

HABITATS REGULATIONS ASSESSMENT [HRA] RECORD

To be completed by the Merthyr Tydfil County Borough Council (MTCBC) Ecologist in consultation with Natural Resources Wales

Name of relevant MTCBC officer(s):	Matthew Davies (MTCBC Ecologist)
------------------------------------	----------------------------------

INTRODUCTION

There is a requirement under the Conservation of Habitats and Species Regulations 2017 (as amended) to determine if a plan or project may have an adverse impact on a site designated under the same (or preceding Regulations) prior to any consent or permission being determined. The process of undertaking this assessment is known as a Habitats Regulations Assessment (HRA).

The 2017 Regulations include measures to establish and maintain a network of sites protecting habitats which in themselves are valuable and the species they support. These sites form a network that across Europe is known as Natura 2000, and domestically also known collectively as European protected sites. Within the UK, this network consists of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), together with proposed and candidate SPAs and SACs (pSPAs and cSACs). This network also extends to marine environments, with wetland sites of international importance (Ramsar sites) also treated equally within this assessment framework. These sites are collectively referred to in this document as ‘European Sites’.

The 2017 regulations are set out in Parts, with Part 2 including provisions for the selection and designation of sites and Part 6 providing provisions to ensure that assessment of plans and projects are fully considered before being granted consent or permission. They also define the nature of and roles of statutory bodies, competent authorities and the appropriate nature conservation body and the requirements for information to be submitted to these bodies to enable them to undertake the required assessments.

The HRA process consists of four stages, each stage being informed by the one preceding, to ensure an iterative and objective assessment. If the conclusion of Stage 1 is that there will be no likely significant effects (LSE) on any features of a European Site, there is no requirement to undertake further stages. Similarly, if the Stage 2 Appropriate Assessment (AA) concludes there

This is a record of the Habitats Regulations Assessment (HRA) of the proposed development outlined below, undertaken by Merthyr Tydfil County Borough Council as the Local Planning Authority and ‘Competent Authority’.

PROPOSED DEVELOPMENT

Type of application:	Full Planning Permission
MTCBC reference:	P/26/0155
Site reference:	Plot 5 Pengarnddu Industrial Estate, Dowlais, Merthyr Tydfil, CF48 2TA
Brief description of proposal:	Change of Use of a building used for the storage of waste, plant and equipment to a renewable energy facility, including the construction of flue and ancillary works
Documents available to view	Planning Application and supporting documents (including a response from Natural Resources Wales, NRW) found on publicly available MTCBC planning portal: https://www.merthyr.gov.uk/resident/planning-and-building-control/planning-search-and-weekly-lists/

REASON FOR HRA

As part of their consultation response (dated, 29 July 2026 in relation to the above planning application, NRW, made the following comments:

The Usk Bat Sites Special Area of Conservation (SAC) is located approximately 10 km from the application site.

We have concerns that a likely significant effect from the proposed development on the SAC cannot be ruled out. We advise that further information is required to adequately consider the potential impacts on the features of the protected site and in particular to enable your Authority to carry out a Habitats Regulations Assessment under Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (as amended).

The Usk Bat Sites SAC has not been considered within the Air Quality Assessment. The SAC has habitat features of particular sensitivity to air quality changes. The Air Quality Assessment must consider ecological receptors and assess potential impacts on the SAC. The Air Quality Assessment should be updated to include such an assessment.

As the competent authority under the Conservation of Habitats and Species Regulations 2017 (as amended), your authority must, before deciding to give consent for a project which is likely to have a significant effect on a SAC, SPA, or Ramsar site, either alone or in combination with other plans or projects, make an appropriate assessment of the implications of the project for that site in view of its conservation objectives. You must for the purposes of the assessment consult NRW and have regard to any representations we make within such reasonable time as you specify. In the absence of that assessment, NRW cannot advise that the proposals would not result in an adverse effect upon the SAC, SPA, or Ramsar Site.

