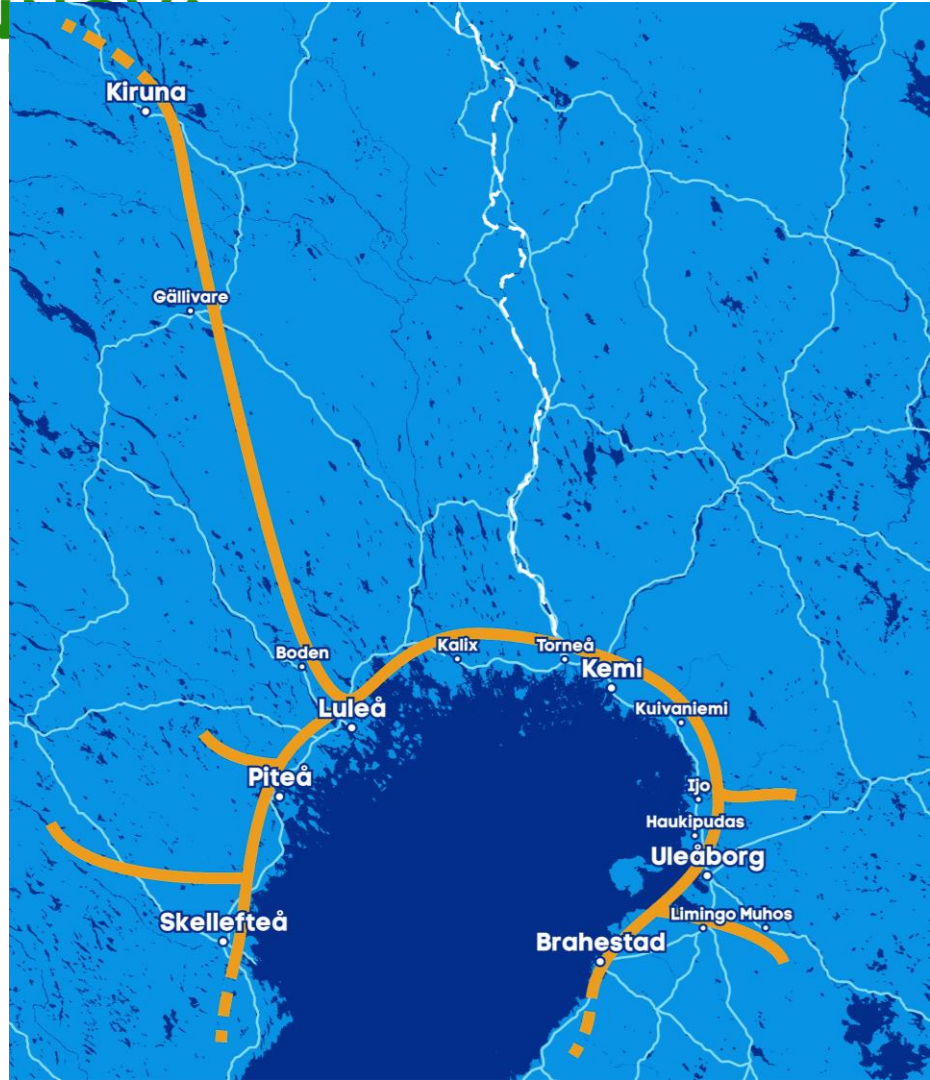
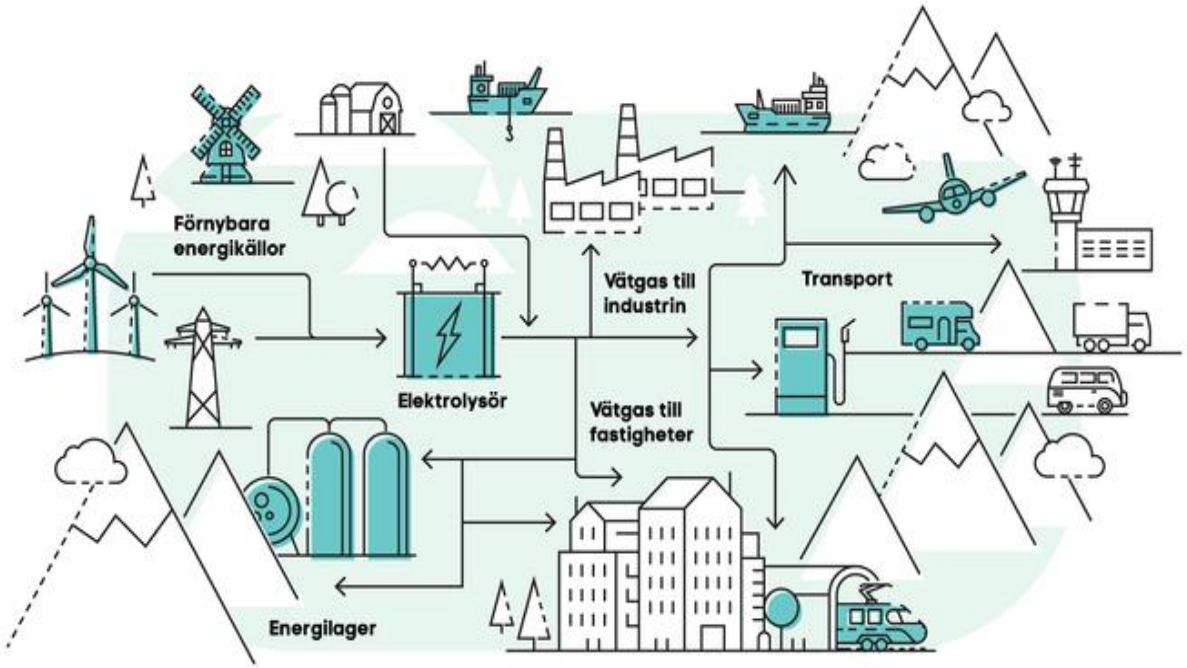
Hydrogen, energy system and infrastructure in Northern Scandinavia and Finland – pre-study



