



**SIMEC ATLANTIS  
ENERGY**

# **EIA SCOPING REPORTSIMEC USKMOUTH POWER STATION**

**Request for Scoping Opinion under Town and Country Planning  
(Environmental Impact Assessment) (Wales) Regulations 2017**

**On behalf of Simec Uskmouth Power Ltd.**



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## GLOSSARY

Term	Definition
ACT	Advanced Conversion Technology power plant
ADMS	Atmospheric Dispersion Modelling System
AGL	Above Ground Level
AOD	Above Ordnance Datum
APC	Air Pollution Control
AQMA	Air Quality Management Areas
BGS	British Geological Survey
BS	British Standard
BSI	British Standard Institute
CCGT	Combined Cycle Gas Turbine
CERC	Cambridge Environmental Research Consultants
CIEEM	Chartered Institute of Ecology and Environmental Management
CRTN	Calculation of Road Traffic Noise
DCLG	Department for Communities and Local Government
DMRB	Design Manual for Roads and Bridges
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
EPUK	Environmental Protection UK
ES	Environmental Statement
FEED	Front End Engineering Design
FGT	Flue Gas Treatment
FRA	Flood Risk Assessment
GGAT	Glamorgan Gwent Archaeological Trust
GHG	Greenhouse Gasses
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
IAQM	Institute of Air Quality Management
IEA	Institute of Environmental Assessment
IEFs	Important Ecological Features
LAQM	Local Air Quality Management
LDP	Newport Local Development Plan
LHV	Lower Heating Value
L VIA	Landscape and Visual Impact Assessment
NCC	Newport City Council
NLCAs	National Landscape Character Areas
NRW	Natural Resources Wales
NSR	Noise Sensitive Receptors
PROW	Publics Rights of Way

Term	Definition
fuel	Solid Recovered Fuel
ZTV	Zone of Theoretical Visibility
ZVI	Zone of Visual Influence



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# 1 INTRODUCTION

- 1.1 This Scoping Report has been prepared by RPS on behalf of Simec Uskmouth Power Ltd. It proposes the scope of environmental assessment for the proposed conversion of the existing coal-fired power plant at Simec Uskmouth Power Station to a plant that would generate electricity by combusting fuel pellets derived from non-recyclable waste otherwise destined for landfill, along with associated infrastructure (the proposed development).
- 1.2 Environmental Impact Assessment (EIA) is the process of identifying and assessing the significant effects likely to arise from a proposed development. EIA is not required for all developments. A formal request for a screening opinion was submitted to the local planning authority Newport City Council (NCC) on 19th October 2018 and a screening opinion was issued by NCC on 29th October 2018. The screening opinion confirmed that the project is Schedule 2 development, category 13(a) 'Change or extension to a Schedule 1 development (thermal power station of 300 megawatts or more)' which, as changed or extended may have significant effects on the environment.
- 1.3 This report sets out the proposed scope of the Environmental Statement (the report of the EIA process) which will be prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (referred to hereafter as the EIA Regulations). The Environmental Statement (ES) will accompany a full planning application to be submitted to NCC.
- 1.4 The aim of this report is to provide information to NCC and other consultees to enable a Scoping Opinion to be adopted under Regulation 14 of the EIA Regulations. A letter to NCC requesting such an opinion accompanies this report.

## Statutory Framework and Purpose of the Environmental Statement

### Purpose of EIA

- 1.5 EIA is the process of identifying and assessing the significant effects likely to arise from a proposed development. This requires consideration of the likely changes to the environment, where these arise as a consequence of the proposed development, through comparison with the existing and likely future baseline conditions in the absence of the proposed development.

### Purpose of Scoping

- 1.6 The process of identifying the issues to consider within an ES (establishing the scope of the assessment) is known as scoping. Scoping is not a mandatory requirement under the EIA Regulations. However, it is recognised as a useful part of the assessment process which helps to identify the main effects that a project is likely to have on the environment.
- 1.7 The scoping of an EIA by which these main or significant effects are identified is, therefore, an important preliminary procedure, which sets the context for the study. Through the scoping exercise, the key environmental issues are identified at an early stage, which permits subsequent work to concentrate on those environmental topics for which significant effects may arise as a result of a proposed development.

### Purpose of this Scoping Report

- 1.8 This document sets out details of the proposed development at the Uskmouth site, the proposed EIA methodology and the proposed scope of technical assessments and invites comments from NCC and its consultees regarding the scope of works. The intention of this scoping exercise is to

gain agreement from all key parties regarding the proposed methodology and scope of assessment.

1.9 This Scoping Report has been informed by the following:

- Consultation (see below);
- Desk-top studies, site visits and surveys;
- Review of relevant websites, such as those provided by statutory consultees;
- Local and national planning policy;
- The EIA Regulations and EIA good practice guidance; and
- Experience of other similar developments.

## **The Applicant**

1.10 The applicant is Simec Uskmouth Power Limited, a wholly owned subsidiary of SIMEC Atlantis Energy Limited (“Atlantis”) a member of the GFG Alliance.

## **Statutory Consultees**

1.11 The Scoping Report has been informed by meetings and correspondence from NCC and its consultees including:

- Simec Uskmouth Power Station Ltd. meetings with NRW on 16 April 2018;
- Simec Uskmouth Power Station Ltd. meeting with NCC on 11 September 2018;
- Simec Uskmouth Power Station Ltd. meetings with NRW on 18 October 2018;
- Simec Uskmouth Power Station Ltd. meetings with NRW on 28 March 2019;
- A pre-application meeting held at Simec Uskmouth Power Station Ltd. on 9<sup>th</sup> May 2019;
- Simec Uskmouth Power Station Ltd. meetings with NRW on 15 May 2019;
- Simec Uskmouth Power Station Ltd. meetings with NRW on 29 May 2019;
- Simec Uskmouth Power Station Ltd. meeting with NCC on 25 September 2019;
- Simec Uskmouth Power Station Ltd. meetings with NRW on 24 October 2019; and
- Simec Uskmouth Power Station Ltd. meeting with NCC on 19 December 2019.

## **Public Consultation**

1.12 As part of the consultation process, the applicant will continue to engage with the local community in order to inform local people about the proposals, to explain the development and its likely effects and to take on board any concerns or issues. The requirement for pre-application consultation under Section 17 of the Planning Wales Act 2015 and The Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016 will be undertaken. The ES will include a summary of the pre-application public consultation carried out.

