

Pen y Cymoedd Wind Energy Project

Media Pack

5 June 2014

Confidentiality - None (C1)

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1. Pen y Cymoedd - Facts & Figures

Project Facts

Number of turbines	76
Wind turbine capacity	3MW
Total installed capacity	Up to 228MW
Connection to grid	New substation located on the Hirwaun Industrial Estate (underground cables)
Tip height	145 metres
Size of site (including grid connections)	4,683 ha
Location of site	County Boroughs of Rhondda Cynon Taf and Neath Port Talbot
Approx. annual amount of Community Fund	£1.8m
Length of tracks (once constructed)	84km
Jobs supported to date	600+
Total investment in project prior to first generation	More than £400m
Total amount of cabling expected to be used	360kms
Total tonnes of wood exported over the year, during felling	121,595
Annual homes equivalent production*	Approximately 140,000 (enough electricity to meet the annual domestic needs of both RCT and NPT combined)

*This figure is based on site specific data using the following calculation: Maximum installed capacity of the Wind Farm (228MW), multiplied by the number of hours in a year (8766), multiplied by the output capacity of the wind farm as a percentage (30%) [Renewable UK] divided by the amount of energy used by each UK home on average per year (4,266 kWh) [DECC].



Vattenfall/ Ian Thomas

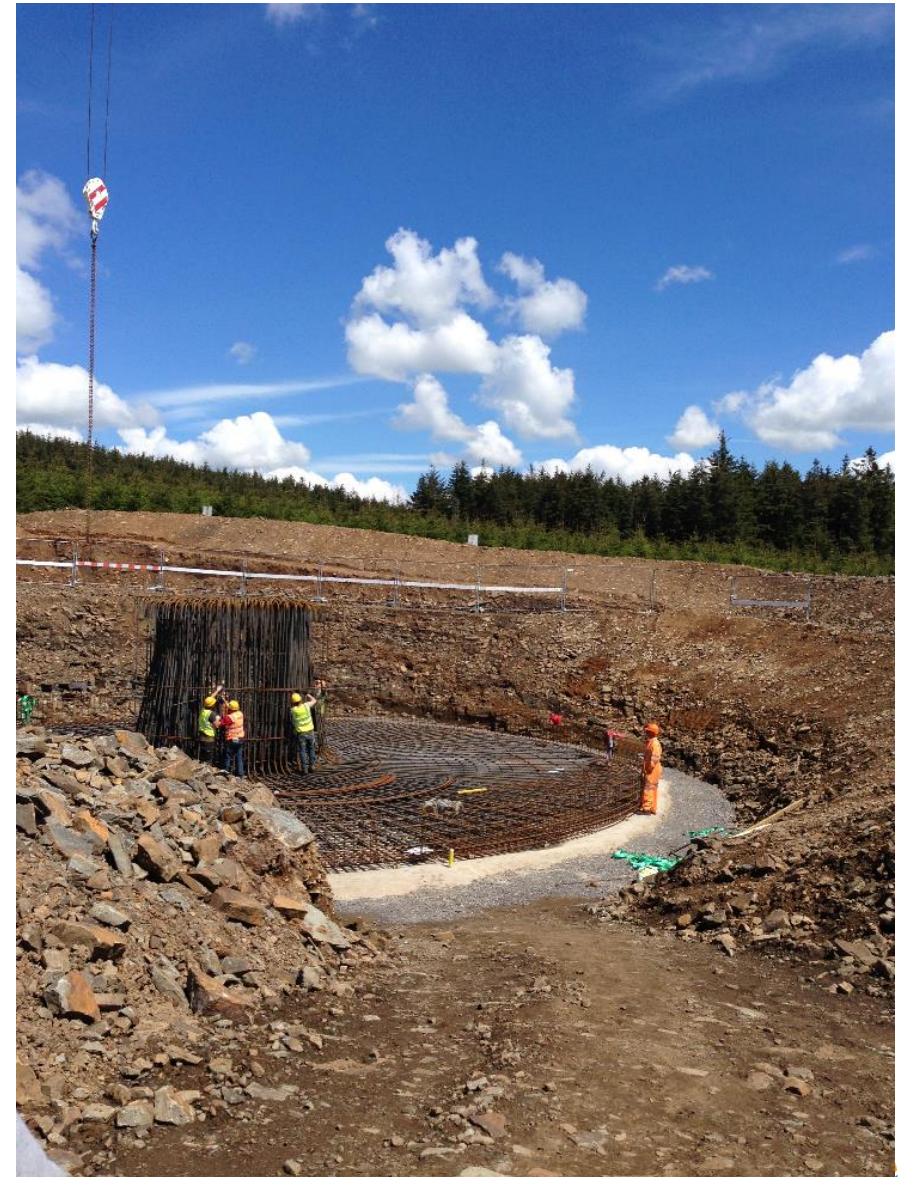
2. Turbine base construction

Base construction facts

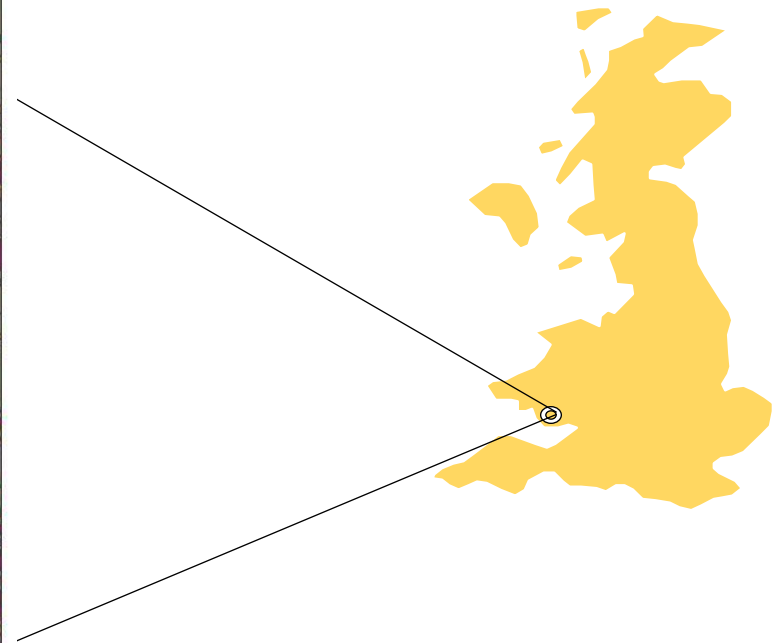
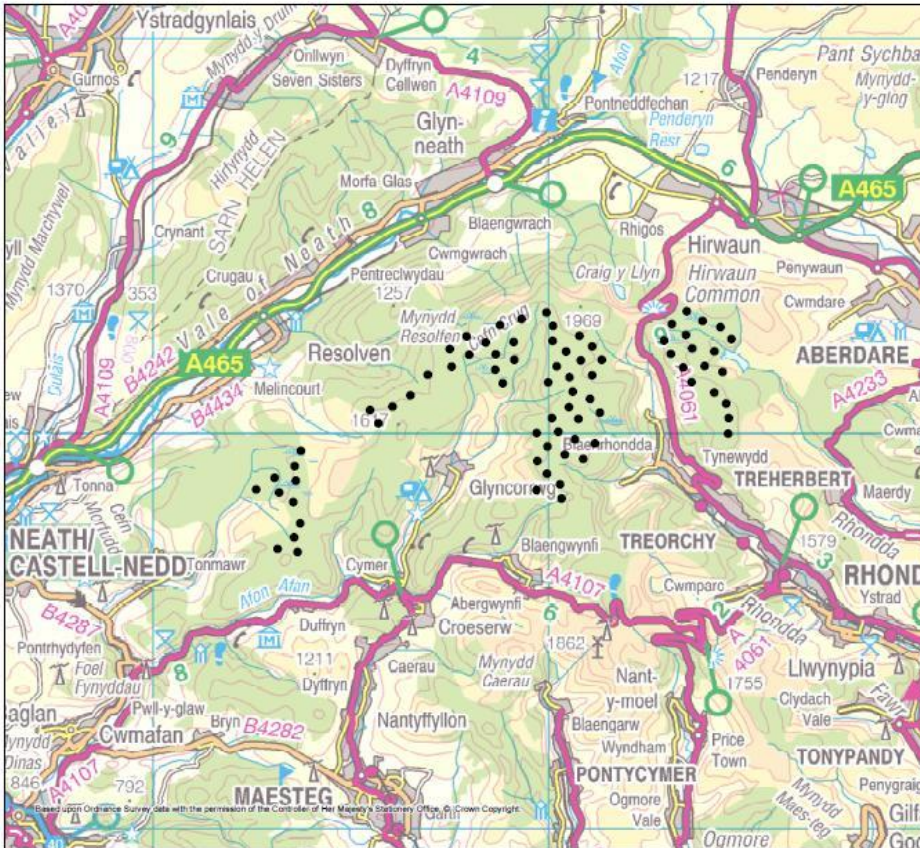
Number of bases	76
Size of each base	4.5m x 30m diameter excavations
Steel per base	Each base includes steel reinforcement weighing up to 84 tonnes. In total, the 76 turbines require more than 6,000 tonnes of steel.
Concrete per base	An average of 600m ³ of concrete is used per base, with more than 50,000m ³ being used for the 76 bases in total

Base construction process

Excavation	4.5 deep by 30m diameter excavations are dug for each of the 76 wind turbine foundations
Stone regulating layer	Rock sourced on-site is used to regulate the formation of each turbine foundation.
Concrete blinding layer	A concrete blinding layer provides a smooth working surface to build the rest of the turbine foundation.
Steel reinforcement	Steel reinforcement weighing up to 84 tonnes is fixed in place. In total, the 76 turbines require more than 6,000 tonnes of reinforcement.
Formwork installation	A pre-fabricated steel formwork is installed to form the concrete foundation.
Concrete Pour	Two separate concrete pours are required to construct the base. More than 50,000m ³ will be used for all 76 bases, with an average of 600m ³ per base.



