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Seiont Ltd
20MW Gas peaking plant at Former Seiont
Brickworks, Caernarfon
Supporting Statement v1.0

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20MW Gas peaking plant at former Seiont Brickworks, Caernarfon – Supporting Statement

1 Introduction

1.1 Background

- 1.1.1 The site of the former Seiont brickworks factory is currently used as a temporary compound in connection with the Caernarfon to Bontnewydd bypass ('the bypass') construction project, under two planning permissions, reference C17/0011/19/MW and C17/0107/19/LL. This area contains offices, mobile concrete batching facilities, heavy plant workshop facilities, materials processing and storage areas and associated car parking. A further application to continue these uses once the bypass construction is fully complete will be submitted to the Local Planning Authority (LPA) during 2024.
- 1.1.2 Separately, this proposal for a 20 MW output, gas-fired electricity generating plant (sometimes referred to as a 'Peaking plant' or 'Short-term operating reserve' (STOR)) comprising ten natural gas-fueled engines and associated infrastructure is being submitted to Planning & Environment Decisions Wales (PEDW) as a Development of National Significance. The statutory basis for the Development of National Significance ("DNS") process is provided by the Planning (Wales) Act 2015, which amends the Town and County Planning Act 1990 ("the Act"), and the Developments of National Significance (Wales) Regulations 2016 (as amended) and subsequent Regulations.
- 1.1.3 Pre-application consultations with PEDW, the Local Planning Authority (Gwynedd Council) and other statutory consultees were undertaken. The topics raised are summarised in Chapter 4 of this document.
- 1.1.4 The peaking plant will use gas from the existing mains supply that previously fed the brickworks, and will feed electricity into the Grid at an on-site connection. Peaking plants function to provide rapid response and balance demand, particularly when wind and solar outputs are low. In this way, they contribute to the wider adoption of non-fossil fuel electricity generation.

STOR

Definition

Short-term Operating Reserve (STOR) allows us to have extra power in reserve for when we need it. It helps us meet extra demand at certain times of the day or if there's an unexpected drop in generation.

The requirement for STOR is dependent upon the demand profile at any time. The STOR year starts in May, and is split into six seasons, which specify the Availability Windows where STOR is required each day.

National Grid aims to procure a minimum of 1700MW of STOR per year (subject to economics). Forecasting demand is getting more difficult due to the growth of intermittent wind and solar generation. STOR is therefore being increasingly used to ensure that imbalances on the system can be managed.

National Grid ESO Monthly Balancing Services Summary 2023/24 – October 2023

- 1.1.5 This document is a Supporting Statement which provides further information about the proposal, including summaries of appended specialist reports, which is submitted to assist in the determination of the DNS application. It is structured as follows:

| Section | Section title | See also |
|---------|---------------------------------------|-------------------------------|
| 2 | Project description | <i>Appendix A1, A2; A3</i> |
| 3 | The site and its setting | <i>Appendix B; Appendix C</i> |
| 4 | Planning Statement | <i>Appendix D; Appendix E</i> |
| 5 | Introduction to Environmental section | |
| 6 | Cultural Heritage | <i>Appendix F1, F2</i> |
| 7 | Landscape and Visual amenity | <i>Appendix G1, G2, G3</i> |
| 8 | Ecology and Nature Conservation | <i>Appendix H</i> |
| 9 | Air Quality | <i>Appendix I</i> |
| 10 | Noise | <i>Appendix J</i> |
| 11 | Traffic generation and effects | |
| 12 | Drainage and the water environment | <i>Appendix K; Appendix L</i> |
| 13 | Cumulative effects | |
| 14 | Risk of disaster | |
| 15 | Conclusion | |

1.1.6 A separate Design and Access Statement has also been prepared and is submitted as part of the DNS application.

1.2 EIA Screening report

1.2.1 The applicant has prepared a separate Environmental Impact Assessment (EIA) Screening Report as all applications made to the Welsh Ministers as part of the DNS system are screened. The extent of the application site for the proposed development falls below the 0.5ha threshold for energy industry developments which would fall to be considered as Schedule 2 development under the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. The applicant submitted an EIA screening direction request to PEDW on 22nd March 2023 and PEDW issued a screening direction on the 19th May 2023 confirming that the proposal is not EIA development.

1.3 Habitats Regulations report

1.3.1 The Conservation of Habitats and Species Regulations 2017 require competent authorities, before granting consent for a plan or project, to carry out an appropriate assessment (AA) in circumstances where the plan or project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects). The Applicant has prepared a separate report¹ written to provide sufficient information to the competent authority to enable them to carry out a Test of Likely Significant Effects to determine whether an AA is required. The Applicant's view is that Likely Significant Effects can be ruled out.

1.4 Green Infrastructure statement

1.4.1 Planning Policy Wales 12th edition requires that 'A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal. In the case of minor development this will be a short description and should not be an

¹ 'Habitats Regulations: Test of Likely Significant Effects report for proposed gas-fuelled 'peaking' electricity generating plant'. January 2023

onerous requirement for applicants. The green infrastructure statement will be an effective way of demonstrating positive multi-functional outcomes which are appropriate to the site in question and must be used for demonstrating how the step-wise approach has been applied.’

1.4.2 A green infrastructure statement for this project forms section 8.3 of this Supporting Statement.

2 Project description

2.1 Project history

2.1.1 The site of the former Seiont brickworks factory is currently used as a temporary compound in connection with the Caernarfon to Bontnewydd bypass construction project, under two Planning Permissions, reference C17/0011/19/MW and C17/0107/19/LL. This area contains offices, mobile concrete batching facilities, heavy plant workshop facilities, materials processing and storage areas and associated car parking. Planning Permission C17/0107/19/LL is applicable to these existing operations at the site.

Planning Permission C17/0107/19/LL

Proposal:

Application for temporary planning permission for works associated with the construction of the proposed A487 Caernarfon to Bontnewydd bypass including:

- Site compound and provision of a maintenance shed, office accommodation, welfare and car parking facilities, fuel store, sewage storage tank, mobile concrete batching plant, mobile asphalt batching plant and provision of a haul route

2.1.2 Older planning permissions allowing clay extraction and brick manufacture remain in place until 2042. The main permission is code C00A/0441/14/MW issued on 10th May 2007 following a Review of Old Mineral Permissions (‘ROMP’) process. This updated the permission and conditions covering clay working, the re-use of soil waste, site restoration work and associated activities at Seiont Quarry. A second permission of the same date, code C00A/0442/14/MW, covers the continued re-use and dispersal of mineral waste.

2.2 Proposed works and operations

2.2.1 This application seeks consent for the development of a 20 MWe gas fired electricity generating plant (sometimes referred to as a ‘Peaking plant’ or ‘Short-term operating reserve (STOR)’) comprising ten natural gas-fuelled engines and associated infrastructure. The generating sets, switchroom, Distribution Network Operator building and welfare facility will all be contained within a fenced compound of approximately 3000m² area. Twin cables will be laid in a single trench alongside an existing haul road, to connect the plant to the existing local 33kV grid at a connection adjacent to the northern boundary of the quarry.

Table 1 Key parameters of the project

| | |
|------------------------------------|-----------------------|
| Area within application boundary | 4,900 m ² |
| Number of engine – generator sets* | 10 |
| Nominal electrical output per set | 2 MWe** |
| Total nominal electrical output | 20 MWe, 11kV |
| Fuel | Methane (natural gas) |

| | |
|---|--|
| Lubricating oil reservoir per set | 300 l |
| Dimensions of set enclosures | 13.8 x 3.4 x 3.42m |
| Exhaust stack height | 11m high, 1 stack per set |
| Ancillary buildings (switchroom, DNO building, welfare facility) | As shown |
| Control / personnel | Remote – no site personnel |
| Overall area of plant compound | 3,000m ² |
| Grid connection | Pair of 33kV below-ground cables, c650m long, connecting to grid at N boundary of quarry |
| Project area including grid connection corridor (nominal 3m wide) | 4,900 m ² |
| Ground surfaces in compound | Aggregate |
| Construction transport | See Chapter 11 |
| Boundary | Security fence |
| Access | Via existing yard |
| | |
| * TCG 2020 V20 engine coupled to MJH 630 LA 4 generator | |
| ** The power of generators is stated as MW electrical (MWe) and excludes heat energy produced | |

2.2.2 The site plan provided in Appendix A1 provides the following information:

- boundary of the planning application site
- land ownership, for the site and adjacent land owned by the applicant
- access points connecting to public highways
- transport routes likely to be used by delivery vehicles during construction period
- setting of the site (OS base) indicating features referred to.

2.2.3 Drawings of the generator units and their layout on the site are presented in Appendix A2 and Appendix A3. Photographs illustrating the proposed site and the surrounding land uses are presented in Appendix B.

2.2.4 This development will be regulated by Natural Resources Wales (NRW) under the Environmental Permitting (England and Wales) Regulations as amended. The Applicant will seek a Medium Combustion Plant Directive permit for emissions to air and comply with the 'Best Available Technique' requirement. It will fall under the Specified Generator rules.

2.2.5 The development will also require a Part B permit from the local authority, regulating emissions to air.

2.2.6 Matters relating to the use of gas fuel come under the Dangerous Substances Explosive Atmosphere Regulations (DSEAR). The equipment provider has produced a generic DSEAR report for the individual container and a Functional Design Specification (FDS) for all installations. These reports detail the valves which isolate the gas supply to each generator unit, the ventilation of each unit, internal gas

connections, gas and fire detection systems. Upon a gas detection in any engine compartment the slam shut valve will close to prevent supplying gas to the engine. The Circuit Breaker for the generator will be opened and the engine will be stopped. The system includes a small stand-by generator to provide LV electrical power to the control systems in the event of a mains supply failure.

- 2.2.7 Security would be provided by carefully-controlled lighting and a camera system. In normal operation the site would have no requirement for lighting. Security lights would be controlled by passive infra-red or movement sensors, with an override switch to allow maintenance personnel to light essential parts of the site if maintenance works were required when natural light was not sufficient (typically in winter months when normal working hours overlap with early evening darkness). Lights would be mounted facing away from the SE boundary fence and towards the generator unit containers, and would be angled downwards to minimise light spill.

2.3 Site preparation and reinstatement works

- 2.3.1 The site of the proposed plant has recently been used for stockpiling earthworks materials in connection with the construction of the bypass, and so minimal preparation work would be needed. The existing access has a suitable surface for HGV traffic. The main preparation work required would be to form base pads for the generator sets, and crane pads to support a mobile crane which would be used to offload and position the generator sets. This work would consist of excavating soils down to formation level, placing and compacting stone capping and sub-base layers to engineering specifications, and the laying of concrete base pads. Small ancillary buildings for the switchgear and controls would also be installed. A pre-fabricated welfare unit would be brought to site, placed and connected to mains electricity, water and drainage services in order to provide facilities for visiting maintenance staff. The number of vehicle loads needed to transport materials, equipment and staff is set out in section 11 of this Statement.
- 2.3.2 An existing ditch running along the eastern edge of the former brickworks site, within the applicant's ownership, would be cleared if necessary to accept any surface run-off, though rainfall would initially be allowed to infiltrate the areas of stone surfacing as it does currently.
- 2.3.3 The electrical connection would be formed by laying twin cables in a single trench, nominally 1m wide, within the 3m wide corridor shown. This corridor is alongside the existing quarry haul route. On completion and backfilling of the trench the ground would be levelled and graded, and sown with a wildflower mixture suited to clay-rich soils eg 'Emorsgate EM4 Mixture for Clay soils'. This is a species-rich mixture of perennial wildflowers with grasses, to form a meadow type sward that can be managed by a single late summer cut following flowering. The grassland would form a transition between the haul road and the existing woodland edge habitats of the quarry buffer mound to the north.

2.4 Management of wastes, residues and emissions

- 2.4.1 The wastes, residues and emissions which could possibly arise from the proposed operations are set out in Table 2 together with a summary of the management methods to be applied. Further detail is given in the relevant topic chapters.
- 2.4.2 Emissions from the exhaust stack will be colourless, similar to those of a well-maintained car engine or domestic gas boiler. When the units start up from cold there could be visible condensation for a short period, depending on air temperature and humidity, until exhaust temperatures rise.

Table 2 Management of wastes residues and emissions

| Activity | Possible waste, residue or emission | Management applied |
|---------------------------------------|---|--|
| A: Electricity generation | Exhaust emissions | Maintenance of generators to minimise emissions Exhaust via stacks for efficient dispersal Regulation under Environmental Permitting Regulations Part B and under Medium Combustion Plant Directive. |
| B: Welfare cabins, with staff parking | Kitchen and welfare waste eg wrappers, paper towels | Segregated, stored in designated area and removed for recycling or disposal by specialist waste broker |
| | Toilet and washroom drainage | Mains drainage connection |
| C: Maintenance of generation plant | Containers and packaging for consumables eg lubricants, replacement parts | Removed from site by maintenance team for recycling/disposal |

3 The site and its setting

3.1 Location

3.1.1 The site of the former Seiont Brickworks lies on the south-eastern side of the town of Caernarfon, Gwynedd. The area to be used for the plant is one part of the site of the former Seiont brickworks which comprised a brick clay quarry and brick production factory. The factory area is currently used as a temporary compound in connection with the Caernarfon to Bontnewydd bypass construction project. This area contains offices, mobile concrete batching plant, heavy plant workshop facilities, materials storage areas and associated car parking.



