

## Traffic and Transport

The main transportation impacts will come through the movements of commercial Heavy Goods Vehicles (HGVs) to and from the site during the construction phase of the development.

The maximum traffic impact associated with the construction of the wind farm is predicted to occur in the fifth month of the construction programme. During this month, an average of 78 two-way trips per day (39 in and 39 out) are predicted.

Comparing the predicted traffic levels against existing traffic numbers on roads used to access the site shows that traffic increases are within acceptable levels at all times. Notwithstanding this it is proposed to limit access to the site by HGVs, other than those delivering turbines components to between 0800-1800 hours Monday to Friday. Cars and vans may visit the site at weekends.

## Archaeology and the Historic Built Environment (Cultural Heritage)

There are two protected features on site and the site design process has avoided both these as well as other known and newly identified features of cultural heritage interest wherever possible. It is also proposed that an archaeologist be on site when excavations are undertaken to identify and record any addition, unrecorded features that may lie on site, below ground.

Twenty four features or areas of cultural heritage have been identified within or outside the site whose setting could be potentially affected by the development. Of these, two: the protected cairns of Craig y Bwlch and Tarren y Bwlch, are predicted to be significantly affected by the operation of the wind farm although their key relationship to the crag would not be affected.

## The Water Environment

The impact assessment has taken account of the surface and groundwater features. It has highlighted a number of potential impacts on the water environment, primarily during wind farm construction, but potentially also during site operation and de-commissioning. These impacts are associated with a range of activities, including access track construction and wind turbine erection. The most serious potential impacts are associated with sediment-laden run-off from exposed ground entering watercourses. However, the employment of mitigation measures, in accordance with current best practice, will ensure that any negative impact which does occur is not significant and is quickly controlled.

## People and Business (Socio-economics)

The wind farm provides the opportunity for the existing farming community which uses the site to receive a steady income through an alternative source. The development also constitutes a large investment in the area by the developer and as such provides the opportunities for both direct and indirect job opportunities, mostly associated with the construction phase. The applicant's parent company will undertake the civil engineering work on the site. This company is based in Hirwaun and it will therefore ensure that a considerable amount of the overall construction expenditure of approximately £30 million will be retained within the local economy. In line with advice contained within TAN8 the developer proposes to establish a community fund to distribute a percentage of the annual revenue generated by the wind farm to fund local community initiatives. A discussion paper on the options available for such a fund has been submitted with the planning application.

Users of public rights of way that cross the site may be

inconvenienced during the construction of the wind farm. It is intended to keep the footpaths open during most of the construction period although it may be necessary to undertake temporary diversions at certain times. The whole of the site that will accommodate the turbines is classified as open access land such that walkers will be able to either divert off footpath or walk up to turbines during the operational phase.

## Telecommunications and Shadow Flicker

A full range of telecommunication, broadcasting and aviation consultees have been consulted on the proposal. Those that have responded have not raised any issues.

Shadow flicker describes the effect that can be caused by light from the sun passing through moving turbine blades. Government advice and guidance states that shadow flicker is likely to occur where properties are located within ten blade diameters of a turbine. In the case of Hirwaun, this distance would equate to 900m (45m blades). There are no properties within this distance and consequently shadow flicker is not predicted to affect local residents.

## Conclusions

The development of a 12 turbine wind farm at Hirwaun will contribute to both the UK government's and the Welsh Assembly Government's target of reducing CO<sub>2</sub> emissions and increasing the percentage of energy generated by renewable means.

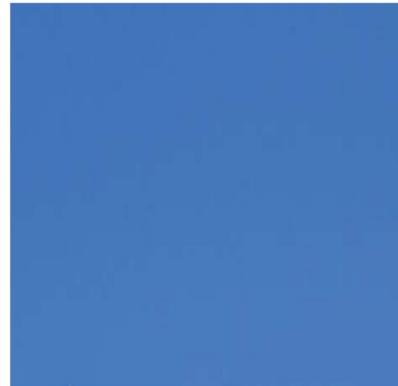
The Environmental Impact Assessment of the proposed wind farm has addressed a wide range of potential impacts on different aspects of the environment. The findings of the assessment process have played a major part in the design of the wind farm. A range of other mitigating measures are proposed which should prevent most of the potential negative impacts identified becoming significant.