3. Location – Pen y Cymoedd Wind Energy Project



4. Project construction timeline

Construction work begins.

Including civil and electrical works, construction of the site welfare compound, site access tracks, turbine foundations, crane pads, underground cabling and substation

2014



First turbine component delivered
Civil works continue

2015



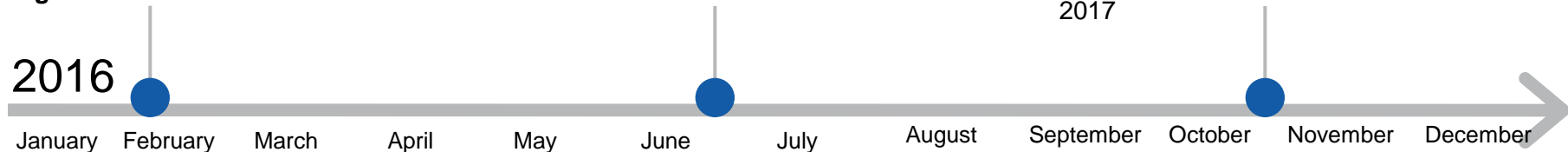
Turbine installation expected to begin

First power

The wind energy project is commissioned

Final project completion scheduled for early 2017

2016



5. Local and UK supply chain

- **Renewable energy supply chain**

- Use of the local supply chain has been a project priority, and work enabling local companies to compete for contracts has been ongoing for four years.
- More than 600 firms have registered an interest in working on the project. A number of local companies are already working on the project, including:
 - *Spencer Environment Care Associates* – a south Wales-based company, working on the site clearance, ready for the first turbines.
 - *Nite Lite* – a Neath-based security company.
 - *ISO Fab* – Rhondda-based fabricators, who manage the four Pen y Cymoedd apprentices.
- Vattenfall is continuing procurement activity for Pen y Cymoedd and as part of this requires contractors to demonstrate they are working to maximise opportunities for local contractors through the project.

- **Pen y Cymoedd Apprentices**

- The apprentices are working for local company ISO Fab, in a scheme which is being funded by Vattenfall.
- The apprentices three year training programme will result in their qualification as wind turbine technicians.

6. Community engagement (I)

- **Community Fund**

- Once the wind farm starts generating electricity in 2016-2017, the project's community fund will roll into action. The fund is currently worth £1.8m per annum, and will be in place for the 25 year life of the project.
- The project team will be working with local people to develop a fund that will meet their priorities and needs for the future.

- **Power in the Valleys**

- Local people and interested parties are encouraged to have their say on what they think the Community Fund should be spent on through the Power in the Valleys website and via postal forms.
- Community Fund ambassadors, advertising on public transport and online films have been used to promote Power in the Valleys and encourage the local community to have their say.
- Members of the project team also tour venues in the project area, attend local events and meet with local groups and organisations, encouraging the community to contribute and let them know what they think should come to the area and why.
- Vattenfall has also facilitated local workshops to support the community and help them to explore and develop their proposals for funding.
- Ideas for addressing health issues; environment, culture and heritage, creating local jobs, boosting the economy and connections have been received.
- The deadline for ideas for the first round of funding is August 2014.

7. Community engagement (II)

- **Newsletter**

- Regular newsletters are delivered to the local community outlining the construction process, progress on the project, and component delivery schedule.
- Newsletters also highlight Community Fund open events and how the community can have their say.

- **Mountain Bike Trail**

- Vattenfall has funded a £350,000 mountain bike trail as part of the Pen y Cymoedd Wind Energy Project.
- 'The Blade Trail' was named after a competition entered by local school children, and was officially opened in the spring of 2014.
- The Trail offers mountain bike riders a challenging ride and an opportunity to explore previously untouched sections of the forest.
- It attracts mountain bikers from far afield – benefiting local tourism.

- **Construction Liaison Committee**

- Vattenfall has set up a Construction Liaison Committee made up of local elected representatives, community councils and Communities First.
- The committee meets quarterly and provides a forum for Vattenfall to update the community on the progress of the construction work and answer any questions they may raise.