Therefore, the proposal should first be screened through a Habitats Regulations Assessment as required by the Conservation of Habitats and Species Regulations 2017 (as amended).

STAGE 1: SCREENING

This is the process which identifies the potential effects upon the European Sites and considers if these are likely to be significant. Screening is an iterative process and before moving to Stage 2 it can be repeated if required. Proposals to mitigate any likely significant effects cannot be considered at the screening stage. If the Screening

(Stage 1) identifies that the project or plan, alone or in combination, may have likely significant effects on a European Site and/or its features of interest, or if there is uncertainty, the competent authority must undertake an Appropriate Assessment (Stage 2) of the implications for that site in view of that site's conservation objectives.

1. Is the proposed development a plan or project within the scope of the Habitats Directive?

The proposal is a *project* within the scope of the Habitats Directive.

2. Is the whole of the project exclusively directly connected with or necessary to a management of a European site for nature conservation?

The whole of the project is not exclusively directly connected with or necessary to a management of a European site for nature conservation.

3. Should the project be eliminated from further assessment? (it is a 'project' but it could not have any conceivable effect on any European site)

European Sites

Identification:

NRW's comments (see above) have specifically targeted the *Usk Bat Sites* SAC. This is just outside 10km from the application site (c.10.046m). A search was undertaken (using MAGIC - <https://magic.defra.gov.uk/>) for any European Sites within 11km of the proposed development site to cover any other international sites that may be impacted. This, then also included Cwm Cadlan SAC (c.10595m).

Usk Bat Sites SAC:

Core Management Plan can be viewed here:

[Microsoft Word - Usk Bat Sites Management Plan Feb 08.doc](#)

Annex II species present as a primary reason for site selection:

1. Lesser horseshoe bat, *Rhinolophus hipposideros*

Annex I habitats present, but not a primary reason for site selection:

2. Blanket bog
3. Tilio-Acerion forests of slopes, screes and ravines
4. Calcareous rocky slopes with chasmophytic vegetation
5. Caves not open to the public
6. Degraded raised bogs still capable of natural regeneration
7. European dry heaths

Site description

The site encompasses a series of lesser horseshoe bat roosts, upland habitats, woodlands and cave systems located around the valley of the River Usk near to Abergavenny.

Mynydd Llangatwg is an area of open moorland and bog, with an impressive limestone escarpment along the northeastern edge, and is one of the largest exposures of upland limestone crag in south Wales. The Craig y Cilau National Nature Reserve (NNR) covers a large proportion of this escarpment area, including most of the unquarried scarp, with areas of limestone grassland, scree and quarry spoil,

woodland and scrub. A small raised bog (Waun Ddu) bordered by two small streams has developed below the escarpment. An extensive system of caves lies beneath Mynydd Llangatwg and the plateau is peppered with sinkholes.

The main reason for the presence of the NNR is to help control and manage access to the cave system to protect the bat roosts and the underground geology and also the surface habitats, which support an outstanding assemblage of plants. Species include large and small-leaved lime, several species of whitebeam (including least whitebeam (*Sorbus minima*) which is 7 unique to this area of Brecknock), limestone fern, endemic hawkweeds and alpine enchanter's-nightshade.

The chasmophytic vegetation encompasses the various crevices, nooks and crannies on the cliffs, boulders and partially vegetated unstable slopes of the limestone escarpment. It supports a typical range of ferns, bryophytes and calcareous lichens; these include ferns such as maidenhair spleenwort, mosses like *Tortella tortuosa*, and liverworts like *Scapania aspera*. This site is known to support a number of notable lichen species and provides some of the best examples in the area of calcicolous lichen communities, which include the jelly lichen *Collema cristatum* and examples of lichen communities like the *Leproplacetum chrysodetae* and *Aspicilion calcarea*.

Patches of Tileo-Acerion forest are also scattered along the length of the cliffs on Mynydd Llangatwg and intermixed with beechwood in the Clydach gorge. These areas also support a number of rare whitebeams (*Sorbus* spp.).