LULEÅ TEKNISKA UNIVERSITET

RI. SE

Swedish Hydrogen Development Center



Swedish Hydrogen Development Center

VINNOVA
Sweden's Innovation Agency

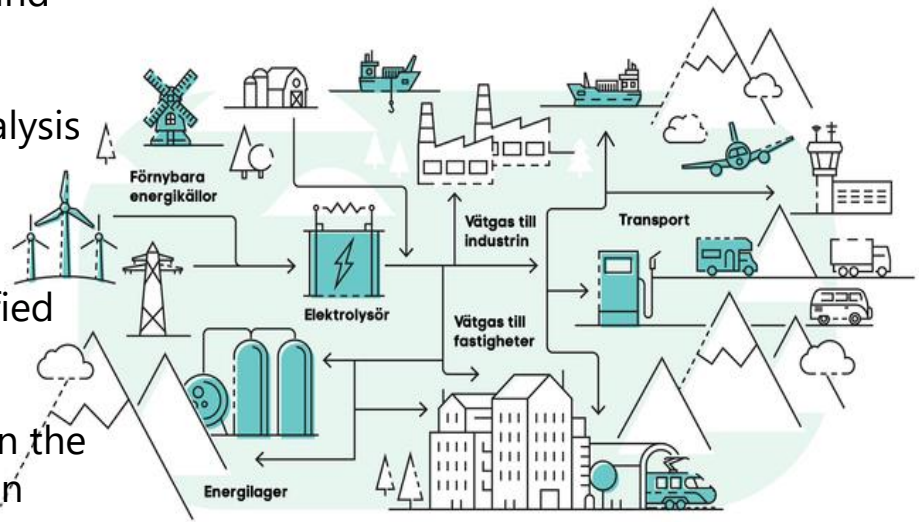
LULEÅ TEKNISKA UNIVERSITET

RI. SE

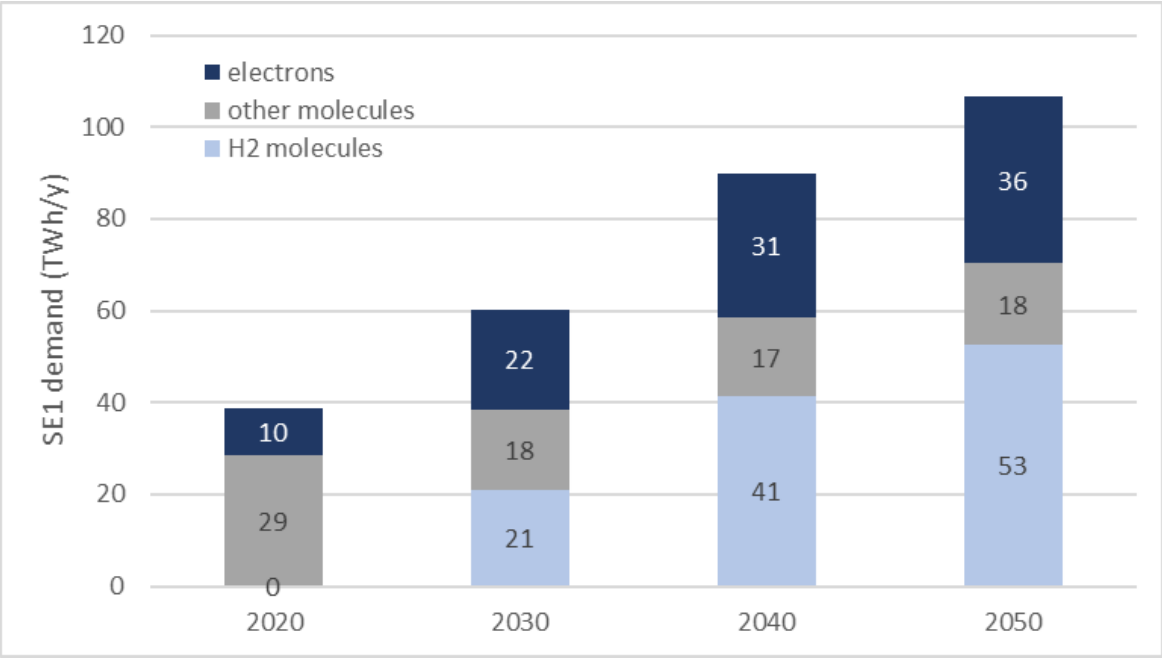
Project consortium with 27 partners

Why ?

- Large scale transformation of the industry and energy system.
- There is a need for independent system analysis that balances different perspectives from industry and society.
- A wide spectra of questions must be identified and addressed.
- Different actors and competitors will work in the same system. H2ESIN established a common forum for the stakeholders.
- Independent research is important for the democratic process and social acceptance.



Enormous demand for electricity & hydrogen



Total cost for a hydrogen pipeline is relative small !

The cost drivers are:

1. Electricity
2. Electrolysers
3. H2 storage

Swedish Hydrogen Development Center