Figure 1 Site location plan

3.1.2 There is currently a partially-filled quarry void to the east of the application site which is owned by the applicant. The Caernarfon to Bontnewydd bypass, which recently opened, lies beyond the quarry void to the east. The house 'Plas Treflan' lies to the west of the application site and is also within the applicant's ownership. Beyond Plas Treflan to the west lies the Peblig Industrial Estate. Afon Seiont runs along part of the western boundary of the application site, beyond which lies Ysbyty Eryri and the residential estates of Tyddyn Llwydyn and Glan Seiont. Residential properties are located along Seiont Mill Road. These features are indicated in the application drawings and the layout which forms Figure 2.

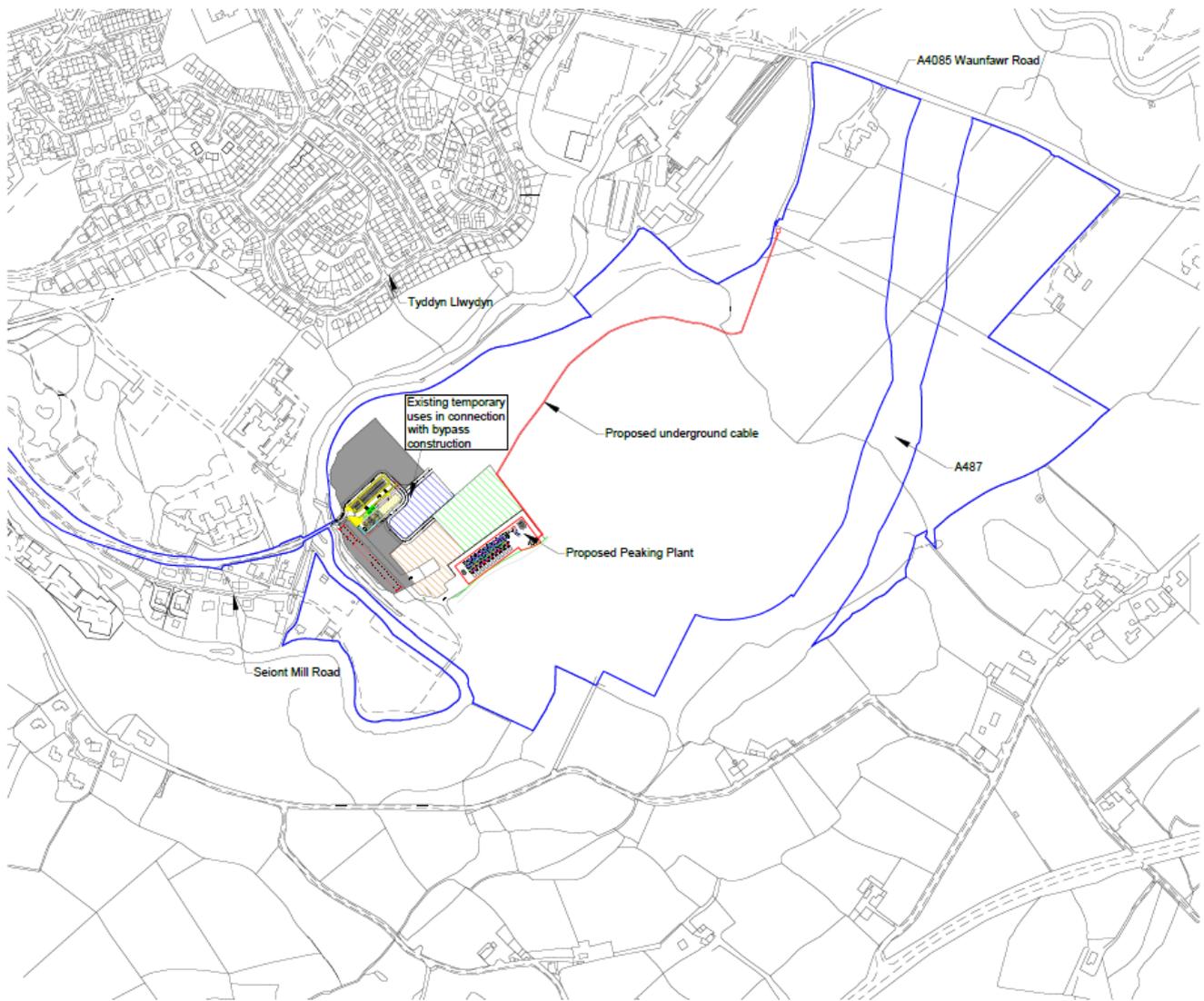


Figure 2 Extract from application boundary drawing

3.2 Access

- 3.2.1 Access to the application site is available from Seiont Mill Road, which also provides access to a separate brickyard to the south-west of the quarry, physically separated from the remainder of the site by the Afon Seiont. There is also a haul route from Waunfawr Road which was constructed in connection with the site's use as a compound connected to the construction of the bypass. This haul route would not be used or form part of the present application, but the application site does include a narrow corridor alongside part of this haul route, to accommodate a trench approximately 1m wide in which two electrical cables will be laid. These will link the proposed generating plant to the existing 33kV electricity grid.
- 3.2.2 Although the new bypass is aligned along the south-eastern edge of the quarry site, there is no direct access to and from the site. Vehicles bringing the generating sets and ancillary equipment to site would leave the bypass just south Caernarfon and travel on the A4871 Pwllheli Road (former A487), turning into Seiont Mill Road and the brickworks access road.
- 3.2.3 Once operational, the plant would require only periodic maintenance visits by staff in a light van, using Seiont Mill Road and the brickworks access road.

3.3 Designated sites

- 3.3.1 The quarry site includes a Regionally Important Geological Site (RIGS) (designated in 2001), known as the Pen Y Bont (Seiont Brickworks). The RIGS status is attributed to the associated Quaternary history and organic deposits of the pre-glacial age.
- 3.3.2 There are three international conservation sites within 5km of the application site, with a further one just over 5km away. They are described in detail in the 'Ecology and Nature Conservation' section of this Statement, together with biodiversity Sites of Special Scientific Interest within 5km of the application site.
- Menai Strait and Conwy Bay Special Area of Conservation (SAC) (around 1.5km to the north-west)
 - Abermenai to Aberffraw Dunes SAC (around 4.5km to the west)
 - Glannau Mon: Cors Heli SAC (around 4.5km to the west)
 - Glynllifon SAC (around 5km to the south).
- 3.3.3 The Afon Seiont SSSI, located just west (downstream) of the former A487 Pwllheli Road, is designated for its geological exposures and so there is no connection between the proposed development and this site.
- 3.3.4 The World Heritage Site of Caernarfon Castle lies 1.3 kilometres to the northwest of the site, but neither is visible from the other due to the topography. A number of other buildings with Listed status are present within a 3km radius of the site. The potential for effects on these is considered in the 'Cultural Heritage' section of this statement.
- 3.3.5 A series of maps showing these designated sites is included as Appendix C.

3.4 Planning history

- 3.4.1 The former brickworks on the application site continued in productive use until around 2008 when production ceased and the building was demolished. Clay extraction from the adjoining clay pit was suspended. The existing permissions allowing clay extraction and brick manufacture remain in place until 2042. The site and its mineral site buffer zone are shown on Gwynedd Council's Local Development Plan map. The main (2007) planning permission (reference number C00A/0441/14/MW) relates to clay working, re-use of soil waste and restoration work together with associated and additional works at Seiont Quarry.
- 3.4.2 The site of the former Seiont brickworks factory is currently used as a temporary compound in connection with the Caernarfon to Bontnewydd bypass construction project, under two planning permissions, reference C17/0011/19/MW and C17/0107/19/LL. This area contains offices, mobile concrete batching facilities, heavy plant workshop facilities, materials processing and storage areas, and associated car parking.

4 Planning Statement

4.1 Planning Policy review

- 4.1.1 National planning policy - Section 5.7.2 of Planning Policy Wales Edition 12 states that *'Overall power demand is expected to increase as a result of growing electrification of transport and heat. In order to ensure future demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure. The system will need to integrate renewable generation with storage and other flexibility services, in order to minimise the need for new generation and grid system reinforcement. Collectively we will need to concentrate on reducing emissions from fossil fuel sources, whilst driving further renewable generation which delivers value to Wales.'*

These priorities contribute to reducing carbon emissions, as part of our approach to decarbonisation, whilst enhancing the economic, social, environmental and cultural well-being of the people and communities of Wales, in order to achieve a better quality of life for our own and future generations. This means taking precautionary action to prevent Wales being 'locked in' to further fossil fuel extraction and high carbon development. The planning system should facilitate delivery of both this and Welsh, UK and European targets on renewable energy.'

The proposed peaking plant would be a 'flexibility service' of the kind noted in the PPW extract above, available to the Grid to balance supply and demand and contribute to security of electricity supply which is essential to the well-being of local communities and businesses, a principle recognised in previous DNS decisions² and decisions of the LPA³.

4.1.2 National planning policy seeks to concentrate on reducing the emissions from fossil fuels sources and promote more renewable methods of energy generation. However, national policy does not necessarily resist new energy generation development that are reliant on burning of fossil fuels. Gas-fuelled peaking plant is the lowest-carbon method to meet the need for additional generation to balance the uncertainty of supply from renewable sources such as solar and wind. Section 4.2 of this Statement explains the operation of peaking plant and its carbon intensity in more detail.

4.1.3 Joint Anglesey and Gwynedd Local Development Plan (JLDP) - Policy PS 5 of the JLDP supports developments where it can be shown that they are consistent with sustainable development principles, and all proposals should alleviate the causes of climate change and adapt to those impacts that are unavoidable in accordance with Strategic Policy PS 6. Policy PS 6 of the JLDP states that in order to alleviate the effects of climate change, proposals will only be permitted where it is demonstrated that they have fully taken account of and responded to points including the energy hierarchy, which includes reducing energy demand, energy efficiency and using low or zero carbon energy technologies wherever practical. Policy PCYFF 5 of the JLDP confirms that developments will need to demonstrate how the energy hierarchy set out in Policy PS 6 has been fully taken account of and take maximum advantage of the contribution from renewable or low carbon energy to satisfy the proposal's need for electricity and heat.

4.1.4 The energy hierarchy as noted in Policy PS 6 is as follows;

i) Reducing energy demand;

The proposal seeks to create a 20MW gas fired short-term operating reserve to meet energy demand. The Scottish Power Energy Network (SPEN) and the National Grid have noted that there is a demand for peak generation capacity within North Wales and this scheme would contribute towards meeting this demand. The need for the peaking plant is justified further under section 4.2 of the Statement. Therefore the scheme does not necessarily result in the reduction of energy demand but would contribute towards meeting existing energy demands in the area and providing security of electricity supply which in turn allows consumers greater confidence in choosing electrical energy instead of other fossil fuel supplies.

ii) Energy efficiency

Using stand-by 'peaking' generators to meet short term demands is more energy efficient than keeping larger generators running at reduced load, as explained in section 4.2 of this Statement. Manufacturer data for the proposed 20MW units shows that when operating at 100% load, 42.5% of the energy in the gas fuel is converted to electricity, 44.2% to heat. It would not be practical to supply heat to nearby users because the plant would run intermittently and at very short notice, for a

² Report ref DNS/3213704 para 86

³ Gwynedd Council: Permission C21/0030/25/LL for siting 10MW flexible electricity generating facility.

restricted number of hours per year in response to demand from the Grid / Distribution Operator. The plant would disperse the heat generated during operation via fan-assisted radiators. There would be no requirement for heating or other energy use within the plant, and no need for thermal insulation of the generating unit containers.

iii) Using low or zero carbon energy technologies wherever practical, viable and consistent with the need to engage and involve communities, protect visual amenity, the natural, built and historic environment and the landscape.

Apart from large-scale pumped storage, the only other non-fossil fuel technology currently able to provide electricity quickly and flexibly at times of peak demand is battery storage. All storage technologies use electricity supplied by other generators on the grid, and so the supply of that electricity comes from whichever generators are 'next in line' to supply the grid in accordance with National Grid's commercial arrangements. Nationally, the supply from zero-carbon wind, hydro or solar generators is never sufficient to meet UK demand⁴ and so fossil-fuelled generation always forms the 'next in line' supply. Locally, it is unlikely that renewable sources in north Wales ever exceed both local demand and the capacity of the grid to transfer any 'surplus' power to areas of demand, and so storing electricity in a battery storage system would always require additional electricity generation by fossil fuel sources. Battery storage is therefore not a low or zero carbon source of electricity within the current pattern of supply in North Wales.