It is predicted that negative effects of major significance would extend to a small number of Landscape and Visual, Cultural Heritage and Public Access impacts only.

Positive effects have been identified through the generation of renewable energy, rural diversification and the establishment of a community fund, all assessed as being of major significance.

Further details concerning the potential impacts which the development may have upon the environment are contained within the Environmental Statement. Copies of this statement are available for inspection at the following address:

Rhondda Cynon Taf CBC, The Pavillions, Cambrian Park, Clydach, Tonypany, CF40 2XX.



# Pennant Walters Hirwaun Ltd Hirwaun Wind Farm Non-Technical Summary



## Background

This Non Technical Summary (NTS) forms part of the Environmental Statement (ES) to accompany an application by Pennant Walters Hirwaun Ltd to construct and operate a 12 turbine wind farm (Hirwaun Wind Farm) to the south of Hirwaun, within the County Borough of Rhondda Cynon Taff.

Interest in renewable energy production (such as that produced by a wind farm) has arisen in response to growing concern about the rise in atmospheric levels of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases and the direct linkage that can now be made to resulting changes in the global climate. The Intergovernmental Panel on Climate Change (IPCC) reported in 2001 that evidence of climate change occurring outside of natural fluctuations is 'unequivocal'. This acceptance of man's impact upon the environment is recognised by the Welsh Assembly Government in its report 'Climate Changes Wales - Learning to Live Differently' and increasingly within its national planning policy guidance.

The burning of fossil fuels (coal, oil and gas) is a major contributor to greenhouse gas emissions, and reducing their use and increasing the proportion of power generated from renewable energy sources is seen as a vital part of reducing atmospheric emissions and stemming the acceleration of climate change.

In order to meet international obligations the UK government and the National Assembly for Wales are committed to reducing greenhouse gas emissions in an attempt to reduce the effects of climate change. In December 2003 the Government announced that the Renewables Obligation will extend from a target of 10% of electricity within the UK supplied by renewable means by 2010 to 15% by 2015. In its publication of the Technical Advisory Note (TAN8) in 2005 the Welsh Assembly recognises that the development of further wind power generation remains the only clear and realistic deliverable means by which the 2010 target may be met. To assist with the identification of suitable locations TAN8 identifies the least environmentally constrained, strategic areas within Wales and it provides a target capacity for each which, if met, should ensure that the Governments aspirations for renewable energy generation are met. The proposed Hirwaun Wind Farm lies within the area identified as Strategic Area F.

## The Wind Farm

The proposed development is described in detail in the ES. A brief description of the proposal is however given below.

- The proposed wind farm site is located to the south of Hirwaun within Strategic Area F. It would be on open land that is used for the grazing of sheep.
- 12 wind turbines, with a maximum hub height of 70m are proposed. The maximum height to blade tip of any turbine used on site will be 115m.
- Associated ancillary development comprising unit transformers, meteorological mast, access routes, sub-station, and temporary site compound also form part of the application for consent.
- Access to the site will be from a modified and improved existing access track that runs across the "Conveyor" former open cast site and which links directly with the A465(T). The A465 road forms part of the strategic road network within and around Hirwaun and the wider area.
- The wind farm will connect into the electricity transmission system via underground cables and a very short over ground section of cable between the substation and the existing 132kV power lines which cross the site.
- The electrical output of the proposed wind farm is anticipated to be 36 MW, sufficient on average to supply the equivalent of the domestic electricity needs of approximately 20,000 homes.
- The proposed wind farm is designed with an operational life of 25 years and permission is sought for this period of operation only. After this period the site can be fully restored or repowered.
- Construction of the wind farm is anticipated to take about 9 to 12 months, depending upon the time of year it commences.
- The applicant, Pennant Walters Hirwaun Ltd is the only wind farm operator based within Rhondda Cynon Taff whose parent company, the Walters Group, is the major employer within Hirwaun.

## Environmental Impact Assessment

Environmental Impact Assessment (EIA) is a process by which information about the environmental effects of a project is collected, evaluated, and taken into account in its design. If the project is given consent, the EIA process provides a consideration of the most appropriate methods for its construction, operation and decommission. The developer presents the information on the project and its environmental effects are considered and reported within an Environmental Statement (ES).

