Convatec Green Manufacturing Hub, Rhymney

Non-Technical Summary

convatec
— forever caring —

wardell armstrong

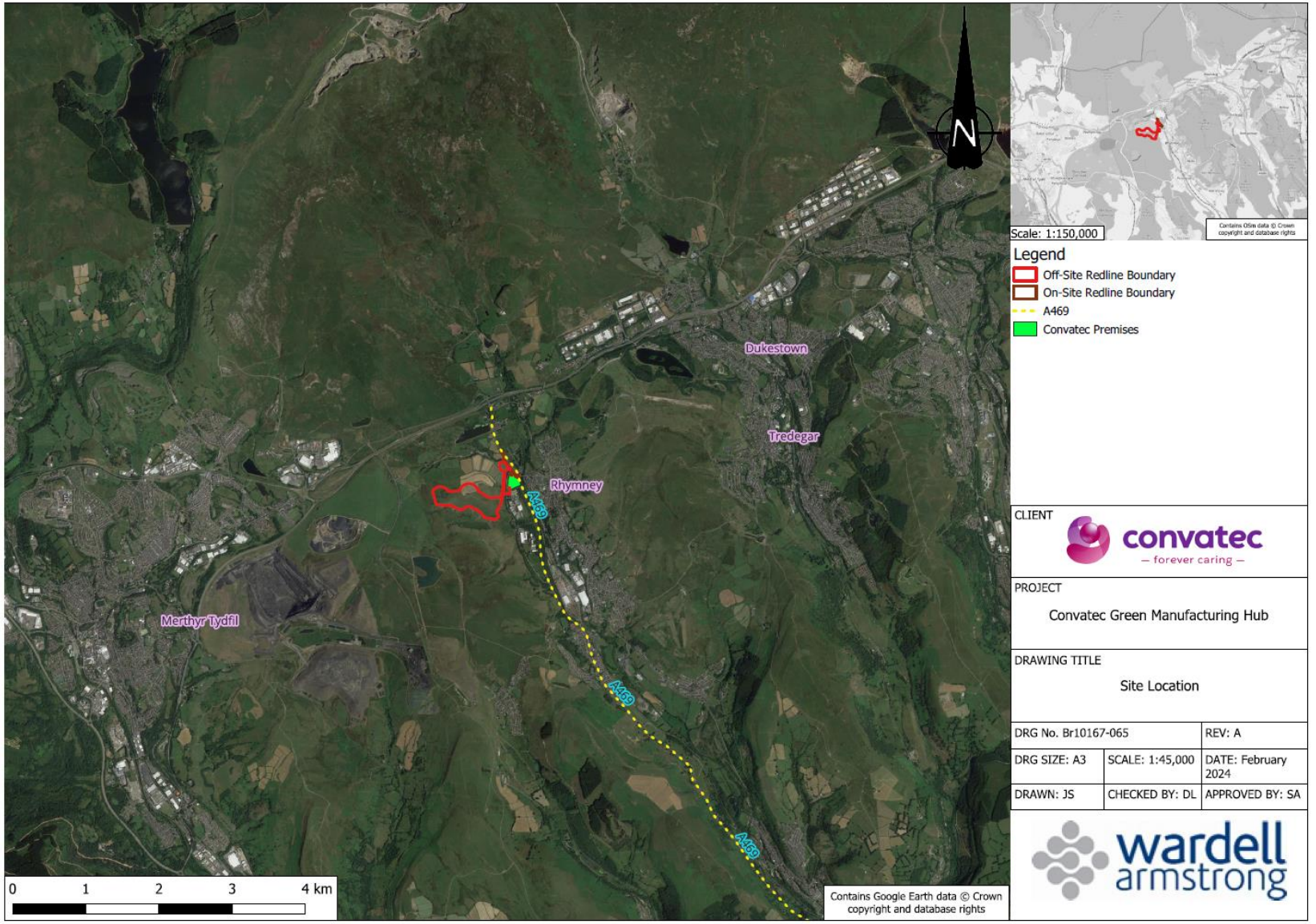
Introduction

This report provides a summary, in non-technical language, of the Environmental Impact Assessment (EIA) undertaken in support of a Development of National Significance (DNS) application for a Green Manufacturing Hub ("the Proposed Development") on land west of the Heads of the Valley Industrial Estate, Rhymney, Caerphilly ("the Site").

The Proposed Development consists of three wind turbines with a tip height of 150m, and a 5MW solar array. The combined installed capacity of the Proposed Development will be approximately 20MW.

This Non-Technical Summary (NTS) provides a brief Site description, a discussion of the proposals and then presents the assessment findings for each technical section of the Environmental Statement (ES). For further, more detailed technical information relating to the existing baseline conditions, the Proposed Development and the impact assessment, reference should be made to the ES