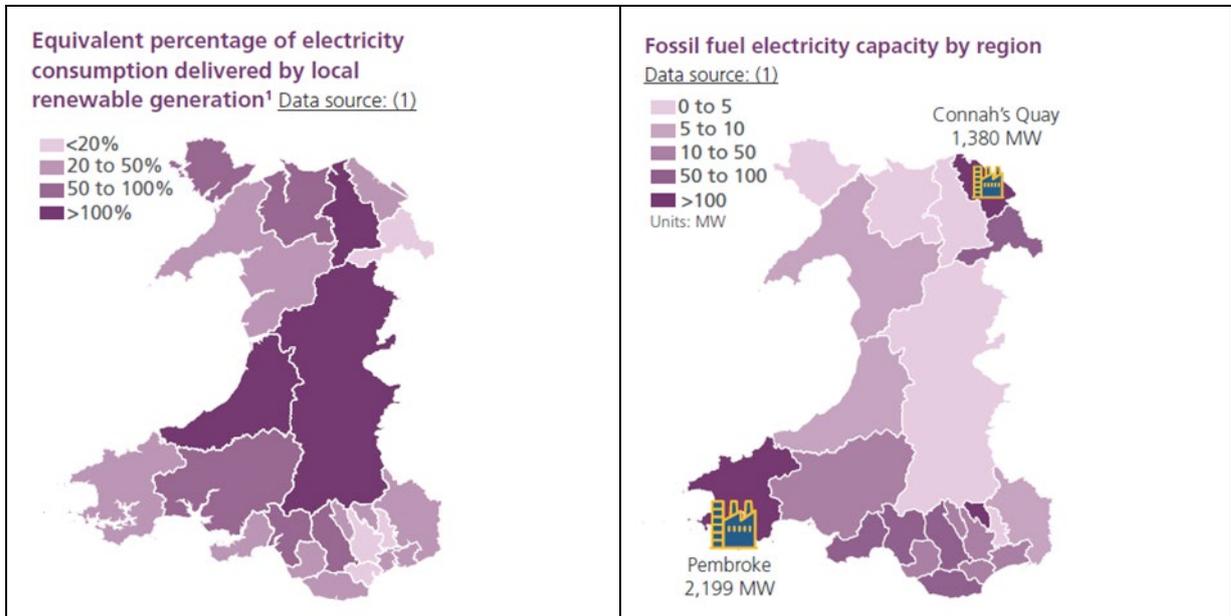
The proposal is for a short term operating reserve plant to support the electricity network at times when demand is high but renewables generation is low, e.g. periods of low wind speed and little or no sunshine. Adding further wind or solar generation at the site would not meet this specific network demand. Low or zero carbon energy technology is not therefore practical to meet the particular purpose of a peaking plant or STOR electricity supply.

4.2 Need for peaking plant

- 4.2.1 Welsh Government document Prosperity for all: A Low Carbon Wales produced in 2019 acknowledges (page 65) that *'renewable generation will continue to increase to meet a large portion of power in a decarbonised system. However, the intermittent nature of renewables means they alone cannot currently meet an electricity demand that varies considerably by time of day and season and will increase with the penetration of electric vehicles and electric heating.'* The Welsh Government document also acknowledges that *'Gas will also have an important transitional role in power generation.'*
- 4.2.2 The report 'Energy Generation in Wales 2022' is a Welsh Government report (published Oct 2023) which compiles a range of data sources to analyse renewable and fossil fuel electricity generation, as well as renewable heat and electricity storage in Wales. It estimates that Welsh renewable electricity generation is equivalent to 59% of Wales' electricity consumption on an annual basis. Although electricity consumption in Wales has reduced over the last two decades, it is projected to increase in the future. Fossil fuel consumption in the heat and transport sectors is projected to transition to electricity and hydrogen as Wales decarbonises, which could result in electricity consumption more than doubling by 2050. This increasing electricity demand will need to be met by increasing renewable generation to meet and maintain Wales' progress towards targets.

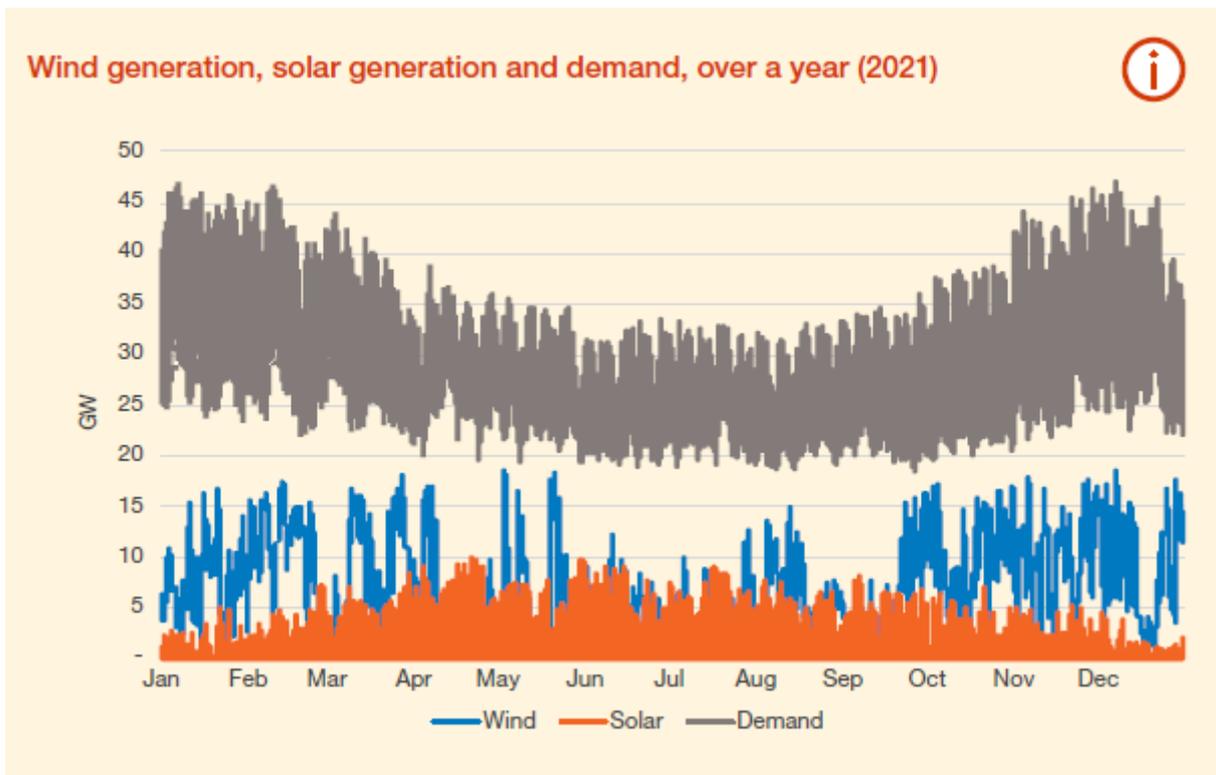
⁴ 'Data from the National Grid ESO has shown that the UK set a new wind energy generation record of almost 22GW of clean electricity. The record was set in the half-hour period between 8.00-8.30am on 21 December, providing 56% of Britain's electricity'. <https://renews.biz/90294/uk-sets-wind-energy-record/> accessed 10.01.2024

4.2.3 Electricity demand across the North Wales region is supplied predominantly by the 1,380MW gas-fired generation at Connah’s Quay, Deeside. The graphics (from ‘Energy Generation in Wales 2022’) shows that Gwynedd meets less than 50% of its demand from renewables and relies on the Connah’s Quay supply. North Wales has no other large scale fossil-fuelled generators, but 16 (at 2022) small plants providing flexibility and ‘peaking’ services and/or combined heat and power to users and fuelled by diesel or gas. In Gwynedd these totalled less than 10MW capacity.



4.2.4 The energy imbalances in the electricity system are driven by differences between variable supply and variable demand. Within a settlement period these imbalances are caused by variations in supply and demand, over seconds and minutes, caused by faults, forecast errors and other unexpected changes. Within-day, the imbalances are mainly caused by variable sources of generation and demand (e.g. cooking and lighting) changing with daily human behaviour. Over longer periods the imbalances are mainly caused by changes in wind generation, driven by weather patterns that can last for days, weeks and months, and by seasonal changes in demand for heat. Energy balancing, over all three timescales, is usually thought of as a system-wide need, which can be met with non-locational solutions.

4.2.5 More asynchronous generation and variable sources of generation create uncertainty in generation and demand forecasts and increased fluctuations in frequency within steady-state limits. Scenarios with more asynchronous and variable sources of generation will likely require more reserve and response.



(4.2.4-4.2.5 Text and graphic source: ESO Operability Strategy Report Dec 2022, p61, 73)

4.2.6 To allow more wind and solar generation in the supply network, the ESO will require greater ability to balance these variable supplies so that supply voltage and frequency is maintained. National Grid ESO is the electricity system operator which balances supply and demand continuously throughout each day. Short term operating reserve (STOR) is a service that provides additional active power from generation or demand reduction. STOR is procured through a daily auction process, from providers which must have the capability to:

- offer a minimum of 3 MW of generation or steady demand reduction. This can be aggregated from more than one site
- respond to an instruction within a maximum of 20 minutes
- sustain the response for a minimum of two hours
- respond again with a recovery period of not more than 1200 minutes (20 hrs)

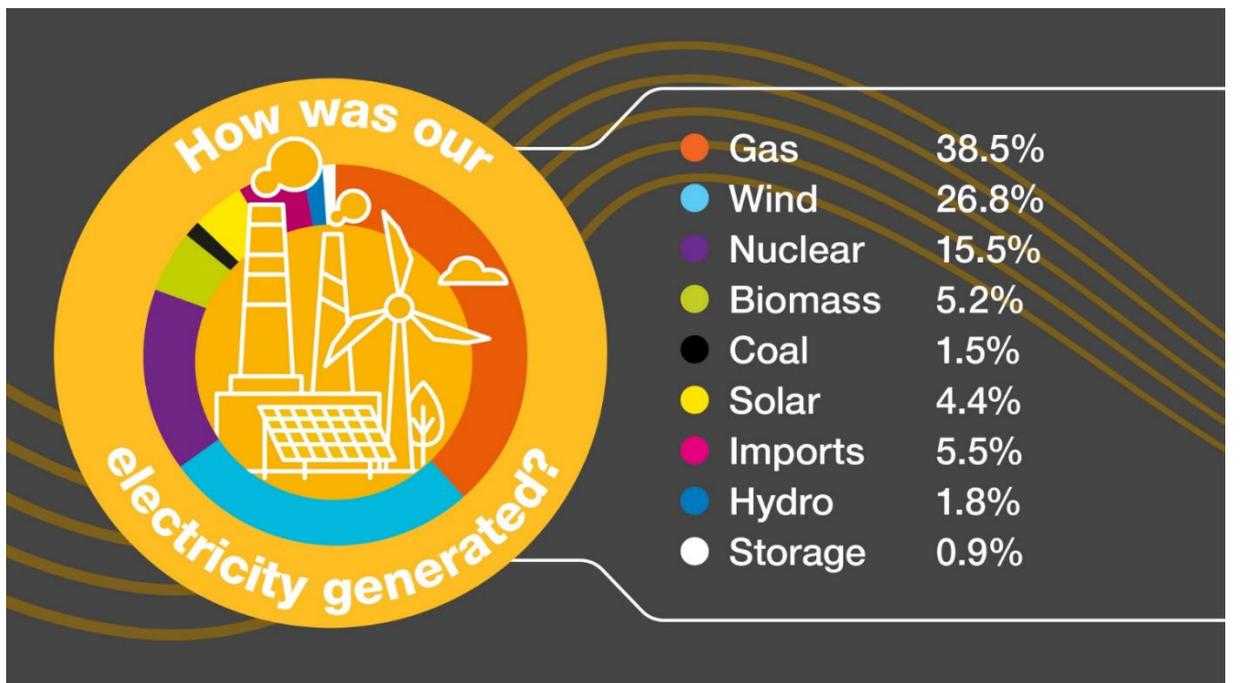
(source: <https://www.nationalgrideso.com/industry-information/balancing-services/reserve-services/short-term-operating-reserve-stor>)

4.2.7 STOR is provided by a range of back-up generation and demand turn-down services as an alternative to increasing the number of synchronised units (typically large power stations which operate continuously) in the balancing mechanism. Stand-by generators can be fully operational within the required 20 minute period and so emit CO₂ only when generating electricity, whereas 'synchronised' units are slower to respond and must be kept running continuously at low or reduced load in order to respond quickly to increased demand. As a result, some less-efficient generators would have to be utilised to meet demand and have reserve capacity. Running large synchronised generators at reduced load also reduces their efficiency by 10 – 20%⁵. For these reasons, stand-by units can supply STOR demand at lower carbon intensity (gCO₂ / kWh electricity) than synchronised power stations. The proposed peaking plant at Seiont would use natural gas fuel from the gas grid, which creates

⁵ <https://www.nationalgrideso.com/document/85801/download> 'Carbon Intensity Report 2014 – 2015 operating year

significantly lower CO₂ emissions than the diesel fuel alternative and would not require fuel delivery by road.