### Consultation

An important element of the Environmental Impact Assessment process is consultation, both to agree the scope of the document to be submitted and to understand the existing environmental conditions that apply in the area. Organisations consulted included Rhondda Cynon Taf CBC, the Countryside Council for Wales (CCW), Environment Agency Wales, CADW, Ministry of Defence, Royal Society for the Protection of Birds and many others.

The Applicant will engage in public consultation during consideration of the planning application.

## Environmental Effects

### Introduction

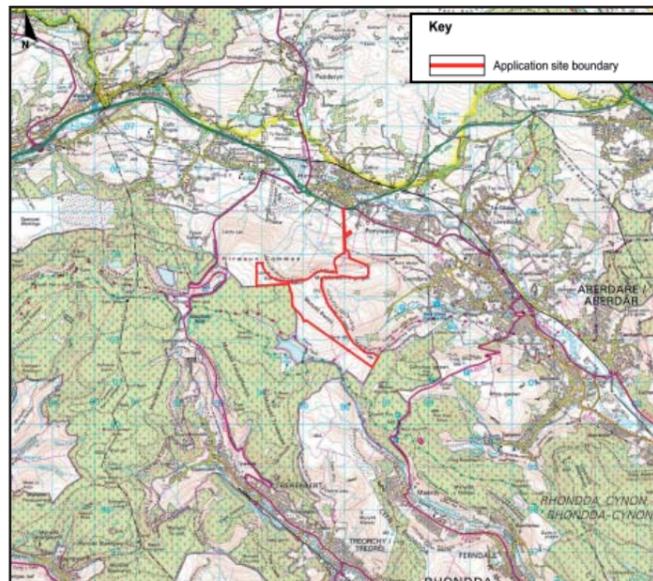
The following sections provide a brief summary of the main findings of the EIA as set out in the technical sections within the full Environmental Statement.

### Landscape and Visual

The methodology for the landscape and visual assessment followed best practice guidance. This distinguishes between landscape and visual effects. Landscape effects can be defined as 'changes to landscape elements, characteristics, character, and qualities of the landscape as a result of development' while visual effects are concerned wholly with the effect of the development on the views available to members of the public, and general visual amenity. There was also an assessment made of the potential effects on landscape and visual amenity where there is the potential to be more than one wind farm in the area, otherwise known as the potential cumulative effects.

### Landscape Assessment

Across Wales the LANDMAP initiative sponsored by the Countryside Commission for Wales has divided the countryside up into a series of areas which share similar landscape characteristics. These are called landscape character areas with the application site being located within a character area defined as Hirwaun Common. The application site is not within any nationally designated landscape areas such as a National Park, however in common with a good proportion of the non-developed areas outside the built up areas in the Cynon Valley it is within one of the Council's Special Landscape Areas. These are local landscape designations made within the Council's Local Plan.



### Site Location

The assessment of the development upon the landscape concludes that there will be significant effects on the Hirwaun Common character area during the course of construction. It concludes, however, that these effects will be of a temporary duration and recognises that the designation of a character area provides a means by which landscape can be defined, rather than one where the intention is to prevent development. The Special Landscape Area designation is one which seeks to restrict development that may have a negative impact upon it. The assessment concludes that whilst effects may be significant for the two closest Special Landscape Areas, the designation covers a very large area of land within the County Borough and that consequently the overall proportion of the Special Landscape Areas affected by this development would be small and, of course, temporary.

The Landscape Assessment also considers the impacts of the development during the operational phase. It again concludes that those landscapes most likely to be significantly affected are Hirwaun Common, as well as three neighbouring areas that adjoin it, together with its wider, planning designation, as being part of one of the Special Landscape Areas. The wider landscape, including the Brecon Beacons National Park would not be significantly affected.

### Visual Assessment

As indicated by the computer generated 'Zone of Theoretical Visibility' (ZTV) and site surveys, the development's potential visibility is determined by the distinctive local topography. One consequence of the area's topography is that nearly all of the area's more populous settlements are located at low elevations, often the main river valleys, and as such people living and working in these places will often not see the wind farm because their views of elevated areas are restricted by the steep valley sides. As a consequence of the area's distinctive topography there will be very

few views of the wind farm available especially from the south, south-west and west. The assessment considers that the main visual impacts will be upon Hirwaun, Penywaun and the southern edge of Aberdare and Abernant although it recognises that the potential views of many of the residents in these settlements will be screened by buildings, vegetation and local topographical variations. Hence only a very small proportion of the people living, working and undertaking recreational activities within the 30 km radius study area will have any views of wind farm.