Site Location



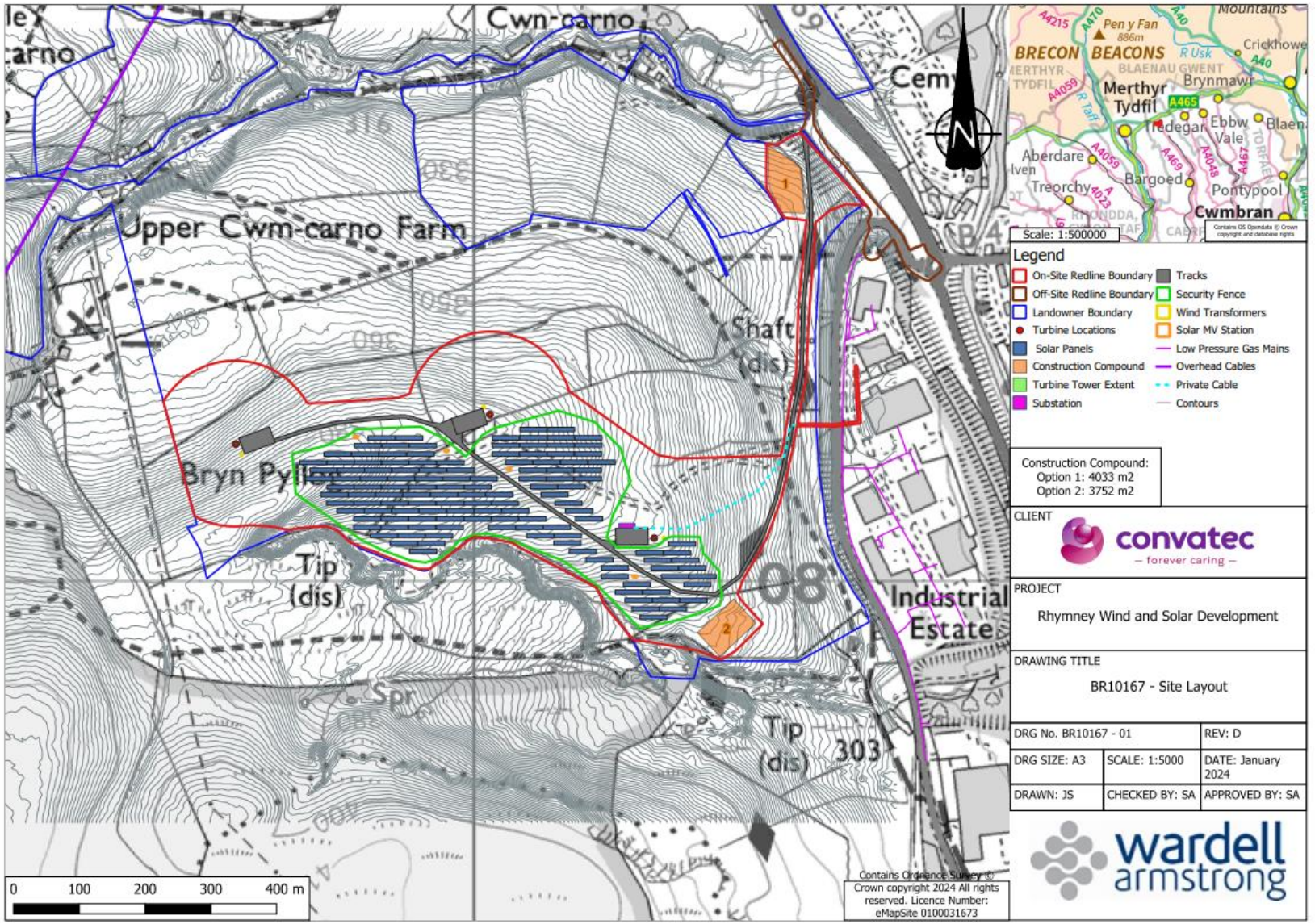
Description of the Site

The Site lies on the east/south-east facing hillside adjacent to the west boundary of the Heads of the Valley Industrial Estate in the town of Rhymney, Caerphilly, South Wales. The Site currently consists of several fields of low-quality agricultural land, bound by a mix of scrub, hedgerows and open/featureless boundaries.

The Site is broadly bound by the Nant Carno stream, local roads with scattered properties and further improved grassland to the north, the Heads of the Valley Industrial Estate and the A469 to the east, further grassland and disused tips to the south and an un-named local road, grassland and disused tips to the west.

Description of the Site

The Proposed Development



The Proposed Development

The Proposed Development would comprise of three wind turbines, expected to be a maximum of 150m to tip, with an installed capacity of approximately 15MW, along with a solar farm of approximately 5MW installed capacity. The Proposed Development would be connected via private wire to Convatec Rhymney's manufacturing facility, with any excess to be exported locally.

The main elements of the Proposed Development are as follows:

- Three wind turbines of approximately 150m tip height, with a combined installed capacity of approximately 15MW, each with external transformers, foundations, crane hardstandings and storage areas
- Ground mounted solar photovoltaic panels with an installed capacity of approximately 5MW
- Electrical substation and control building
- Access tracks
- Underground power cables to link the turbines and solar array to the substation and Convatec's manufacturing facility
- Steel tower anemometer mast for monitoring wind speeds and turbine performance
- Temporary construction and storage compounds

The Proposed Development

Note – The wind turbine shown in the top left image is for illustrative purposes only – the Green Manufacturing Hub turbines will be light grey in colour without the red stripes.

The DNS Process

A Development of National Significance (DNS) is a type of planning application for a large infrastructure project that needs to be decided by Welsh Ministers rather than the Local Planning Authority (LPA), because they are of national significance. Energy developments with an installed capacity of 10MW and above are required to be submitted as a DNS.

DNS applications are submitted to Planning and Environment Decisions Wales (PEDW), who will then undertake consultations, assess the development and write their recommendations into a report for Welsh Ministers, who will then decide whether planning permission should be granted or refused.

Before the DNS application is formally submitted, statutory pre-application consultation must be undertaken by the developer, to ensure that the local community and consultees have a chance to understand the likely environmental impacts of the development, and provide feedback where necessary. The ES is then updated and the application finalised. Following this, the DNS is submitted to PEDW, and the LPA will prepare a Local Impact Report. The application then proceeds to the examination stage, before the application is determined by Welsh Ministers and a decision issued.

Scope and Approach

The scope of the EIA has been developed through discussions with PEDW and informed by consultation with relevant consultees. The following environmental assessments have been undertaken as part of this EIA:

- Landscape and Visual Impact Assessment
- Noise
- Historic Environment
- Ground Conditions
- Ecology
- Ornithology
- Land Use and Soils
- Transport
- Climate Change
- Telecommunications and Utilities
- Aviation
- Glint Assessment
- Shadow Flicker Assessment
- Water Resources
- Socio-Economics
- Human Health

For each environmental discipline, the method of assessment differs according to the guidance documents that relate to the discipline. However, the overarching assessment approach is as described overleaf.

Scope and Approach

Step 1 – Establish the Baseline

The baseline conditions refer to the current status of the Site and the surrounding area (which, together, comprise the study area) that relate to the environmental discipline(s) being assessed. For example, noise surveys were undertaken to ascertain the existing noise levels surrounding the Site

Step 2 – Assess the Effects

The standard approach to each assessment is to identify how sensitive the baseline is to change (i.e. impact) as a result of the Proposed Development and to determine the magnitude of that change. The assessment of sensitivity and magnitude of change are then combined to provide an overall level of effect of the impact. Depending upon impact, an effect may be adverse or beneficial. Effects assessed below a certain level are considered to be 'Not Significant' and effects assessed as being above a certain level are identified as being 'Significant'. Where significant adverse effects are recorded, mitigation measures are identified to avoid, reduce or remedy these effects. Where possible, enhancements are recommended for beneficial effects.

Scope and Approach

Step 3 – Identify Mitigation Measures

Where possible, potential adverse effects are ‘designed out’ of the design proposals as far as practicably possible. Any remaining adverse effects are then addressed via mitigation measures intended to avoid, reduce or remedy the potential adverse them. This may include the adoption of best practice working methods and techniques, or specific strategies or action plans.

Step 4 – Assess Residual and Cumulative Effects

The potential impacts of the proposals are reassessed with the mitigation measures in place and the resulting effect is referred to as the ‘residual effect’. It is the purpose of the mitigation measures to have reduced any potential adverse effects to the lowest level possible. Cumulative effects have also been considered as part of this assessment. This includes potential cumulative effects occurring as a result of different impacts of the Proposed Development in combination with each other; and potential cumulative effects occurring as a result of the Proposed Development in combination with other nearby developments.

Environmental Statement

The Environmental Statement combines each of the individual environmental assessments, and also includes several non-technical chapters which provide context for the Proposed Development and assess any residual and cumulative effects. These chapters are:

- Introduction
- EIA Process
- Planning Policy
- Site Description
- Project Description
- Assessment of Alternatives
- Residual Effects
- Cumulative Effects

An overview of each of the environmental assessments undertaken as part of the EIA is provided overleaf.

