

Parc Cynog

Exploring the solar energy potential

July 2015



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Exploring the solar energy potential

Vattenfall is exploring the potential for a solar farm of up to 5MW on an area of land at Castle Lloyd Farm. To develop a project of this size around 21 acres of land is required and the proposed area can be seen on the adjacent map.

— Site Boundary 9.80Ha



The area of land we are looking at developing is a south facing slope, making it suitable for solar energy generation. Should the project receive planning permission the solar panels would be situated in one field around one of the existing turbines.

Vattenfall (formerly Nuon Renewables) is 100 per cent owned by the Swedish state and is one of Europe's largest generators of electricity. Vattenfall already operates several wind farms throughout the UK, both offshore and onshore, including Parc Cynog Wind Farm, an 11 turbine project with 8.4MW of installed capacity. Parc Cynog was constructed in two phases. The first five turbines were constructed in 2001. The wind farm was then extended with

six more turbines becoming operational in 2009. Parc Cynog Wind Farm can power around 4,800 homes per annum, based on a UK average consumption.

It is part of this land that is being looked at for the development of the solar farm. Wind and solar energy complement one another well as solar works best in the summer, when wind energy output tends to be lower, and in the winter when solar energy is very low, wind is usually generating at its highest levels. The majority of the infrastructure is also in place, including the grid connection and access tracks.

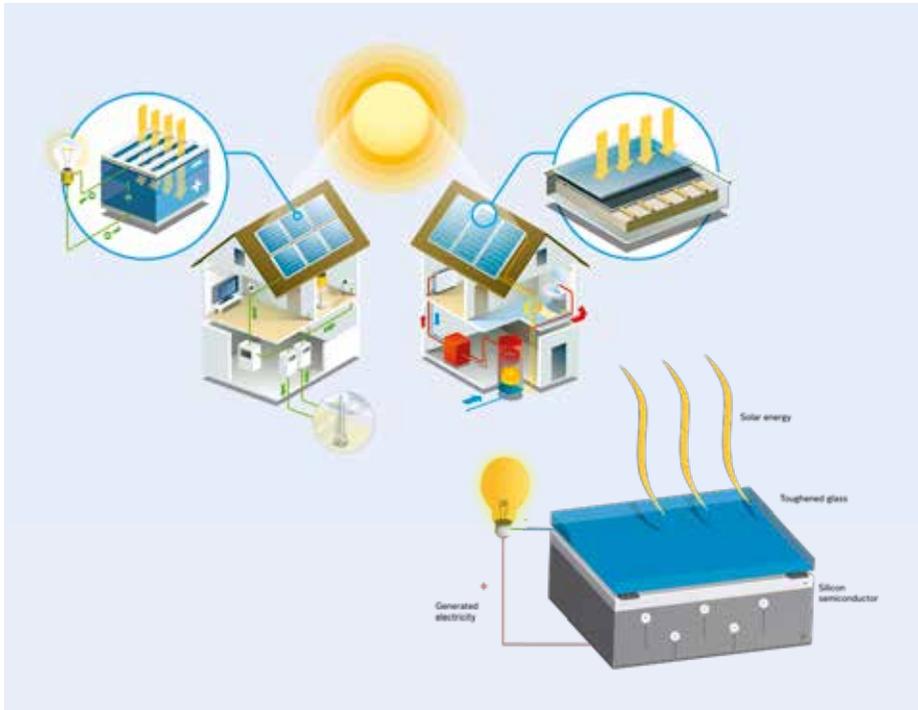
The proposed solar farm would produce sufficient electricity to power up to 1441 homes*.

*The solar farm will produce approximately 5,000,000 kWh/year. The average domestic consumption within Wales, based upon the latest data, is 3,736 kWh per annum (DECC, 2013) therefore the solar farm will provide sufficient electricity to power up to 1,472 homes; the Carmarthenshire domestic average is slightly higher than the Welsh average at 3,815 kWh per annum therefore, based upon the Carmarthenshire average, the site would generate sufficient electricity to power up to 1,441 homes.

Solar energy is of course dependent on sunlight.

A solar cell, also called a photovoltaic cell, converts solar energy into electricity through the photovoltaic effect. When the solar cell's surface is illuminated, an electrical voltage arises between the front and back of the cell.

Each individual cell provides a low voltage of around 0.5V. Solar cells are therefore usually connected in series, in what are called solar panels. This multiplies the voltage to a level suitable for power generation.



The most common type of solar cell today is called the crystalline solar cell, and uses silicon as a semiconductor. A conductor is a material that can conduct current, while a semiconductor is also capable of conducting current but is slightly less conductive. When the sun shines on one face of the solar cell, electrons are released and generate a current that runs through a consumer (e.g., a lamp or battery). The electrons are thus transferred back to the rear of the cell, where they fill the deficits caused by the electron migration.

The land is currently used as farmland and this will be sustained as small animals such as sheep can still graze on the land with the solar panels in place.

Solar farms create extensive opportunities for biodiversity given that they are set on piles and have minimal contact with the land. Opportunities include hedgerows, to field margins to wild flower meadows. We will work with the landowner to enhance existing habitats and create potential new ones.



Timeline

Although work to develop the solar park is in the early stages our current plan is to submit a planning application to Carmarthenshire County Council towards the end of the summer. It is our intention to involve you throughout this process.

Exploring the benefits

As part of the project, Vattenfall is looking to invest in solar panels for local community buildings in the local area to create a sustainable source of energy. If you are involved with a community facility and feel that this would be of benefit please get in touch.

Join us for a site visit



We would like to invite you to join us for a site visit so you can see for yourself the area of land we are looking at for the solar park. You will also get the chance to get up close to the turbines and ask questions to the project team.



The Woodland Walk



When all 11 turbines at Parc Cynog Wind Farm became fully operational in 2009, Vattenfall (then Nuon Renewables) created the Woodland Walk for people to enjoy.



From the wind farm site or from the green at Llanmiloe (between Duke's Meadow and Wood End), you can walk along a narrow wooded valley that bridges the hills to the sea. Here, time has stood still, and beyond a few farm fences, it is possible to escape to the past and spy on the romance and magic of a completely natural world.

The moist ground is perfect for a wide range of ferns and moss. The sycamore and ash trees are species that have stamped their authority and firmly made this valley their home, reaching high to seek the light.

A little brook runs through the valley, adding to its beauty. It is a paradise for plants – they flourish in this combination of light and wetness.

While the valley may be a hidden, mysterious oasis – a new experience even to some local residents – it is certain that local wildlife and birds feel entirely at home in this habitat.

Please enjoy this trail along the unspoilt valley, but please remember to stay on the path.



Join the conversation

We want to know what you think! What issues are important to you?

To have your say, fill in this form and return to us using the freepost address.

What are your initial thoughts about the project and its location?

Do you have any feedback about any elements of the project?

Are there any questions you would like answered by the team?



Do you have any thoughts on the biodiversity opportunities the solar project could bring?

Are there any community buildings nearby that could benefit from some solar panels of their own?

Are you interested in joining us for a site visit?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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To submit your feedback, please return this completed form in an envelope to:

Freepost RTGG-RLSS-AXGB
Vattenfall Wind Power Ltd
1 Caspian Point
Caspian Way
CARDIFF
CF10 4DQ

Contact Details

Name:

Address:

Postcode:

Email:

Vattenfall Wind Power, 1 Caspian Point, Cardiff Bay, CF10 4DQ
T 02921 303 400, E parccynogsolar@vattenfall.com, [@VattenfallUK](https://twitter.com/VattenfallUK)
www.vattenfall.co.uk/parccynogsolar