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**Gifford**  
part of Ramboll



**BEDLINOG WIND FARM**  
**ENVIRONMENTAL STATEMENT**  
**NON-TECHNICAL SUMMARY**

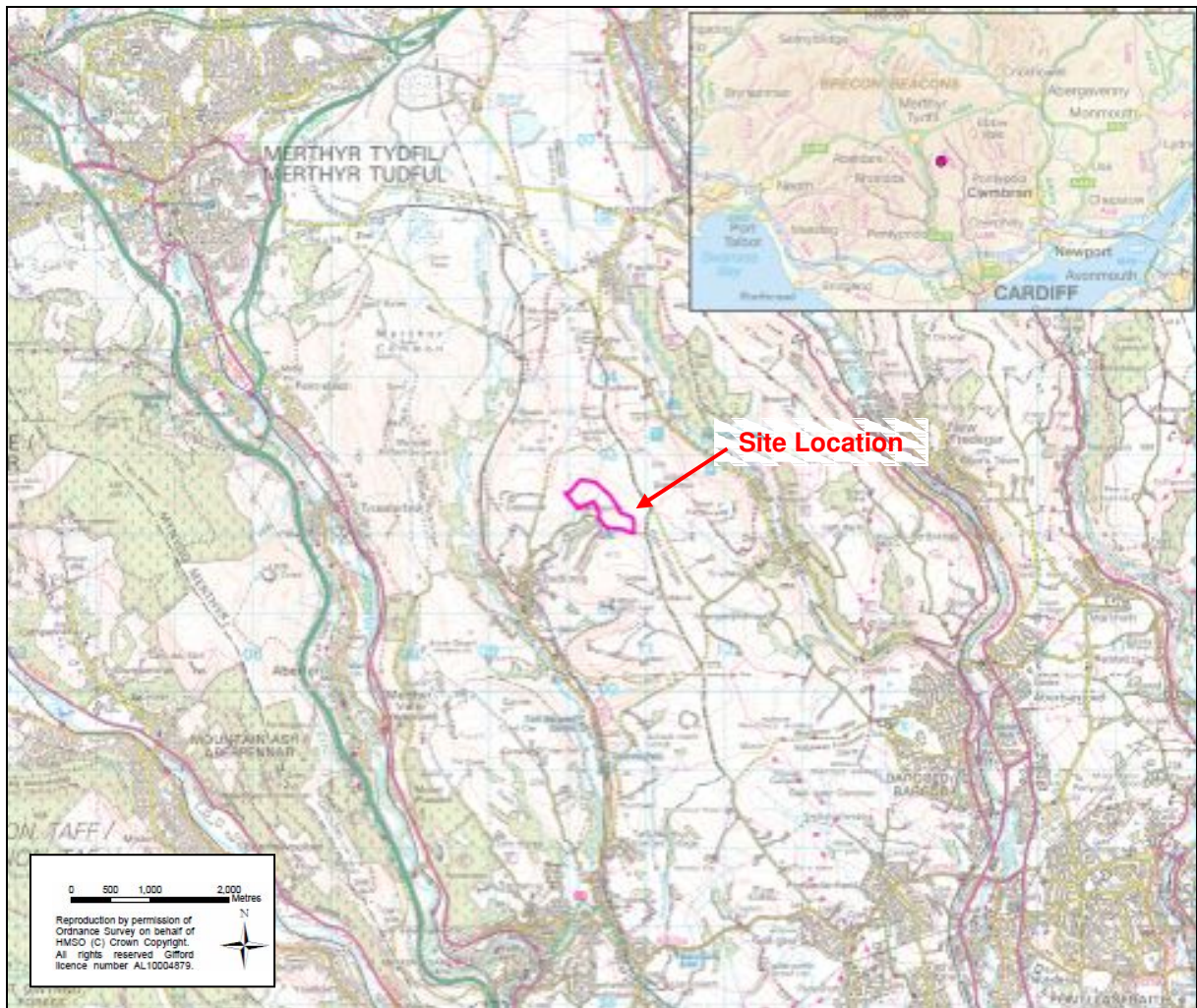


## Introduction

This Non-Technical Summary forms part of the Environmental Statement to accompany a planning application by Bedlinogwynt Limited to develop a wind farm at Bedlinog in Merthyr Tydfil County Borough, South Wales. The proposed development is to be known as 'Bedlinog Wind Farm'.