## 2 THE SITE AND THE PROPOSED DEVELOPMENT

### The Site and its Surroundings

- 2.1 Uskmouth Power Station was historically made up of two power plants : Uskmouth A (decommissioned in 1990's ) and Uskmouth B coal-fired power stations. The proposed development would be implemented entirely within the site of the existing Uskmouth B coal-fired power station, referred to as Simec Uskmouth Power Station.
- 2.2 The power station site is located on the eastern bank of the River Usk, close to the confluence with the Severn Estuary, around 4 km south of central Newport. The grid reference is ST 32830 83838 and the site address is Simec Uskmouth Power, West Nash Road, Nash, Newport, NP18 2BZ. Figure 1 shows the site location while Figure 2 shows the redline boundary.
- 2.3 Uskmouth B power station was constructed in the late 1950s and early 1960s, reaching full commercial operation in 1962, with generation capacity of up to 363 MW electricity. SUP was closed in 1995 before undergoing refurbishment to increase capacity to 393 MW and began producing electricity again in 2001. The power station was again closed in 2014, re-opening in 2015 and continued to operate until a fault in April 2017 caused the shut-down of the power station to the present day.
- 2.4 The current site comprises:
- The main power station buildings housing furnaces, boilers, steam turbines and electrical generators;
  - Offices, workshop buildings, storage and car parking;
  - Two linear banks of cooling towers;
  - A single exhaust stack;
  - A coal storage area, conveyor systems and pulveriser mills;
  - A pulverised fuel ash storage area;
  - Railway tracks and coal unloading facility;
  - Electrical export equipment; and
  - Areas of landscaping and surface water drainage including a large attenuation pond.
- 2.5 A Lawful Development Certificate for a peaking power plant and advanced conversion technology power plant (ACT, a gasification process for waste) on parts of land within the Simec Uskmouth Power Station site was granted in April 2016 (Newport City Council reference 16/0257). The peaking power plant has been constructed. The applicant considers it unlikely that the ACT development would be constructed and so it has been excluded in the screening of potential cumulative impacts outlined in Section 5.
- 2.6 Immediately to the west, the site adjoins the Severn Power combined cycle gas turbine (CCGT) power station, constructed in 2007 on the site of the former Uskmouth A coal-fired power station.
- 2.7 Immediately to the north is the River Usk and, in the north-east, Newport Uskmouth Sailing Club; to the east is the railway line, a mixture of land with vegetation, hardstanding and a sewage treatment works; and to the south, former ash pits (now vegetated), beyond which is the Newport Wetlands national nature reserve.
- 2.8 The wider site setting is industrialised to the north, with the Liberty Steel works and industrial estates on the east bank of the River Usk stretching from the proposed development site to the A48 'Southern Distributor Road' dual carriageway through the outskirts of Newport.

- 2.9 The River Usk and the Severn Estuary lie beyond the CCGT power station and Newport Wetlands to the west and south. On the west bank of the Usk is Alexandra Docks, with commercial and industrial land-uses.
- 2.10 To the east, the wider setting is rural, with farmland, minor roads, reens (drainage channels) and individual or small groups of houses. The nearest settlement is the village of Nash, at a little over 1 km from the proposed development site.

## Project Description

- 2.11 The proposed development comprises converting the existing coal-fired Simec Uskmouth Power Station to a plant that would generate electricity by combusting fuel pellets derived from non-recyclable waste. The proposed development would also include supporting infrastructure to enable its operation. The proposed conversion will refurbish two of the three combustions units, known as Unit 13 (110 MW) and Unit 14 (110 MW), to provide 220 MWe (Megawatts Unit net generation export capacity) . The third Unit 15 will not be converted. The proposed conversion would be delivered in two phases: converting one combustion unit to provide 110 MWe capacity in the first quarter of 2022, with the second 110 MWe unit converted in the second quarter of 2024. The operational lifetime of the project is expected to be at least 20 years post commissioning but for the purposes of flood risk and climate change we have assumed 40 years as a reasonable worst case.
- 2.12 The waste-derived fuel pellets are manufactured to replicate the combustion properties of coal. The replacement and upgrade of equipment within the existing Simec Uskmouth Power Station will be carried out within the existing building envelopes to enable the combustion of waste-derived fuel pellets either as the sole fuel type; or co-fired with other biomass fuels for the primary purpose of electricity generation.
- 2.13 The following description outlines the nature of the works to be carried out and the parameters that will be adopted in the EIA. At the scoping stage, the design work is still ongoing and may be subject to change up to the point of application, but the selected assessment parameters will remain valid throughout.

## Buildings

- 2.14 The proposed development would comprise (see Table 2.1 for approx. dimensions):
  - Construction of fuel storage silos and conveyor systems;
  - Fuel de-dusting building;
  - Improved rail fuel unloading facilities; and
  - Vessels and infrastructure for the delivery and storage of flue gas treatment (FGT) reagents and residues.
- 2.15 The outward appearance of the existing power station buildings and exhaust stack would remain unchanged as other changes to equipment would be made within the envelope of the existing buildings. The visible difference to the appearance of the site will be new fuel storage silos connected to the existing plant with new and refurbished conveyors. Primary storage silos will be constructed on the existing coal storage area. The footprint of fuel pellet storage silos is much smaller than that required for the external storage of coal. As a result, large areas of existing coal storage area will be returned to green infrastructure.

**Table 2.1 Summary of new buildings and approximate dimensions**

Building	Approx. Dimensions	Approx. Height AGL
Day Silos (x2)	13 m radius	24(31 m including head house)

<b>Building</b>	<b>Approx. Dimensions</b>	<b>Approx. Height AGL</b>
De-dusting Building	20 m x 20 m	10 m
Lime Silo (external cladding extension)	8.5 m x 5 m	23 m
Primary Storage Silos (x4)	29 m radius	42 m (48 m including head house)
Rail Unloading Facility Extension	40 m x 15 m	8 m

2.16 No demolition is required for the proposed development. The conversion process including, construction of the silos and conveyors, access and conversion of equipment within the power station buildings is anticipated to take around 18 months.

## Fuel supply

2.17 The power station conversion and provision of fuel silos would allow firing on a mixture of pelletised, waste-derived fuel meeting a defined specification as ‘Solid Recovered Fuel’ (fuel pellets) and optionally, other biomass fuel. The intention is to operate the power station using 100% pelletised waste-derived fuel pellets, but the power station may retain flexibility to introduce a secondary biomass fuel if required for technical or economic reasons. The biomass fuel reserve would be stored in the existing biomass storage building on site. In the event the fuel pellets are co-fired with biomass, biomass would be added to the fuel pellets for pulverisation within the mills using the existing biomass delivery system

2.18 The fuel pellets will have a broadly similar calorific value (energy content per unit mass) as the formerly used coal fuel.

2.19 The boilers will have a target efficiency (lower heating value, LHV) of 33% which means that up to 65 tonnes per hour (t/h) of fuel would be required for each unit. At an expected calorific value of 19Mj/kg (LHV) for the fuel pellets, an 80% load factor would equate to around 911,040 tonnes per annum (tpa)<sup>1</sup> of fuel pellets used. However, the storage and logistics strategy has been designed on a reasonable worst-case scenario of 90% load factor which equates to 1,024,920 tpa i.e. 512,460 tpa per boiler.

2.20 The fuel pellets will be supplied directly to the power station from fuel pellet manufacturing locations in the UK. Biomass fuel, if required, would also be delivered directly to the power station. It is anticipated that initially up to 1% or 10,249 tpa of biomass fuel (90% load factor) may be required.

## Access and Logistics

2.21 As with the fuel supply outlined above, access and logistics arrangements described below have been calculated under the assumption that both combustion units are operational. Consequently, the tonnages below and movements listed in Table 2.2 represent the ‘worst case scenario’.

2.22 The proposed development intends to replicate the previous operational delivery pathways used by the coal fired power station.

- fuel pellets delivered by rail – replicating historic coal rail delivery;
- operational consumables delivered to SUP by road;

<sup>1</sup> There are 8,760hrs in a year so 80 % is 7,008hrs multiplied by 65 t/h and doubled equal 911,040 tpa.

- biomass delivered to SUP by road; and
  - ash transported off site by road.
- 2.23 Table 2.2 summarises the assumed logistical movements that would be required for; fuel importation (rail), operational consumables including biomass (road) and exports of ash (road).
- 2.24 It is proposed that road access will be taken via West Nash Road, through the existing SUP main gate during the construction and operational phases.

### **Fuel delivery – rail**

- 2.25 The SUP power station site has historically delivered fuel (coal) via the existing rail connection and off-loading facilities. Refurbishment and extension of the existing rail unloading hopper will ensure that bulk deliveries of fuel pellets can be handled in a timely manner. The proposed extension to the existing rail unloading facility would be up to 40 m, with height and width matching the existing building (approximately 8 m and 15 m respectively). Table 2.2 below sets out the anticipated rail logistics strategy that is considered in the EIA.

