



P·O·W·E·R
Pushing Offshore Wind
Energy Regions

Offshore Wind – The North Sea Connection

POWER in the East of England



Interreg North Sea Region



"Airtricity recognises that many of the key companies involved in the offshore wind supply chain are located in the POWER regions. The forum provided by POWER is important to allow companies like ours to network and forge new business relationships across the North Sea."

Chris Veal, Airtricity

"POWER raises the profile of offshore wind opportunities and industry needs in the North Sea. BWEA feels that POWER's work will be important for future international cooperation and harmonisation of standards in offshore wind energy."

Maria McCaffery, Chief Executive of the British Wind Energy Association (BWEA)

The POWER (Pushing Offshore Wind Energy Regions) initiative is co-financed by European ERDF funding through the Interreg North Sea Programme.



Both pictures: Horns Rev, Denmark © Dong Energy A/S

Cover photo: Scroby Sands © E.On

Preface

POWER has become a prominent network and matchmaker for the offshore wind energy industry. Over the last three years, Suffolk County Council has led the way for the East of England to forge links with the leading offshore wind regions around the North Sea. This has been part of our political commitment to support the offshore wind industry in the region, giving new economic opportunities to the Lowestoft and Great Yarmouth area. POWER links closely with OrbisEnergy, the offshore renewable energy centre to be built in Lowestoft, which Suffolk County Council is involved in with partners.

I have been delighted to meet international colleagues from the POWER partnership

and have been impressed by their passion and commitment to cooperating through the POWER network. Without EU funding, it would not have been possible to join forces with our colleagues around the North Sea, to embark on this journey to jointly provide a stronger offering to the offshore wind industry.

However, many challenges are still to be overcome to further a strong offshore wind supply chain in the North Sea to support the development of future offshore wind farms. Suffolk County Council and its East of England partners are committed to support the POWER Lead Partner in Germany to develop a follow-on project for the POWER competence network.

Credit for the success of the POWER project in the East of England has to go to our regional partners who have supported us throughout the project, in particular the East of England Energy Group and Waveney District Council. We have also worked closely with Lowestoft College and Renewables East to push POWER further in the East of England.

This booklet showcases the achievements of POWER for the East of England, and looking through it, I remain impressed by the success of this European project.

Cllr. Eddy Alcock,
Portfolio Holder for Environment
and Waste Management, Suffolk
County Council



Cllr. Eddy Alcock,
Portfolio Holder for Environment
and Waste Management,
Suffolk County Council



P·O·W·E·R
Pushing Offshore Wind
Energy Regions



Global offshore wind leaders



Photo: Scroby Sands © E.On

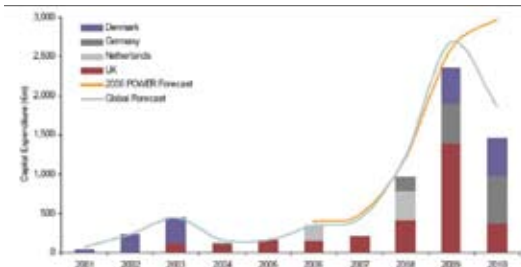


Figure: Annual offshore wind capital expenditure €m; source: Douglas-Westwood Ltd for POWER

The North Sea Region is the global leader in offshore wind, both in installed and planned capacity and capability. 95%, nearly 900 MW, of the globally installed offshore wind energy is in the four POWER regions around the North Sea. Major growth is expected. Industry experts Douglas Westwood Ltd¹ forecast some 2.4 GW installed capacity here by 2010. After 2010 more substantial growth can be expected. In UK waters, 10 GW offshore wind energy is planned by 2015; in Germany, 25GW is anticipated by 2030. The North Sea Region is the industry leader in offshore wind, with most of the key companies of the sector being located here.

Offshore wind energy offers unique economic opportunities for coastal towns, allowing traditional maritime industries (offshore oil and gas, shipbuilding, marine sector) to diversify into the offshore renewables sector. This will create and safeguard jobs in the maritime industry. Total capital expenditure in the POWER countries alone is anticipated to be €5.3billion (£3.6bn) in the period 2005-2010, with substantial increases expected in the next decade.

¹ Douglas-Westwood Ltd for POWER: POWER – Transnational Supply Chain Study Update, June 2007

Britain's leading edge



Map of Round 2 offshore wind farms, source: BWEA

The East of England is at the forefront of the UK's offshore wind market. The region is located between two large scale "Round 2" development areas for offshore wind farms, the Greater Wash and Thames Estuary, where more than 6 GW offshore wind capacity is planned over the next 8 years. The ports of Lowestoft and Great Yarmouth are in the centre of these developments. Both ports have been used during the construction of the Scroby Sands Offshore Wind Farm.

