

Wind Power News

North Wales Offshore Wind Farm update



Operating turbines at Rhyl Flats Offshore Wind Farm

Welcome

"Welcome to our new newsletter dedicated to offshore wind power in North Wales. The news and information inside will help keep you up to speed with the construction of our

flagship offshore wind farm, Gwynt y Môr, and what's happening with our two operating projects, North Hoyle and Rhyl Flats.

"I hope you find the newsletter useful and informative, and we look forward to hearing from you in the future."

Toby Edmonds, Project Director

Gwynt y Môr Community benefits

RWE npower renewables has a respected track record for delivering benefits to the communities within which its clean energy projects operate. We are now beginning to shape the delivery of community investments worth over £20million over the lifetime of the Gwynt y Môr project, to be managed and distributed across North Wales. These include:

- an annual community benefit package of £768,000 index-linked to inflation, to be paid for the lifetime of the project - a total of more than £19 million
- a tourism package of £690,000 to be paid from the start of offshore construction over three years, and invested across Conwy and Denbighshire to support local tourism initiatives.

RWE NRL is beginning to work with local representatives and communities to shape the way these funds are set up and operate, and will carry out a full consultation exercise in the future.

'Green light' for Gwynt y Môr

- Renewable energy for 400,000 homes¹
- €2billion project sparks multi-million pound investment in Wales
- Around £20million in community benefits
- £20million in Welsh contracts already awarded.

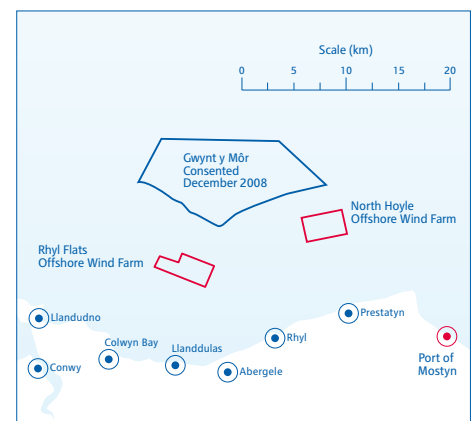
¹ See footnote on page 2

RWE npower renewables (RWE NRL) is pressing ahead with the construction of the €2bn project Gwynt y Môr, one of Europe's largest offshore wind farms, at North Wales. The economic and environmental benefits have been made possible thanks to a partnership between RWE Innogy - parent company of RWE npower renewables; Stadtwerke München GmbH (SWM) - the municipal utilities company of the city of

Munich; and Siemens AG, the main contractor for the project and supplier of the turbines for the site. Once fully operational, Gwynt y Môr will be capable of generating up to 576MW of electricity, equal to the needs of almost 400,000 homes¹ and will consist of 160 x 3.6MW turbines.

Secretary of State for Energy and Climate Change Chris Huhne, announced the project go-ahead in June 2010. He said: "This is the first of what I hope will be many, examples of how we can make the most of our island's huge renewable energy potential. I want to make sure we grab all the opportunities the rapidly expanding renewables industry has to offer, and that wind power can come of age under this government."

Since then, the Gwynt y Môr project team has



been focused on negotiations with local, national and international contractors, to secure the skills and services required to support the project through to completion.

Almost £20million in contracts have so far been awarded to Welsh companies. More details of the project follow within this newsletter, including a project timetable.

Gwynt y Môr Construction works

Gwynt y Môr construction will be broadly split across onshore and offshore works.

Onshore

This covers the construction of the land-based infrastructure necessary to link the wind farm to the National Grid distribution network.

The connection to the distribution network is being constructed as follows:

Around 11kms of underground cable are being installed to transport power from the wind farm, via a coastal connection pit, to a new substation at St Asaph Business Park.

The substation is being constructed in two parts:

- one section is being built by Siemens Transmission and Distribution Limited, for RWE npower renewables, to receive and convert the power exported from the wind farm, ready for transfer to the National Grid
- a second section and short stretch of overhead line are being constructed by National Grid, to transfer power into the distribution network.

Cable route progress:

Plans were explained to local people at open days hosted locally. Works to prepare and excavate the land to receive the cable, began in September 2010 and are now almost complete. A compound has been constructed at Rhuddlan Road, and a programme of directional drilling has started. All works are due to complete around mid 2012.

