



*Challenges implementing hydrogen in the  
transport sector:  
The role of Transnova*

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# About Transnova

- A government funded trial project. The government has announced that it aims at continuing Transnova beyond 2011. A decision is expected this autumn
- Main goal is to contribute to reduce national CO<sub>2</sub>- emissions from transportation
- To achieve this we support a large variety of projects with participants from research, business, NGOs and local and regional authorities.



# Our role

- Transnova was established out of a need to *supplement* established government policies to reduce GHG emissions from transport and established research programs
- We are focusing on reducing institutional, economical and technical barriers to stimulate widespread use of clean and renewable fuels and improved technologies and transport solutions.
- Typical effects of projects we support are reduced cost, improved knowledge, new standards, improved economics of scale, new fuel or charging infrastructure, cluster – and learning effects etc.

Transnova solving the chicken and egg problem  
(photo: Wiki Commons)



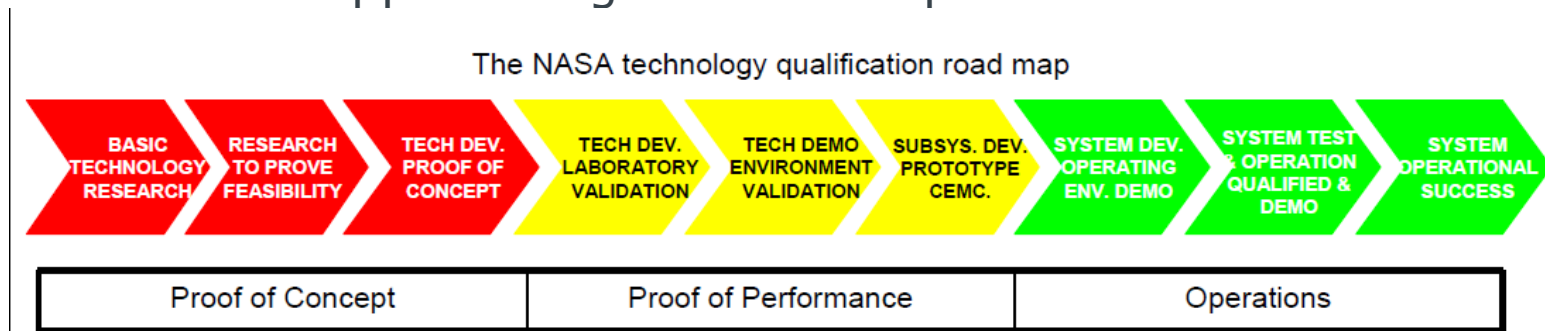
# Funding

- 2009-2011: 50 mill NOK/year ~approx 10 mill USD
- 2009: additional 50 mill NOK for public electrical charging stations
- 2011: additional 20 mill NOK as part a programme to develop improved environmental technologies strengthening Norwegian industry *and* reducing emissions



# What we support

- We engage in projects after proof of concept and are mainly operating at the pilot and demonstration stages of R&D. In some areas we are approaching the roll-out phase



- We are mainly supporting projects that are:
  - Replacing fossil fuel with renewable or clean fuels
  - Improving transport systems:
    - Public transport in stead of private cars
    - Energy efficient modes of transport (sea and rail) in stead of lorries
  - Reducing transport and travel volumes

# Hydrogen projects

- H2 Moves Oslo (filling station+cars) 12 mill NOK. Part of EU-project
- Mobile H2 Plasma Reactor (GasPlas AS) 9 mill NOK
- HyNor 3,6 mill NOK
- HyNor Oslo Buss (5 hydrogen buses+filling station) 12 mill NOK. Part of EU project
- HyNor Lillestrøm (production, storage, filling station) 4,9 mill NOK
- Prototech (small hydrogen passenger ferry) 1,2 mill NOK
- Nextmove 0,9 mill NOK (part of EU-Interreg project)



# The way ahead

- Many technologies should move from pilot and demonstration to rolling-out and the role of Transnova should reflect this
- An important area for public intervention is related to building up infrastructure for cleaner fuels but no public body has this role today
- Transnova would like to contribute, but to have significant impact for bio gas, electricity and hydrogen, funds are not sufficient
- More funds *and* new ways of collaboration and organizing business may be needed

Thank you for your attention!

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