VINNOVA Sweden's Innovation Agency

LULEÅ TEKNISKA UNIVERSITET

RI. SE

Messages and needs

- Co-operate!
  - Industrial stakeholders
  - Society
  - Cross border cooperation
  - Develop the value chain
- The electricity demand must be addressed
- Hydrogen pipelines can be an efficient complement in the energy system

Swedish Hydrogen Development Center

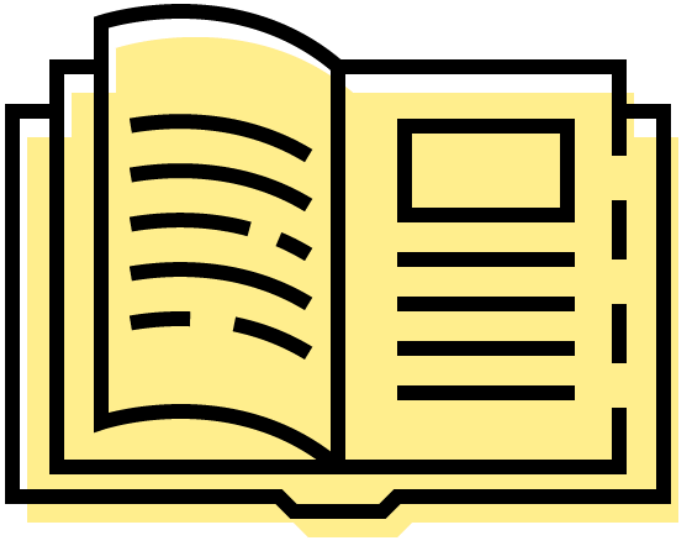
VINNOVA Sweden's Innovation Agency

LULEÅ TEKNISKA UNIVERSITET

RI.SE

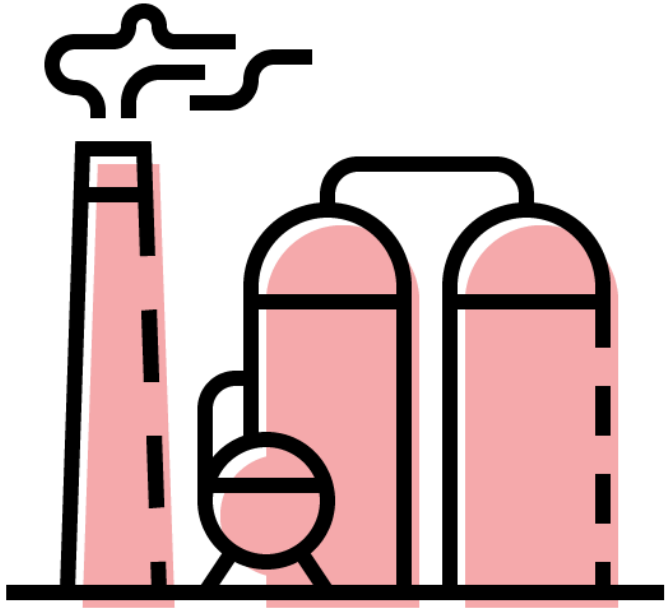
Messages and needs

- Education and training on all levels is needed
- Development of policies and regulatory framework
  - And understand how to implement the regulations
- Market design for a future hydrogen market



Messages and needs

- System analysis
  - Interaction with the electricity grid
  - System integrity
- Sector coupling
  - Including valorisation of by products
- Hydrogen infrastructure in cold climate
- Storage



Why is this important?