The region can be seen as the UK's "gas capital"; Lowestoft and Great Yarmouth have been the hub for serving the gas fields in the Southern North

Sea for the last 40 years. The skills and knowledge from the gas industry are directly transferable to offshore wind energy. Several regional companies operating in the offshore oil and gas industry successfully managed to diversify into offshore wind; SLP Energy of Lowestoft and ODE of Great Yarmouth are just two examples.



Photo: Scroby Sands © E.On

The POWER competence network



The POWER competence network combines the leading offshore wind regions around the North Sea. It is helping to strengthen the leading role of the North Sea Region and its regional supply chains in this rapidly evolving market.

POWER joins up the East of England with regions in North-Western Germany, Denmark, Flanders and the Netherlands. Coordinated by BIS in Germany, the competence network brings together energy industry associations, business support agencies, local and regional government, universities & colleges and institutes.

POWER has been active in three areas:

- Supply chain development
- Skills development
- Strategies and knowledge



The North Sea Region

POWER in the East of England

The East of England involvement in POWER is led by Suffolk County Council. Core regional partners are the East of England Energy Group (EEEGR), giving the partnership the direct link to the industry, and Waveney District Council. Since last year, Lowestoft College has joined the initiative as an official project partner. There is a close working relationship with OrbisEnergy and Renewables East.

POWER is one component of a strong framework to support the offshore renewable energy industry in Lowestoft and Great Yarmouth. To further the East of England's position in the offshore

renewables industry, the £9m OrbisEnergy project in Lowestoft will become the physical hub for the offshore renewables industry. The area surrounding OrbisEnergy is designated as a Power Park to promote the cluster development of the energy industry, championed by the Urban Regeneration Company 1st East. The construction of a major Outer Harbour development in Great Yarmouth, EastPort, will provide further opportunities for the offshore wind industry.

*Further information at
www.orbisenergy.net
www.1steast.co.uk
www.eastport-gy.com*



1st East's illustrative plans for the Power Park



Illustration: Orbis Energy

North Sea supply chain strengths



John Westwood
(Douglas-Westwood Ltd.)

© EEEGR

The POWER partner regions in Germany, the UK, Denmark and the Netherlands together have the full economic supply chain in place to serve the evolving offshore wind market - a unique offering to global markets. Many skills and capabilities between the regions are complementary, with a combination of onshore wind energy and turbine manufacturing capabilities (e.g. in Germany) with expertise in offshore engineering obtained from the oil and gas sector (e.g. in the East of England). Thus the cooperation between the four countries should be of mutual economic benefit.

POWER commissioned leading energy analysts Douglas-Westwood Ltd to conduct a supply chain study covering

the whole Southern North Sea, to develop a better understanding of the needs, opportunities and challenges of the offshore wind supply chain and opportunities for cooperation. The study is based on regional supply chain studies from the four countries. It forecasts the total region market value expenditure and assesses

supply chain compatibility. The study also features a list of future offshore wind projects and an assessment of all ports in the regions with potential to serve the offshore wind industry.

The studies are available for download at the POWER website www.offshore-power.net



© Vestas

Towards an international supply chain

POWER facilitates direct business contacts between the East of England and its partner regions, linking up the offshore wind supply chain across the North Sea. To date, it has organised two international business networking events, with a visit of German businesses to Lowestoft and Great Yarmouth, and of English businesses to Denmark. More than 90 one-2-one business meetings took place during these two events, which may well be the start of successful business cooperation.

Through POWER's strong international network of business associations/support organisations in the energy

sector, further business exchanges are planned for the future.

"By being represented at POWER's event in Denmark, ot2k hoped to offer Danish companies our experience in SubSea support for Offshore Wind farms, for new and existing projects. The conference was very worthwhile for us, with new business contacts made, and potential contracts already in discussion."

Comment from Trevor Bayfield of Great Yarmouth based company ot2k on his return from the Denmark networking event



German delegation at Scroby Sands



One-2-One Business Meetings



German delegation with A2Sea vessel in Great Yarmouth

Harmonisation and good practice



Skills Development

POWER recognises the need to work towards international harmonisation of skills development standards for the offshore wind sector. The network has done some groundwork on needs for the harmonisation of qualification standards, based on an analysis of the qualification requirements in the North Sea regions. POWER developed curriculum modules for short cross sector training courses in offshore wind, and has tested this approach with two master classes.

Strategies and Knowledge

POWER assessed common practices in offshore wind in five POWER countries and evaluated procedures in the planning and realisation of a number of North Sea offshore wind projects. The results of this work are summarised in a Good Practice guide for offshore wind developments, "Challenging offshore wind". POWER also developed a concept for offshore wind visitor information centres, which is being realised in Germany and Belgium, and created an interactive information and decision support system for offshore wind projects.