### **Fuel delivery – road**

- 2.26 Road delivery of fuel pellets would not be required under normal circumstances. However, road deliveries may be required following major incident on the rail line. Historically, rail deliveries have been very reliable with only 2 days un-planned rail network closure over the last 20 years. The proposed primary storage silos would contain up to 7 to 10 days' worth of fuel meaning that any future rail closures are likely to be accommodated without requiring road deliveries.
- 2.27 Under some circumstances, rail disruption may be as a result of maintenance works to the rail line. However, this would occur on a planned basis, allowing fuel pellets to be stockpiled accordingly.

### **Biomass fuel delivery – road**

- 2.28 As outlined above, as well as fuel pellets, 10,249 tpa biomass fuel may be initially required to co-fire along with the fuel pellets . In the event biomass is required, biomass fuel would be delivered by road replicating previous operational SUP deliveries (see Table 2.2 below).

### **Operational Consumables – road**

- 2.1.1 In addition to mains water, the facility will continue to utilise the following raw materials in line as per the existing permit:
- Lime, urea and ammonium sulphate(reagent for flue gas treatment );
  - Activated carbon;
  - Gases, chemicals and general stores; and
  - Gas oil / diesel (auxiliary and back-up fuel).

### **Lime**

- 2.29 Lime would be used in the flue-gas treatment (FGT) process. It is anticipated that approximately 51,246 tonnes per annum of lime will be delivered to the site. The lime used in the FGT system is removed from site within the Air Pollution Control residue (APCr) composed of fly ash and FGT consumables (see below).

**Ash**

- 2.30 Combustion of the fuel pellets is expected to produce around 15% ash content by mass, similar in quantity to the ash production at the coal fired power station. The ash is composed of 80% fly ash and 20% furnace bottom ash (referred to as bottom ash).
- 2.31 Around 174,236.40 tonnes Air Pollution Control residue (APCr) composed of fly ash and FGT consumables is produced per annum, APCr is discharged into sealed road tankers via a sealed connection and transported by road offsite for disposal.
- 2.32 Around 30,747 tonnes of bottom ash is produced per annum. The nature of bottom ash handling systems following the SUP conversion will be determined during FEED and design phases of the EPC project. It is anticipated bottom ash will be transported by road offsite for disposal.
- 2.33 Resulting in around 153,738 tpa of ash to be removed from site by road for disposal (a fairly similar proportion to historical ash from coal combustion). The process results in 153,738.00 tpa of ash and when combined with the limestone used in the FGT process, this would equate to 204,984 tpa which would be removed by road.

**Reagents**

- 2.34 In addition to those raw materials listed above, it is anticipated the converted SUP facility will utilise; ammonium sulphate, urea and activated carbon for the flue gas treatment .
- 2.35 It is anticipated that around 2,430 tonnes per annum of Urea and 920 tonnes per annum of Ammonium Sulphate (at 90% load) would be required in the flue gas treatment process for each boiler.

**Other operational deliveries**

- 2.36 The operational SUP will also require other operational consumables delivered by HGV including general supplies, fuel oil, activated carbon, gasses and chemicals. The anticipated maximum daily HGV movements are shown in Table 2.2 below.

**Table 2.2 Anticipated logistical movements (both boilers)**

<b>Load</b>	<b>Tonnes per annum @ 90% utilisation</b>	<b>Mode</b>	<b>Movements per day <sup>a</sup></b>
Fuel pellets	1,024,920	Rail	8 (Mon – Fri only)
Biomass	10,249	HGV	3
Ash & Limestone	204,984	HGV	54
FGT reagents	3,352	HGV	2
Other	N/A	HGV	2

<sup>a</sup> All movements are two way.

**Fuel storage and conveying**

- 2.37 The new fuel storage silos would be in proportion to the scale of the buildings comprising the existing power station. The four silos would occupy smaller footprint to the historic coal storage yard. The conveyor systems from the storage silos would be similar in appearance and scale to the existing coal conveyors. The silos and conveyors are described further below.

## Primary Storage Silos

- 2.38 Four primary fuel storage silos (4 X 10,000 tonnes) are proposed within an area of the historic coal storage to the south of the main power station buildings. Each silo would be around 29 m in diameter and up to 48 m in height (including the head house).
- 2.39 The silos are arranged in a line on a roughly north-south (NNW-SSE) alignment perpendicular to the existing coal conveyor system to minimise the amount of new conveyor construction.
- 2.40 The remaining coal in the coal storage area has been removed and sold. The coal stock yard will be resurfaced ahead of silo construction. Any level differences will be filled with a suitable material to create a development platform.

## Day Silos

- 2.41 Two smaller day silos (up to 13 m radius x 33 m high) would be constructed in an area immediately adjacent to the west of the main power station building for the purpose of providing a fuel supply buffer as a contingency against primary conveyor breakdown. Existing internal road network changes will be made to accommodate the day silos.

## Lime Silo

- 2.42 A new lime silo would be constructed adjacent and immediately to the north of the existing lime silo already present, east of the exhaust stack. The new lime silo will be up to 13 m radius x 31 m high (including the head house).

## De-Dusting Building

- 2.43 The dedusting building would be required to remove the excess dust generated from the fuel pellets as they are conveyed to storage. The excess dust is collected for use in the combustion process. The proposed building would be up to 20 m x 20 m, with a height of up to 10 m.

## Power station equipment conversion

- 2.44 The ethos behind the proposed development is to utilise (where possible) the existing infrastructure. A significant proportion of the existing power station equipment is expected to be suitable for firing with the fuel pellets and (if required) biomass. The Applicant has conducted a Front End Engineering Design (FEED) process to confirm the major components such as furnace, boilers, steam turbines, stack, electricity generators and grid connection are appropriate for fuel pellet combustion. Two of the three generation units (Unit 13 and Unit 14) will be converted, with the third (Unit 15) is not planned for conversion within this planning or associated permitting application.
- 2.45 The required upgrades to existing equipment would be carried out within the envelope of existing buildings. The new structures required have been described above. Taken individually and together the new development is ancillary to the main power station buildings and in proportion to the scale of the existing development.
- 2.46 The equipment that would require replacement are discrete components of the combustion system, i.e. fuel pulverising mills, fuel handling and burner systems. These would be replaced with equipment suitable for the fuel pellets and (if required) biomass fuel. A new under-fire grate would be provided to burn fuel dropping through, improving energy recovery and minimising residual carbon in ash.
- 2.47 Equipment likely to require conversion or replacement would be electrical switchgear, monitoring equipment (installed in same locations as existing) and the air pollution control (APC) system. Components of the APC system will be upgraded, repaired or replaced (as needed) to ensure compliance with Environmental Permit conditions, and are considered as part of the

environmental permit regulations (variation process) that the Applicant is conducting in parallel with Natural Resources Wales

## Drainage

- 2.48 The new storage silos, associated hardstanding and internal access road spurs would add a small amount of additional impermeable surface relative to the existing power station site. The existing power station drainage system is considered to have adequate capacity to manage runoff from the additional impermeable surface area.

## Planning Context

- 2.49 The site falls within the administrative boundary of Newport City Council, and as such is subject to the Newport Local Development Plan (LDP) adopted in 2015. The LDP Proposals and Constraints Maps indicate that the site is not allocated for any specific land use. However, it is affected by the following designations:

- Within Urban Boundary (LDP SP5);
- 'The Levels' Archaeologically Sensitive Area (Policy CE6);
- Developed Coastal Zone (Policy CE9);
- Urban Boundary (Policy SP5);
- Flood Risk Zone B; and
- Flood Risk Zone C1.

- 2.50 The site is also close to the following designations:

- Countryside (Policy SP5);
- Special Landscape Area (Policy SP8 [iv and v]);
- Site of Special Scientific Interest: River Usk (Lower Usk);
- Ramsar and Special Protection Area (Severn Estuary);
- Special Area of Conservation (River Usk); and
- National Nature Reserve;
- Local Nature Reserve; and
- Wales Coastal Path.