2022's Electricity Generation Mix



Across 2022 we've seen zero carbon electricity sources play an increasing role in delivering electricity, with over 50% of electricity coming from these sources in February, May, October, November and December.

Zero carbon sources continued to outperform traditional fossil fuel generation over the last 12 months by providing 48.5% of the electricity used this year, compared to 40% from gas and coal power stations.

(source: <https://www.nationalgrideso.com/news/britains-electricity-explained-2022-review>)

- 4.2.8 In the decision on the proposed Quarry Battery Company pumped-storage project at Glyn Rhonwy in 2017 the Secretary of State noted that that development 'would help to meet the urgent need for new electricity generation, particularly at times of peak demand'. That 100MW scheme was granted planning permission but has not been constructed due to costs and technical complexity. Several 5MW and 7.5MW peaking plants have been approved but together they do not approach the capacity that was proposed for Glyn Rhonwy. The proposed 20MW Seiont plant would make best use of existing gas supply and electricity transmission infrastructure, providing the output of 3 or 4 smaller sites with a minimum of new infrastructure.
- 4.2.9 The desirability of additional flexible generation capacity was recognised by the Distribution Network Operator Scottish Power Energy Networks in 2019 in the form of their confirmed offer of a grid connection adjacent to the Seiont site. This offer letter is attached as Appendix D. It is for a STOR plant of up to 20,000kW (20 MW) connected at 33kV.
- 4.3 Other sites and uses
- 4.3.1 The applicant could seek an alternative site elsewhere in the vicinity, but suitable sites are few in number because they require both an existing gas supply and electricity grid connection with capacity.
- 4.3.2 This option has been discounted by the applicant. The proposal site already has a sufficient but unused gas supply and infrastructure dating from the former brickworks, it has nearby and suitable electricity infrastructure for connection, it is a brownfield site with existing access and is in the

ownership of the applicant. The site requires a minimum of additional infrastructure cost and so would be an efficient way to meet the grid demand.

4.4 Other policy considerations

- 4.4.1 The Welsh language plays an important role in the social, cultural and economic life of the Plan area’s residents and visitors. Where development is proposed, consideration must be given to the enhancement and protection of the language and culture. Strategic Policy PS1 'The Welsh Language and Culture' (PS1) sets out the context for the assessment of the potential impact of proposals upon the language and culture.
- 4.4.2 Criterion 1(b) of Policy PS1 'The Welsh Language and Culture', guides that where development/ applications for retail, industrial or commercial development employing more than 50 employees and/ or development comprising of an area of 1,000sqm or more are to be accompanied by a WLS which shows how the development would protect, promote and enhance the Welsh language.
- 4.4.3 The proposal would result in an industrial development with an overall site area of more than 1,000sqm. The LPA have confirmed in their initial pre-application response that a short Welsh Language Statement should be provided with the application to quickly address the issue of any impact the scheme may have on the Welsh language.
- 4.4.4 Accordingly, a Welsh Language Statement has been prepared and submitted as part of this application for consideration. This is submitted separately under Appendix E. The WLS concludes in short that there would be a neutral effect on the Welsh language as a result of this development.

4.5 Pre-application consultations

- 4.5.1 A number of consultations have been carried out during the preparation of this project application and this Supporting Statement. The following table summarises those consultations and shows how topics raised by consultees have been addressed in this document.

| BODY | TOPICS RAISED | RESPONSE |
|------|--|--|
| PEDW | Inception meeting 29.03.2023 Confirmed EIA Screening was being conducted and comment on scope of documents required with the application will be provided | (19.05.23 PEDW confirmed that project is not EIA Development) |
| PEDW | Pre-app advice 19.05.23 Identified relevant planning guidance and recommended submission of a Planning Statement with the application It would be in the interest of an effective examination process if the applicants submit a Planning Statement which addresses the project’s consistency with: <ul style="list-style-type: none"> • The development plan (including the NDF and the JLDP) • The National Sustainable Placemaking Outcomes identified in PPW • Other relevant local and national planning guidance • The Ways of Working identified in the Well-being of Future Generations (Wales) Act 2015 | Chapter 4 of this document provides the Planning Statement to address the project’s consistency with relevant policy |

| | | |
|------------------------|--|---|
| | <p>It is for the applicant to demonstrate how the proposal aligns with the Welsh Government's policy on energy developments as expressed in the NDF and PPW, which is predominantly aimed at renewable generation.</p> | |
| | <p>Also identifies need for Water Conservation Statement; Welsh Language Statement; Design and Access Statement</p> | <p>These documents are provided</p> |
| <p>Gwynedd Council</p> | <p>Pre-app response 19.05.23 Notes Council planning policies requiring proposals to demonstrate consistency with sustainable development principles, particularly where fossil fuel is to be used. Refers to PPW 11 indicating clear need to minimise the carbon impact of energy generation (other than renewable). The LPA considers [the applicant's project justification] at odds with planning policy objectives at a national and local level and it is imperative that correspondence from the National Grid and SPEN confirms that proposals is required at this specific site to a meet a specific network demand and accompanies any formal submission.</p> | <p>Chapter 4 of this document provides the explanation of Short Term Operating Reserve plants within the energy grid system, and why gas fuel is essential. STOR plants do not supply 'baseload' generation – they are used only when other sources are insufficient National Grid and SPEN are not allowed to support individual projects (in order that maximum competition between generators is maintained)</p> |
| <p>Gwynedd Council</p> | <p>Agrees that visual impact is likely to be minimal Proposal would require amendment to current approved site restoration plan (C00A/0441/14/MW) A noise impact assessment including background survey is required Dispersion modelling should be included as part of any Air Quality Assessment</p> | <p>Amendment under C00A/0441/14/MW would be sought if the STOR plant is granted permission A noise assessment is presented in Chapter 10 of this document. Dispersion modelling was used to conduct the Air Quality Assessment reported in Chapter 9.</p> |
| <p>Gwynedd Council</p> | <p>States that proposed development is partially situated within TAN 15 C2 Flood Zone, as is the access route along Ffordd Melin Seiont. NRW will be consulted on the Flood Consequences Assessment.</p> | <p>The FCA presented in Chapter 12 and its Appendix K shows that the development can be implemented without conflict with the C2 zone. See also entry under NRW</p> |
| <p>Gwynedd Council</p> | <p>Advise that a contaminated land desk study is required, due to historical land uses</p> | <p>A study conducted for the quarry site in 2017, for permission</p> |

| | | |
|---|--|---|
| | | C00A/0441/14/MW, is referred to in this document |
| Gwynedd Council | Recommend that Construction Traffic Management Plan is submitted (potentially via a condition). | Chapter 11 of this document |
| Gwynedd Council | Agree with assessment that proposal will not have detrimental effect on designated or undesignated heritage assets. | Chapter 6 of this document provides the assessment |
| Gwynedd Council (Traffic and Projects) | No major concerns. Requests Transport Statement confirming <ul style="list-style-type: none"> • Foreseen frequency of Construction related vehicles and duration of works to construct the site. • Foreseen number of staff on site during the Construction phase • The foreseen number of movements once the site is operational • Foreseen number of staff once the site is operational. | Chapter 11 of this document |
| CADW | (Response 23.11.22 to EIA Scoping for adjacent site) Consider that sites within 3km radius should be considered, and as there is little or no visibility of the development, effects on tranquillity and noise would be the main consideration. | Chapter 6 of this document provides the assessment |
| NRW | (Response 24.08.23 to PAC consultation) Require consideration of further flood event and climate change allowance scenarios. | Chapter 12 and appendix refer to the additional scenarios. Plant boundary and layout revised to position as shown in Appendix A in order to avoid the 0.1%AEP + 75%CC + blockage scenario flood area. |
| NRW | (Response 24.08.23 to PAC consultation) Advise that a lighting plan and ecological management plan should be required as conditions of planning permission, to control effect of lighting on bats and otters. | Section 2.2 describes the limited need for lighting. A lighting plan to avoid effects of light spill on riverside woodland corridor can be required by condition. |
| PAC consultees | (Responses to PAC consultation) Various comments and topics raised. | See separate report on PAC process. Where appropriate, this Supporting Statement has provided further detail to respond to comment topics. |

5 Introduction to Environmental section

5.1 Basis for the assessment

5.1.1 As stated in section 1.2, this project has been ‘screened’ in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (“The 2017 Regulations”). The applicant considers that an Environmental Assessment under those regulations is not required, and has received a Screening Direction to that effect. The purpose of Sections 5 -14 of this document is to present sufficient information to allow the likely environmental effects of the proposal to be considered as part of the determination of the planning application. The principles of a statutory assessment have therefore been followed where appropriate.

5.2 ‘Significance’

5.2.1 In this assessment, the approach to assigning significance to potential effects has followed the guidance set out in ‘LA104 Environmental assessment and monitoring’, part of the Design Manual for Roads and Bridges published by Highways England on behalf of the devolved governments of the UK. In summary, the approach is to assign a value or sensitivity to receptors/resources; assign magnitude to the predicted impact on that receptor; and then to assign significance based on a matrix which combines receptor value/sensitivity with the magnitude of impact. Professional judgement is applied throughout the process and so it is not purely mechanistic.

5.2.2 The following tables are extracted from LA104 for reference, but should be read in conjunction with the full document to obtain the context and explanation of their use. (Tables, numbers and titles taken from LA104)

Table 3.2N Environmental value (sensitivity) and descriptions

| Value (sensitivity) of receptor / resource | Typical description |
|---|---|
| Very High | Very high importance and rarity, international scale and very limited potential for substitution. |
| High | High importance and rarity, national scale, and limited potential for substitution. |
| Medium | Medium or high importance and rarity, regional scale, limited potential for substitution. |
| Low | Low or medium importance and rarity, local scale. |
| Negligible | Very low importance and rarity, local scale. |

Table 3.4N Magnitude of impact and typical descriptions

| Magnitude of impact (change) | | Typical description |
|-------------------------------------|------------|---|
| Major | Adverse | Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements. |
| | Beneficial | Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality. |
| Moderate | Adverse | Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements. |
| | Beneficial | Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality. |

| | | |
|------------|------------|---|
| Minor | Adverse | Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements. |
| | Beneficial | Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring. |
| Negligible | Adverse | Very minor loss or detrimental alteration to one or more characteristics, features or elements. |
| | Beneficial | Very minor benefit to or positive addition of one or more characteristics, features or elements. |
| No change | | No loss or alteration of characteristics, features or elements; no observable impact in either direction. |

Table 3.8.1 Significance Matrix

| | Magnitude of impact (degree of change) | | | | | |
|--|--|-----------|-------------------|--------------------|---------------------|---------------------|
| | | No change | Negligible | Minor | Moderate | Major |
| Environmental value (sensitivity) | Very high | Neutral | Slight | Moderate or large | Large or very large | Very large |
| | High | Neutral | Slight | Slight or moderate | Moderate or large | Large or very large |
| | Medium | Neutral | Neutral or slight | Slight | Moderate | Moderate or large |
| | Low | Neutral | Neutral or slight | Neutral or slight | Slight | Slight or moderate |
| | Negligible | Neutral | Neutral | Neutral or slight | Neutral or slight | Slight |

5.2.3 Once significance has been determined for each predicted effect of the project, the decision maker (in this case the planning authority) will take account of those which are considered 'material' to the planning process.