Distance + direction to the SAC in relation to the proposed development site:

c.10.046 km ENE

Conservation Objective for Feature 1: Lesser horseshoe bat, Rhinolophus hipposideros (EU species code: 1304):

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The site will support a sustainable population of lesser horseshoe bats in the River Usk area.
- The population will viable in the long term, acknowledging the population fluctuations of the species.
- Buildings, structures and habitats on the site will be in optimal condition to support the populations.
- Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range.
- Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat.
- There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines - there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management.
- All factors affecting the achievement of the above conditions are under control.

Conservation Objective for Feature 2: Blanket bog

- The extent, quality and species richness of the blanket bog vegetation is maintained and, where possible, degraded bog is restored to good condition so that this habitat occupies its full potential range within the site.
- The bog vegetation is largely a mixture of dwarf shrubs, hare's-tail cottongrass and mosses, including bog-mosses.
- Extensive areas of purple moor-grass or hare's-tail cottongrass show signs of recovery towards a more mixed dwarf shrub sward.
- The natural hydrological regime is maintained and there is continued peat formation and thus carbon storage.
- Areas of bare peat are not extensive and most areas show signs of recovery.
- Peat profiles containing important pollen records are maintained.

- All factors affecting the achievement of the above conditions are under control.

Conservation Objective for Feature 3: Tilio-Acerion forests of slopes, screes and ravines

The vision for this feature is for it to be in favourable conservation status within the site, as a functioning and regenerating ash woodland, where all of the following conditions are satisfied:

- There are extensive patches of semi-natural woodland on the cliffs of the Llangatwg escarpment and hillsides in the Clydach gorge.
- The woodland canopy is dominated by locally native species, including lime ash *Fraxinus excelsior*, *Tilia* spp., pedunculate oak *Quercus robur*, hazel *Corylus avellana*, birch *Betula* spp., whitebeams *Sorbus* spp. and, in the Clydach gorge, beech *Fagus sylvatica*. Rare whitebeams are a significant component of the canopy.
- Saplings of locally native species dominate the tree regeneration and there is evidence of sufficient regeneration to maintain the canopy in the long term.
- There is an accumulation of standing and fallen deadwood as the woodland develops.
- The woodland ground flora is composed of a range of typical native plants including enchanters-nightshade *Circaea lutetiana*, dog's-mercury *Mercurialis perennis*, wood-sorrel *Oxalis acetosella*, hart's-tongue *Phyllitis scolopendrium* and wood sage *Teucrium scorodonia*.
- The populations of rare whitebeams are stable or increasing.
- Young sycamore *Acer pseudoplatanus* trees are rare, as are beech *Fagus sylvatica* in areas away from the Clydach gorge.
- Plants indicating disturbance and nutrient enrichment, such as nettles, cleavers and weeds, are not dominant in the ground flora of the woodland.
- All factors affecting the achievement of the above conditions are under control.

Conservation Objective for Feature 4: Calcareous rocky slopes with chasmophytic vegetation

- Sufficient vegetation within crevices remains free from disturbance to support typical plants, including mosses, ferns and rare hawkweeds (*Hieracium* spp.) and allow them to sustain their populations into the future.
- Areas accessible to grazing animals should free from being smothered by ivy or heavily shaded by trees.
- All factors affecting the achievement of the above conditions are under control.

Conservation Objective for Feature 5: Caves not open to the public

- The cave system provides a winter hibernation site for large numbers of lesser horseshoe bats and other bat species, including Brandt's, whiskered, Daubenton's, Natterer's, brown long eared and, occasionally, greater horseshoe bats.
- Numbers of roosting bats are stable or increasing in the system as a whole.
- All factors affecting the achievement of the above conditions are under control. *Conservation Objective for Feature 2: Blanket bog*

Conservation Objective for Feature 6: Degraded raised bogs still capable of natural regeneration

- The extent, quality and diversity of raised bog vegetation is maintained and, where possible, restored to good condition, with active moss and peat growth across the raised bog surface.
- The vegetation consists of a mixture of dwarf shrubs, hare's-tail cottongrass, deergrass and bog mosses, grading at the edges into acid and alkaline flushes influenced by acidic water draining from the bog and springs rising in the limestone catchment.