## 3 GENERAL APPROACH TO EIA

### Requirement for Environmental Impact Assessment

- 3.1 The legislative framework for EIA is set by European Directive 2011/92/EU, as amended by Directive 2014/52/EU (collectively referred to as the EIA Directive). Directive 2014/52/EU requires Member States to transpose its requirements into national law by 16 May 2017 and set out arrangements for a transitional period from the regime laid down by Directive 2011/92/EU.
- 3.2 The EIA Directive requires an EIA to be completed in support of an application for development consent for certain types of project. For projects of this type in Wales, the European legislative requirements are transposed into law by the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
- 3.3 The process of identifying whether or not EIA is required for a development is known as screening. Projects of the type listed in Schedule 1 of the Regulations require EIA in all cases. Projects of the type listed in Schedule 2 may require EIA in certain circumstances.
- 3.4 The SUP conversion is in fact seeking consent for a lower power generation than currently permitted. Nevertheless, the proposed development could be interpreted as falling within 13(a) of Schedule 2 “*Change or extension to a Schedule 1 development (thermal power station of 300 megawatts or more)*” which, as changed or extended, may have significant effects on the environment.
- 3.5 The screening opinion provided by NCC confirmed that the project is Schedule 2 development, category 13(a) ‘Change or extension to a Schedule 1 development (thermal power station of 300 megawatts or more)’ which, as changed or extended, may have significant effects on the environment. A Schedule 2 development requires screening against the criteria set out in Schedule 3 of the Regulations. The criteria include the characteristics of the development, location of development and characteristics of the potential impact.
- 3.6 The screening opinion received from NCC in October 2018 determines that the proposed development is Schedule 2 development and EIA was triggered by a review against Schedule 3 criteria in so far as the potential existed for road traffic impacts to be significant should fuel pellets be delivered by road. However, a change to the proposed development’s design since screening in October 2018 has seen a significant reduction in planned road deliveries to the site. This scoping report considers these reduced traffic volumes commensurate with 100% of the fuel being delivered by rail and proposes a proportionate assessment methodology to suit.

### Information Required

- 3.7 Although there is no statutory provision as to the format of an ES, it must contain the information specified in Regulation 17(3), including any relevant information specified in Schedule 4 of the EIA Regulations, as set out below:
  - 1. A description of the development including in particular:
    - a. A description of the location of the development;
    - b. A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
    - c. A description of the main characteristics and the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the minerals and natural resources (including water, land, soil and biodiversity) used;

- d. An estimate, by type and quantity, of expected residues and emissions (such as water, air, soils and sub soil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases).
2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen opinion, including a comparison of the environmental effects;
3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.
4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development; population, human health, biodiversity (for example fauna and flora), land, (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including archaeological aspects, and landscape.
5. A description of the likely significant effects of the development on the environment resulting from, inter alia:
  - a. The construction and existence of the development, including, where relevant, demolition works;
  - b. The use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
  - c. The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
  - d. The risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
  - e. The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
  - f. The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;
  - g. The technologies and the substances used.

The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project, including in particular those established under Council Directive 92/43/EEC(a) and Directive 2009/147/EC(b).

6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.
7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis).

That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.

8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(c) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.
  9. A non-technical summary of the information provided under paragraphs 1 to 8.
  10. A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.
- 3.8 The information supplied in the ES will provide a clear understanding of the likely significant effects of the project upon the environment. The following sections outline the overall approach to EIA in order to meet these legal requirements.

## Structure of the Environmental Statement (ES)

- 3.9 The ES will be structured logically, enabling all relevant environmental information to be found quickly and easily. The ES will describe the EIA process and its findings, and will include the following sections:
- Non-Technical Summary (as a standalone document);
  - Written Statement;
  - Figures; and
  - Appendices.

## EIA Methodology

### Relevant EIA Guidance

- 3.10 The EIA process will take into account relevant government or institute guidance, including:
- Welsh Office Circular 11/99: Environmental Impact Assessment;
  - Department for Communities and Local Government (2014) Planning Practice Guidance at <http://planningguidance.planningportal.gov.uk>;
  - Department of the Environment, Transport and the Regions (DETR) (1997) Mitigation Measures in Environmental Statements. HMSO;
  - Highways Agency et al. (2008) Design Manual for Roads and Bridges, Volume 11, Section 2, Part 5. HA 205/08;
  - Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment;
  - Institute of Environmental Management and Assessment (2011) The State of Environmental Impact Assessment Practice in the UK. Special Report;

- Institute of Environmental Management and Assessment (2015a) Environmental Impact Assessment: Guide to Shaping Quality Development;
  - Institute of Environmental Management and Assessment (2015b) Climate Change Resilience and Adaptation;
  - Institute of Environmental Management and Assessment (2016) Environmental Impact Assessment: Guide to Delivering Quality Development;
  - Institute of Environmental Management and Assessment (2017) Environmental Impact Assessment: Assessing Greenhouse Gas Emissions and Evaluating their Significance; and
  - Institute of Environmental Management and Assessment (2017) Health in Environmental Impact Assessment: A Primer for a Proportional Approach.
- 3.11 Other topic-specific specialist methodologies and good practice guidelines will be drawn on as necessary.

### **Key Elements of the General Approach**

- 3.12 The assessment of each environmental topic will form a separate chapter of the ES. For each environmental topic, the following will be addressed:
- Methodology and assessment criteria;
  - Description of the environmental baseline (existing conditions);
  - Identification of likely effects;
  - Evaluation and assessment of the significance of identified effects, taking into account any measures designed to reduce or avoid environmental effects which form part of the project and to which the developer is committed; and
  - Identification of any further mitigation measures envisaged to avoid, reduce and, if possible, remedy adverse effects (in addition to those measures that form part of the project).

### **Methodology and Assessment Criteria**

- 3.13 Each topic chapter will provide details of the methodology for baseline data collection and the approach to the assessment of effects. Details of the proposed approach for each topic are provided in Section 5 of this Scoping Report. Each identified environmental topic will be considered by a specialist in that area. The identification and evaluation of effects will take into account relevant topic-specific guidance where available.

### **Description of the Environmental Baseline**

- 3.14 The existing and likely future environmental conditions in the absence of the project are known as 'baseline conditions'. Each topic based chapter will include a description of the current (baseline) environmental conditions. The baseline conditions at the site and within the study area form the basis of the assessment, enabling the likely significant effects to be identified through a comparison with the baseline conditions.
- 3.15 The baseline for the assessment of environmental effects will primarily be drawn from existing conditions during the main period of the EIA work. Consideration will also be given to any likely changes between the time of survey and the future baseline for the construction and operation of the project. In some cases, these changes may include the construction or operation of other planned developments in the area. Where such developments are built and operational at the time of writing and data collection, these will be considered to form part of the baseline environment. Where sufficient and robust information is available, such as expected traffic growth figures, other future developments will be considered as part of the future baseline

conditions. In all other cases, planned future developments will be considered within the assessment of cumulative effects.

- 3.16 The consideration of future baseline conditions will also take into account the likely effects of climate change, as far as these are known at the time of writing. This will be based on information available from the UK Climate Projections project (UKCP18), which provides information on plausible changes in climate for the UK (Environment Agency and Met Office, 2018) and on published documents such as the UK Climate Change Risk Assessment 2017 (Committee on Climate Change, 2016).

## Assessment of Effects

- 3.17 The EIA Regulations require the identification of the likely significant environmental effects of the project. Each topic chapter will take into account both the sensitivity of receptors affected and the magnitude of the likely impact in determining the significance of the effect.