Landscape and Visual Impact Assessment

This Chapter reports the likely significant effects of the Proposed Development in terms of landscape character and visual amenity in the context of the Site and surrounding area. It considers the likely significant effects of construction, operation and the decommissioning of the Proposed Development on landscape and visual receptors.

Landscape assessment studies:

- direct effects upon specific landscape elements, especially prominent and eye-catching features;
- change in character, which is the distinct, recognisable and consistent pattern of elements that creates distinctiveness and a sense of place;
- subtle effects that contribute towards the experience of intangible characteristics such as tranquillity, wildness and cultural associations; and
- effects on designated landscapes, conservation sites, and other acknowledged special areas of interest

Landscape and Visual Impact Assessment

Visual effects relate closely to landscape effects, but they concern changes in views and visual amenity. Visual assessment concerns people's perception and response to changes in visual amenity. Effects may result from new landscape elements that cause visual intrusion or new features that obstruct views across the landscape.

Both landscape and visual effects can be adverse, beneficial or neutral, short, medium or long term, permanent or temporary, reversible or irreversible, direct (an effect that is directly attributable to the proposed development) or indirect (effects resulting indirectly from the development as a consequence of the direct effects), and cumulative, relating to additional changes that may arise when the Proposed Development is considered in conjunction with other similar developments.

As it is not possible to enter the curtilage of private properties without residents' agreement, the assessments have been made from the nearby roads and footpaths.

Due to the topography, potential visibility of the Proposed Development is largely within a 20km radius, with a more limited area of potential visibility up to and beyond 45km.

Landscape and Visual Impact Assessment

The assessment has identified that the significant landscape and visual effects of the proposed development would be contained within a relatively limited area to the site and immediate landscape and visual context that surrounds it. Significant effects are broadly a result of the wind turbine elements of the proposed development.

Significant landscape character and visual amenity effects occur within approximately 10km of the proposed development. The majority of which occur within 5km, but the availability of elevated views affords a limited number of more distant views.

Both landscape and visual effects are long term (over 10 years) and reversable. On decommissioning, all significant effects will diminish, resulting in no impacts on both landscape character and visual amenity as the site will generally return to its baseline conditions.

Some significant effects on landscape character and visual amenity are typical of wind turbine developments due, mainly to their height and generally extensive visibility and the difficulties in mitigating tall structures. Given the elevated nature of the site, the valley and mountain range surroundings and large number of sensitive receptors, a limited number of significant effects is considered acceptable in terms of landscape character and visual amenity.

Landscape and Visual Impact Assessment

View from east, at Rhymney Common

View from south east, Hill Street/B4256

View from south west, at Merthyr Common

Noise

This chapter provides an assessment of the noise and vibration impact of the Proposed Development. The operational noise assessment has been carried out according to the Energy Technology Support Unit (ETSU) report ETSU-R-97 and the Institute of Acoustics Good Practice Guide. This is the approved assessment method stated in Welsh Government guidance for onshore wind turbines. The ETSU guidance advises on noise limits for wind turbines which are thought to *"offer a reasonable degree of protection to wind farm neighbours, without placing unreasonable restrictions on wind farm development"*.

Predicted operational noise levels are very low and are well below the applicable limits. The turbine blades will be provided with trailing edge serrations and low noise modes are proposed. For the receptors listed in the Pen Bryn Oer planning consent, the cumulative effect of the Proposed Development is very small with a maximum increase of 0.6 dB predicted. The noise limits imposed on Pen Bryn Oer will not be exceeded as a result of the Proposed Development.

In terms of operational noise, the development can meet both stand-alone and cumulative noise limits for all scenarios derived according to guidance document ETSU-R-97. No significant environmental effects, including cumulative effects, are identified.

Noise

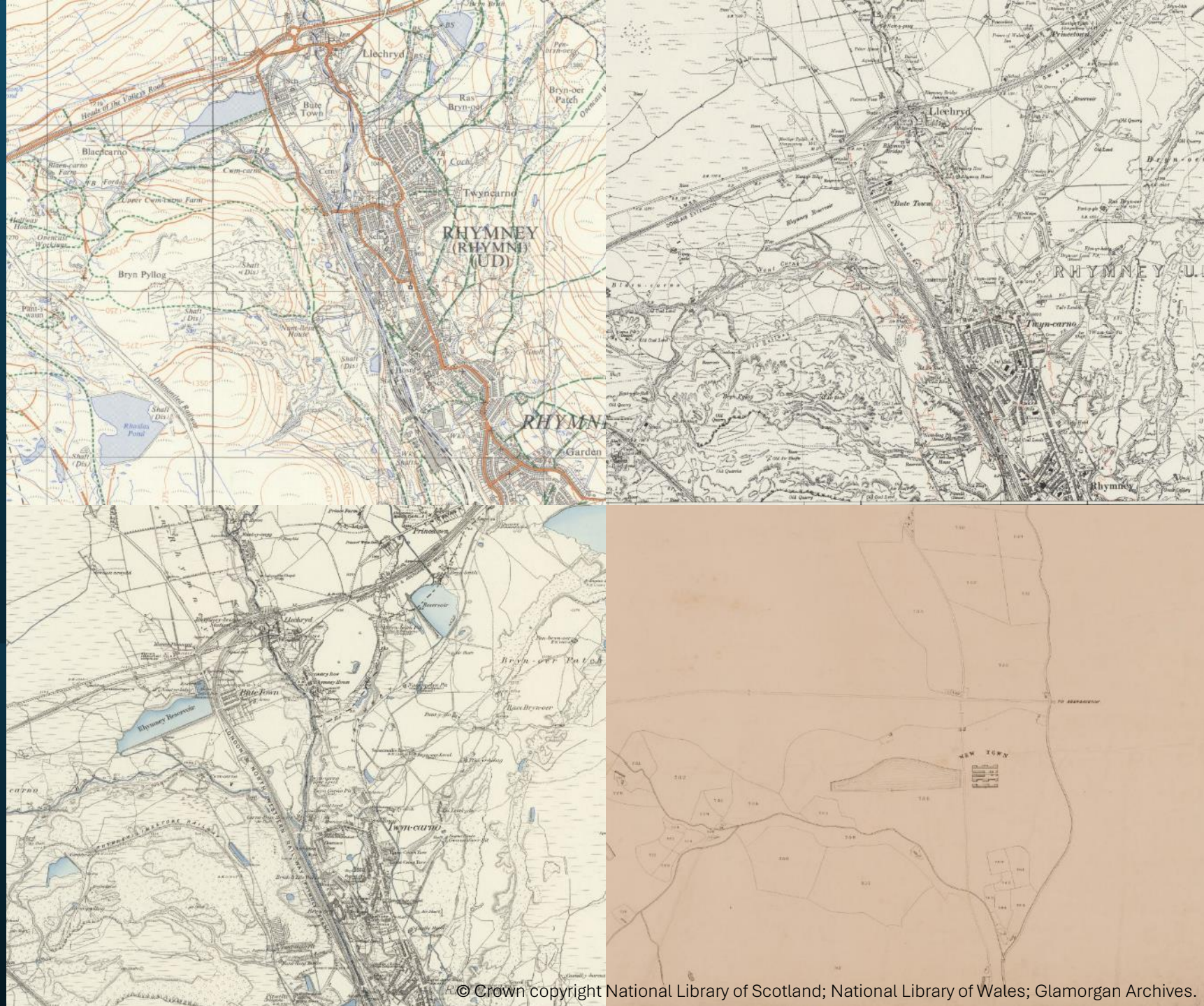
Credit: build energy (https://www.buildenergy.co.uk/services/acoustics/noise-impact-surveys/)

Historic Environment

This Chapter reports the likely significant effects of the Proposed Development in terms of Archaeology and Heritage in the context of the Site and surrounding area. In particular it considers the likely significant effects of the Proposed Development to archaeological remains within the Site and to designated heritage assets within the vicinity of the Site through potential changes introduced to their settings.