Table 3.7 Significance categories and typical descriptions

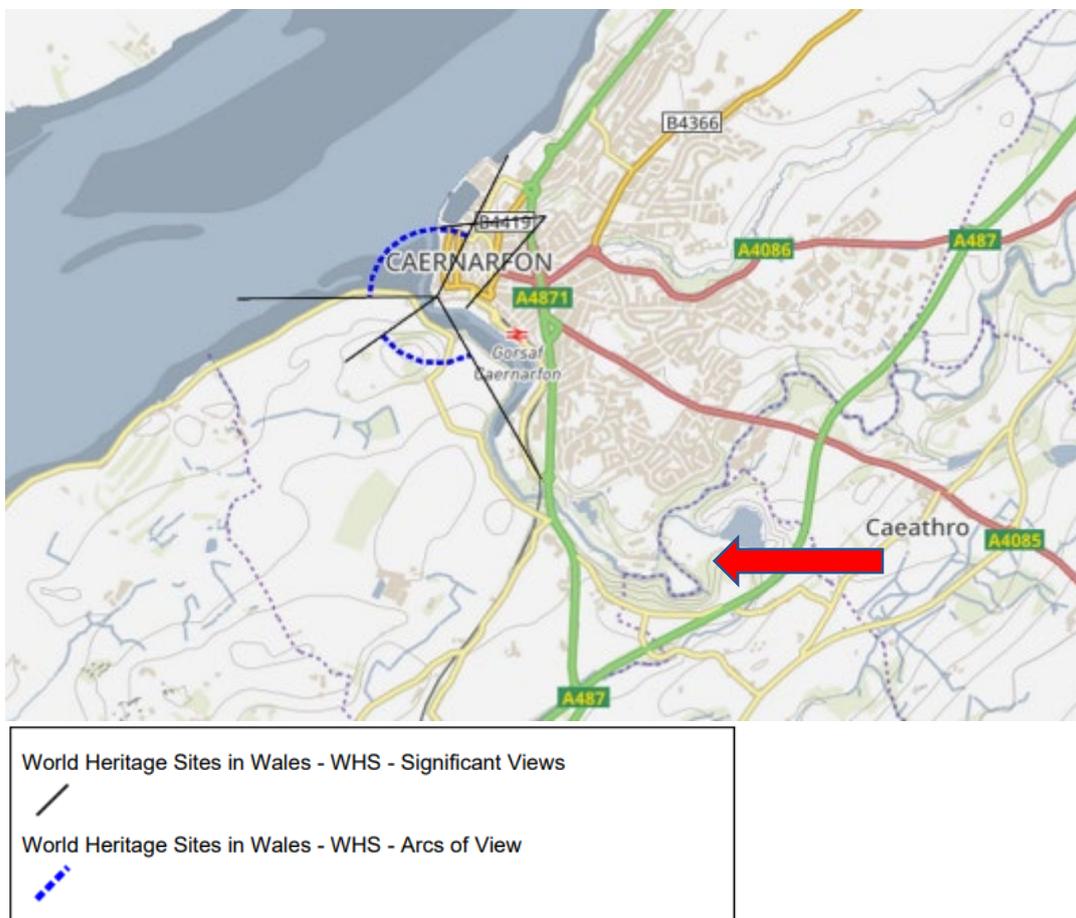
| Significance category | Typical description |
|-----------------------|---|
| Very large | Effects at this level are material in the decision-making process. |
| Large | Effects at this level are likely to be material in the decision-making process. |
| Moderate | Effects at this level can be considered to be material decision-making factors. |
| Slight | Effects at this level are not material in the decision-making process. |
| Neutral | No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error. |

5.2.4 In this assessment, any deviations from this approach are recorded in the specialist topic chapters. Specific factors or considerations which define or guide the assessment are also stated in those chapters.

6 Cultural Heritage

6.1 Cultural Heritage baseline

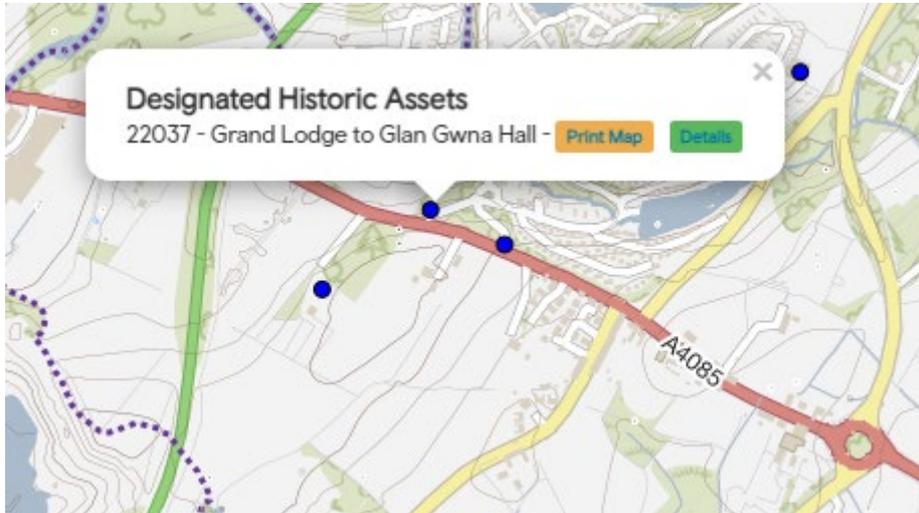
- 6.1.1 The proposal is for the use of previously-developed land within the bypass construction site compound (the former brickworks yard), and for installation of a below-ground cable alongside the bypass haul road to connect to the existing local distribution network. Only the peaking plant would be visible above ground.
- 6.1.2 Cadw advised that the potential effects on sites within 3km radius should be a material planning consideration for proposals at this site. The vast majority of these sites are not visible from the development site and therefore, consideration should be given to the tranquillity and change in noise levels of those sites. The 2016 Environmental Statement⁶ confirmed that the World Heritage Site of Caernarfon Castle lies 1.3 kilometres to the northwest and there is no inter-visibility with the quarry. The arcs of view from the Castle site are to the north and south-west, as shown on the following extract from DataMap Wales.



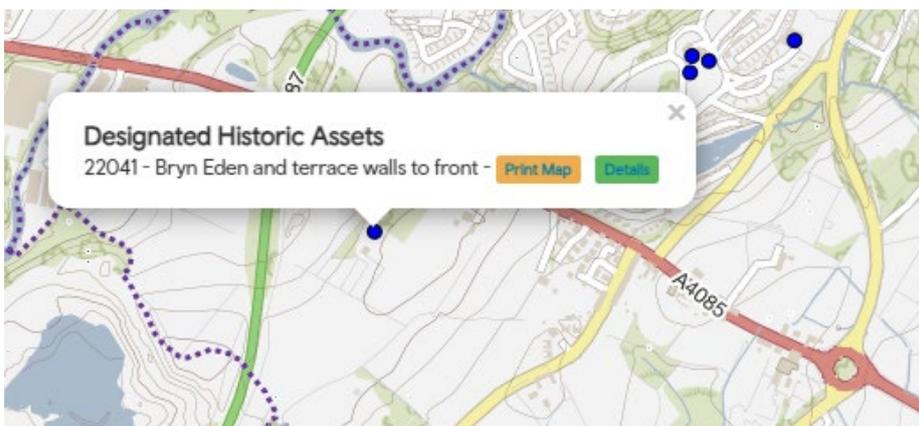
- 6.1.3 Cadw specifically mentioned listed buildings '22037 Grand Lodge to Glan Gwna Hall' and '22041 Bryn Eden and terrace walls to front' as designated sites that although not visible from the proposed development, could potentially be affected by increased noise levels. The location of these sites is shown on Cadw records at <https://cadw.gov.wales/advice-support/cof-cymru/search-cadw-records>. Both are separated from the application site by the embankment of the recently-built A487 Caernarfon bypass and so have no intervisibility.

⁶ Richards, Moorehead & Laing Ltd. 'Engineering works and use of land relating to the construction of the proposed A487 Caernarfon Bontnewydd Bypass and existing minerals permission: ENVIRONMENTAL STATEMENT' for Jones Bros. Civil Engineering Ltd. December 2016. Ref: 3030

6.1.4 22037 Grand Lodge to Glan Gwna Hall was included in the Grade II Listing 'as a well-preserved late C19 lodge of Picturesque style at the former south-western entrance to Glan Gwna Hall'. It is located on the north side of Ffordd Waunfawr and is therefore exposed to existing traffic noise. The full Cadw Listing Report is presented in Appendix F. This property appears to be in use as a private house. It can be glimpsed from the public highway but is largely screened by the boundary wall and trees. Designated asset 22054 'Gate piers and walls at entrance to Glan Gwna Hall' is located just to the east along the same road.



6.1.5 22041 Bryn Eden and terrace walls to front was included in the Grade II Listing 'as a largely unaltered mid-C19 house, employing a mixed Italianate and Gothic architectural vocabulary, important for the evidence it provides of increasing prosperity in the nearby county town at this time'. It is set back some distance from the south side of Ffordd Waunfawr, and is therefore exposed to noise from traffic on the A487 Caernarfon bypass. The full Cadw Listing Report is presented in Appendix F. This property appears to be in use as a private house. It can be glimpsed from the public highway but is largely screened by intervening properties, the boundary wall and trees.



6.1.6 As part of the screening direction, CADW were consulted as to provide a view whether the proposed development would have any significant effects on the designated heritage assets mentioned above. CADW's response in short noted that the proposed development was unlikely to have a significant effect on the designated heritage assets.

6.2 Noise arising from the development

6.2.1 Two sources of noise arising from the development were considered in this assessment:

- Noise generated by the ground preparation and peaking plant installation operations at the application site
 - Noise generated by the proposed peaking plant in operation.
- 6.2.2 The noise from each source, and propagation to these sites, was determined as part of the noise assessment (Chapter 11). Of these two sites identified by Cadw, Bryn Eden is the closer to the noise source at the application site, and so that relationship has been assessed as the worst case. They are separated by a distance of 770m, and by the embankment of the Caernarfon bypass which stands some 6m above the adjoining ground, forming a further barrier to noise propagation.
- 6.2.3 Grand Lodge to Glan Gwna Hall lies close to, but a little below the level of, Waunfawr Road and is partly shielded by the boundary wall which interrupts noise generated close to the ground by tyres and vehicle engines.
- 6.2.4 Noise generated during the construction of, and operation of, the plant would be attenuated by the distance and intervening topography including the bypass embankment. The noise assessment in Chapter 11 predicted that operational noise at receptor NSR3, approximately 300m from the proposed development, would be 41dB_{LAeq} which matched the night-time background noise level. Bryn Eden lies at 770m distance from the plant, is screened by the A487 road embankment, and would have a higher existing background noise level due to bypass traffic.

6.3 Assessment of impact

- 6.3.1 Neither Bryn Eden nor Grand Lodge to Glan Gwna Hall is directly accessible to the public, but their heritage value might be appreciated by users of nearby public spaces such as footpaths.
- 6.3.2 No noise generated by the plant would be perceptible at either Listed Building and so the tranquillity of the settings would not be affected by the development. Again, CADW's response to the initial screening direction concluded in short that the proposed development was unlikely to have a significant effect on the designated heritage assets.

7 Landscape and visual amenity

7.1 Extent of assessment

- 7.1.1 A Landscape and Visual Impact Assessment was conducted by specialists RML {attached as Appendix G}. The study area boundary for the assessment of effects on landscape character and visual amenity extends for a distance of 2 km from the development boundary. It is wholly within the local authority of Gwynedd Council. The landscape baseline was derived from Gwynedd Council's Landscape Character Areas ('LCA') and Natural Resources Wales's LANDMAP data system. Information within Gwynedd's Strategic LCAs and the five LANDMAP aspect layers was combined with field work to define the boundaries and sensitivity of the LCAs relevant to the project.
- 7.1.2 A Zone of Theoretical Visibility model ('ZTV') was produced to determine which parts of the study area would experience a view of the proposal or a change in view brought about by the development. From this model, the view or change in view was assessed by fieldwork.
- 7.1.3 The LVIA was undertaken from publicly-accessible locations without the need for direct access to private land and properties. To ensure a robust assessment, the following measures were taken:
- a. Use of Ordnance Survey ('OS') height data to build digital terrain model for production of ZTV.
 - b. Use of large-scale OS mapping data and aerial photography to determine landcover and the location of features that would intervene in views, such as buildings and significant vegetation.
 - c. Field surveys to verify ZTV output and assess views available from public open space, land with public access and public rights of way.

d. An assessment of seasonal and night-time variation.

7.2 Baseline

7.2.1 The Seiont Brickworks is in an area of low rolling hills that form the broad transition between the mountains of Eryri to the narrow coastal strip. The topography has a broad north-east to south-west grain that is expressed as a range of parallel ridges and shallow valleys. Many of the watercourses have formed steep-sided wooded valleys. The proposed development is located within the Afon Seiont valley directly south-east of Caernarfon and north-west of the Caernarfon and Bontnewydd bypass. Brick working is a long-established activity within the valley.

7.2.2 Statutory landscape designations in the study area are:

- UNESCO World Heritage Site – Castles and Town Walls of King Edward in Gwynedd. Approximately 1.6 km north-west of the development
- National Park – Eryri. At its closest boundary located at Betws Garmon, Eryri is about 6 km distant from the proposed development.
- Area of Outstanding Natural Beauty ('AONB') – Ynys Môn/Anglesey. At its closest point the boundary of the AONB located on the Menai Strait is about 2.4 km north-west of the development.
- Registered Parks and Gardens of Historic Interest – Morfa Common Park. Within the study area Morfa Common Park is immediately downriver of Seiont Brickworks.

