



# Declaration

EU Policy Workshop  
Development of  
Offshore Wind Energy

Egmond aan Zee, 30 September and 1 October 2004,  
the Netherlands

## **Preface**

The Dutch Ministry of Economic Affairs in co-operation with the European Commission and the Concerted Action for the Deployment of offshore wind energy (COD) informal network held an EU policy workshop “Development of Offshore Wind Energy”. The workshop was attended by representatives from authorities of EU Member States and essential stakeholders.

Participants discussed in a two day Policy Workshop in Egmond aan Zee general market developments and focused on the environmental impacts and the grid integration of offshore wind energy. The statements and recommendations in this Declaration do not necessarily reflect the formal position of the Participant’s organisations.

The following statements and call for actions will be addressed to the EU Transport, Telecom and Energy Council of 29th November, 2004.

## **Introduction**

- Governments have agreed to both European and national commitments on ambitious objectives as to the development of renewable energy resources. Member States of the EU-25 committed themselves to reach a 21% share of renewable electricity by the year 2010. In the actual realization of these objectives there is an important role for wind energy. There is a sense of urgency to meet these targets at EU Member State level. In a number of Member-States large scale wind energy projects will be developed on locations offshore.
- Development of Offshore Wind Energy is not only important in the light of Kyoto objectives on CO<sub>2</sub>-reductions, but also for the transition towards renewable energy sources and for security of supply (including reduction on import dependency). Furthermore, it will contribute significantly to the implementation of the Lisbon strategy and of EU objectives on technological development, exports, employment and regional development.
- Consequently, large scale development of offshore wind energy has unmistakably big advantages. Due to the marine environment and new technology involved we also face at the same time many challenges. Especially in the initial stages of project development, Participants do not

expect offshore wind energy to become immediately competitive vis á vis conventional energy resources. Public sector initiatives to promote large scale first generation offshore wind energy development (including support in order to compensate for higher monetary costs) will therefore be necessary. This could also include actions for more adequate grid-connections, bearing in mind the support for initial development of large scale electricity grids in Europe in the 20<sup>th</sup> century and, more recently, the transcontinental pipeline for Siberian gas.

- There is a large potential for Offshore Wind Energy. However, we should overcome barriers such as the intermittency and imbalance problems and the present higher cost level compared to fossil fuels and some other renewable energy resources.
- Participants acknowledge that the costs of wind energy are relatively transparent, but find these difficult to compare on a consistent basis with the costs of conventional energy resources.
- In order to arrive at proper cost comparisons between (new) conventional electricity and electricity from offshore wind farms, externalities should be taken into account. Participants call upon the relevant international bodies to take the lead in establishing appropriate cost comparisons and ‘get the prices right’.  
(Action: EC, IEA)

## **Market Development**

- Offshore wind energy is a rather new, and in many ways promising technology. The potential is enormous and the technology has in recent years shown rapid development and is considered highly innovative.
- Participants in the Egmond Policy Workshop expect great potential for cost reductions in the coming years in the implementation of offshore wind energy. This will both be the result of further technological developments, economies of scale and the learning process related to the development of first generation offshore wind farms. Participants acknowledge that cost reductions are also needed. Industry has reduced costs per kilowatt hour by 80% in the last 20 years. This strong record of cost reductions gives confidence for further declines in the future and also for future lower financial government support.

- Participants are convinced that development of activities on a sufficient scale does require a long term stable investment climate (including the consistency and continuation of Government support mechanisms to level the playing field for investors).
- The emission trading scheme potentially has significant implications for market development for offshore wind. These should be taken into account in assessing the development of the scheme at European and national level after 2007.
- The specific circumstances in the Mediterranean and Atlantic waters require due consideration to be given to the possibilities for developing offshore wind farms (evaluation of specific offshore wind resources, design of prototypes and feasibility studies for floating offshore wind farms on specific sites).
- Participants acknowledge the role of R&D in reducing wind power reduction costs. In order to speed up development of large scale offshore wind power, Participants call upon the European Commission to allocate sufficient financial means for its research and development programmes for renewable energy, e.g. the establishment of a separate Chapter for wind energy with a high priority to offshore wind energy in the EC's RTD Framework Programmes (FP6, FP7) should help realisation of cost reductions, system integration and maintaining the European Union's leading position in the world market. (Action: EC)
- Participants emphasise the need for setting up a Wind Energy technology platform within the framework of FP7, as proposed by the EU Informal Competitiveness Council in Maastricht on 3 July, 2004. (Action: market parties, research institutes).
- The Participants call upon the EC to increase support for offshore wind under existing Structural Fund budgets; it should also continue to allow national public support in the form of feed-in tariffs, portfolio standards within its framework for environmental state aid schemes. European Commission, the European Investment Bank and Member States should also explore possibilities for increased support to help commercial banks to finance offshore wind energy initiatives. (Action: EC, Member States)

- Participants acknowledge the positive influence of efficient license procedures on timely realization of offshore wind project initiatives. Participants saw the need for incorporation of common principles under national license procedures such as ‘use it or lose it’ permits. (Action: Member States).