The assessment undertaken of the potential for the Proposed Development to impact physically buried archaeological remains and to indirectly impact upon the significance of designated heritage assets through change within their setting has identified a number of potential adverse effects. The identified potential effects range in scale up to, but would not exceed, moderate adverse (significant).

Historic Environment



Historic Environment

In respect to archaeological remains, medium potential for remains dating to the medieval period. Again, any such remains are likely to have been heavily disturbed or entirely truncated by later activity. The medieval remains, in consideration of the remains uncovered during the nearby excavations and due to the peripheral location of the Site upon the mudflats beyond the River Cadle and beyond the historic core of the town, would likely be of low to medium interest.

In contrast, there is high potential for the presence of post-medieval remains in the form of assets relating to the presence of mining and industrial activity within and surrounding the Site. These remains, however, would be of negligible to low interest. Likewise, there is medium potential for modern remains in the form of mining assets. These remains would be of negligible interest.

Overall there is evidence for archaeological remains to be present within the Site although there is no reason to expect any remains of high (national) significance. As such there is no evidence to reasonably indicate the potential for the presence of archaeological remains which would preclude development. Therefore, it is anticipated that no further works are required to determine the application; consent could be granted on this basis.

Ground Conditions

This Chapter reports the likely significant effects of the Proposed Development in terms of Ground Conditions in the context of the Site and surrounding area. In particular it considers the likely significant effects of the construction, operational, and decommissioning phases of the Proposed Development on ground conditions, and any pre-existing contamination present across the Site and surrounding area.

The Site was historically located within an area of coal workings both at surface and at depth. The map records indicate a series of mining features such as shafts, engine house, surface workings, earthworks/tips, surface ponds/reservoirs, and the Rhymney Limestone Railway, all present across the Site from the earliest OS records c.1875 and 1960. Mapping from circa 1972 onwards no longer present the mining features across the site and surrounding area except for disused tips.

The identified sensitive receptors have been grouped as human health receptors, controlled waters receptors, ecological receptors and built environment receptors. Following appropriate mitigation and best practice working, the significance of effects during the construction, operational and decommissioning phases of the Proposed Development are considered to be Negligible to Minor Adverse (Not Significant) to identified receptors.

Ecology

This Chapter considers the potential for significant effects on important ecological receptors associated with the construction, operation and decommissioning of the Proposed Development. The term 'ecological receptors' used in this chapter is equivalent to the term 'ecological features' can refer to species and/or ecosystems and their functions or services.

The following baseline ecological field surveys have therefore been completed within the Site to confirm the presence and distribution of ecological receptors:

- Extended Phase 1 habitat survey (including searches for protected species);
- National Vegetation Classification survey; and,
- Bat surveys (including activity and preliminary roost appraisal)

Of the species surveyed, only commuting/foraging bats were identified as requiring further assessment, particularly during the operational phase of the Proposed Development. However, the impact of bat collision risk mortality are subsequently considered to be of no more than a Long-term effect, of Low magnitude and of Minor adverse significance and which is Non-significant.

No significant effects on ecological receptors as a result of the Proposed Development have been identified.

Ecology

Common pipistrelle bat in flight. Photo (c) Hugh Clark, Bat Conservation Trust.

Ornithology

This chapter considers the potential for significant effects on important ornithological receptors associated with the construction, operation and decommissioning of the Proposed Development. The assessment considers the following potential impacts upon ornithological receptors associated with construction, operation and decommissioning of the Proposed Development:

- collision mortality – the risk of mortality resulting from collision or interaction with the turbines and/or other wind farm infrastructure; and,
- disturbance/ displacement of species - disturbance and displacement of birds from the area occupied by the Proposed Development and surrounding areas as a result of the Proposed Development, including through direct habitat loss.

Baseline ornithological field surveys were undertaken to confirm the presence and distribution of ornithological receptors, including two years of Vantage Point Flight Activity Surveys and Moorland Breeding Bird Surveys, and Breeding Raptor and Owl Searches. Following these surveys, only Red Kite and Kestrel were found to require further assessment to understand the potential for significant effects as a result of the Proposed Development. No significant effects on Kestrel or Ride Kite were identified as a result of the Proposed Development.

Ornithology

Credit: David Chapman / Alamy Stock Photo; Credit: Our Wild Life Photography / Alamy Stock Photo

Land Use and Soils

This Chapter assesses the impact of the Proposed Development upon Soils and Agricultural Land in relation to the Site, considering the likelihood and significance of impacts due to the loss of land (agricultural) and soil damage / loss.

A site-specific Soil and Peat survey found that the agricultural land involved is Grade 5 (non-BMV) land. The site has disturbed soils resulting from restoration activities following historic coal mining. The Soil and Peat survey determined that there is no Peat present within the red-line boundary of the proposed development site.

With adoption of the mitigation measures such as appropriate soil handling during the construction phase, and reducing the potential for soil compaction through appropriate construction traffic management, both the damage and loss of soils during construction will be temporary/reversible or avoided. Following mitigation, the magnitude of change for both soil loss and soil structural damage is Low, resulting in a Minor Adverse effect that is not significant in EIA terms.