## Sensitivity or Importance of Receptors

- 3.18 Receptors are defined as the physical resource or user group that would be affected by a proposed development. The baseline studies will identify potential environmental receptors for each topic and will evaluate their sensitivity to the proposed development. The sensitivity or importance of a receptor may depend, for example, on its frequency or extent of occurrence at an international, national, regional or local level.

## Magnitude of Impact

- 3.19 Impacts are defined as the physical changes to the environment attributable to the project. For each topic, the likely environmental impacts will be identified. The magnitude of the impact will be described using defined criteria within each topic chapter.
- 3.20 The categorisation of the impact magnitude may take into account the following four factors:
- Extent;
  - Duration;
  - Frequency; and
  - Reversibility.
- 3.21 Impacts will be defined as either adverse or beneficial. Depending on discipline, they may also be described as:
- Direct: Arise from activities associated with the project. These tend to be either spatially or temporally concurrent;
  - Indirect: Impacts on the environment which are not a direct result of the project, often produced away from the project site or as a result of a complex pathway.
- 3.22 Impacts will be divided into those occurring during the construction phase and those occurring during operation. Where appropriate, some chapters may refer to these as temporary and permanent impacts.

## Significance of Effects

- 3.23 Effect is the term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the sensitivity of the receptor or resource.
- 3.24 The magnitude of an impact does not directly translate into significance of effect. For example, a significant effect may arise as a result of a relatively modest impact on a resource of national

value, or a large impact on a resource of local value. In broad terms, therefore, the significance of the effect can depend on both the impact magnitude and the sensitivity or importance of the receptor.

3.25 Levels of significance that will be used in the assessment include, in descending order:

- Substantial;
- Major;
- Moderate;
- Minor;
- Neutral.

3.26 Where an effect is described as 'neutral' this means that there is either no effect or that the significance of any effect is considered to be negligible. All other levels of significance will apply to both adverse and beneficial effects. These significance levels will be defined separately for each topic within the methodology sections. In all cases, the judgement made as to significance will be that of the author of the relevant chapter with reference to appropriate standards/guidelines where relevant.

## Cumulative Effects

3.27 The cumulative effects of the proposed development in conjunction with other proposed schemes and adopted Local Plan allocations (where relevant) will be considered. The cumulative effects assessment will consider any developments that are formally in the planning system at the time of submission. Developments that are built and operational at the time of assessment will be considered as part of the baseline. NCC will be consulted on the developments that might have an effect in combination with the proposed scheme.

## Mitigation Measures

3.28 The EIA Regulations require that where significant effects are identified 'a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce or, if possible, offset likely significant adverse effects on the environment' should be included in the ES.

3.29 The development of mitigation measures is part of an iterative EIA process. Therefore, measures will be developed throughout the EIA process in response to the findings of initial assessments. The project that forms the subject of the planning application will include a range of measures designed to reduce or prevent significant adverse environmental effects arising, where practicable. In some cases, these measures may result in enhancement of environmental conditions. The assessment of effects will therefore take into account all measures that form part of the project and to which Simec Uskmouth Power Ltd. are committed.

3.30 The topic chapters will therefore take into account all measures that form part of the proposed development, including:

- Measures included as part of the project design (sometimes referred to as primary mitigation);
- Measures to be adopted during construction to avoid and minimise environmental effects, such as pollution control measures. These measures would be implemented through the Code of Construction Practice; and
- Measures required as a result of legislative requirements.

3.31 Where required, further mitigation measures will be identified within topic chapters. These are measures that could further prevent, reduce and, where possible, offset any residual adverse effects on the environment.

- 3.32 In some cases, monitoring measures may be appropriate, for example, to ensure that proposed planting becomes established. Where appropriate, monitoring measures will be set out.

### **Summary Tables**

- 3.33 Summary tables will be used to summarise the effects of the project for each environmental topic.

## 4 SCOPE OF ASSESSMENT

### Work Undertaken to Date

- 4.1 The following studies have been undertaken or are currently ongoing in relation to the proposed development.
- Baseline ecology surveys including:
    - Phase 1 Habitats Survey;
    - Great Crested Newt (GCN) - eDNA;
    - Phase 2 GCN;
    - Reptile surveys;
    - Bat surveys;
    - Dormouse survey;
    - Otter survey;
    - Badger survey;
    - Water Vole survey;
    - Invertebrate survey;
    - Breeding bird survey; and
    - Coastal bird Surveys.
  - Topographical surveys;
  - Site walkover surveys i.e. hydrological, archaeological;
  - Photographic surveys;
  - Noise surveys; and
  - Traffic Surveys.

### Topics Scoped Out of Assessment

- 4.2 Taking into account the findings of the above studies, together with knowledge of the site and surrounding area, it is proposed that the following topics are not included in the scope of the ES:

#### Planning Policy Context

- 4.3 The ES will provide an overview of relevant legislative and planning policy context within each topic chapter. The assessment will have regard to national and local policy documents, where relevant. However, it is not proposed to include a separate chapter on Planning Policy Context in the ES. The draft guidance on EIA from the Department for Communities and Local Government 'EIA: A Guide to Good Practice and Procedures' (DCLG, 2006) (paragraph 155) states that there is no requirement to provide chapters on planning and sustainability in Environmental Statements. A separate Planning Statement will be submitted with the planning application and the environmental topic chapters within the ES will each set out the policy context relevant to that topic.

## Material Assets

- 4.4 The EIA Regulations refer to ‘material assets’, including architectural and archaeological heritage. The phrase ‘material assets’ has a broad scope, which may include assets of human or natural origin, valued for socio-economic or heritage reasons. Material assets are in practice considered across a range of topic areas within an ES, in particular the socio-economic and historic environment chapters. Socio-economics is discussed below and historic environment is to be included within the ES (see Table 4.1). Therefore, no separate consideration of material assets is considered necessary.

## Heat and Radiation including EMP

- 4.5 The proposed development will not be a significant emitter of heat or radiation to the environment. The existing on site electricity transmission infrastructure will not be altered and is not a significant emitter of electromagnetic fields (EMF) that would be a risk to human health.

## Accidents and Emergencies

- 4.6 The 2017 EIA regulations state that the EIA must identify, describe and assess expected significant effects arising from the vulnerability of the proposed development to major accidents or disasters. Vulnerability of the development to major accidents introduced by the location should be covered as well as risks that are an inherent characteristic of the development.
- 4.7 The objective is to establish whether the proposed development increases risks to existing receptors or increases the sensitivity of those receptors to the consequences of the hazard. For example, by introducing new links/pathways between a possible hazard and a receptor.
- 4.8 The coal-fired Simec Uskmouth Power Station operates under an Environmental Permit supplied by Natural Resources Wales (NRW). The proposed development will require an Environmental Permit specific to the proposed operations. It is not proposed that the EIA duplicate those controls.
- 4.9 It is proposed that the assessment of accidents and emergencies is limited to a risk assessment. The resilience of the design will be set out and the principal emergency management procedures will be outlined and appended to the project description (Chapter 2). Therefore, a separate Accidents and Emergencies chapter is not anticipated to be required.

## Agriculture and soils

- 4.10 The proposed development site is a brownfield site in that it has previously been developed for the Simec Uskmouth Power Station. As such no significant effects for agriculture and soils are anticipated and further assessment is proposed to be scoped of the EIA process.

## Socio-economics

- 4.11 The proposed development has the potential for significant beneficial economic effects at a local level in relation to employment opportunities and the purchasing of local services by construction workers. However, the effects during construction are not expected to be significant at the regional or national level and would be temporary.
- 4.12 The number of workers anticipated to be required for the construction of the proposed development would not put pressure on local facilities and any effects would be temporary in nature.
- 4.13 During operation, a net increase of up to staff 15 is anticipated. Therefore, operational socio-economic effects are not likely to be significant beyond a local level. The relatively low number of operation staff are also not likely to put pressure on local facilities.

