

# Update on Hydrogen in Norway

June 2011

# Norwegian Hydrogen Forum



- **Connecting interests**
  - Industry, research, academia, government, NGOs
- **Spreading information**
  - Webpage, newsletters, press-releases, strategies
- **Arranging events**
  - Meetings, seminars, conferences

# Industry



- **Established:**



- **New:**

**PROTIA AS**

**ZEG Power** 

**GasPlas**  
Zero Emissions

*nordic  
power  
systems*



# National programs for hydrogen research and demonstration

- **The Research Council of Norway has had two big research programs which have supported hydrogen research.**
  - **RENERGI:** (Clean energy for the future) supports general research on hydrogen systems and technology development.
  - **NANOMAT:** (Nanotechnology and new materials) focuses on research on materials for hydrogen storage.
  - Total amount of money spent on hydrogen R&D in 2010 was 4.5 M€.
- **The Norwegian government established a new organization called Transnova in 2009.**
  - Purpose is to support projects which can lead to lower emissions from the transport sector.
  - Organization in a test period from Q1 2009 until Q4 2011. In Q3 2011 government will decide if to be continued.
  - Yearly budget of 6 M€
  - ~50% of budget used on hydrogen technologies.

# Ongoing demonstration projects

Total national support for demonstration projects in 2010: 3.8 M€

- **The HyNor project** (<http://www.hynor.no>): Joint public-private partnership initiated to demonstrate real life implementation of hydrogen energy infrastructure along a 580 kilometre road stretch from Oslo to Stavanger. Currently 4 hydrogen refuelling stations are installed:
  - Stavanger (2006), Porsgrunn (2007), 2 in Oslo (2009)
- **Upcoming hydrogen stations in 2011 and 2012:**
  - 3 car stations: Stavanger, Lillestrøm(just north of Oslo) and Oslo(H2-Moves)
  - Bus-station in Oslo
- **H2-Moves Scandinavia**
  - Oslo chosen as main-site lighthouse project on hydrogen infrastructure.
  - A fleet of 17 fuel cell vehicles will arrive with the new stations, making the total amount of hydrogen vehicles in Norway close to 40.
- **HyNor Oslo Bus (CHIC Oslo)**
  - Bus-project in Oslo part of the EU-project **Clean Hydrogen In European Cities**
  - Bus-manufacturer chosen (oct 2010): VanHool (will deliver 5 buses in Q1 2012)

# Other hydrogen projects (cont.)

- **NextMove – Interreg project**

3 year project between Norway, Sweden and Denmark on preparing the potential users of hydrogen vehicles, coordinating work on communication, car acquisition, leasing etc..

- **Possibility study, Oslo Gardermoen airport**

- Funding received to look at possibilities for utilizing hydrogen at the national airport at Gardermoen.

# Events in 2011

- **EHA General Assembly and HyRaMP board meeting**  
Oslo 21. – 22. June 2011
- **ZeroRally:**  
7. – 9. June 2011. (<http://www.zerorally.com>)
- **Seminar on hydrogen safety and business opportunities:**  
October 2011. (<http://www.hydrogen.no>)
- **Hydrogen and Fuel Cells in the Nordic Countries**  
25. – 26. October 2011. (<http://www.hfcnordic.se>)
- **HyNor conference:**  
23. November 2011, in conjunction with the Zero-conference.  
(<http://www.hynor.no> and <http://www.zero11.no>)

# Other activities

- **Secretary for Norwegian Hydrogen Forum and the Norwegian Hydrogen Council:**

From 2010 the Norwegian Hydrogen Forum and the Norwegian Hydrogen Council has engaged a full-time position to hold the secretary and coordinator for both actors  
(<http://www.hydrogen.no>)

- **The Norwegian Hydrogen Guide:**

Comprehensive overview of Norwegian hydrogen activities from education to research and commercial development. Will be updated in Q4 2011. (<http://www.hydrogenguiden.no>)