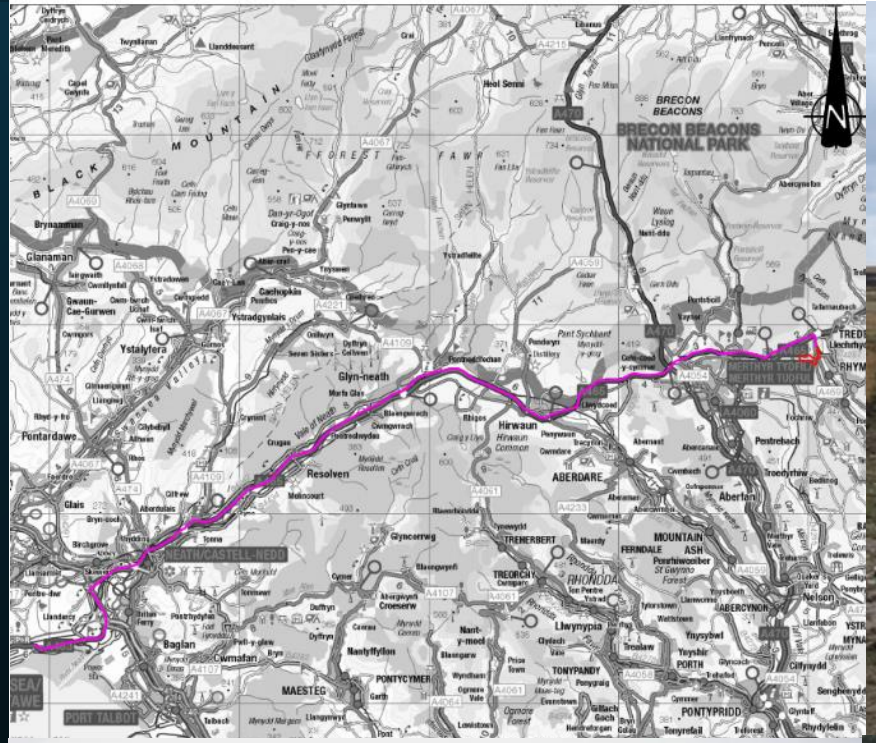
Transport

This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development on Transport. In particular it considers the potential for likely significant effects of severance to communities and of delays, amenity and safety of motorised and non-motorised road users.

Key conclusions are:

- No effects on people living in the study area are anticipated, because there are no residential properties with direct highway access. Negligible effects on people working in the study area are anticipated, because there is just one agriculture related property with direct access to the A469. No safety effects are identified on roads in the study area, with just 4 personal injury accidents on roads over the five years including 2022, and no recurring patterns.
- With the exception of Abnormal Indivisible Loads (AILs) (ie. the delivery of the larger wind turbine components), effects on road users are considered adverse and negligible, because the scale of traffic related to construction is both time limited and imperceptible, within the daily fluctuation of baseline traffic. Similarly, no effects are anticipated for cyclists using the National Cycle Network 468 because the cycle route is fully segregated from the A469 and because construction traffic is imperceptible.

Transport



Wind Turbine blade delivery passing through Edenfield cc-by-sa/2.0 - © Paul Anderson - geograph.org.uk/p/708529; Nacelle en route to Scout Moor Wind Farm cc-by-sa/2.0 - © Paul Anderson - geograph.org.uk/p/974254; Wind turbine tower transport cc-by-sa/4.0 International- © Elgaard, 16/08/2015

Transport

- Some 13 AILs are planned over two specific weeks. Safe and convenient access is likely to be achievable, for example through restricting delivery times to overnight periods and through rolling road blocks. Discussions with the South Wales Trunk Road Agent, Caerphilly County Borough Council and the police concerning preliminary proposals set out in the Transport Statement would be essential in taking this forward. Effects depend on details of the access strategy but at this stage are considered adverse and moderate.
- During the operation phase, traffic to the Proposed Development is likely to be limited and occasional and the effects are likely to be similar to the current agricultural land use. The area occupied by solar panels will be fenced off and therefore accessibility reduced for recreational users. Effects are therefore considered adverse and negligible.
- People walking and cycling and equestrians using the bridleway and footpath near the site access are vulnerable to adverse and substantial effects of amenity, delay, fear and intimidation and accidents and safety. Overcoming these effects relies on ongoing care and attention during the 20 weeks of construction. With mitigatory measures set out in the Transport Statement for the preliminary Construction Traffic Management Plan, such as weekend access restrictions and presence of qualified banksmen during all vehicle manoeuvres at the site access and where onsite access tracks cross footpaths, these effects are reduced to adverse and moderate.

Climate Change

This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development on climate and the vulnerability of the Proposed Development to climate change (together, "Climate Change"), considering the likely significant effects of greenhouse gas (GHG) and carbon emissions on the global climate and the impacts of climate change on the Proposed Development.

The chapter is presented in two parts to cover the following:

Part A – Assessment of impacts on climate: An impact assessment that focuses on the potential effects of the Proposed Development (i.e. greenhouse gas emissions (GHG) on the climate through an assessment of whole life carbon). This includes an overview of how the Proposed Development aids in the mitigation of climate change.

Part B – Assessment of climate resilience: A review of the resilience of the Proposed Development to the potential effects arising from projected changes in future climate. This includes a qualitative discussion of the vulnerability and sensitivity of the Proposed Development to climate change impacts, with an assessment of the magnitude of potential effects.

The lifetime emissions savings from solar and wind generated energy result in an overall beneficial impact regarding GHG emissions. The negative emissions associated with the operational phase of the development counteract emissions created during construction and decommissioning. Overall, the Proposed Development is considered to have a negligible, not significant impact on climate change in that it exceeds the requirements of the UK net zero trajectory but does not contribute to carbon reduction in all development phases.

Climate Change

Telecommunications and Utilities

This chapter of the EIA Report has been prepared by Wardell Armstrong and presents the assessment that has been carried out into the potential of the Proposed Development to cause electromagnetic interference (EMI) on television, radio and microwave fixed links within in the site vicinity. The assessment also summarises the desk-based assessment to identify overground and underground utilities in close proximity to the Proposed Development.

Wind turbines, due to their size and nature, have the potential to interfere with below ground infrastructure as well as electromagnetic signals passing above ground. Below ground infrastructure can include water pipes, drainage and sewerage pipes, gas mains, and, buried electrical cables. Above ground signals can include telecommunication links, microwave links, and television reception. The potential effects assessed in this Chapter were identified through consultation with telecommunication operators in the area. A preliminary assessment of utilities was undertaken, based on a desk-based linesearch, to help identify any overhead or buried utilities in the vicinity

Following detailed assessment of the Proposed Development, and nearby utilities infrastructure and fixed links, it has been established that there will not be any significant adverse effects arising from the Proposed Development.

Telecommunications and Utilities

Aviation

This chapter assesses the potential for the Proposed Development to affect aviation communications, navigation and surveillance infrastructure in the vicinity of the site. The following are considered:

- Civil aviation interests, including 'En Route' facilities managed and operated by National Air Traffic Services (En Route) Ltd (NERL), airports, licensed and unlicensed aerodromes, light aircraft landing strips, microlight site, parachute and gliding sites; and
- Military facilities including Ministry of Defence (MOD) Airfields and military Air Traffic Control (ATC) facilities, Air Defence Radars, Danger Areas and Ranges and low flying operations.
- Search and Rescue and other Emergency Helicopter Support Units (EHSUs) including Wales Air Ambulance.