- 4.14 Overall, significant socio-economic effects at a regional or national level are not anticipated, and further assessment is proposed to be scoped out of the EIA process.

## Content of the Environmental Statement

- 4.15 Table 4.1 identifies the chapters that are proposed for inclusion in the ES. Further details of the approach to the assessment and its scope are provided in Section 5 of this Scoping Report.

**Table 4.1 Structure of the ES**

<b>Structure of ES</b>	
Non-Technical Summary	Summary of the ES using non-technical terminology
<b>Volume 1: Text</b>	
	Glossary
Chapter 1	Introduction
Chapter 2	Project Description
Chapter 3	Need and Alternatives Considered
Chapter 4	Environmental Assessment Methodology
Chapter 5	Geology, Hydrogeology and Ground Conditions
Chapter 6	Hydrology
Chapter 7	Ecology
Chapter 8	Landscape and Visual
Chapter 9	Historic Environment
Chapter 10	Traffic and Transport
Chapter 11	Noise and Vibration
Chapter 12	Air Quality
Chapter 13	Climate Change
Chapter 14	Population and Health
<b>Volume 2: Figures</b>	
Including all figures and drawings to accompany the text.	
<b>Volume 3: Appendices</b>	
Including specialist reports forming technical appendices to the main text.	

## 5 TECHNICAL ASSESSMENTS

### Chapter 1: Introduction

- 5.1 This chapter will provide the introduction to the ES, including details of the application, need for EIA and the structure of the ES.

### Chapter 2: Project Description

- 5.2 The ES will include a description of the project, which will form the basis of the assessment of effects. The EIA Regulations require an ES to include:

*“A description of the development comprising information on the site, design and size and other relevant features of the development.”*

- 5.3 This project description chapter will include details of the site, together with a description of the key components of the proposed development. The description will include the following information, as far as practicable at the time of writing:
- Construction phase - a description of the key works, activities and processes that would be required during the construction phase; and
  - Operational phase - a description of the completed development and its use.
- 5.4 Where options remain at the time of the assessment (with regard to construction techniques, for example), the ES will provide a clear explanation of the assumptions made. Where appropriate, the realistic worst case scenario will be assessed.
- 5.5 Where mitigation measures have been identified and developed through the EIA process and have been incorporated as part of the project, details of these measures will be set out within the project description chapter.

### Chapter 3: Need and Alternatives Considered

- 5.6 This chapter will briefly set out the need for the proposed development. In addition, the EIA Regulations require the alternatives considered by the applicant to be set out in the ES:

*“A description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.”*

- 5.7 This chapter will summarise the reasons for the selection of the site and provide an outline of the alternatives considered during the EIA process, including a description of the alternative design and layout options that have been considered.

### Chapter 4: Environmental Assessment Methodology

- 5.8 Details of the overall approach to EIA will be set out in this chapter, together with details of the scoping process, consultation undertaken and the overall approach to the assessment of significance. Topic specific methodologies, such as survey methods, will be provided in each topic chapter.

## Chapter 5: Geology, Hydrogeology and Ground Conditions

### Baseline Information

- 5.9 The British Geological Survey (BGS) mapping service (BGS, n.d.) indicates that the site is underlain by Alluvium (clay, silt, sand and gravel) and Tidal Flat Deposits (clay and silt) superficial deposits. However, the majority of development works will be undertaken over the Tidal Flat Deposits. The bedrock which underlays the site is Mercia Mudstone Group.
- 5.10 The BGS classifies the superficial deposits as an unproductive aquifer and the bedrock as a Secondary B aquifer. The Environment Agency (EA) defines Secondary B aquifer as predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. The site is not within a (drinking water) source protection zone.
- 5.11 The site has been previously developed as part of the coal-fired Simec Uskmouth Power Station complex and part of the site included in the development works was utilised for coal storage. Therefore, there remains the potential for made ground and contamination to be present in the soils on site as a result of previous industrial activities.
- 5.12 A desk study undertaken by WSP in February 2019 confirms the above Geology, Hydrogeology and Ground Conditions baseline. The report also highlights that contaminated land or hazardous ground gases may be possible on site due to its industrial history and that an intrusive ground investigation is recommended to confirm/refute this.
- 5.13 The WSP report also refers to a separate Asbestos Containing Materials (ACM) Desktop Study carried out in February 2019 and summarises its findings. ACMs were identified in multiple locations in Unit 13: boiler casings, boilers, boiler ducting, turbine feed heaters and the metal workshop onsite and in the former areas of ash landfill.

### Proposed Approach

#### Baseline studies

- 5.14 Where appropriate, data would be sought from key statutory and non-statutory organisations and consultees, including the following:
- Coal Authority mining information and datasets;
  - BGS maps and borehole records;
  - EA information on groundwater Source Protection Zones, aquifer designations, Water Framework Directive (WFD) designations, environmental and waste sites;
  - Available Environmental Permit documents for the site;
  - Local Authority records on Private Water Supplies;
  - Commercially available data e.g. Groundsure/Envirocheck data;
  - Review of historical maps of the site and surrounding area to determine the likelihood of historical contamination to be present within the soils and groundwater;
  - Review of EA and the local planning authority records to identify whether the site has been subject to any enforcement action and/or reported pollution incidents; and
  - Review of any existing ground investigation reports to determine the ground conditions of the site and to provide an overview of levels of contamination within soil and groundwater.

- A Water Features Survey will be undertaken to an agreed distance from the site boundary to identify water environment features of interest.
- 5.15 The information will be compiled to assess the risk of contaminants being present on site. The risk assessment will be used to determine the requirement for an intrusive investigation to be commissioned post planning that will inform detailed mitigation and foundation design as appropriate.

### Assessment of Effects

- 5.16 The chapter would provide an assessment of the likely impacts of the construction of the proposed development on human health, Controlled Waters and the water environment, based upon the result of the technical assessments and known baseline conditions.
- 5.17 A risk assessment would be completed, taking into account the identified environmental and human receptors. Potential receptors to be addressed by this chapter of the ES would include:
- Future site users during the operation of the development;
  - Construction workers during development works;
  - Groundwater in the Secondary Aquifer beneath the site during construction and operation of the proposed development; and
  - Receptors neighbouring the site during construction of the proposed development including surface watercourses, the Gwent Levels Nash and Goldcliff SSSI, Newport Wetlands SSSI, the River Usk SSSI, the River Usk SAC and groundwater dependant terrestrial ecosystems.
- 5.18 An assessment of the magnitude of the likely impacts and significance of effects on identified receptors would be undertaken for the construction and operational phases of the development.
- 5.19 A review of the potential for significant interrelationship effects on aquatic ecology and hydrology will be undertaken.
- 5.20 A review would be undertaken of potential development constraints, mitigation measures and/or remediation measures likely to be required during construction and operational phases of the proposed development.

### Issues Proposed to be Scoped Out

- 5.21 No effects are proposed to be scoped out at this stage.

## Chapter 6: Hydrology

### Baseline Information

- 5.22 A review of Natural Resources Wales' Flood Mapping has confirmed that the site includes areas of Flood Zone 2 (1 in 1000 annual probability of flooding from rivers or sea). The site also includes areas of Flood Zone 3 (1 in 100 annual probability of flooding from rivers or 1 in 200 from sea) (see Figure 5). Given the sites location, the risk of flooding is likely due to its coastal location. Mapping also identifies that areas of the site benefit from flood defences. It is understood that the current flood defences include flood defence bunds and walls which protect the site form tidal flooding.
- 5.23 Mapping also indicates that some areas of the site are vulnerable to surface water flooding. The majority of the areas at risk of surface water flooding are in Low risk areas (between 1 in 1000 and 1 in 100). The site is not at risk of flooding from reservoirs.
- 5.24 The nearest watercourse to the site is the NRW designated main River Usk which flows in a general southerly direction immediately adjacent to the site, outflowing into the Mouth of the

River Severn. The Usk is classified as a Moderate transitional water body under the implementation of the Water Framework Directive in Wales. There are a number of small reens (drains) present on site including one which extends along the southern boundary of the site. Some of these reens connect to the large number of reens in the wider area, including Julian's Reen which ultimately feeds Julian's Pill north east of the site.