## **Environment**

- Offshore wind energy has important positive environmental effects through its contribution towards combating climate change. This argues in favour of meeting offshore wind goals in time. At the same time, there are indications in COD<sup>1</sup> and OSPAR<sup>2</sup> databases that certain environmental impacts are important in the decision making process and would need further attention, such as:
  - Seabirds: Collision and/or habitat loss of seabirds;
  - Migratory birds: Collision, barrier effects and/or habitat loss effects caused by construction and operations;  
and also:
  - Impairment and/or habitat loss of sea mammals by noise (construction and operating) or barrier effects;
  - Impairment and/or displacement of fish (turbidity; electromagnetic fields);
  - Impairment and/or loss of benthos by smothering/burial;
  - Accidental pollution of sea (caused by ship collisions);
  - risk of possible accidents and collisions with ships;
  - Turbulence of water layer structure (esp. in Baltic Sea);
  - Visual intrusion.
- Participants consider that the impact of offshore wind farms on bird life (mortality, migration, roosting and moulting areas etc) should primarily be judged on the level of populations of species. A proper judgement of the intensity of these adverse effects of wind offshore would also require that these are eventually compared with those from alternative means to generate electricity on and off shore. It is therefore generally acknowledged that further research is needed on certain general and site-specific impacts, inter alia on the accumulative impact from geographically concentrated establishment of a series of wind farms and on mitigation possibilities of specific lighting and sound measures etc.

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<sup>1</sup> Concerted action on Offshore Deployment refers both to the informal institutional network as to the Commission’s R&D facility.

<sup>2</sup> OSPAR – Convention for the protection of the environment of the North-East Atlantic

- The Commission, Government authorities and developers are urged to develop (whether or not through pilot offshore wind farm projects) and share the necessary knowledge on the specific environmental effects and their respective significance, inter alia through their national and community research and development programs.  
(Action: EC, Member States, developers, NGOs)
- In order to establish a sufficient body of knowledge on environmental impact from offshore wind farms, Member-States, the European Commission and market should, e.g. within the COD framework, extend the present exchange of information procedures and improve transparency of databases in order to allow for more multilateral co-operation in environmental research.  
(Action: Member States, market parties, research institutes)
- In addition, for more efficient and effective environmental research Member States should co-operate via international co-ordinated and/or joint research projects. Participants urge Member-States, the European Commission and to explore possibilities for establishing multinational Offshore wind energy research programs with the aim of initiating projects (including methodological standards) and for early results to be presented not later than 2006.  
(Action: Member States, EC)
- Participants believe that the efficiency of national consent and decision making procedures could benefit from guidance from the European Commission on the implementation of Environmental Impact Assessments and Strategic Environmental Impact Assessments, clearly defining priority issues and other management tools such as spatial planning, international coastal zone management and need for monitoring programmes.  
(Action: EC)
- Participants urge the Member States to take existing nature conservation and scenic interest into account in their policy plans for wind offshore.
- Participants call upon Governments in their appraisals of environmental impacts of offshore wind farms to compare these with the impact from alternative means on and offshore to generate electricity. Positive and negative environmental effects should both be acknowledged.
- Participants emphasise the need to use of best available techniques and best environmental practices.

- Participants consider it essential to communicate at an early stage with the main stakeholders on the selection of suitable sites.

### **Grid integration issues**

- Wind energy imposes new demands on system operators and planners. Participants acknowledge that integration of large scale offshore wind energy requires further research to find optimal technical and least-cost solutions to large scale grid integration. Any short-term solution should fit into a long term strategic vision.
- Participants urge COD, ETSO<sup>3</sup> and UCTE<sup>4</sup> to distribute studies and experiences on technical and commercial issues related to offshore wind farms in order to help Governments to reach targets for developing offshore wind power.  
(Action: ETSO, UCTE, NORDEL, UKTSOA, ATSOI, COD)
- Participants recommend timely involvement of transmission system expertise in planning the introduction of substantial offshore wind energy supplies into the electricity grid. In the normal course of events, parts of the grid will need to be replaced and extended to accommodate an increase in demand. Co-operation in this field would allow synchronisation of the electricity grid system developments with plans for future offshore wind farms. Offshore wind would more easily and better be accommodated if it were to be considered as part of strategic plans for future grid development. This would mean that grid system planners should take into account future scenarios or Government targets for offshore wind.
- Offshore wind energy should be a further strategic priority for the Trans-European Energy Network (TENs) and may require changes in energy legislation. It is generally felt that further investigation of grid integration issues should be focused on the EU electricity grid. In order to take advantage of the rapid drop of the correlation between wind conditions in locations far apart, EU approaches to the impact of wind power on grid management (like reinforcement of interconnectors between Member States) should be investigated. (Action: EC, ETSO, UCTE)

