Trucks per day.



(Source: Rolande LCNG filling station - Tilburg, April 2014)



Current LNG filling station locations in Europe

(Source: LNG blue corridor, April 2014)

Expected research results

During this research it is expected to find viable biogas transportation solutions. Biomethane storage options and distribution models will be assessed and technical challenges will be highlighted regarding how and where to store purified biomethane. Research results will be outlined as follows:

- ✓ Definition of guidelines for the optimal distribution of biogas in transportation sector with regards to costs.
- ✓ Viable biomethane storage solutions.
- ✓ Conclusion of distribution models via road and gas distribution networks.
- ✓ Investigation into biomethane storage types.