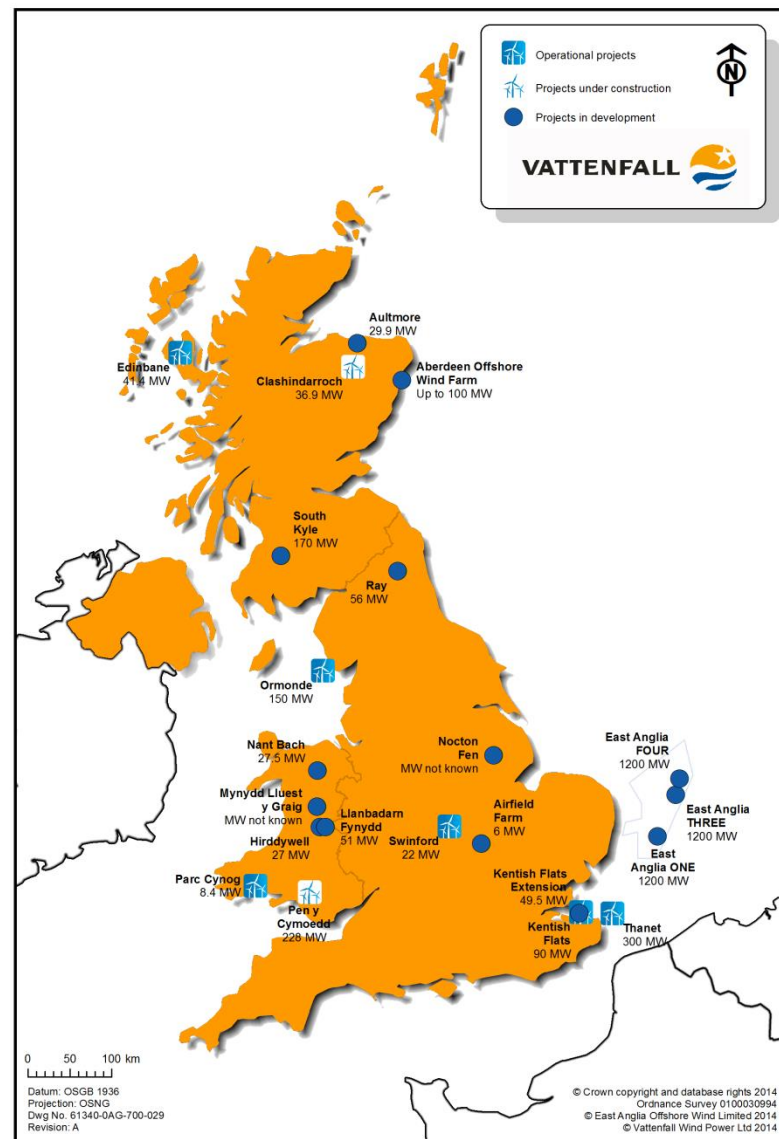
- **Other**

- Vattenfall's community engagement also includes regular visits to site by local school children.

8. UK Activity

Vattenfall UK Renewables Portfolio

Project name	Technology	Installed capacity (MW)	Status
Thanet (2010)	Offshore wind	300	Operating
Ormonde (2012)	Offshore wind	150	Operating
Kentish Flats (2006)	Offshore wind	90	Operating
Kentish Flats Extension	Offshore Wind	51	Consented
Aegir	Wave Power	10	Pre-scoping
European Offshore Wind Deployment Centre (JV with AREG and Technip)	Offshore Wind	<100	Consented
East Anglia (JV w/ SPR)	Offshore Wind	<7.2GW	Scoping & Planning
Edinbane (2010)	Onshore wind	41.4	Operating
Parc Cynog (2009)	Onshore wind	8.4	Operating
Swinford (2012)	Onshore wind	22	Operating
Clashindarroch	Onshore wind	36.9	Under Construction
Nant Bach	Onshore wind	22.55	Consented
Ray	Onshore wind	56	Consented
Airfield Farm	Onshore wind	6	Consented
Pen y Cymoedd	Onshore wind	228	Under construction
Aultmore	Onshore wind	29.9	Consented
Hirddywel	Onshore wind	27	In Planning
Mynydd Lluest y Graig	Onshore wind	>50MW	Scoping
Nocton Fen	Onshore wind	>50MW	Scoping
Llanbadarn Fynydd	Onshore wind	51	In Planning
South Kyle	Onshore wind	<170	In Planning



9. Vattenfall Group

Please go to *Slideshare* to see a full presentation on Vattenfall

<http://www.slideshare.net/Vattenfall/vattenfall-group-presentation-2014>

10. Contacts & Links

Contacts

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Links

<http://www.vattenfall.co.uk/en/penycymoeddwindfarm/pen-y-cymoedd-wind-energy-project.htm>

<http://www.vattenfall.co.uk/en/press--news.htm>