

## POWER cluster

### The Northern European competence network for offshore wind energy

POWER cluster builds on an already well developed transnational cooperation network established during the previous POWER (Pushing Offshore Wind Energy Regions) project. The 18 project partners include industry associations, research organisations and public authorities from Germany, United Kingdom, Denmark, The Netherlands, Norway and Sweden. The project aims at implementing a transnational offshore wind energy cluster in the North Sea Region to strengthen the region's leading position in the global market.

## Achievements

The POWER cluster project has successfully worked in the following areas:

### **Social Acceptance**

The touring boat exhibition "Fascination Offshore" has attracted a total of 65.000 visitors, outnumbering the expected number of visitors by far. The partners have also arranged and/or participated in a large number of events communicating the potential benefits of offshore wind energy to a wide range of different target groups and drawing the attention of local media. Furthermore various dissemination materials have been published through different communication channels, such as e-mail, the internet and print media. In addition, a web-based decision making tool for the installation of new wind parks has been developed and launched.

### **Business**

The development of businesses involved in offshore wind energy has been supported by organising several business-to-business events that have been very well attended. The partnership also organised several workshops, e.g. to discuss how the offshore wind industry could learn from the oil and gas industry. The challenges concerning the North Sea grid reinforcement and expansion have been identified and according studies have been carried out. An internet based supply chain database called POWER cluster Mapergy was developed. It has more than 700 companies represented across 7 different European countries. Events organised through POWER cluster resulted in more than 2300 new business contacts.

### **Skills**

During the project lifetime several modules on bachelor and master level have been designed to improve the quality of study in wind energy related programmes. The development and enhancement of advanced study programmes in the field of wind energy has also been addressed. In addition, e-learning modules have been developed. Several lectures have been held and the partners have also participated in and given presentations at several events such as job fairs.

### **Cluster Development**

A public mid-term conference has been organised including several workshops and other events where stakeholders from different fields and could exchange their ideas and experiences. The project partnership has also organised several other meetings addressing the development of offshore wind energy in the North Sea Region in order to bring the different communities closer together. Further to this a study was carried out about the state of the offshore industry in the North Sea Region. POWER cluster has worked closely with other projects to maximise the benefits from the project.

## Recommendations

To strengthen the development of offshore wind energy in the North Sea Region and to meet the EU energy targets, we, the POWER cluster partnership, recommend the following issues to be addressed:

### Maritime Spatial Planning

The lack of coordination in maritime governance significantly slows down the planning and development of cross-border offshore energy installations. As proposed by DG Mare, a maritime spatial planning framework should be applied for such installations to ensure a coherent, fast and predictable approval process.

### Project Financing

The financial crisis has had a significant impact on the financing of large offshore wind projects which are currently considered to be risky investments by banks. To overcome the significant shortage in financing additional funding has to be provided on national and EU level. In addition portfolio financing co-sponsored by national promotional banks could help creating a more attractive risk profile for private banks by spreading the risk over a range of different projects.

### Grid Infrastructure

To integrate offshore wind power on a large scale into the European power network substantial investments in the grid infrastructure are necessary. The development of a transnational standardized HVDC grid should be accelerated as well as innovative measures such as “smart grids” should be deployed. This will not only allow the utilization of the large offshore potential in the North Sea Region, but will also facilitate electricity trading in general.

### Research & Development

In order to maintain the strong market position of European companies on a global level further support for R&D is needed at the national and European level. This does not only apply to offshore wind turbine design, but also to planning and operation technology, such as load and generation modelling tools and wind power forecasting methods, as well as to technology needed for an effective maintenance of the wind farms and its infrastructure.

## Commitments

We, the POWER cluster partners, will contribute to the support the development of offshore wind energy in the North Sea Region and are committed to the following activities:

### Continue cooperation

Even after the end of the project we will stay in close contact, trying to strengthen the networks established and fostering the contacts made during the project's life time. We will also continue to exchange experiences and ideas in order to facilitate the development of the offshore wind energy industry within the North Sea Region.

### Promote Offshore Wind Energy

We will continue to promote offshore wind energy, pointing out the economic opportunities it offers for the North Sea Region, and how it can contribute as a clean and safe source of energy to meet the EU energy targets.

### Communicate of the project results

We will communicate the project results to the general public and a wide range of stakeholders pointing out how transnational cooperation can contribute to the achievement of common goals. We will guarantee free access to project after the project closure.

### Promote the North Sea Region

Furthermore we will continue to promote the North Sea Region as a world leader in offshore wind energy offering excellent conditions for future investments.