The development site is located in an upland area approximately 1km north east of Bedlinog village, 5.3km south east of Merthyr Tydfil and 3.2km west of Blackwood. The smaller villages of Rhymney and New Tredegar are located 3.4km to the north and 3.2km east respectively.

The Environmental Statement was produced following the completion of an Environmental Impact Assessment (EIA). Copies of the Environmental Statement are available to view at Merthyr Tydfil County Borough Council Offices, Ty Keir Hardie, Riverside Court, Avenue De Clichy, Merthyr Tydfil, CF47 8LW.



## The Proposed Development

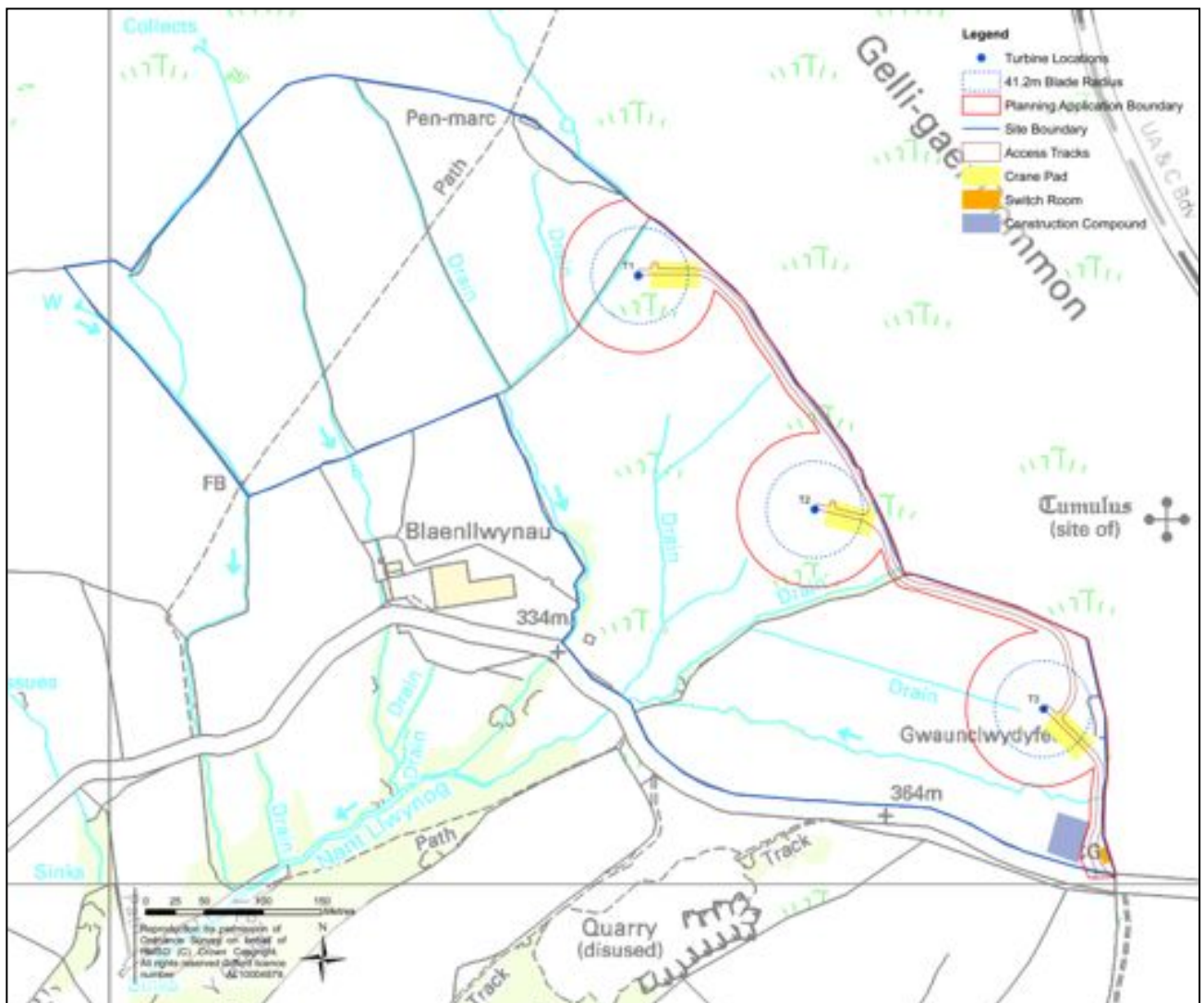
The proposed development will consist of three turbines, an electrical switchroom/control room, buried electrical cabling, crane pads and access tracks between the turbines.