Lowestoft Offshore Wind Master Class

Lowestoft College hosted the first UK POWER Offshore Wind Master Class. Aimed at up-skilling existing engineers as well as graduates in offshore wind related disciplines, the Master Class should support local companies to diversify into offshore renewables. The event featured training sessions by offshore wind experts from the UK, the Netherlands and Germany. It explored the UK and European offshore wind markets, constructing, operating and maintaining offshore wind farms, logistics, turbine support structures and foundations and power generation technologies. Attendees also experienced offshore wind farms first hand, with a guided boat trip to the Scroby Sands Offshore Wind Farm.

Lowestoft College is nationally acknowledged as a “Centre of Vocational Excellence” (CoVE) in Offshore Engineering, and provides specialist training for maritime and offshore personnel. The College features a safety training tank simulating realistic North Sea conditions.

www.lowestoft.ac.uk



All pictures: © lowestoft College

*Pictures:
Lowestoft College's Safety
Training Tank*



POWER declaration



Rita Kellner-Stoll (right) handing over the POWER declaration to Karina Veum of the EU Commission

A POWER declaration on offshore wind was handed to the EU Commission's DG TREN at the POWER Conference in Bremerhaven in June 2007.

Based on the results of the POWER cooperation, the POWER partnership concludes in the declaration that:

- The North Sea Region is a world leading offshore wind market
- Offshore wind has the potential to become a significant energy source for Europe
- Offshore wind offers unique economic opportunities
- The current offshore wind situation has a high diversity, offers huge innovative potential and still faces big challenges

The partnership recommends:

- Strong governmental support
- To co-operate nationally & internationally in order to harmonise legal, planning, educational, health and safety frameworks and set common standards
- Extensive public participation and information campaigns
- To recognise access to the electricity grid and possible future inter-connection as key challenges
- Funding for further research and demonstration projects

The POWER partnership is committed to:

- Deepen its international cooperation
- Raise awareness of its findings
- Implement the recommendations on harmonisation in skills development
- Promote the globally leading role of the North Sea Region in offshore wind energy and the POWER brand
- Develop a follow-on project bid, POWER PLUS, for the INTERREG IV B North Sea Programme

POWER's high profile

POWER's supply chain consultants at Husum Wind



"POWER is a success story...

...A lighthouse project for the Interreg North Sea Programme"

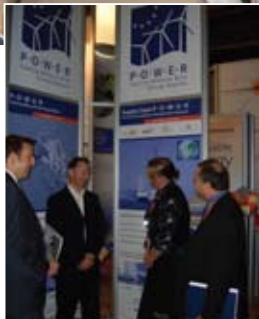
Nicole Schäfer, Dept. for Building & Regional Planning, Federal Government of Germany

POWER markets the North Sea Region as a global centre of excellence. The POWER competence network has established a very high profile, through presence at and presentations to key conferences and trade fairs, including:

HusumWind 05 & 07, **Copenhagen** Offshore Wind 05, **All Energy** 06 & 07 in Aberdeen, **EEEGR Summer Conference** 05& 06 & 07 in Norwich; **Hamburg Windenergy** 06, North Sea Conference 06 in **Scotland**; Renewable Energy Conference in **Patras (Greece)** 2006; EU **Brussels Open Days** 2006; **Euregia** Leipzig 2006; **DEWEK** 2006 in Bremen; **Southern North Sea** Conference 2007 in Norwich; **EC Conference** "Regions for economic change" 2007 in Brussels, **EWEC** 2007 in **Italy**, **POWER Conference** 2007 in Germany



POWER presentation



© EEGGR

POWER Stand at All Energy 2007

The POWER business competence network

The business associations linked up through POWER are committed to a continuation of their joint working, for the benefit of their business members.



"The two international business networking events of POWER so far have been such a success that I am sure they are only the start of many exchange meetings between our regions."

Jan Rispens, MD of Wind Energy Agency Bremerhaven/Bremen (WAB)

"Added together, OCD finds that the POWER organisations represent more than 500 businesses in the energy field from the three leading offshore wind regions around the North Sea. This makes it an extremely powerful international business network for the Danish offshore wind industry."

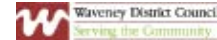
Peter Blach, Director of Offshore Center Danmark

"POWER forms an excellent platform to allow EEEGR's business members to build strong links to companies around the North Sea. The partnership with our colleagues in Denmark and Germany works extremely well."

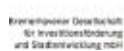
John Best, CEO of EEEGR

Further information:
www.offshore-power.net
www.eeegr.com
www.waveney.gov.uk
www.suffolk.gov.uk
www.lowestoft.ac.uk

East of England Partners



European Partners



POWER UK contact

www.offshore-power.net

Michael Moll, POWER Project Manager (UK)
Suffolk County Council
Endeavour House
Strategic Development Division
Russell Road
Ipswich
IP1 2BX

Tel. 01473 264808
Email michael.moll@suffolkcc.gov.uk

Printed on 100% recycled paper