- All factors affecting the achievement of the above conditions are under control.

Conservation Objective for Feature 7: European dry heaths

- The extent, quality and diversity of heath vegetation within the constituent sites is maintained and, where possible, degraded heath is restored to good condition.
- The main heathland areas have a varied age structure with a mosaic of young heath, mature heath and degenerate heath.
- All factors affecting the achievement of these conditions are under control.

Conservation Status of Feature 1: Lesser horseshoe bat, Rhinolophus hipposideros (EU species code 1303)

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Based on annual counts made at all locations between 2000 and 2006, the lesser horseshoe bat feature is considered to be in **favourable condition**.

Conservation Status of Feature 2: Blanket bog

The conservation status of this feature within the site is considered to be **Unfavourable** (2006).

Assessment carried out in April 2002 indicated that feature condition was: **Unfavourable, no change**. In many areas there was little or no bog mosses and the cover of dwarf shrubs exceeded the upper limits defined. In other areas the vegetation was dominated by hare's-tail cottongrass and the cover of bog mosses was limited.

Past grazing, burning and drainage activity means that some stands of blanket bog have been damaged by deep drainage. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature.

Conservation Status of Feature 3: Tilio-Acerion forests of slopes, screes and ravines

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Assessment carried out in August 2004 indicated that feature condition was: **Favourable, maintained**. All the factors affecting the features appear to be under control.

Conservation Status of Feature 4: Calcareous rocky slopes with chasmophytic vegetation

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Assessment carried out in August 2004 indicated that feature condition was: **Favourable, maintained**. All the factors affecting the features appear to be under control.

*Conservation Status of Feature 5: The conservation status of this feature within the site is considered to be **Favourable** (2006).*

*Based on records of made at all locations between 2000 and 2006, the feature condition is considered to be: **Favourable, maintained**. All the factors affecting the features appear to be under control.*

Conservation Status of Feature 6: Degraded raised bogs still capable of natural regeneration

The conservation status of this feature within the site is considered to be **Unfavourable** (2006).