Substation progress:

Enabling works were carried out and completed in May 2010 by Ruthin-based



Port side construction work for Rhyl Flats Offshore Wind Farm

civil engineers, Jones Bros. At the Siemens part of the site, building foundation works have been completed, while drainage works are now underway. At the National Grid part of the site, safety fencing has now been installed, while construction of the substation buildings is well underway.

Offshore

A meteorological mast has been installed offshore and collecting wind and weather data since 2005.

This summer, offshore preparation of the seabed will begin before the installation of the foundations later in the year.

The two offshore substations that collect the power from the turbines are currently being fabricated by Harland and Wolff at their Belfast ship yard. These will eventually be constructed offshore in Summer 2012.

Subsea cables that take power to the shore have been ordered for delivery in 2012.

Wind turbines will begin to be installed in Spring 2013 and the wind farm will be fully operational in 2014.

Gwynt y Môr statistics

Number of turbines: 160 x Siemens

3.6MW turbines

Installed capacity: 576MW

Homes equivalent: 400,000 homes¹

Turbine height: Tip height will be up to 150m above mean sea level.

Turbine area: 79km² (31 square miles)

Water depths: 12–28m

Site location: 13 kilometres (8 miles) off the North Wales coast (nearest point to shore is Penrhyn), 16 kilometres (10 miles) from Llandudno, and 18 kilometres (11 miles) from the Wirral.

Onshore substation:

- 132/400kV substation located at St Asaph Business Park, North Wales
- Onshore cable: Approx 11km from shore to substation.

Offshore substations:

- 2 x 33/132kV.

Footnote:

¹Energy predicted to be generated by the proposal is derived using wind speeds monitored in the local area. This enables a calculation to be made to estimate the average annual energy production for the site based on 160 turbines each of rated capacity 3.6 MW. The energy capture predicted and hence derived homes equivalent figures may change as further data are gathered.

(Equivalent homes supplied is based on an annual electricity consumption per home of 4700 kWh. This figure is supported by recent domestic electricity consumption data available from The Digest of UK Energy Statistics and household estimates and projections from the UK Statistics Authority.)

Construction timetable – Gwynt y Môr Offshore Wind Farm



Unlocking the potential

The construction and operation of Gwynt y Môr can potentially unlock significant environmental and economic potential in Wales and the UK.

Renewable energy

Gwynt y Môr will make a significant contribution to UK's targets of generating 15% of its energy from renewable sources by 2020.

Energy generated from renewable sources like the wind helps prevent the release of hundreds of thousands of tonnes of the gas carbon dioxide.

Environment and ecology

All wind farms are subject to intense environmental scrutiny, and require huge investment in surveys and mitigation works. And there are significant spin-off benefits to the local ecology and scientific communities from those works. Through Gwynt y Môr:

- we are creating a new wildlife habitat, including over 150 bat boxes in St Asaph; two new newt ponds; and a new diverse wildlife habitat near the substation
- our scientific and impartial ecological studies have been widely published to the scientific communities, aiding better understanding of the local wildlife, and contributing to areas being granted protected status for certain species, eg for the Common Scoter and Red Throated Diver bird species

- we are helping develop innovative and more accurate wildlife surveying techniques, for example, more reliable and accurate bird surveying techniques using high definition digital stills photography.

Jobs and investment (Wales & UK)

Gwynt y Môr will bring significant investment into the UK and European wind industry supply chain.

- Siemens, the project's main contractor and turbine supplier, is supporting hundreds of UK jobs from its offices in Manchester and Frimley, Surrey. It has also subcontracted works to UK companies such as Harland & Wolff (Northern Ireland).
- National Grid, through the Electricity Alliance, is building a large section of the main St Asaph substation, and, in addition to its own staff, is using several local contractors.
- Multi-million pound contracts have been awarded to Wales and UK companies, including Prysmian (Wales), Jones Bros (Wales), BiFab (Scotland).
- RWE npower renewables is directly recruiting staff to be based out of Mostyn and its Swindon head office.



A construction worker at North Hoyle

See the Gwynt y Môr recruitment website for details:

www.rwe.com/gwynt-y-mor-recruitment

Long term Operations and Maintenance jobs

We anticipated around 90 long term jobs would be created locally for the 25 year lifetime of the project, based out of North Wales.