One of the key conclusions is that the wind farm will only have a significant impact upon views available within approximately 5 km of the wind farm. This is because at distances greater than this, even when they will be visible, the turbines will be too small to be the dominant component in that view. This situation will apply to the views that could be available from one sixth of the Brecon Beacons National Park that is within the ZVI. These conclusions are supported by the photomontages and wireframes in the assessment.

## Noise

### Construction Noise

During the construction period a range of different activities would take place within the site, but those likely to create most noise will be during the track laying stage and while excavating and laying the turbine foundations.

While it may be possible to hear construction noise at the houses closest to the site, they are quite far away from construction activities, and therefore it is unlikely that construction noise will present a significant impact. HGV deliveries are unlikely to have an impact due to the high number of vehicles that already use the A465. HGV deliveries, other than for the turbines will be limited to weekdays only, although vans and cars may continue to access the site at weekends.

### Operation Noise

Guidance recommends that noise from the wind farm, should not exceed existing noise levels (the baseline) by more than 5 decibels.

A noise model was been constructed to present a worst-case scenario. It showed that the recommended noise level would not be exceeded either in the day or at night in any wind speed provided that lower noise controls are applied to two of the twelve wind turbines. The development, in terms of operational noise is considered to be acceptable.

## Ecology and Nature Conservation

The ecological assessment was carried out over two years by gathering relevant existing data about the site and then surveying the site using standard methodologies, in an effort to find the location of interesting and protected habitats and mammals.

The site is primarily rough grazing. There are habitats of interest within the site and whilst none are protected, it is the intention to

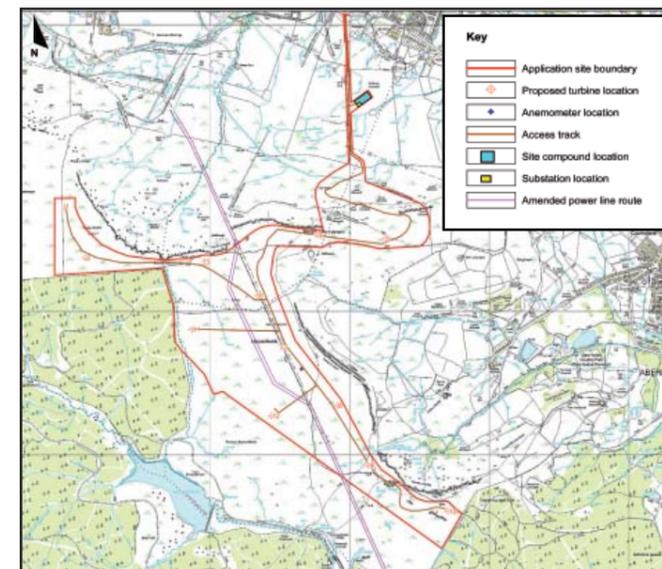
designate an adjoining site (approximately 50m at its closet part) as a Site of Importance for Nature Conservation as one of the largest blocks of upland vegetation in the Rhondda. The proposed development would not have any direct effects upon this site.

An area extending beyond the proposed development has been surveyed for the presence of protected species and the results of this work confirm that the survey area is little used with no evidence found of protected mammals, reptiles or amphibian on those parts of the site that would be the subject of direct development. The ecological assessment concludes that there will be no significant impacts upon the nature conservation of the site. Due to the comparatively low level of habitat importance on the site, the applicant supports the preparation of a habitat management plan.

## Birds

A number of surveys were undertaken to assess the presence of different bird species the results of which determined the final turbine layout to ensure that disturbance would be minimised. There are certain specifically protected species which breed in the area surrounding the site. Potential impacts upon them have been considered in a confidential annex (to prevent identification of nesting sites), separate to the main ES.

The breeding bird community present at Hirwaun is typical of upland areas. Whilst there may be some temporary disturbance caused to these species during the construction period evidence shows that it is unlikely that there will be any long-term change in breeding bird populations. The construction of the wind farm is considered to have no significant impact upon these birds. During its operational life it may have, at worst, a minor impact in respect of collision risk. A Monitoring Plan will be agreed with consultees with the principal aim of increasing the amount of bird - wind farm interaction data that is currently available.



Proposed Development



Predicted View from Cefn-Pennar Mountain Ash