	Assessment carried out in July 2002 indicated that feature condition was: Unfavourable, declining. The feature is currently (2007) too heavily grazed because the most of it is common land and because it is on the sheltered side of the hill, is subject to high levels of grazing, particularly by sheep. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedance of many of the critical loads identified for this feature. <i>Conservation Status of Feature 7: European dry heaths</i> The conservation status of this feature within the site is considered to be Unfavourable (2006). Assessment carried out in April 2002 indicated that feature condition was: Unfavourable, no change. Past grazing and burning activity means that some stands of dry heath have insufficient cover of dwarf shrubs. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedance of many of the critical loads identified for this feature.
Cwm Cadlan SAC:	<i>Core Management Plan can be viewed here:</i> Microsoft Word - Cwm_Cadlan_SAC_Plan_Feb_2008_A_.doc <i>Annex I habitats, primary reason for selection of this site:</i> 1. <i>Molinia</i> meadows on calcareous, peaty or clayey-silt laden soils (<i>Molinion caeruleae</i>) 2. Alkaline fen <i>Other non-SAC habitats</i> 3. Marshy Grassland (non-SAC), with associated wet heath and acidic flushes. 4. Unimproved neutral grassland. 5. Globeflower <i>Trollius europaeus</i> <i>Site description:</i> Cwm Cadlan is situated approximately 1km north-east of the village of Penderyn and about 4km north of Hirwaun, near Aberdare. The site was notified in 2000 and incorporates the former Cwm Cadlan Grasslands SSSI and Glyn-Perfedd Meadow SSSI. The SAC interests are: • ‘<i>Molinia</i> meadows on calcareous, peaty or clayey silt-laden soils (<i>Molinion caeruleae</i>)’ - Cwm Cadlan has the largest recorded example of ‘<i>Molinia</i> meadows’ (or fen-meadow) in Wales. The typical form of purple moor-grass–meadow thistle (<i>Molinia caerulea</i>- <i>Cirsium dissectum</i>) fen-meadow (NVC type M24b) is extensively developed, and there are clearly displayed transitions to a range of associated habitats, including base-rich flush and neutral grassland. • ‘Alkaline Fens’ - Cwm Cadlan supports an outstanding suite of flushed short-sedge mire communities on glacial drift overlying Carboniferous limestone within the valley of the Nant Cadlan on the southern fringe of Brecon Beacons National Park. Communities referable to National Vegetation Classification (NVC) type M10 dioecious sedge–common butterwort (<i>Carex dioica</i>-<i>Pinguicula vulgaris</i>) mire occur widely, often in close association with flushed examples of M24 fen-meadow. Characteristic species include common butterwort <i>Pinguicula vulgaris</i>, bog pimpernel <i>Anagallis tenella</i>, marsh arrowgrass <i>Triglochin palustris</i> and the moss <i>Campyllum stellatum</i>. Other sedge-rich swards are also present which display floristic affinities to both M10 and M24; basiphilous elements of this vegetation include tawny sedge <i>Carex hostiana</i>, flea sedge <i>Carex pulicaris</i> and quaking-grass <i>Briza media</i>. Both these habitats are considered to be ‘best areas in the United Kingdom’. Part of the site is owned by CCW and was declared NNR in 2006.

The grassland communities, which constitute the SAC features are scattered across the site and occur in most of the management units. Some of the communities present, namely M10, M24 and base-rich sedge community are very close in their floristics, and it is possible that the latter vegetation is derived from one or both of M10 and M24 through some form of agricultural modification (possibly drainage or heavy grazing in the past). It is also possible that some of the fen-meadow is derived from alkaline fen through past drainage.

Additional SSSI features include:

- Marshy Grassland – this includes all the SAC fen-meadow marshy grassland and other forms of marshy grassland not included in the SAC habitat description.
- Unimproved neutral grassland (NVC MG5).
- Population of globeflower *Trollius europaeus*

The stands of neutral and acidic grassland, which are normally regarded as dry grassland types, generally have constant purple moor-grass, and often grade into wet grassland types. Similarly, at the head of the valley, marshy grassland grades into heathland, thus the site provides fine examples of transition zones between communities.

The globeflower population is possibly the largest in south Wales. Globeflower is found scattered across the site, mainly in stands on fen-meadow, alkaline fen and neutral grassland.

Distance + direction in relation to the proposed development site:

c.10.595km WNW

Conservation Objective for Features 1 & 3: Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (EU Habitat Code: 6410) - this also encompasses Feature 3: other non-SAC marshy grassland habitat

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- Fen-meadow will occupy at least 26 ha of a total area of marshy grassland habitat which itself will cover at least 42 ha.
- The remainder of the site will mainly consist of other semi-natural habitat, including alkaline fen.
- Typical fen-meadow plants will be common.
- Plants indicating agricultural modification or alteration to hydrology and drying of soils will be absent or present at only low cover.
- Although rushes are frequent, the more bulky species will not exceed 33% cover.
- Bare ground will generally not exceed 5% cover and vegetation litter 25%.
- Dense scrub will be largely absent from the fen-meadow, but it is probably desirable for invertebrates and birds to have a sparse scattering of shrubs or trees.
- All factors affecting the achievement of these conditions are under control.