The turbines will have a hub height of 83.8m and the height to blade tip of the turbines is 125m. The turbines will be finished in a semi-matt light grey colour to minimise visual impact. The Environmental Statement is based on 2MW class wind turbines.

The development site is currently used as grazing pasture and is separated into large fields by stone walls, hedgerows and post and wire fencing. The location was chosen because it was deemed environmentally suitable and because of its good wind resource and road access.

The developer has been working closely with the community council at Bedlinog and is currently preparing a partnership arrangement. If planning consent is granted for the three turbines, the Community Council will become joint shareholders of the new project company, Bedlinogwynt Ltd. Profits realised by the Community from the wind farm will be used to fund initiatives within the community such as incorporation of energy saving measures into the local homes. These profits can be available from year one and will span the entire life of the development which could be up to 20-25 years

Construction of the wind farm is expected to take approximately 6 months. The development will have an operational life of 20-25 years. After this, the wind farm would either be decommissioned and returned to its previous use or a planning application could be submitted to allow the wind farm to continue operating. In the latter case, this would usually involve erecting new turbines.



## Scoping the EIA

The EIA began with the completion of a scoping study. This was used to identify environmental impacts that could potentially result from the construction, operation or decommissioning of the proposed development. The scoping study identified a number of potentially significant environmental effects that might occur, which included:

- impacts on cultural heritage including archaeology and the historic landscape;
- electromagnetic effects;
- impacts on geology and ground conditions at the development site;
- impacts on the human environment;
- impacts on the hydrology of the development site;
- landscape and visual impacts;
- impacts on nature conservation; and
- generation of noise impacts.

Therefore, these issues were assessed in the EIA and reported in the Environmental Statement. They are summarised below. In addition to this, consideration has been given to cumulative impacts in the vicinity of the wind farm for each of these issues.

## Consultation

An important element of the EIA process has been consultation with Merthyr Tydfil County Borough Council (MTCBC), statutory bodies such as the Countryside Council for Wales and Cadw, and other relevant organisations and stakeholders. Public consultation has also been undertaken through a number of local exhibitions for the proposed development and the findings are presented in the Environmental Statement.

## Summary of the Findings of the EIA

### *Noise*

An assessment of potential noise generated from the construction, operation and decommissioning of the proposed development has been undertaken. On this basis, the layout and number of turbines was amended to minimise adverse noise impacts on neighbouring properties during the operation of the development. Predicted operational wind turbine noise will meet standard noise criteria resulting in no significant adverse impacts to neighbouring properties. There is no requirement for mitigation measures above those already incorporated in to the design.

The findings of the assessment have shown that noise from construction and decommissioning operations, although audible in the short term, will not present a significant impact on local communities.

### *Cultural Heritage*

The impact of the proposed development on known and potential archaeological and cultural heritage assets at the development site and surrounding area has been assessed using archaeological, historical and topographical data.

The development site lies within the Gelligaer Common Landscape of Historic Interest and a separate assessment was undertaken to determine the impact of the proposed development on the setting of this historic landscape. This assessment concludes that the site and surrounding 1km study area has

remained as open land within the Welsh uplands for the majority of its history. There have, however, been sporadic incursions into this zone at various times, with concentrations of Bronze Age burial activity and a period of medieval settlement notable among the record.

A number of potential adverse impacts on the cultural heritage resource have been identified, including the site of a Roman road that lies in close proximity to the east of the development site and a medieval settlement site known as *Gwaunclwydyfedw*.

There are possible impacts upon areas of archaeological potential within the site boundary and based on this, mitigation measures will be undertaken in advance of the construction works in order to establish the full extent of below-ground archaeological deposits and define any additional mitigation measures that are needed.

From a setting perspective, there are potential effects to the site of two Bronze Age ring cairns. It is proposed that a detailed investigation, in the form of a site visit to both receptors is undertaken together with a photographic survey prior to construction works commencing.