The study area for aviation assessments is multi-layered and incorporates recommended distances around private land strips and unlicensed airfields. The study area also includes physical safeguarding considerations around military and civil airports, civil airport radars, military airfield radars and the long-range National Air Traffic Services and military air defence radar network. The largest extent of the study area is determined by the radars which have the range to provide air surveillance over the Proposed Development and may be capable of detecting the turbines. Industry standard risk control measures would be put in place during the construction and operational phases of the Proposed Development, which will minimise the effects of the Proposed Development on Aviation receptors.

Aviation

Glint

This Chapter reports the likely significant effects of the Proposed Development in terms of glint in the context of the Site and surrounding area. In particular, it considers the likely significant effects of glint caused by the photovoltaic (PV) array elements of the Proposed Development on ground-based receptors, including road, rail and local dwellings. In addition, glint effects on aircrafts operating in the surrounding area will be considered.

Glint can only occur when direct sunlight can reach the solar panels. Diffused lighting, caused by such weather conditions as cloud, fog, and mist cannot cause glint due to the low energy intensity of the light incident on the panels. The assessment considered ground and air receptors including residential dwellings, commercial buildings, roads, railway and aviation receptors.

During the construction phase, for rail and road receptors, the overall significance of effect is Not Significant without mitigation. For dwelling receptors, the significance of effect is Not Significant without mitigation. There are no aviation receptors in the study area so there will be no effects during this phase.

During the operational phase, effects will vary throughout the year as the sun reaches different heights in the sky and different weather conditions are observed. For ground receptors, glint was predicted at some of the Observation Points and routes, but with the current levels of screening and future design updates, these effects will be Not Significant.

For the route receptors, a mixture of green and yellow glint was predicted, but with the current levels of screening and future design updates, these effects will be Not Significant. There are no aviation receptors in the study area so there will be no effects during this phase. For the Railway, a small amount of yellow glint, but predominantly green glint was predicted. However, the section of the railway assessed is well screened and so the railway will not experience any glint. Therefore, these effects will be Not Significant.

Glint

Shadow Flicker

This chapter identifies and assesses the potential effects that the Proposed Development will have on human receptors with regard to shadow flicker from the proposed wind turbines.

Under certain daylight conditions, the relative position of the Sun can cause shadows to be cast from a wind turbine. These shadows move as the turbine blades rotate, and the sun appears to track across the sky. At certain times of the day and of the year, this shadow movement may be cast across nearby dwellings. When observed from inside the building and viewed through a narrow aperture such as a window, the effect created may appear as flickering of light and shadow. This phenomenon is known as shadow flicker.

Where the potential for Shadow Flicker is identified, mitigation will be delivered by programming the turbines with the potential to generate shadowing effects to switch off during times when shadow flicker could occur. This will be achieved by installing a light meter at the wind turbine and then switching off the turbine at times when shadow flicker has been predicted and natural light levels on that day are sufficiently strong to cause the potential for shadow flicker.

Following mitigation, no shadow flicker will be experienced at any of the inhabited properties considered in this assessment.

Shadow Flicker

Water Resources

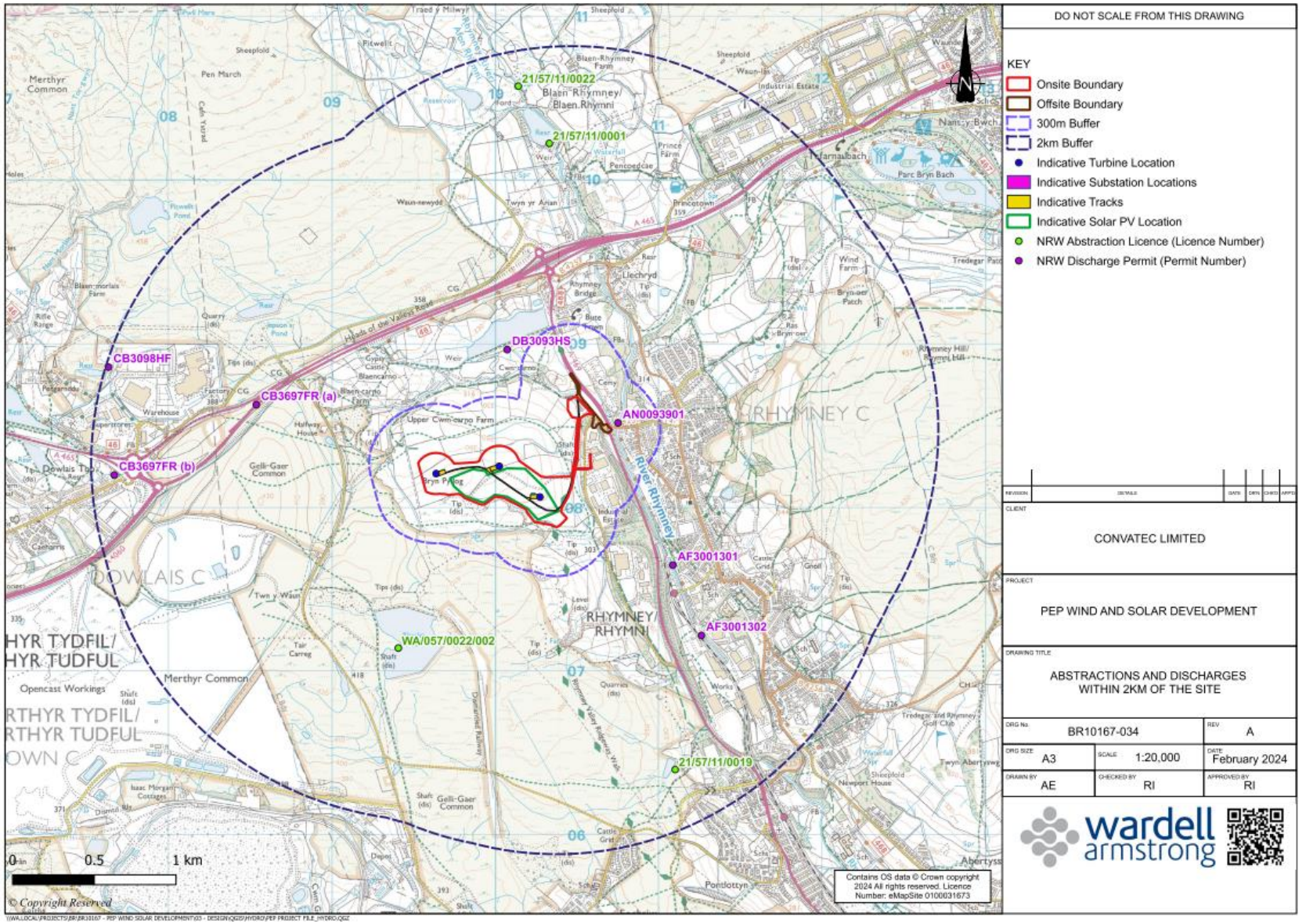
This Chapter reports the likely significant effects of the Proposed Development in respect to the water environment. In particular, it considers the likely significant effects relating to changes in the hydrological and hydrogeological regime or change to water quality.