7.2.3 There are a number of non-statutory designated landscapes in the County, the closest of which is about 2.8km to the west of the proposal site.

7.2.4 Broadly, the ZTV shows that the development would be visible from locations within the immediate vicinity, including some developed areas of Caernarfon and from rural areas and scattered dwellings to the east, on a broad ridge that runs between Caeathro and Bontnewydd. From locations at a distance of 0.5 to 2 km from the development boundary, the ZTV indicates that the plant would be visible from the elevated ground with slopes facing Seiont Brickworks. In Caernarfon, these areas include residential areas. To the east views are limited, by the A487 Bypass, to a number of scattered dwellings.

7.3 Results and conclusions

7.3.1 The proposed development has no direct effect on a designated landscape. Indirect landscape effects, where views of the proposal would be available, are limited to the outer edges of Morfa Common Park.

7.3.2 Landscape Character Area 9 (LCA9) 'Caeathro Rolling Lowland' is directly affected by the proposal. The significance of landscape effect is assessed as neutral and not significant during construction, operation and decommissioning stages.

7.3.3 LCA5 'Caernarfon 19th Century Settlement' is indirectly affected by the proposal. The significance of landscape effect during construction and operation is judged as slight negative and improving to slight positive during decommissioning. The landscape effects are not considered to be significant.

7.3.4 No significant visual effects are predicted for Public Rights Of Way or private properties. Many properties experience views of the existing clay pit and brickworks site/construction site compound.

7.3.5 No significant visual effects are predicted as a consequence of lighting. Lighting within the plant area would be designed to include measures to avoid or minimise the disturbance of nocturnal mammals.

8 Ecology and Nature Conservation

8.1 European designated sites

8.1.1 Within a 5 km radius of the application site there are four European sites having features which could be affected by the project:

- Glynllifon SAC UK0012661 (5km distant). Feature(s): Lesser Horseshoe Bat
- Menai Strait and Conwy Bay Special Area of Conservation (SAC) UK0030202 (1.5km distant) Feature(s): 1110 Sandbanks which are slightly covered by sea water all the time; 1140 Mudflats and sandflats not covered by seawater at low tide; 1170 Reefs; 1160 Large shallow inlets and bays; 8330 Submerged or partially submerged sea caves
- Abermenai to Aberffraw Dunes SAC UK0020021 (4.5km distant) Feature(s): 2110 Embryonic shifting dunes; 2120 Shifting dunes along the shoreline with *Ammophila arenaria* ('white dunes'); 2130 Fixed coastal dunes with herbaceous vegetation ('grey dunes'); 2170 Dunes with *Salix repens ssp. argentea* (*Salicion arenariae*); 2190 Humid dune slacks; 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation; Transition mires and quaking bogs; 1395 Petalwort *Petalophyllum ralfsii*; 1441 Shore dock *Rumex rupestris*; Great Crested Newt *Triturus cristatus*
- Glannau Mon: Cors Heli SAC UK0020025 (4.5km distant) Feature(s): 1130 Estuaries; 1310 Salicornia and other annuals colonising mud and sand; 1140 Mudflats and sandflats not covered by seawater at low tide; 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*); *Spartina* swards (*Spartinion maritimae*); Vegetated sea cliffs of the Atlantic and Baltic Coasts

8.1.2 A Test of Likely Significant Effects (TLSE) was carried out for these sites⁷. This concluded that none of these European sites is close enough to the proposed development for there to be any risk of direct habitat loss or damage.

8.1.3 Two potential pathways for indirect effect were identified: waterborne, via the Afon Seiont; and airborne, through exhaust emissions to the air. Each of these was considered in relation to each European site, taking account of fundamental interruptions to those pathways and the distances involved, as set out in the draft TLSE matrix which forms Appendix A to the TLSE report. In modelling the dispersion of airborne emissions, the Menai Strait and Conwy Bay SAC was taken as proxy for the more distant Abermenai to Aberffraw Dunes SAC and Glannau Mon: Cors Heli SAC, as a 'worst case' value.

8.1.4 The draft Test of Likely Significant Effect has determined that significant effects can be ruled out for the European sites and their listed features.

8.2 Ecological impact assessment

8.2.1 An Ecological Impact Assessment was undertaken by Ecoscope Ltd, and the report is attached as Appendix H. The desk study reviewed surveys in the quarry conducted before the commencement of site works, concluding that these vary in quality and provide a restricted picture. Among these surveys, the Phase 1, Badger and Otter surveys and a significant effort focussing on bats provided a useful baseline for assessing the ecological impact of the proposals.

8.2.2 Records made in the 2015 breeding bird survey of the former quarry show the presence of 16 species including two 'Red List' and four 'Amber List' species. Number and species association is proportional to the location, but the conclusions on the number of nesting birds falls below what the field data suggests and indicates excessive caution in interpretation, which could have been rectified by a further survey (in line with modern recommendations). The assumption must be that more species bred in the former quarry than were recorded as doing so. No wintering bird surveys were

⁷ Habitats Regulations: Test of Likely Significant Effects report for proposed gas-fuelled 'peaking' electricity generating plant. Jones Bros Ruthin (Civil Engineering) Co Ltd. January 2023.

undertaken, but in the walkover survey for revised Phase 1 undertaken on 12th January 2023, Woodcock, Buzzard and Grey Wagtail were observed, and Dipper recorded from the bridge to the brickworks yard on 24th January 2023.

- 8.2.3 The absence of accurate data on reptiles, and some potential flaws in the recording of amphibians in the reports reviewed, means that conclusions must be based on the likelihood of species being present rather than qualified evidence. Using that approach, based on former records, habitat quality and without additional survey of retained habitat, it was concluded that slow-worm (*Anguis fragilis*), Common Lizard (*Zootoca vivipara*) and Grass Snake (*Natrix helvetica*) were very likely to have been present on site before the bypass works, and may still be present in retained habitat.
- 8.2.4 The majority of the proposed development occurs on land previously occupied by hard standing associated with the former brickworks or on previously excavated areas of the quarry. The proposed underground services connection crosses an agricultural field in the north-east corner which is within the site boundary. No felling or trimming of trees or woodland outside the planning application boundary would be required.
- 8.2.5 The following potential direct impacts are recognised as a result of the proposals:
- Disturbance associated with plant, lighting and construction;
 - Pollution: Potential impact of silt entering the Afon Seiont during construction;
 - Pollution: Emissions (N₂) from proposed gas plant exhausts causing eutrophication of habitat associated with the Afon Seiont and nearby woodlands;
 - Noise pollution of Plant, with potential impacts on bat activity;
 - Light pollution and potential impacts to bats and Otter.
- 8.2.6 Without mitigation, the potential impact to Wildlife Sites and their Qualifying Features within 1 km is assessed as Negligible at a Local (SSSI) level.
- 8.2.7 Without mitigation, the combined development proposals are assessed as having a negative impact on Bats (all species), Otter, Habitat quality and ecological features of the Afon Seiont that is assessed as being Major on a Regional Level ('having an impact on a priority habitat or species distribution that may be significant in any of the individual countries making up the British Isles').
- 8.2.8 The report makes recommendations for mitigation that would reduce these negative impacts:
- Avoidance: not carrying out construction works on site at night, and maintaining a dark corridor along the Afon Seiont to avoid disturbance of otters, bats and migratory fish
 - Protection: using silt barriers and other techniques during construction, and directing any surface water drainage through settlement lagoons or vegetated linear water bodies, to protect the Afon Seiont from silty run-off
 - Protection: avoiding or minimising noise produced from construction or the proposed development reaching the river margins, during hours of darkness when bats and otters would be active
 - Enhancement: planting specifically to create buffers for nitrogen deposition into woodland and flowing watercourses to mitigate for the existing high background deposition
 - Mitigation: if security lighting is needed, use only 'wildlife-friendly' lighting designed to minimise spread of illumination and effect on bats.
- 8.2.9 Data on current air quality presented in Chapter 9 and its Appendix I show that the current background NO_x values are relatively low, compared to criteria for ecosystems, yet background nitrogen deposition exceeds critical loads considerably. It is likely that ammonia from agricultural sources is currently the primary reason for the N deposition from the atmosphere. N deposition contributed by the proposed plant's emissions would be 1.27% of the existing deposition, as a worst case, and unlikely to affect woodland health significantly.

- 8.2.10 The risk of significant light spill onto the adjoining woodland used by bats or the corridor of the Afon Seiont is low, because:
- Artificial lighting would not be required at all for most of the time;
 - Security lighting would only be triggered if there was some intrusion into the fenced site;
 - Maintenance staff would only require the use of lights if their visits extend beyond sunset into the twilight period, which would not happen unless visits went beyond 5pm (November and February) or 4pm (December and January) which are times of low or no bat activity. Planned visits would be scheduled for daylight hours, and unplanned or major maintenance visits at times sensitive to bats would be very infrequent;
 - The layout of the site is such that the south-eastern edge of the compound would not require lighting for personnel, and lights would be directed away from this edge of the site which is nearest to the woodland;
 - The south-western edge of the site is some 50m from the woodland corridor along the Afon Seiont, and so light spill in this direction would readily be managed not to reach the woodland. Bats and otters using this woodland or the corridor along the river bank would not be affected in any periods when lighting is in use.
- 8.2.11 Implementation of the strategy reduces the impact of the proposal to Minor at a Regional level.
- 8.2.12 By reference to paragraph 5.2.2 this impact would apply to a receptor of 'Medium' value or sensitivity, and be of 'Minor' magnitude, leading to a significance assessment of 'Slight'. It would not therefore be a 'Likely Significant Impact' in EIA terms.

8.3 Green Infrastructure Statement

- 8.3.1 Planning Policy Wales 12th edition requires that 'A green infrastructure statement should be submitted with all planning applications, proportionate to the scale and nature of the development proposed, and will describe how green infrastructure has been incorporated into the proposal. This project has adopted the 'step-wise' approach in its site selection, design and planning.

Step 1: Avoid

- 8.3.2 The proposed development would use a brownfield industrial site which is not designated for biodiversity, and avoids habitats adjoining the site. The construction and operational phases have been planned so that impacts on adjoining habitats and species are avoided. No European designated sites are close enough to the proposed development for there to be any risk of direct habitat loss or damage (see 8.1). The Afon Seiont SSSI, located just west (downstream) of the former A487 Pwllheli Road, is designated for its geological exposures and not for any biodiversity value, and so there is no connection between the proposed development and this site.

Step 2: Minimise

- 8.3.3 Possible effects from surface water run-off, operating noise and security lighting have been minimised in the design by incorporating silt protection during construction, noise management within the plant design, and sensor-controlled directional lighting that only operates if movement is detected. Existing vegetation along the river corridor is outside the application boundary and would be retained.

Step 3: Mitigate / restore

- 8.3.4 Habitat damage from the development would be limited to the ruderal vegetation that has recently developed along the corridor that would be used for the cable connection to the electricity grid. Disturbed ground would be reinstated and enhanced by establishing a wildflower mix to generate a corridor for invertebrates and small mammals to disperse. This wildflower grassland would complement the existing young woodland edge that has formed as a result of the former quarry buffer mound planting.

Step 4: Compensate on site / Step 5: Compensate off site

- 8.3.5 These steps are not required since the actions under steps 1-3 would lead to a net benefit for biodiversity.
- 8.3.6 The proposals have been developed to take account of the DECCA Framework which sets out the principles of eco-resilience. Table 3 summarises the implementation of the principles on this project.