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<sup>3</sup> European Transmission System Operators

<sup>4</sup> UCTE – Union pour la coopération sur la Transmission d'Electricite.

- Participants recognize the importance of streamlining administrative procedures in the European Union (as expressed in Council Directive 2001/77, article 6) also for offshore wind energy and call upon national Governments to take appropriate action.
- Considering the present imperfections in the energy market and in the light of the European Commission's evaluation of progress towards renewable energy targets for 2010, Participants call upon the Commission and Member States to reflect upon possible needs to establish priority access for renewable energy sources to interconnector facilities.
- In order to find European wide solutions to grid system issues like costs, size and dynamics related to system balance and interconnection, the European Commission should encourage and, where appropriate, support co-operation between Member States Governments, power plants and Transmission System Operators in these fields (incl. research and development). Participants suggest the establishment of an ERA net<sup>5</sup> for electricity grids with special attention to wind offshore. Also the establishment of a technology platform as mentioned earlier could be very useful.  
(Action: Member States, EC, ETSO, producers, market)
- Participants also recognise the importance of co-operation and agreement on legislation and regulation of European grid system issues (UCTE, ETSO). Adoption of up-dated grid codes, and planning and security criteria, and European harmonisation of the generic turbine technology changes is required, and should preferably be developed in co-operation with the wind power industry.  
(Action: ETSO, UCTE, NORDEL, UKTSOA, ATSOI)
- In contemplating solutions to the intermittency problem, participants recommend to explore the whole range of solutions:
  - new storage techniques (e.g. possibilities for fuel cells as part of a long term solution, compressed air energy storage);
  - developing flexibility of demand;
  - improved interconnection of electricity networks;
  - changes in the requirements imposed by grid operators on electricity generators;
  - improved weather forecasting techniques for market participants and TSO's (both for the short term (hours) and for up to several days).

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<sup>5</sup> ERANET – European Research network for defining priorities for the European Community research programmes.



- In order to find solutions for the intermittency problem in the short term, Participants therefore also recommend to further explore integration of offshore wind with other energy sources, like hydropower.
- Participants recognize the importance of the recent enlargement of the European Union and emphasize the need to explore opportunities to provide sufficient financial support under existing structural fund budgets for contributions from renewable energy production (i.e on and offshore wind) into European network integration.
- While considering the arguments for and against socialisation of grid costs Participants promote resolution of this debate at the national level. Further clarity as to the initial allocation of costs between wind energy industry and transmission system operators should help avoid delays in project development.  
(Action: Member States)

### **Socio-economic aspects**

- The sustainable development of offshore wind power should be achieved: administrative and legal barriers that hamper or impede the development of this type of industry should be removed as a consequence of concerted approach demonstrating sustainability of projects.
- Participants realise that offshore wind power projects could compete with other marine activities like tourism, fisheries, maritime transports and defence. Therefore Participants recognise the need for assessment of the impacts for different uses of marine resources, and of possibilities to optimise the multi-functional use of the sea including nature conservation.
- Public awareness should be part of the overall strategy for the planning and promotion of offshore wind energy.

## **Follow-up**

- The Participants agreed upon the importance of a follow-up to the recommendations contained in this Declaration. This follow-up should be built on the following three principles:
  - added value to the work done by existing bodies;
  - focus and delivery;
  - acknowledgement of information from studies and experiences from outside the EU.
- The ambitions laid down in this Policy Declaration require a clear time scale for activities under the follow up structure. Efforts should ensure that recommendations and actions stated in this Declaration will really happen. The Danish Government has offered to organise a meeting next year in order to assess progress on actions and recommendations made in Egmond in 2004.
- Participants agreed upon the necessity of a second phase of the activities started in the informal COD network. Keywords for such a second stage are constructive and integral approaches, transparency and an open mind. The second stage should concentrate on:
  - the collection of information from new studies and experiences
  - the active dissemination of this and
  - common analysis of this information in order to arrive at joint conclusions.

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