Conservation Objective for Features 2: Alkaline Fen (EU Habitat Code: 7230)

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- Alkaline Fen will occupy about 11 ha or more.
- The remainder of the site will mainly consist of other semi-natural habitat including fen meadow.
- Typical alkaline fen plants will be common.
- Plants indicating agricultural modification or alteration of hydrology and drying of soils will be absent or present only at low cover.
- Although rushes are frequent, the more bulky species will not exceed 33% cover.

- Bare ground will generally not exceed 5% cover and vegetation litter 10 %.
- Scrub species will be largely absent from the alkaline fen.
- At selected springheads, water should flow in all but the most severe drought conditions.
- All factors affecting the achievement of these conditions are under control.

Conservation Status of Features 1 & 3: Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (EU Habitat Code: 6410) - this also encompasses Feature 3: other non-SAC marshy grassland habitat:

The conservation status of these features within the site is considered to be **Unfavourable** (2007).

Assessment carried out in 2004 indicated that the condition of both was: **Unfavourable, no change**. White clover, at a low cover and frequency, may be a natural component of the sward. In 2004, the cover and frequency of white clover was a little on the high side in some areas, which detracts somewhat from the quality of the stands of fen-meadow. Part of the site, until purchased by CCW, had been quite heavily grazed by sheep - sometimes throughout the year. Current management by CCW (Unit 1) has returned the grazing to a more cattle-based state and other areas are now in favourable management (units 2, 6 & 7) that should ensure that the quality of the more modified swards recover. Unit 4 is only occasionally grazed and this has resulted in some of the vegetation being rather tussocky. Overall the factors affecting the feature appear to be largely under control, apart from continuing uncertainty over the impacts of drainage and quarrying and the need for more a suitable more grazing in some parts of the site.

Common standards monitoring reports for 2004 are presented as an Appendix 3. Detailed monitoring reports considering possible changes to vegetation and hydrology as a result of quarry dewatering are also held by CCW.

Conservation Status of Feature 2: Alkaline Fen (EU Habitat Code: 7230)

The conservation status of this feature within the site is considered to be **Unfavourable** (2007).

Assessment carried out in 2004 indicated that feature condition was: **Unfavourable, recovering**. Some alkaline fen has been modified by past attempts at drainage resulting in a few stands, which are rather dry and somewhat intermediate to fen-meadow. It is also possible that some stands of fen meadow were derived from alkaline fen. Part of the site, until purchased by CCW, had been quite heavily grazed by sheep - sometimes throughout the year. Current management by CCW (Unit 1) has returned the grazing there to a more cattle-based regime and sympathetic management elsewhere (units 2, 6 & 7) should ensure that the quality stands are maintained. Some areas are slightly under grazed or partially affected by past tree planting. Removal of some planted trees has been undertaken and the remaining trees should be removed with the next few years (Unit 8). Under-grazing for a year or two is probably not detrimental to the quality of the fen, but is something that needs addressing (Unit 4). Overall, the factors affecting the feature are still not quite under control, although the habitat is recovering, hence the unfavourable status assessment for 2007.

Assessment of conceivable effects:

Information required:

1. What would be the possible impact pathways?

Air pollution due to emissions from the biomass boiler proposal (P/26/0155), for example nitrogen dioxide (NO₂) and particulate matter.

2. In the absence of mitigation measures, could the project impact the designated features at either the Usk Bat Sites SAC or the Cwm Cadlan SAC?

Yes. Both SAC sites (considered above) have habitat features sensitive to air quality changes – see table below.