The construction will trigger a programme of work which alleviates, avoids or mitigates these impacts to the cultural heritage resource. These include archaeological evaluation trenching in advance of construction work, with further mitigation to follow if required, and a programme of monitoring under archaeological supervision and control.

Any such work will contribute to and inform the relevant archaeological research agendas that have been formulated for Wales.

### ***Electromagnetic Effects***

An assessment was undertaken to determine the potential impact the proposed development could have on communications and operations which rely on 'electromagnetic field transmissions', and potential electromagnetic effects on nearby communities. This was undertaken through consultation and desk based study.

The assessment concluded that there is not likely to be any interference on local communications, operations or transmissions as a result of the location and size of the proposed development. The assessment also concluded that the proposed development is not likely to have any adverse health impacts as a result of electromagnetic emissions, and is not likely to have an impact on television signals.

### ***Geology & Ground Conditions***

An assessment was carried out to establish the potential effects of the proposed development on, and from, the geology and ground conditions at the development site. This considered sites designated for their geological importance, hydrogeology and groundwater resources, contaminated land, geohazards and geotechnics. A desk based assessment has been carried out using a variety of sources including the geological maps of the development site area. The geology of the development site comprises glacial till (also known as boulder clay) that rests upon bedrock. Glacial till is a stiff, hard clay that contains gravel and boulders of rock and it is formed during glacial events. The bedrock is shown to be sandstone in the eastern part of the site and sandstone, mudstone and siltstone in the western part of the site, these rocks are part of the Carboniferous "Coal Measures" and so coal seams are also present in the area.

Geological features can be designated as Sites of Special Scientific Interest (SSSI) and Regionally Important Geological Sites (RIGS) if they are of particular interest or importance. No such sites were

present on the site or in the vicinity, and it is considered that there will be no impacts in this respect. With regard to hydrogeology and groundwater resources, the development site lies over a minor aquifer (Secondary A), however, there are no groundwater abstractions recorded within 1km of the site. On this basis there are not considered to be any significant impacts on hydrogeology and groundwater resources though best practice construction methods to prevent pollution will be carried out regardless.

A desk based assessment was undertaken of the development site history and former land uses; this indicates that contamination is not likely to be present on site and no impacts are considered to be present in this respect. Nevertheless, a protocol to address any unexpected contamination will be put in place as part of the Construction Environmental Management Plan. A range of geohazards were considered as part of the assessment. Of these the key issue was the possibility of coal mine workings being present beneath the development site and a more detailed assessment of this element was carried out. This indicated that whilst there are recorded mine workings beneath the site these are at such a depth that they are unlikely to effect the proposed development. Nevertheless, a ground investigation will be carried out prior to any construction works to confirm this.

### ***Human Environment***

The potential effects of the proposed development on the local communities and the surrounding area have been considered for the construction, operation and decommissioning stages. Factors assessed comprised employment, tourism, recreation, the use of Public Rights of Way (PRoW), effect on local residents, potential for 'shadow flicker' effects on local properties, and the effects on public safety including the possibility of 'ice throw'. This has been undertaken through a desk based literature review and consultation with a number of key stakeholders.

In order to mitigate the impact on local residents, they will be kept informed in advance of all work including its nature and duration and will be provided with contact details through which they can register their concerns.

A number of potential benefits from the development have been identified. These include employment and opportunities for local businesses arising from expenditure on goods and services associated with the development. Where practicable, local construction firms will be used to construct the proposed development and opportunities are expected to arise for local jobs as a result of turbine maintenance.

Potential impacts were identified on the users of the PRoW which is situated to the north-west of the turbines and the adjacent Gelligaer Common. Overall impacts on the human environment are not likely to be significant and the adoption of proposed mitigation measures will mitigate negative effects.

### ***Hydrology***

An assessment has been undertaken of the potential impacts from the proposed development on the hydrological regime in and around the development site. The assessment considered watercourses and wetlands as well as the potential impacts of drainage and flood risk as a result of the construction, operation and decommissioning of the proposed development. This was undertaken using a desk based study, including consultation and field visits.