Support industry jobs

Experience shows there are always local economic spin-offs from wind farm construction. Businesses involved in everything from hotels and taxis transfers, to restaurants and office services, could benefit from the influx of hundreds of workers as well as the additional local jobs created during the construction phase.

Community investment and tourism

Over £20million will be invested locally over the lifetime of the project, and in support of local tourism initiatives as a result of the construction of the wind farm (see additional information elsewhere in this newsletter).

Suppliers day

RWE npower renewables with Welsh Assembly Government hosted a highly successful local supply chain event earlier this year, with over 200 delegates attending.

Renewables industry experts explained how companies could best position themselves to become future key suppliers in the rapidly growing sector.

A register of Welsh businesses has now been drawn up and is being made available to the wider industry.

Gwynt y Môr project director Toby Edmonds, explained: "We're keen for a strong UK supply chain to support our future projects." Ieuan Wyn Jones, Minister for the Economy



Over 200 delegates filled Venue Cymru

and Transport for Welsh Assembly Government, added: "Organising such events in partnership with industry gives businesses in Wales a unique opportunity to hear at first hand how to identify supply chain opportunities and understand what is required of them."



RWE NRL speaker Richard Sandford addresses delegates

Offshore operations North Wales



Rhyl Flats and North Hoyle Offshore Wind Farms represent the current operating RWE npower renewables offshore wind farm portfolio in Wales.

North Hoyle was the first large-scale offshore wind farm in the UK at 60MW and was built in 2003.

In December 2009, Rhyl Flats was inaugurated (photo, above) as the largest offshore wind farm in Wales at 90MW. During 2010, the farm was fully commissioned to operate in the marine environment, and during this normal procedure, the turbines were occasionally shut down to provide a safe working environment.

In Wales, as across the UK, it has been a challenging year for the wind power industry, with lower than average wind speeds – disappointing with Rhyl Flats wind farm coming fully online. However, short term wind resource fluctuations have to be expected and it is expected that Rhyl Flats will generate in line with planned outputs over the long term. North Hoyle has performed consistently well since it went in to commercial operation. It can be subject to grid interruptions and both wind farms were taken offline during the summer last year while the network operator completed planned works on the electricity network.

The combination of the lowest wind speeds in five years, commissioning work for Rhyl Flats and grid network interruptions has resulted in less generation than planned, particularly at the start of 2010. In 2010, Rhyl Flats generated 210GWh and North Hoyle 143GWh. This means that, despite the challenges, North Hoyle and Rhyl Flats together produced enough power to meet the average annual energy needs of around 75,000 homes last year.

Offshore to the rescue

RWE npower renewables recently teamed up with the Maritime Coastguard Agency, RAF and RNLI to put emergency procedures to the test.

The exercise required the shutdown of North Hoyle and Rhyl Flats wind farms for the duration, but the exercise provided a very rare opportunity for all the rescue services and the wind farm workers to practice together. It included a scenario where a member of the public had become stranded at sea and was found within the wind farm. Offshore wind farms are massive



A rescue helicopter hovers in position as part of Operation Windmill

construction sites, located within harsh marine environments and present their own unique challenges to emergency and rescue services. RWE NRL has worked very closely with emergency services in North Wales for many years, providing facilities and support including the use of its 24hr emergency control centre at Dolgarrog, Conwy, to help with incidents offshore and mountain rescue incidents in Snowdonia.

Rhyl Flats Community Benefit goes live

The Rhyl Flats community benefits package is now active and starting to receive applications from local community initiatives.

To maximise the fund, we are working with Welsh Assembly Government's North Wales Coastal Regeneration Area to pool resources. Depending on location and eligibility, community groups can apply for a share of a pot now worth over £1million.

In Conwy, groups need use only one form to apply for a share of both funds. Grants can support both capital and revenue elements of a project, giving a greater chance of projects coming to life.

For more information about the fund, who's eligible and how to apply, call Paul Smith at the Welsh Assembly Government on: 0300 0625302 or see the Rhyl Flats website: www.npower-renewables.com/rhylflats.

If you would like this newsletter in larger print please contact us on: (01446) 744557

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Recruitment opportunities: www.rwe.com/gwyt-y-mor-recruitment



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