Table 3 The DECCA Framework

| | DECCA Principle* | Implementation |
|---|--|--|
| D | <p>Diversity: at a biological level, including at the genetic, species, habitat, ecosystems or sea/landscape scale, as well as at the geological and physical level underpins biodiversity, resilient ecosystems, their functioning and the delivery of important ecosystem services. More diverse ecosystems are more resilient to external influences (this includes biological, geological and physical diversity on a site). This means strategic planning and individual development proposals should avoid negative impacts on biodiversity by considering how biodiversity assets can be maintained and enhanced;</p> | <p>The proposal is confined to the former brickworks/bypass construction yard and haul road corridor, and avoids direct effects on habitats. Indirect effects would be avoided by protecting the river from silty run-off, avoiding night-time construction and lighting, protecting the river corridor from security lighting through design and sensor controls, and limiting operational noise. and limiting operational noise.</p> <p>The Habitats Regulations Assessment confirms that Likely Significant Effects on European sites can be ruled out.</p> <p>Biodiversity assets are considered to be protected.</p> |
| E | <p>Extent: to ensure mechanisms allow for the identification of potential habitat, the maintenance of existing biodiversity assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new additional habitat, as ecosystems which are small in extent are less resilient to external influences. This means that strategic planning and individual development proposals must avoid loss in the extent of biodiversity and incorporate measures to appropriately maintain and enlarge existing habitats, especially where extent is small or declining, through habitat restoration and creation with adjoining and nearby areas, green infrastructure features and networks;</p> | <p>The proposal is confined to the former brickworks/bypass construction yard and haul road corridor. The extent does not include habitats apart from recently-disturbed ground along the haul road corridor. This corridor would be used for the new cable, and then reinstated with a wildflower seed mixture to provide a linear habitat parallel to the woodland edge. By linking remaining fragments of ruderal vegetation, an improved corridor for invertebrates and small mammals to disperse will be created.</p> |
| C | <p>Condition: Ecosystems and biodiversity assets need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services and be more resilient to external influences. Ecosystem health can be adversely affected by a range of pressures including land use and climate change, pollution, Invasive Non-Native Species and over exploitation as set out in SoNaRR.</p> <p>Good condition requires sufficient scale and functioning natural processes or appropriate management to provide structural complexity and sustain diverse mosaics of habitats. Strategic planning and individual development proposals must not compromise the condition of ecosystems.</p> <p>By taking an integrated landscape approach to development, for example, which considers both direct, indirect and cumulative impacts and benefits, and seeks to reduce pressures it should be possible to make a positive contribution. Planning for and securing the long term management of retained habitats is key to maintaining</p> | <p>The proposal has been designed to avoid any effect on the existing biodiversity assets of the site or land within the control of the applicant. Nitrogen deposition from the peaking plant would be less than 3% of the critical load at woodland receptors. Biosecurity inspections of construction vehicles would prevent new invasive species becoming established, and the applicant is willing to participate in a catchment-scale approach to controlling existing Himalayan Balsam along the Afon Seiont.</p> <p>The proposal would not harm or prejudice the condition of ecosystems and biodiversity assets.</p> |

| | DECCA Principle* | Implementation |
|----------|--|--|
| | condition through for example, the use of planning obligations; | |
| C | <p>Connectivity: to take opportunities to develop functional and physical connectivity of biodiversity and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management, including the links within and between habitats, allows species to forage, breed and migrate and respond to climate change and other pressures, as well as enabling the flow of natural processes (however, measures should be taken to prevent undesired flows such as INNS and nutrients). The opportunities to be taken at a strategic level could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors, including transport and river corridors, removal of barriers and the creation of ‘stepping stones’ which will strengthen the ability of habitats and ecological networks to adapt to change, including climate change.</p> <p>Individual development proposals should identify and incorporate measures which enable appropriate links to be made between the site and its surroundings so as to improve connectivity;</p> | <p>The proposal is confined to the former brickworks/bypass construction yard and haul road corridor. The limited extent, combined with construction-stage controls and sensitive security lighting in operation, mean that the connectivity offered by the existing woodlands and Afon Seiont would not be affected.</p> <p>The extent of works does not include habitats apart from recently-disturbed ground along the haul road corridor. This corridor would be used for the new cable, and then reinstated with a wildflower seed mixture to provide a linear habitat parallel to the woodland edge. By linking remaining fragments of ruderal vegetation, an improved corridor for invertebrates and small mammals to disperse will be created.</p> |
| A | <p>Adaptability to change: resistance and recovery from pressures arise when the attributes of ecosystem resilience – diversity, extent, condition and connectivity of ecosystems are in good condition.</p> <p>Habitats and species are not static: planning for nature recovery should aim to sustain habitats and associated species as the geography and landuse changes around them, harnessing natural processes and opportunities for nature-based solutions.</p> <p>This means that strategic planning and individual development proposals should identify impacts to the ecosystem resilience attributes of biodiversity, using the pressures identified in SoNaRR. They should incorporate measures to ensure that biodiversity’s ability to adapt to, resist and recover from pressures is enhanced. Enhancement of resilient ecological networks and securing and enhancing green infrastructure will be key ways of achieving this, as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act.</p> | <p>As shown above, the diversity, extent, condition and connectivity of ecosystems would be supported by this proposal and so the project contributes to the Adaptability of ecosystems to change.</p> |
| | * (taken from ‘Implementing the Section 6 Duty: The DECCA Framework’ in Planning Policy Wales Edition 12) | |

9 Air quality

9.1 Air quality assessment

- 9.1.1 ITP Energised modelled the outputs and dispersion of nitrogen dioxide (NO₂) and oxides of nitrogen (NO_x)⁸ from the proposed plant, using a range of possible stack heights, to assess the resulting concentrations in air at a number of residential and ecological receptors. The predicted changes relative to the Air Quality Assessment Level were assessed by reference to guidance published by the Institute of Air Quality Management. Details of the assessment method are given in the report, presented as Appendix I. The assessment also included deposition of acid from nitrogen oxides.
- 9.1.2 The predicted **annual mean** process contributions give an impact descriptor of “negligible” for all human receptors for all stack heights. When including background concentrations, the predicted environmental concentration is less than 30% of the annual mean Air Quality Assessment Level (AQAL).
- 9.1.3 The predicted **peak** hourly process contribution concentrations give an impact descriptor of “slight” and “moderate” at some human receptors for stack heights of 10 m and below. At the proposed 11m stack height, the maximum impact descriptor is “slight” and therefore not significant.
- 9.1.4 For ecological receptors E1 – E3, the change in annual mean NO_x concentration due to the proposed plant is greater than 1% of the AQAL. At all other ecological receptors the magnitude of change due to the proposed plant is predicted to be less than 1% and therefore considered to be negligible. At receptors E1 – E3, the predicted environmental concentration (PEC) is less than 70% of the long-term critical level and so the change is considered to be negligible and not significant, in line with EA guidance (EA & Defra, 2020).
- 9.1.5 An assessment of the impact of the proposed plant on nutrient nitrogen and acid deposition has been carried out at designated ecological sites where there are features or habitats sensitive to deposition. Baseline deposition data and site-specific assessment criteria, where available, have been included in the assessment. For all stack heights from 7 m to 12 m the nutrient nitrogen deposition from the proposed plant is less than 1% of the Critical Load values at the SAC designations of E7 - Afon Gwyrfa a Llyn Cwellyn and E10 - SAC - Y Fenai a Bae Conwy, and at most of the Ancient Woodland Inventory sites. The potential effects of the proposed plant on nutrient nitrogen deposition at these receptors are considered to be negligible and therefore not significant.
- 9.1.6 At woodland receptors E1 and E3 the deposition of nitrogen from the proposed plant would be 2.91% and 1.38%, respectively, of the Critical Load. The current baseline is already greater than the assessment criteria, so the proposed plant and baseline deposition together is >100% of the Critical Load. The effects cannot be screened out as negligible. Further consideration of this deposition is given in section 9.2.
- 9.1.7 The results for the 11 m stack show that the predicted Acid Deposition arising from the proposed plant is below 1% of all of the Critical Load Functions for the features present within the SACs. The effects are therefore concluded to be negligible and not significant. Acid deposition from the proposed plant is predicted to be less than 1% of the Critical Load Function at all the Ancient

⁸ Nitrogen oxides (NO_x) are a group of gases that are mainly formed during the combustion of fossil fuels. The dominant portion of these gases is nitric oxide (NO). However, NO can react with other gases in the atmosphere to form nitrogen dioxide (NO₂) which is harmful to health. These reactions take place very quickly and are reversible, so the two gases are referred to together as NO_x. [www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox#:~:text=Nitrogen%20oxides%20\(NOx\)%20are%20a,which%20is%20harmful%20to%20health](http://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox#:~:text=Nitrogen%20oxides%20(NOx)%20are%20a,which%20is%20harmful%20to%20health) (accessed 06.03.2023)

Woodland Inventory sites except E1. The potential effects of acid deposition at these receptors (except E1) are considered to be negligible and therefore not significant.

- 9.1.8 At receptor E1 the load from the proposed plant would be 1.3% of the Critical Load Function. The current baseline is already greater than the Critical Load, so the proposed plant and baseline deposition together is >100% of the Critical Load. The effects cannot be screened out as negligible. Further consideration of this deposition is given in section 9.2.

9.2 Effects on ecological receptors

- 9.2.1 Lowland mixed deciduous woodland is a Priority Habitat - one of the Environment (Wales) Act 2016 Section 7 list of the habitats of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. By reference to paragraph 5.2.2 of this Supporting Statement, this receptor is considered to be of 'Medium' value/sensitivity. As nitrogen and acid deposition loads already exceed the Critical Load Function, the minor addition from the proposed plant cannot be treated as negligible (para 9.1.6 and 9.1.8) and so a magnitude of 'Minor' has been applied.
- 9.2.2 Combining the 'Medium' sensitivity and 'Minor' magnitude as shown in the significance matrix (para 5.2.2) gives a significance of 'Slight' which is not significant in EIA terms.

9.3 Conclusion for air quality

- 9.3.1 From the air quality assessment conducted for this proposed project, it is concluded that there would be no significant effects on human or ecological receptors.

10 Noise

10.1 Noise assessment

- 10.1.1 A specialist noise impact assessment was conducted and a report prepared by ITP Energised. That report, reference 6018 v1.0 dated 2023-03-24, is attached as Appendix J. The baseline noise survey showed that the appropriate night-time background noise level for assessment is 41dB at the representative receptors. Noise sources at this time were predominantly natural in origin, ie not industrial or road traffic.
- 10.1.2 Assuming standard/unattenuated engines, which meet 75 dBA at 1m, predicted operational noise levels at the closest noise sensitive receptors (NSRs) range from 39 dBL_{Aeq} to 41 dBL_{Aeq}. No acoustic characteristics which would attract corrections under BS4142 are expected to be present at the source or audible at noise sensitive receptors, and so derived Rating Levels match the predicted specific levels.
- 10.1.3 From this assessment, the predicted operational rating levels will be below or equal to the background noise level. Operation of the proposed development would therefore have a low or very low impact on noise-sensitive receptors.

11 Traffic generation and effects

11.1 Transport statement

- 11.1.1 The traffic that would be generated by the proposed development is limited to the delivery of materials and plant, and construction personnel, during the construction of the proposed peaking plant. All such deliveries would be within the agreed working hours, anticipated to match those within existing planning permission C17/0107/19/LL for the former brickworks site. These working

hours are Mon – Fri 07:00 – 19:00; Sat 07:00 – 13:00. There is no working permitted on Sundays or Bank Holidays.

11.1.2 This traffic is estimated to consist of:

- 10 light vehicles for construction personnel, per day
- 80 HGV deliveries of aggregate, concrete and similar materials, over 6 weeks during construction
- 20 articulated HGV transporting generating sets and ancillary equipment, over 4 weeks during construction
- 2 movements on and off of road-going mobile crane

11.1.3 The total period of construction is estimated as 12 weeks.

11.1.4 Once operational the plant would require maintenance visits averaging one per week, involving a light van with one or two personnel. The site would not have any staff during normal operation/standby.

11.2 Transport routes

11.2.1 All vehicles transporting materials, equipment and personnel during construction would use the existing site access from Seiont Mill Road, which joins the A4871 Pwllheli Road at the existing roundabout, and from there to the A487 Caernarfon bypass to travel north-east or south-west.

11.3 Traffic effect

11.3.1 The construction related traffic is lower than that associated with operations during the bypass works now almost completed, and would last for a temporary period only. There would be minimal traffic during the operation of the plant.

11.3.2 Any noise, emissions or congestion effects of traffic would therefore be insignificant.

12 Drainage and the water environment

12.1 Location and flood risk

12.1.1 The location of the proposal site and access in relation to the Afon Seiont and its associated flood risk zones was assessed in detail as part of earlier planning applications. An updating of the Flood Consequences Assessment was conducted by Waterco⁹ specifically for this project, and consulted on as part of the Pre-Application Consultation. NRW raised their concern that their June 2020 flood model (on which Waterco's report was based) did not consider the impact of the 0.1% annual exceedance event combined with an allowance for climate change, nor did their 2021 site-specific modelling consider the effect of partial blockage of the bridge over the Afon Seiont (linking the site with Seiont Mill Road) if this occurred during a 0.1% exceedance event with allowance for climate change.

12.1.2 Waterco have therefore carried out further specific modelling to cover these situations. The report is presented as Waterco ref 12421-FCA-03 in Appendix K. Waterco assessed the modelling results against the proposed development boundary and layout shown in their report. To avoid the flood risks set out in their report the applicant has adjusted the layout further, as noted in section 12.3.

12.1.3 The flood risk associated with the proposed development zone is set out in the report. It showed that the proposed development was located in the more elevated part of the site, outside the 0.1% annual probability flood extent (ie within Flood Zone A of the Welsh Government Development Advice Map). The NRW 'Flood Map for Planning' shows that the westernmost extent of the site is located within

⁹ Waterco ref 12421-FCA-02 February 2023

Flood Zone 2 – an area considered to be at flood risk with between a 1% (1 in 100) and 0.1% (1 in 1,000) annual probability of flooding, including an allowance for climate change. The majority of the site is shown within Flood Zone 1 – an area considered to have a less than 0.1% annual probability of flooding, including an allowance for climate change.