- 5.25 Finally, there are number of water bodies present on site, including an attenuation pond in the south east of the site.

## Proposed Approach

### Baseline studies

- 5.26 The main sources of information to be used in the assessment would include:
- OS maps;
  - Environment Agency flood mapping and related data; and
  - Publicly available mapping services.
- 5.27 Data would be sought from key statutory and non-statutory organisations and consultees, including the following:
- Newport City Council;
  - Natural Resources Wales; and
  - Dwr Cymru Welsh Water.

### Assessment of Effects

- 5.28 A Flood Consequence Assessment (FCA) would be prepared to support the application. This would include an assessment of the risk to the development from all relevant flooding sources (i.e. fluvial, surface water, sewers, groundwater and artificial sources) and would also include the preparation of a conceptual surface water drainage strategy, including Sustainable Drainage Systems, to integrate the proposed development into the existing drainage strategy.
- 5.29 As well as assessing the potential impacts of the proposed development on flood risk (and identifying appropriate mitigation measures), the ES chapter would consider potential impacts of the development on local hydrology, including impacts on the quality of runoff from the site (during both construction and operational phases). Mitigation measures, including flood resilience and/or resistance, where appropriate, would be proposed.
- 5.30 The surface water receptors and receptors potentially affected by flooding would be identified, together with the likely impacts on them. Taking into account the sensitivity of these receptors and the predicted magnitude of the impact, the significance of effects would be set out.

### Issues Proposed to be Scoped Out

- 5.31 No issues are proposed to be scoped out.

## Chapter 7: Ecology

### Baseline Information

- 5.32 There are a number of national statutory designated sites in the proximity of the proposed development site:
- River Usk (Lower Usk) Site of Special Scientific Interest (SSSI) which abuts the site to the north;

- The Severn Estuary SSSI which abuts the site to the south west;
  - Newport Wetlands SSSI and Newport Wetland National Nature Reserve (NNR) which abut the site to the south;
  - Gwent Levels - Nash and Goldcliff SSSI located circa (c.) 720 m to the east;
  - Gwent levels - St. Brides located c. 1.3 km to the west across the Usk; and
  - Gwent Levels – Whitson SSSI located c. 3.7 km to the east.
- 5.33 The proposed development also abuts the following internationally designated sites:
- River Usk Special Area of Conservation (SAC); and
  - Severn Estuary (Wales) RAMSAR, Special Protection Area (SPA), SAC sites.
- 5.34 Finally, there are also a number of locally designated in vicinity of the site:
- Julian's Gout Land SINC located c. 185 m north east;
  - Alpha Steel Site SINC located c. 566 m north east;
  - Great Traston Meadow Wildlife Trust Reserve c. 1 km north east;
  - Solutia Site SINC located c. 1.16 km north east;
  - Marshall's SINC located c. 1.3 km north east; and
  - Ebbw River SINC located c. 1.47 km west.
- 5.35 Figure 3 highlights the ecological constraints.

## Proposed Approach

### Baseline studies

- 5.36 As outlined in paragraph 4.1 a number of site surveys have been undertaken to date and survey reports are being written. These include:
- Phase 1 Habitats Survey;
  - Phase 2 GCN;
  - Reptile surveys;
  - Bat surveys;
  - Dormouse survey;
  - Otter survey;
  - Badger survey;
  - Water Vole survey;
  - Invertebrate survey;
  - Breeding bird survey; and
  - Coastal bird Surveys.
- 5.37 All the above surveys were completed between September 2018 and October 2019 during the appropriate season and following best practice methodologies. The surveys undertaken to date will be reported in full and appended to the ecology chapter of the ES. It is not anticipated that further survey work will be required.

## Assessment of Effects

- 5.38 The assessment of ecological effects associated with the proposed development site will be undertaken in accordance with the Ecological Impact Assessment (EclA) guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2019).
- 5.39 In accordance with the CIEEM guidance, the purpose of the ecological assessment will be to focus on those features that are most likely to be affected. These are termed Important Ecological Features (IEFs) and are either protected or are of sufficient value to merit consideration in the EIA process, rather than to consider effects upon every feature that may be present, many of which will be common, widespread and robust.
- 5.40 The likely impacts of the proposed development will be identified, including likely positive and negative impacts on the IEFs present. Such impacts may include direct habitat loss, changes in habitat quality or disturbance.
- 5.41 The likely magnitude of the impacts will be assessed during the construction and operational stages. Both the magnitude of the predicted impact and the value of the feature will be taken into consideration in determining the significance of the effect. The assessment will consider any measures that form part of the proposed development and to which the applicant is committed.
- 5.42 Embedded mitigation may be devised to avoid any significant impacts associated with the construction and operation of the proposed development on IEFs. All mitigation proposed will follow the mitigation hierarchy: Avoidance, Mitigation, Compensation, Enhancement. Following any mitigation or enhancement measures considered appropriate, the impacts remaining once they are taken into account will be identified (the 'residual impact').

## Issues Proposed to be Scoped Out

- 5.43 Should any of the species surveys confirm likely absence of a species or group of species, they will not be included in the EclA and scoped out of the EIA process

# Chapter 8: Landscape and Visual

## Baseline Information

- 5.44 The proposed development site includes the existing Simec Uskmouth Power Station and the associated infrastructure. Generally, the site is flat and varies between 8 m and 10 m above ordnance datum (AOD).
- 5.45 Wales is divided into 48 National Landscape Character Areas (NLCAs) that are presented on The Landscape Character Map for Wales (NRW website). The proposed development is located within National Landscape Character Area 34: Gwent Levels (NRW, 2014).
- 5.46 Published local level landscape character assessments which covers the site is available via LANDMAP (NRW, 2018). The LANDMAP Visual and Sensory mapping identifies that the proposed development site lies within the Eastern Usk Industrial area. The Caldicot Levels is located south east of the proposed development and is c. 110 m at its closest point. Other LANDMAP themes will be included in the assessment of landscape and visual effects.
- 5.47 The Gwent Levels Landscape Character Assessment 2017 (Chris Blandford Associates) is the most recent character assessment within the study area, its purpose is described as helping to inform the positive management and planning of the Gwent Levels.
- 5.48 The NCC Local Development Plan defines the two areas abutting the site as 'Special Landscape Areas'. The Wentlooge Levels Special Landscape Area abuts the site to the west, while Caldicot Levels Special Landscape Area abuts the site to the east.

- 5.49 There are no designated landscapes within the boundary of the proposed or within the vicinity of the site.
- 5.50 Visual receptors in the local area include Great House, Moorcroft Farm and Ty-Portra, which are located c. 650 m south east of the proposed development site along West Nash Road. There is also a dwelling - Arch Cottage, circa 1 km to the east of the site and residential receptors are also located in Nash c. 1.15 km east of the proposed development. Further residential receptors are located along Nash Road and Goldcliff Road c. 1.66 km east of the development. The sailing club which is some 450 m away to the north west is the closest recreational visual receptor group.
- 5.51 No Public Rights of Way (PROW) run through the site. However, visual receptors may be present on a temporary basis on the Wales Coastal Path (route code: 401/16/1) which routes approximately 30 m of south eastern boundary of the proposed development. Other public rights of way in the vicinity of the proposed development site are: footpath 401/8/2 located c. 1.14 km east, footpath 401/9/2 located c. 1.06 km east, and footpath 401/13/1 located c. 1.42 km south east.
- 5.52 Figure 4 highlights the landscape constraints.