The Site lies within the Rhymney Operational Surface Water Catchment and the South East Valleys Carboniferous Coal Measures Groundwater Catchment. Key sensitive receptors include the water catchments, the groundwater in the superficial and bedrock aquifers, and the DCWW potable water pump station

The key principles of the water related components for the Proposed Development include the careful design and control of sediment and potential pollutants. Mitigation measures, such as the avoidance of hydrologically sensitive areas, CEMP / DEMP and SuDS, have been incorporated into the design of the Proposed Development. The assessment has assumed the implementation of good industry guidance and best practice measures, such as pollution prevention plan and sediment management measures, would avoid the likelihood of potentially significant effects occurring. Watercourse crossings would be designed to convey the 1 in 100-year plus climate change flood event. It is therefore considered that there would be no large-scale change to hydrology or flood risk upstream or downstream of the Proposed Development.

Potential effects on the water environment are those which may change the hydrological and hydrogeological flow regime, and those which may cause pollution and a degradation in water quality. The assessment found that, with appropriate mitigation in place, the scale of potential effects was no greater than minor adverse. As such, effects on the water environment would be not significant.

Water Resources

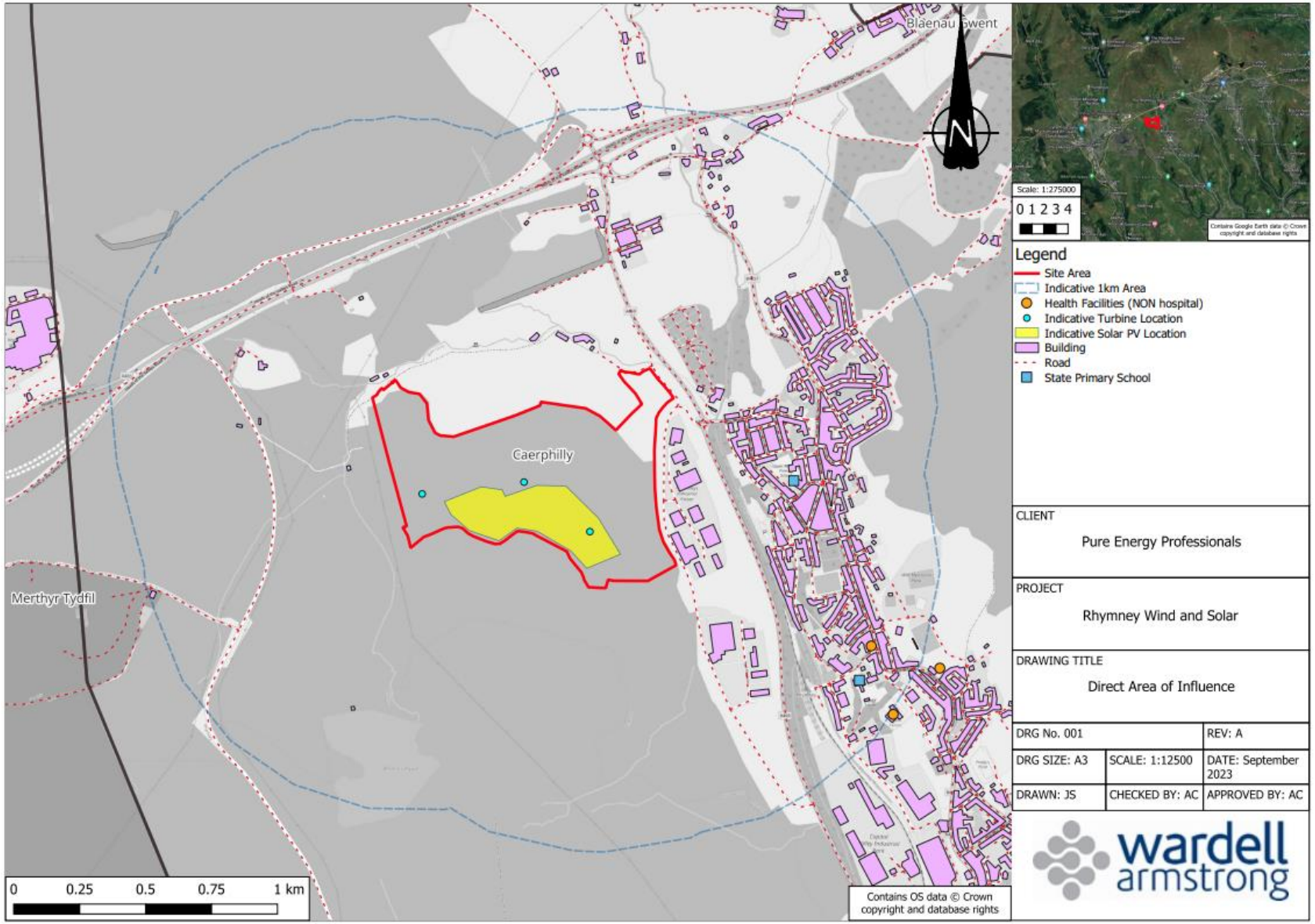


Socio-Economics

This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development on socio-economic aspects. It considers the potential for likely significant effects of the Proposed Development, in terms of employment, local economy, pollution and traffic, tourism, livelihoods, recreation, local services, and wellbeing during construction, operation and decommissioning phases of the Proposed Development.

The assessment identified three minor beneficial impacts which, following enhancement measures, resulted in three moderate beneficial impacts (significant). These were the generation of local employment, increased contribution to the local economy, and increased energy security. Similarly, three moderate adverse impacts were identified in the pre-mitigation assessment. These were restrictions to Public Right of Ways, increased commuting times and a change in the sense of place. Following the implementation of mitigation measures, they resulted in three minor adverse impacts (not significant).

