

31st CERT meeting – Norwegian Room Document

Gas Technology, Environment and Value Added

In a report to the Storting on 5 October 2001 the Norwegian Government established a public expert panel on gas technology. The expert panel was to evaluate how to use R&D to stimulate testing, commercialisation and introduction of new and environmentally friendly use of gas in Norway, including hydrogen and CO₂-free gas power. The objective was to strengthen the Norwegian effort and enhance international co-operation in the development of new environmental friendly gas technology.

Taking current available technology into account, the majority of the expert panel agreed on that economically viable gas fired power plants with a sufficient handling of the CO₂-emissions would be dependent upon a shift in technology in order to be competitive on the international market. Therefore, the expert panel underlined the importance of a long-term and realistic view with regard to the employment of environmentally friendly gas power technologies. The majority took the view that the development and realisation of commercial gas fired power plants with CO₂-sequestration should be done in three different but overlapping phases;

- i) a focused work on R&D (2-5 years),
- ii) a demo-phase (3-10 years) and
- iii) an early commercial phase with real size power plants (10-15 years).

The expert panel pointed at the importance of creating policy instruments that stimulate a more efficient energy production on the Norwegian Continental shelf, including producing electricity on-shore. The expert panel emphasised that different support and incentive regimes should be evaluated in order to build infrastructure to dispose of CO₂ or to use it to maintain aquifer pressure. The expert panel recommended the Norwegian Government to take responsibility for further international work on methodology for approving reliable storage solutions that can be accepted under the Kyoto framework.

The expert panel sees hydrogen as an environmentally friendly and sustainable solution in a future energy system. It should be an important political issue to facilitate a conversion of the energy system to incorporate the use of hydrogen. The expert panel has given several recommendations with regard to public contributions in building the necessary distribution network; reductions in charges in the introductory phase, direct support to test arrangements and demonstration projects and a greater extent of backing of research and development. The expert panel recommended the Government to establish a large national hydrogen program as part of the total effort on environmental friendly use of gas in Norway.

The expert panel discussed how research and development could contribute to stimulate testing, commercialisation and introduction of new and environmentally friendly use of gas in Norway. The panel supported a substantial increase in the public financial backing and stressed that this should be a long-term objective (10-15 years). This taken into consideration, the expert panel has found it appropriate to recommend the establishment of a public innovation enterprise/entity. The innovation enterprise should administer the public effort within main areas as; gas power with CO₂-handling, hydrogen as a fuel source and CO₂-handling including sale of CO₂ to increase oil extraction.

The expert panel recommended the establishment of a coordinated research program under the Norwegian Research Council. The need for stability and a long-term horizon in research financing was underlined. In order to ensure coordination with the activities of the innovation enterprise, a close cooperation between the Research Council and the recommended enterprise was presupposed.

The expert panel presupposed that the organisation of the innovation enterprise was to be further developed.

The expert panel suggested that the innovation enterprise should be given a substantial capital base and suggested this set at minimum 5 billion NOK (0,65 billion EUR). Such a capital base would open for a research funding of about 300 billion NOK (39 billion EUR) pro anno, which should finance both research, competence building, technology development, demonstration and commercialisation.

The Norwegian Government has received the report of the public expert panel and has noted the recommendations of the panel. The government is currently working at a national strategy that will be presented to the Storting in a report before summer 2002.