- 12.1.4 The site is estimated to be flood free during all present-day events up to and including the 0.1% AEP event. The site is also flood free during the 1% AEP plus 30% and 75% climate change events. When accounting for 75% climate change on the 1% AEP event coinciding with a blockage of the access road bridge, the westernmost extent of the site is estimated to flood, however, no development is located within the flood extent.
- 12.1.5 The westernmost extent of the site is estimated to flood when accounting for 30% and 75% CC on the 0.1% AEP event. The majority of the site is flood free in this scenario. The proposed development only marginally encroaches into the flood extent in the westernmost extent of the site during the 0.1% AEP plus CC event.
- 12.1.6 It is proposed to raise equipment/infrastructure located within the flood extent as to provide 300mm freeboard above the 0.1% AEP event plus 75% CC flood level (including for blockage). Based on the LIDAR ground level plan (14.66m at that point) and the maximum modelled water level in that scenario (15.14m at that point) the required freeboard would be achieved at a level approximately 0.8m above existing ground level in that corner of the site. Ground raising could be avoided by a) configuring the equipment to avoid that corner; b) raising certain facilities (eg staff welfare unit) off the ground or c) locating car parking in that corner. These options would avoid any effect on flood storage capacity.
- 12.1.7 The access road to the proposed site is flood-free during all but the most extreme modelled fluvial events (Waterco report Appendix K). There is no ground raising within the extent of predicted flooding, and so no effect on the flood storage capacity of the floodplain.
- 12.1.8 The proposed plant would not require any permanent staff. Maintenance visits would be postponed if a severe storm or flooding (such as a 1% AEP event) was forecast and so no staff would need to evacuate from the site or be vulnerable in such an event.

12.2 Site drainage

- 12.2.1 Proposed drainage will be via shallow infiltration through the aggregate surface, and lateral flow to the existing open ditch at the eastern edge of the former brickworks site. If necessary this ditch will be enlarged to provide additional storage capacity in extreme events. Any works would be carried out in accordance with a design approved by the Sustainable Drainage Systems Approval Body (Gwynedd Council).

12.3 Flood risk conclusion

- 12.3.1 Following receipt of the Waterco FCA report, the applicant has modified the internal layout of the peaking plant so that the southwestern corner, where flooding in extreme conditions is possible, is no longer required. Drawing EDS-238895-0005 ref P03 in Appendix L shows the application (revised) layout superimposed on the flood model to demonstrate this. For these reasons it is concluded that the proposed development complies with TAN15, would not be at unacceptable risk of flooding, nor would it increase the risk of flooding elsewhere.

12.4 Water quality baseline

- 12.4.1 The development lies entirely within the catchment of the Afon Seiont. The river is classified under the Water Framework Directive (Cycle 3) as having overall 'Moderate' status (a decline from 'Good'

status under Cycle 2). Its Ecological Status is 'Moderate', and its Chemical Status is 'High'. The ammonia (NH₃) status is also 'High'¹⁰

12.5 Potential effects from the development

- 12.5.1 The proposed construction and operation of the peaking plant would not alter the current pattern of drainage nor the quality of surface run off. To prevent silty water flowing to the Afon Seiont during site preparation works, silt fencing and/or additional temporary settlement ponds would be used as necessary. Construction plant would be maintained and operated to high standards, to prevent leaks and spillages of fuel and lubricants. The applicant has established Construction Environmental Management Plans which would be implemented for this project.
- 12.5.2 There would be no requirement for deep ground disturbance and so there is no risk that any unknown ground contamination would be affected or mobilised to affect water quality.
- 12.5.3 During operation there would be no requirement for liquid fuels, and no storage of lubricants on site. Each generator set will be contained within a steel enclosure, and so even if there was a complete loss of lubricant from one unit, the fluid would be contained within the enclosure and not able to leak to the wider environment.
- 12.5.4 The small welfare accommodation provided for visiting maintenance staff would be connected to mains drainage and services, which will remain for the duration of the proposed continued use. There is no risk of discharges to the Afon Seiont.
- 12.5.5 Emissions of particulates, oxides of nitrogen and the generation of acidity from exhaust emissions generated by the plant in operation are all described in chapter 9 of this Statement. The possible effect of consequent nutrient deposition to ecological receptors including designated waterbodies is noted in that chapter and in chapter 8 Ecology and Nature conservation.

13 Cumulative effects with other projects

13.1 Cumulative effects with the bypass

- 13.1.1 The bypass is now open to traffic and has been considered as forming part of the baseline for the proposal. All effects identified in this assessment are therefore additional to the baseline including the bypass.

13.2 Cumulative effects with other projects

- 13.2.1 *Peblig Industrial Estate redevelopment, planning application reference C22/0696/14/LL*. This is a 'Full application for the demolition of existing industrial and commercial units and development of new industrial and commercial units (B1, B2 & B8) together with new road infrastructure, service yards and common areas, parking, flood meadow and landscaping on land at Peblig Industrial Estate'. At the time of writing this Supporting Statement (September 2023) the Peblig application had not been determined. The application and supporting documents available on the Council's 'Track and Trace' website¹¹ were consulted. Table 4 summarises the likely significant effects reported for this application, and identifies those where parallel effects would arise from the proposed gas peaking plant.

¹⁰ [Water Watch Wales \(naturalresourceswales.gov.uk\)](https://www.naturalresourceswales.gov.uk) Cycle 2/ Cycle 3 comparison map, viewed 9.6.2023

¹¹ <https://amg.gwynedd.llyw.cymru/planning/index.html?fa=getApplication&reference=C22/0696/14/LL&language=en>



{Source: Gwynedd Council Track and Trace website}

Table 4 Peblig Industrial Estate redevelopment

| TOPIC | SIGNIFICANT EFFECT - PEBLIG | SIGNIFICANT EFFECT – SEIONT PEAKING | NOTES |
|--|-----------------------------|-------------------------------------|---|
| Cultural heritage | No | No | No cumulative effect |
| Landscape and visual amenity | | No | No intervisibility |
| Ecology and nature conservation - bats | No | No | Peblig project would replace building roosts. Seiont project does not affect foraging or roosts |
| Ecology and nature conservation - otters | No | No | Both projects would include protection of river corridor during construction |
| Air quality | No | No | Negligible effects |
| Noise | No | No | No receptors affected by both projects |
| Traffic generation and effects | No | No | Separate highway access routes, Seiont generates minimal traffic |
| Drainage and the water environment | No | No | Peblig does not affect flow at Seiont |
| Risk of disaster | | | No interaction |

13.2.2 It can be seen that there are no environmental topics where interactive or cumulative effects would arise from these two projects.

13.2.3 The potential for cumulative effects to arise should this STOR project be carried out in addition to the proposed concrete batching plant and other elements of that separate planning application (see para 1.1.1) has been considered methodically, under each of the topic headings used within this ES. Topics scoped out of the assessment of the proposed concrete batching and other industrial activities were also scoped out of consideration for cumulative effects. The findings are presented in Table 5.

Table 5 Potential for cumulative effects

| ES TOPIC | STOR AND INDUSTRIAL ACTIVITIES CUMULATIVE |
|--|--|
| 6. Cultural Heritage | No effects from either development |
| 7. Landscape and Visual Amenity | Negligible effect from each development independently, so additive effect is slight |
| 8. Ecology and Nature Conservation | Possible cumulative noise (see 9) during daytime hours Developments generate different emissions to air, with insignificant effects on vegetation, so cumulative effect on vegetation is unlikely Lighting of STOR plant only for security immediately around the plant, so not cumulative with the industrial activities development |
| 9. Noise | There could be periods when both the concrete plant / materials recycling operations and the STOR were operating during daytime hours, leading to the combined noise at some receptors exceeding the agreed criterion. Management of the materials recycling operations (eg suspending operation if STOR plant is operating) would avoid that situation arising. |
| 10. Traffic generation and effects | The STOR would not generate traffic once operational, so no cumulative effect arises |
| 11. Drainage and the water environment | The STOR plant sits outside the flood risk zone and has no permanent staff, so no cumulative effect arises |
| 12. Water quality | The STOR plant presents very low risk as lubricants are contained within the generator containers, and no liquid fuels are involved. No cumulative effect |

14 Risk of disaster

14.1 Vulnerability to man-made incidents

14.1.1 The MPA previously concluded (in relation to planning permission C17/0011/19/MW) that there are no major installations in the vicinity of the site that could affect its operations. The operating area is sufficiently distant from the A487 bypass that it would not be affected by possible incidents involving

highway traffic. The proposed development would not therefore increase vulnerability or risk from man-made incidents.

14.2 Vulnerability to natural disasters

- 14.2.1 The nature of the development is not particularly susceptible to natural disasters, as it involves operating plant which is not novel in nature, is contained within individual enclosures and does not require the storage of fuel on site. It would be fully controlled by remote means, and so could be shut down if necessary without need for staff to attend the site.
- 14.2.2 The LPA have previously advised that the site lies within a 'C2 Flood Zone' on the Afon Seiont floodplain, requiring the consideration of the potential for flooding disasters in relation to operations on site as well as staff evacuation/emergency services access/major accident etc. Chapter 12 'Drainage and the water environment' presents the assessment of flood risk at the site, including a detailed flood assessment which concludes that only the western corner of the proposed peaking plant site would be inundated in the most extreme scenario - a 0.1% annual probability plus 75% climate change allowance flood event occurring in combination with a partial blockage of the bridge over the Afon Seiont. The water depth in this situation would be 480mm at this point.
- 14.2.3 The provision for staff evacuation during the construction period, and for emergency services access in the event of an incident on site, or major accident on surrounding roads including the bypass, is set out in the existing site Emergency Plan that was developed and maintained by the Applicant company in relation to the use of the former brickworks site in connection with the bypass construction. No staff would be on site during routine operations. Maintenance visits would be deferred if weather that could possibly generate conditions as severe as a 0.1% annual probability event was forecast.
- 14.2.4 The existing site access road is flood-free in the 1% AEP plus 30% climate change event and the 0.1% AEP event. Inundation is only predicted to occur in more extreme conditions and so there would be no staff on site in that situation. If the site access road was to be blocked for some other reason, then any staff on site would be able to use the construction haul road to reach Waunfawr Road if an emergency evacuation was required.
- 14.2.5 The proposal does not involve ground raising within the extent of predicted flooding, and so no effect on the flood storage capacity of the floodplain would arise.

14.3 Conclusion – risk of disaster

- 14.3.1 For these reasons it is concluded that the proposed site use would not be vulnerable to flooding disaster and would not increase the risk of such disaster to other neighbouring sites. The magnitude of the impact of the proposed development on the risk of disaster is 'No change'. The significance is therefore 'Neutral' and not material in the decision-making process.

15 Conclusion

15.1 Conclusion to Supporting Statement

- 15.1.1 The applicant is seeking a new planning permission for the development of a gas-fired electricity generating plant providing short-term operating reserve supply to the electricity network. PEDW issued a screening direction on the 19th May 2023 confirming that the proposal is not EIA development, and so this Supporting Statement has been prepared to provide information to assist PEDW and consultees. The preparation of the document has not been restricted by lack of information or other factors.

- 15.1.2 The Statement follows the structure of an environmental assessment, and presents the findings in the context of the setting of the site, described in Chapter 3. The site lies on the south-eastern side of the town of Caernarfon, Gwynedd. The area is substantially the site of the former Seiont brickworks which comprised a brick clay quarry and brick production factory, more recently used as a temporary compound in connection with the Caernarfon to Bontnewydd bypass construction project.
- 15.1.3 Mitigation, in the form of operating controls and the design of the site layout, would reduce potential impacts identified during the assessment. This mitigation has been taken into account in the conclusions for each topic. No significant environmental effects from the proposed development, alone or in combination with other proposed development nearby (the proposed concrete batching, materials recycling and associated industrial activities or the Peblig Industrial Estate redevelopment) have been identified by the assessment.

List of Appendices in Volume 2

| Ref | Title | Components |
|-----|---|-----------------|
| A | Site Plans, Proposed plant layout | Appx A1, A2 |
| B | Site Photographs | Appx B |
| C | Designated Biodiversity and Heritage sites plan | Appx C |
| D | Grid connection offer | Appx D |
| E | Welsh language statement | Appx E |
| F | CADW Listings (Glan Gwna Lodge, Bryn Eden) | Appx F1, F2 |
| G | LVIA report with appendices (RML) | Appx G1, G2, G3 |
| H | Biodiversity report (Ecoscope) | Appx H |
| I | Air quality assessment report (ITPEnergised) | Appx I |
| J | Noise assessment report (ITPEnergised) | Appx J |
| K | FCA report with appendices (Waterco) | Appx K |
| L | Application layout and flood zone | Appx L |