Socio-Economics

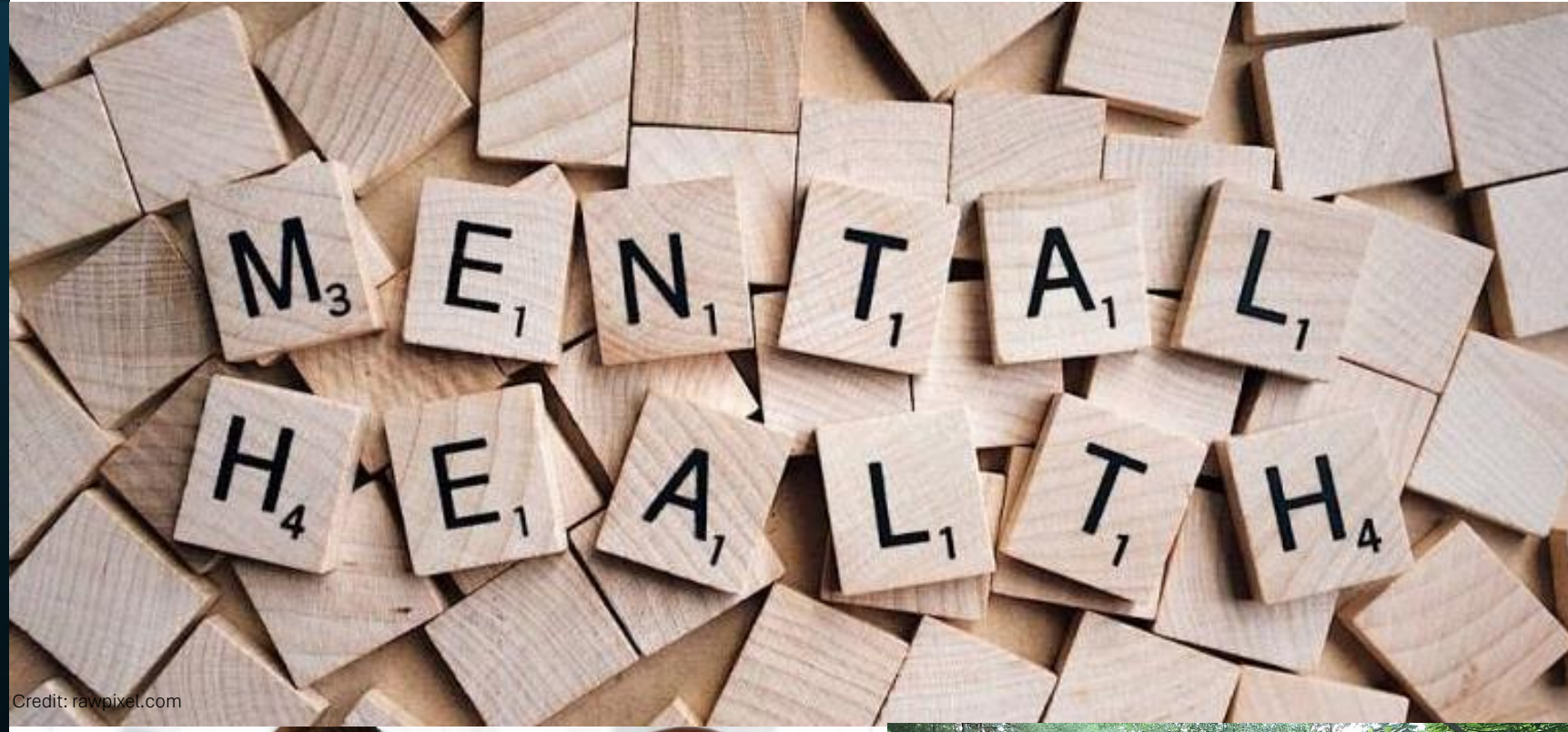


Human Health

This Chapter reports the preliminary assessment of the likely significant effects of the Proposed Development in terms of physical and mental health, pollution and traffic, livelihoods, recreation, local services, and wellbeing during construction, operation and decommissioning phases of the Proposed Development.

The assessment identified two minor beneficial impacts which, considering the implementation of enhancement measures, resulted in one moderate beneficial impact (significant), relating to increased use of local businesses. Three moderate adverse impacts were identified in the pre-mitigation assessment, relating to impacts on Public Right of Way users, and annoyance to local residents during the construction and operation phases. Following the implementation of mitigation measures, they resulted in three minor adverse impacts (not significant).

Human Health



Credit: rawpixel.com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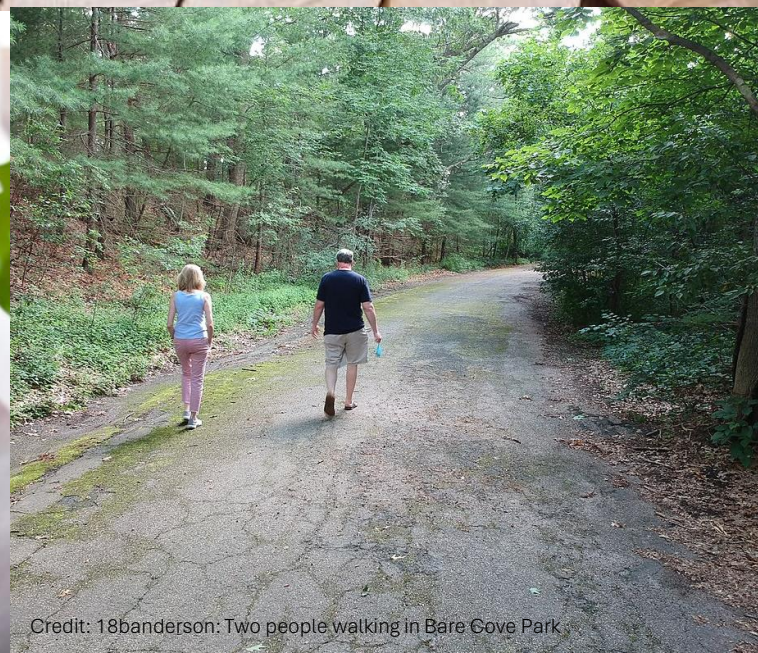
Credit: 18banderson: Two people walking in Bare Cove Park

Residual and Cumulative Effects

A crucial part of the EIA process is to assess the significance of the effects following implementation of proposed mitigation measures, otherwise known as ‘residual effects’. Following the implementation of the mitigation measures outlined within each technical chapter, most residual environmental effects have been assessed as being not significant. Moderate adverse residual effects have been identified in relation to Transport, which relates to the Abnormal Indivisible Load Route and users of the Public Right of Way during the construction phase only.

Significant cumulative effects have only been identified in relation to landscape and visual impacts, which are limited to within approximately 10km of the proposed development and are a result of the introduction of the in-planning Pen March and Manmoel schemes notably intensifying the influence of wind farm development in available views, and subsequently, the introduction of the Proposed Development would extend wind farm development across and wider extent of the view and/or bring wind turbine development closer to the observer due to its proximity.

Summary

The Green Manufacturing Hub would provide renewable energy to Convatec's manufacturing facility in Rhymney, Caerphilly, to reduce emissions associated with the manufacturing process.

The Environmental Impact Assessment has identified limited significant adverse effects following mitigation. Moderate adverse residual effects have been identified in relation to Transport, which relates to the Abnormal Indivisible Load Route and users of the Public Right of Way during the construction phase only.

Significant landscape character and visual amenity effects occur within approximately 10km of the proposed development. The majority of which occur within 5km, but the availability of elevated views affords a limited number of more distant views. Both landscape and visual effects are long term (over 10 years) and reversable. On decommissioning, all significant effects will diminish, resulting in no impacts on both landscape character and visual amenity as the site will generally return to its baseline conditions.

Some significant effects on landscape character and visual amenity are typical of wind turbine developments due, mainly to their height and generally extensive visibility and the difficulties in mitigating tall structures. Given the elevated nature of the site, the valley and mountain range surroundings and large number of sensitive receptors, a limited number of significant effects is considered acceptable in terms of landscape character and visual amenity.

Overall, it is demonstrated that the Proposed Development would result in limited significant effects, and offers clear benefits with regard to socio-economics and emissions reductions.