

IPHE Ministerial Meeting

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Ministerial Statement

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Introduction

Secretary Abraham; It is with great pleasure that I am able to address you as a partner of the IPHE. Thank you for inviting us here, and thank you all for your firm support in welcoming Norway to a full partnership!

A growing number of countries have made commitments to accelerate the development of a hydrogen energy economy. International partnerships are important to advance this process. I am convinced that the key to success lies in cross border collaboration and joint efforts.

Hydrogen in Norway: policy

- Also in Norway there is a large political as well as industrial and scientific interest in forwarding hydrogen as an energy carrier. In March this year the Norwegian parliament decided to establish a broad national hydrogen programme, to accelerate the efforts of developing and deploying hydrogen energy technologies in Norway.
- Consequently, in June the Government appointed a National Hydrogen Commission to work out a broad research, development and demonstration programme, covering the production, storage, distribution and use of hydrogen.
- The Commission will address the use of hydrogen both in the transport sector and in stationary applications. Transport stands out as the sector that will probably first be relevant for more extensive use of hydrogen in Norway.
- The Commission will also propose national targets and necessary measures for developing hydrogen as an energy carrier and an instrument for national added value as well as for a cleaner environment. The Commission will present its conclusions by 1 June 2004.

Hydrogen in Norway: energy resources

- With our unique energy situation, Norway has got a strong basis for a transition to the hydrogen economy.
- We have rich supplies of a number of primary energy sources, such as crude oil, natural gas, hydropower and wind. As you know, Norway is, and will remain for many years, one of the largest net exporters of natural gas on a global scale.

- But Norway is also the largest hydropower producer in Europe, and we have large unutilised wind resources, as well as other renewable energy resources.

Hydrogen in Norway: industry and technology

- Based on our resources, Norway has a solid experience with hydrogen production, both from renewable energy and from fossil feedstock. We have established industries in various areas of hydrogen use.
- In fact, since 1927 Norway has gained experience from large-scale industrial hydrogen production, first using electrolysis, and later hydrocarbon based synthetic gas production.
- In the future, the Norwegian natural gas represents a natural feedstock for large-scale hydrogen production, combined with CO₂ separation and pipeline transport to enhance the oil recovery from offshore oilfields. While waiting for the hydrogen economy, we may obtain increased knowledge of CO₂ sequestration from power production based on natural gas.
- A major full-scale demonstration project is under development on the remote island of Utsira outside the coast of Norway: two wind turbines will produce electricity for hydrogen production by water electrolysis. The hydrogen will be stored and used as a backup. As soon as the electricity demand exceeds the production of the wind turbines, electricity will be produced from a hydrogen combustion engine and a fuel cell. This is an example of a stand-alone power system where hydrogen is used as a buffer for energy from the weather dependent wind power. The plant will start operating early next year.
- In April this year the world's first hydrogen refuelling station for cars and buses was opened in Reykjavik, Iceland, using Norsk Hydro Electrolysers' hydrogen technology. Another filling station delivered by Norsk Hydro Electrolysers was opened in Hamburg, Germany, last September.
- Another interesting project is the HYNOR, which is going to be launched by the Norwegian minister for transportation next week. This project will represent a "hydrogen highway" between the cities of Stavanger and Oslo, with a total length of 500 km. The aim is to demonstrate how an infrastructure may be built. In selected spots along the route, local hydrogen demonstration projects and activities will be envisaged. An important aspect of the project is to evaluate commercial opportunities for industries, R&D and institutes within the transport and energy sectors.
- The ambition is to realise the project within the next few years. A central question, however, is whether there will be vehicles present to drive the distance. I put before you the invitation to use our hydrogen highway as a testing ground for new energy vehicles in a normal travelling situation!

- Norway has high-quality research expertise within important niche areas, such as hydrogen storage and materials technology. Our hydrogen R&D project portfolio is divided into five thematic groups: production, storage, combustion, system analysis and fuel cells.
- However, ours is a small country, and the need for cross border cooperation is essential. We are involved in many international cooperation efforts on hydrogen, such as
 - the IEA Implementing Agreement on Hydrogen, which has a Norwegian chair.
 - the EU Framework programmes,
 - basic research programmes through the Nordic Energy Research,
 - and bi-lateral agreements on R&D.

Expectations for the IPHE

A lot of promising work is already taking place within the IEA and other well established international networks. I am glad that the IPHE intends to build on this work and be complementary to it, instead of duplicating ongoing activities.

These days have shown us how important it is that the IPHE covers the entire field of hydrogen application, including the production of hydrogen based on both renewable energy and fossil fuels, and stationary and portable power as well as other transport related activities – because these issues are so closely interrelated and dependent upon each other.

I believe that the IPHE has an important role to play in the process towards a hydrogen economy. It can serve as a major arena for coordinated actions to advance research, development, demonstration and deployment of hydrogen production, storage, distribution and end-use technologies. And not to forget: it has a great potential to pave the way for a public acceptance, nay, a public demand for hydrogen solutions!

Closing remarks

The Norwegian focus on hydrogen, and the ongoing efforts to establish a national strategy for developing a hydrogen economy, are part of our broader commitment towards a sustainable development. Norway is fully committed to work for a sustainable future, both globally and on a national level.

I firmly believe that our experience and competence in the hydrogen field can contribute to the development of the hydrogen economy, and I can assure you that Norway looks forward to do its part of the job as a partner of the IPHE.

So, thank you again.