SAC	SAC designated features	The effects of nitrogen dioxide (NO ₂) and particulate matter (PM ₁₀ /PM _{2.5})
Usk Bat Sites	1. Lesser horseshoe bat (<i>Rhinolophus hipposideros</i>) roosts	Generally indirect rather than direct, acting through changes to habitat quality, prey availability and the condition of vegetation surrounding roosts and commuting routes.
	2. Blanket Bog	Blanket bogs are among the habitats most sensitive to air pollution as they are naturally acidic, nutrient-poor ecosystems that depend on peat-forming mosses, particularly Sphagnum species. Nitrogen dioxide (NO ₂) and particulate matter (PM) can adversely affect blanket bogs primarily through atmospheric deposition of nitrogen and other pollutants.
	3. Tilio-Acerion forests of slopes, screes and ravines	Semi-natural woodlands and their associated ground flora are sensitive to air pollution, particularly nitrogen deposition derived from nitrogen dioxide (NO ₂) emissions and particulate matter (PM). These pollutants can alter soil chemistry, vegetation composition and ecological functioning, leading to changes in woodland structure and biodiversity.
	4. Calcareous rocky slopes with chasmophytic vegetation	This type of habitat comprises specialised plant communities that grow in crevices and fissures of limestone and other base-rich rock faces. These habitats are typically characterised by low nutrient availability, sparse soils and a range of rare vascular plants, bryophytes and lichens. Although less sensitive to nitrogen deposition than ombrotrophic bog habitats, they can still be adversely affected by atmospheric pollution.
	5. Caves not open to the public	Generally indirect, with the principal impact pathways relating to changes in supporting habitat, prey resources and environmental quality around roosts rather than direct damage to the roost itself. Hibernating bats depend on suitable hibernacula, good habitat connectivity and adequate food resources before and after hibernation.
	6. Degraded raised bogs	Degraded raised bogs are already affected by drainage, peat erosion, oxidation and changes in vegetation structure. As a result, they are often less resilient to additional environmental pressures such as atmospheric pollution. Nitrogen dioxide (NO ₂) and particulate matter (PM ₁₀ and PM _{2.5}) can further impede restoration and recovery by altering nutrient balances, vegetation communities and peat-forming processes.
	7. European dry heaths	These are nutrient-poor habitats typically dominated by heather (<i>Calluna vulgaris</i>), bell heather (<i>Erica cinerea</i>), western gorse (<i>Ulex gallii</i>) and associated bryophyte and lichen communities. These habitats are particularly sensitive to atmospheric nitrogen pollution because they have evolved under low-nutrient conditions. Nitrogen dioxide (NO ₂) and particulate matter (PM ₁₀ and PM _{2.5}) can adversely affect their structure, composition and ecological functioning through nitrogen deposition and pollutant loading.
Cwm Cadlan	1. Molinia meadows on calcareous, peaty or clayey-silt laden soils	These habitats are species-rich grasslands characterised by purple moor-grass (<i>Molinia caerulea</i>) and a diverse assemblage of herbs, sedges and rushes. These habitats often occur on soils with relatively low nutrient availability and are sensitive to atmospheric pollution, particularly nitrogen deposition derived from nitrogen dioxide (NO ₂) and nitrogen-containing particulate matter.

2. Alkaline fen

Alkaline fens are groundwater-fed wetlands characterised by base-rich conditions, high water tables and a diverse assemblage of sedges, rushes, brown mosses and specialist flowering plants. Although alkaline fens are generally less sensitive to acidification than ombrotrophic bogs, they are highly vulnerable to eutrophication caused by atmospheric nitrogen deposition. Nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) can adversely affect their species composition, ecological functioning and conservation status.

Taking the above information into consideration, the project could have a conceivable effect on European sites.

4. Would the project be likely to have a significant effect on a European site alone?

This is uncertain as the Air Quality Assessment document submitted as part of the planning application has only considered the impacts for the project on the most sensitive human receptors and does not consider ecological receptors (including impacts on the adjacent Mynyddoedd Llangynidr a Llangatwg, Cefn yr Ystrad a Chomin SSSI) or possible impacts on the Usk Bat Sites SAC or the Cwm Cadlan SAC (as set out above).

5. Would the project be likely to have a significant effect on a European site in combination?

This is also uncertain, for the reasons given in the answer to Question 4 (above)

SCREENING OUTCOME

As a likely significant effect on Usk Bat Sites SAC and Cwm Cadlan SAC cannot be ruled out, the project is screened in for an 'appropriate assessment'.