



Medlys



Registration

Registration Fees:

| Category | Regular, 30th April | Late/Onsite |
|----------|---------------------|-------------|
| Standard | €250 | €350 |
| Student | €200 | €250 |

Abstract submission deadline: 20th April

Registration fees includes the following: access to all presentations; conference materials; all conference meals and refreshments; guided tour of Carlsberg and bus trip to/from Risø.

The workshop is arranged by:

PrimoLyzer/IRD: Laila Grahl-Madsen

Nexpel/SINTEF: Magnus S. Thomassen

Weltemp&Medlys/

DTU Energy Conversion: Lars N. Cleemann, Jens Oluf Jensen, Erik Christensen and Anke Hagen

The Danish Partnership for Hydrogen and Fuel Cells / Aksel Mortensgaard, Dorthe Hillerup Vedsted

10 - 11 May
Copenhagen, Denmark

SYMPOSIUM

Water electrolysis and hydrogen as part of the future Renewable Energy System



Introduction

Sustainable, secure and competitive energy supply and transport services are at the heart of the EU2020 strategy towards a low carbon and inclusive economy, geared towards a reduction of 80% of CO₂ emissions by 2050.

This objective has been endorsed by the European Institutions and Member States. It is widely recognised that a technological shift and the deployment of new clean technologies are critical for a successful transition to such a new sustainable economy.

Hydrogen has the potential of storing virtually unlimited amounts of renewable energy to be converted back into the grid by stationary fuel cells with high efficiency and quick response times, enabling incorporation of large amounts of intermittent solar and wind power into the grid as base load. Here water electrolysis technologies play a vital role in enabling cost competitive, highly efficient method of producing hydrogen from renewable electricity.



Date: 10 May, 2012

08:30 *Coffee and registration*

Opening and welcome

Chair: Magnus Thomassen, Co-chair: Erik Christensen

09:00 Welcome by the conference organising committee, *Laila Grahl-Madsen, IRD Fuel Cells*

09:10 The need for hydrogen, *Henrik Wenzel, University of Southern Denmark*

09:35 Water electrolyser technology overview and comparative study, *Tom Smolinka, Fraunhofer ISE*

10:00 *Break*

International activities

Chair: Aksel Mortensgaard, Co-chair: Jens Oluf Jensen

10:20 Overview of water electrolyser/renewable hydrogen activities in the US, *Erika Sutherland, DoE*

10:45 current state-of-the-art hydrogen production using water electrolysis in Korea, *Sang-Bong Moon, Elchemtech*

11:10 Water electrolysis/Hydrogen activities under the FCH JU, *Eveline Weidner, FCH-JU*

11:35 The Danish case and possible solution, *Ms. Anne Nielsen, The Danish Energy Agency*

12:00 *Lunch*

The challenge and solution:

Stationary energy storage and energy for transportation

Chair: Laila Grahl-Madsen, Co-chair: Magnus Thomassen

13:00 Integration of large amounts of renewable energy in the electricity grid, *Kim Behnke, Energinet.dk*

13:25 Integration of large amounts of renewable energy in the electricity grid, *Daniel Hustadt, Vattenfall Europe Innovation GmbH*

13:50 The case for and activities on hydrogen powered fuel cell vehicles, *Jörg Wind, Daimler AG*

14:15 The cost of establishing a hydrogen infrastructure for transportation, a case study covering Denmark, *Mikael Sloth, H₂ Logic*

14:40 *Break, refreshments*

Please register and submit your abstracts for the poster session day 1 at <http://H2carlsberg.com>

Other industrial perspective

Chair: Jens Oluf Jensen, Co-chair: Steen Yde-Andersen

15:10 Alkaline electrolysis for distributed and central hydrogen production, *Hans Jörg Fell, NEL Hydrogen*

15:35 Grid balancing systems using water electrolysis. *Raymond Schmid, Hydrogenics*

16:00 Recent advances in PEM electrolysis, *Everett Anderson, Proton OnSite*

16:25 The development of a hydrogen infrastructure for transportation, *Emmanuel Rothan, Air Liquide*

16:50 Poster session and refreshments, Gallerigangen

18:00 *Guided tour at the Carlsberg brewery*

19:00 *Nordic dinner at Carlsberg*
The dinner is partially sponsored by the Danish Partnership for Hydrogen and Fuel Cells

Date: 11 May, 2012

Technical session and lab tour at RISØ Campus

09:00 *Arrival and coffee/tea*

09:20 Welcome and introduction to DTU Energy Conversion *Jens Oluf Jensen, DTU Energy Conversion*

09:40 SOEC and high pressure SOEC, *Sune Ebbesen, DTU Energy Conversion*

10:00 Alkaline electrolysis, *Jørgen Jensen, Green Hydrogen*

10:20 Development of new catalysts for water electrolysis, *Patricia Hernandez-Fernandez, DTU Physics*

10:40 *Coffee Break*

11:00 Primolyzer, *Laila Grahl-Madsen, IRD Fuel Cells*

11:20 Next generation PEM electrolyser for sustainable hydrogen production, *Magnus Thomassen, SINTEF*

11:40 Development of PEM electrolysis at elevated temperature, *Erik Christensen, DTU Energy Conversion*

12:00 Lab Tour

13:00 *Sandwich and End of Program*

Bus leaves for Copenhagen Central Station and Copenhagen Airport Arrival time in Copenhagen International Airport (Kastrup) will be at latest 14:30. If you like to be there earlier, we can arrange for a taxi at any time. The travel time to the airport is about 35-45 min and will cost you around 65 Euro. We will make a list in the morning of day two.



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