The development site is located wholly within the catchment of the Nant Llwynog, a small river which is a tributary to the Taff Bargoed, which in turn drains in to the River Taff which meets the sea at Cardiff. A number of water features were identified in close proximity to the proposed development. These include the Nant Llwynog river, a natural tributary running along the south eastern site boundary, springs and "sinks" associated with the watercourses close to the site, a number of small pools within 500m of the site boundary and several unnamed drains crossing the site and flowing in to

the Nant Llwynog. The development site is located over a Secondary A aquifer and is not at risk of flooding. A Secondary A aquifer is defined as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

There are two sources of private water supply within 1km of the development site. These locations are south of the site boundary and lie in the catchment of Nant Wen, a different catchment area to that of the development site.

The main potential impacts identified are the risk of increased sediment transport from excavations and storage of soils, the spillage of fuel, oil or chemicals, and changes to the natural courses/flow of the water features on site. These impacts can be successfully mitigated through the design and best practice procedures.

Providing suitable mitigation measures detailed in the Environmental Statement are put in place it is concluded that the proposed development will not have a significant adverse effect on the hydrology of the development site.

### ***Landscape and Visual Assessment***

The landscape and visual impact assessment was undertaken to determine what effect the proposed development would have on the landscape within the development site and that of the surrounding area.

The proposed development would be located within a landscape defined by a varied topography of steep sided valleys and ridges, extensive industrial and urban development and notable areas of forestry plantation. This existing site context acts to limit the effects of the proposed development upon landscape character and upon views.

The introduction of turbines would lead to significant effects locally upon landscape character and upon views. However, the effects on landscape character would diminish with distance from the site, as would visual effects.

At closer proximity, the proposal would be a prominent new feature within the landscape and would have a significant effect upon the adjacent parts of the open moorland landscape of Gelligaer Common and upon the valley of the Nant Llwynog east of Bedlinog village. Significant effects upon residential properties would also occur where clear and direct views towards the proposed turbines would occur. The closest property to the turbines is owned by the landowner; a second property is situated within a coach hire business (and surrounded by vehicles and related infrastructure). The remaining properties are over 1km away and it is considered that these visual effects would not be unacceptable or overbearing to the amenity of properties.

Due to the settlement pattern of the area, which is strongly influenced by topography, the vast majority of residential properties and other sensitive receptors associated with urban areas would not have views of the proposed turbines.

Whilst significant, these localised effects would not be automatically unacceptable due the subjective nature of individual responses to the presence of wind farms. Due to the topography and heavily industrialised wider context of the receiving landscape, and the small number of turbines proposed, it is considered that the capacity of the landscape to accommodate such change would not be exceeded and that turbines would form a new element within the wider landscape rather than lead to an extensive change in the underlying character.

### ***Nature Conservation***

An assessment of construction and operational impacts on ecology from the proposed development has been carried out.

The nearest (although not yet built) wind energy scheme to the proposed development is the consented Fochriw Wind Energy Project with two turbines, which are around 5km from the proposed development site. There will be no cumulative impact in terms of nature conservation assets due to the large distance between the two schemes.

Significant impacts in the construction and operation of the wind farm on bats, curlew, red kite, and peregrine falcon are extremely unlikely. Similarly, the impacts on local areas of nature conservation are also extremely unlikely. Other ecological receptors have also been considered but no significant impacts are considered to be present.

Prior to construction, surveys would be undertaken to confirm that there are no nesting birds in the vicinity of the site. If nesting birds are found, appropriate mitigation measures will be implemented.

Mitigation has been proposed to minimise the chances of impacts occurring or to reduce their severity. With the adoption of the mitigation there will be no significant residual adverse effects on any of the ecological receptors and no contravention of legislation.

### ***Summary***

An Environmental Impact Assessment has been undertaken for the proposed development of a community wind farm project at Bedlinog in the Borough of Merthyr Tydfil, South Wales. The proposed project, to be known as the Bedlinog Wind Farm, will involve the construction of three wind turbines and associated ancillary equipment.

The development of the proposed wind turbines will generate 'clean' renewable energy which will make an important contribution to the UK renewable energy targets. This in turn will make a contribution to the reduction of atmospheric pollution, though the effects will not necessarily be felt in the immediate locality.

A number of potential benefits from the proposed development have been identified which include direct financial benefits for the local Community, habitat enhancement/management, potential for increased biodiversity and increased knowledge of the archaeological assets at the site.

### **Further Information:**

**Tegni Cymru Cyf**  
**Bron Graig**  
**Llangwm**  
**Corwen**  
**Denbighshire LL21 0RL**  
e-mail: [Tegni@btinternet.com](mailto:Tegni@btinternet.com)