## Proposed Approach

### Baseline studies

- 5.53 The Landscape and Visual Impact Assessment (LVIA) process will identify the baseline condition and character of the landscape and its visual relationship with its surroundings. The assessment will consider both landscape character and visual amenity and will include:
- A review of relevant policy related to landscape issues.
  - A desktop study and web search of relevant background documents and maps, including reviews of aerial photography, web searches, Local Planning Authority publications and relevant landscape character assessments for the site and surroundings. Information about relevant landscape-related designations such as Conservation Areas, and listed buildings will also be collated.
  - Field assessment and photographic survey of the character and fabric of the site and its surroundings, and of the views available to and from the site. Locations will be considered for suitability for wireline photomontages showing the view with and without the proposed development in place.

### Assessment of Effects

- 5.54 A LVIA of the proposed development will be undertaken to identify and assess potential effects on the landscape resource and visual amenity.
- 5.55 The LVIA will consider the potential impacts of the proposed development due to changes in landscape character (landscape impact assessment) and the nature and extent of visual impacts (visual impact assessment). These are separate, but linked assessments.
- 5.56 The LVIA will be undertaken with reference to published assessment guidance including:
- Landscape Institute and Institute for Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment 3rd Edition;
  - LANDMAP, the formally adopted approach for landscape assessments, devised and maintained by Countryside Council for Wales now Natural Resources Wales (NRW). The methodology is provided Natural Resources Wales (n.d.);

- Natural Resources Wales guidance notes on LANDMAP Guidance Note 4 – ‘LANDMAP and the Cultural Landscape’ (Natural Resources Wales, 2013).
  - Countryside Agency in conjunction with Scottish Natural Heritage (2002) Landscape Character Assessment Guidance for England and Scotland; and
  - Landscape Institute (2018) Public Consultation Draft of Technical Guidance Note Photography and Photomontage in Landscape and Visual Impact Assessment.
- 5.57 The geographical extent of potential visibility would be established for proposed buildings by production of a computer-generated Zone of Theoretical Visibility (ZTV) plan. This will inform a site visit to establish the Zone of Visual Influence (ZVI) and no greater than 5 km radius. The ZVI is the area from which the site and future proposals might be seen and is determined by the landform, topographical features such as surrounding buildings and vegetation (whose screening capacity may change through the seasons) and the scale and height of the proposed development.
- 5.58 The sensitivity of each identified landscape and visual receptor would be identified, together with the predicted magnitude of impact on that receptor. Taking this into account, the significance of effect would be described for each receptor during the construction and operational phases, and upon maturity (up to 15 years establishment) in accordance with GLVIA3.
- 5.59 Where necessary, mitigation measures would be identified to avoid or reduce landscape and visual effects as a result of the proposed development.

#### **Issues Proposed to be Scoped Out**

- 5.60 No effects are proposed to be scoped out at this stage.

## **Chapter 9: Historic Environment**

### **Baseline Information**

- 5.61 There are no designated historic assets (e.g. scheduled monuments, listed buildings, conservation areas, protected wrecks) within the proposed development site.
- 5.62 The closest scheduled monuments are: Goldcliff Moated House Site c. 2.89 km east of the site, St. Mary Magdalene's Churchyard Cross c. 3.32 km south south east, and Goldcliff Pill Anti-invasion Defences c. 3.26 km south east.
- 5.63 The closest listed buildings are: the Grade I listed Church of St Mary (Nash) located c. 1.07 km east of the proposed development, the Grade II listed house and separately Grade II listed barn and agricultural buildings at Fair Orchard c. 1.6 km north east, and the Grade II listed Pye Corner Farm c. 1.79 km north east. The Grade II listed Former West Usk Lighthouse is located 1.7 km west across the River Usk. The Grade I listed Newport Transporter Bridge is 2.47 km from the site. Other listed buildings are located approximately 2.5 - 3 km from the proposed development site.
- 5.64 The proposed development site is c. 318 m outside the western edge of the registered Gwent Levels Landscape of Outstanding Historic Interest in Wales.
- 5.65 The proposed development site is wholly within the area of the Gwent Levels Archaeologically Sensitive Area (Newport City Council, n.d.).
- 5.66 Figure 4 highlights the heritage constraints.

## Proposed Approach

### Baseline studies

- 5.67 A full historic environment desk based assessment will be undertaken which will include a review of readily available archaeological and historical information from documentary and cartographic sources, checked and augmented through the completion of a site visit.
- 5.68 Examination will be made of the regional Historic Environment Record (HER) maintained by the Glamorgan Gwent Archaeological Trust (GGAT). The study area for acquisition of HER data will extend for 1 km from the edge of the proposed works areas.
- 5.69 The historic environment desk based assessment will also identify all designated heritage assets within an area extending for 3 km from the edge of the proposed works areas and whose significance could be affected by a change within their setting. Designated heritage assets beyond 3 km may be included if identified by any consultee as being particularly iconic.
- 5.70 The historic environment desk based assessment will be presented as a Technical Appendix to the ES, whilst a summary of the results of this assessment will be included within the ES chapter.

### Assessment of Effects

- 5.71 The assessment of the likely effects on the historic environment will include the following activities:
- Identification of all historic assets that could be affected by the proposed development, provision of a description of the significance (importance or value) of those assets including the contribution made by their setting;
  - Identification of the likely effects of the proposed development on historic assets within the proposal site and suitable study areas centred on it as described above;
  - Assessment of significance of effects, taking into account any relevant and appropriate measures proposed to avoid, reduce or offset adverse effects.
- 5.72 The information gathered from the above tasks will be integrated into a historic environment ES chapter. The assessment will have regard to appropriate guidance including Heritage Impact Assessment in Wales and Setting of Historic Assets in Wales (Cadw 2017a and 2017b).

### Issues Proposed to be Scoped Out

- 5.73 Planning Policy Wales (edition 10) advises that '*The Welsh Government seeks to protect those assets included on the register of historic landscapes in Wales*' (paragraph 6.120) and goes on to advise that '*The register should be taken into account in decision making when considering the implications of developments which meet the criteria for Environmental Impact Assessment or, if on call in, in the opinion of Welsh Ministers, the development is of a sufficient scale to have more than a local impact on the historic landscape. An assessment of development on a historic landscape may be required if it is proposed within a registered historic landscape or its setting and there is potential for conflict with development plan policy*' (paragraph 6.121). Technical Advice Note 24: The Historic Environment (TAN 24) notes that '*Best practice guidance has been developed to assist local planning authorities and the Planning Inspectorate in their consideration of planning proposals affecting areas on the Register of Historic Landscapes. Proposed development within a registered historic landscape that require an Environmental Impact Assessment may require an appropriate assessment of the impacts as part of the Environmental Statement. The Welsh Ministers must be consulted, through Cadw, on such developments*' (paragraph 7.8).
- 5.74 The best practice guidance referenced within TAN 24 is called A Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development

Process (2<sup>nd</sup> edition; Cadw and CCW, 2007). The document describes the assessment process which is known as the Assessment of the Significance of the Impact of Development on Historic Landscape Areas on the Register of Landscapes of Historic Interest in Wales, shortened to ASIDOHL2 (where the 2 identifies that this is from the 2nd edition of the guidance document).

- 5.75 No ASIDOHL2 assessment will be undertaken with regard to the proposed development. There are two main reasons for this:
1. The proposed development site is not within the registered Gwent Levels Landscape of Outstanding Historic Interest (although it is within the setting of the registered historic landscape); and
  2. The proposed development is unlikely to have more than a local impact on the registered historic landscape. It comprises additional fuel storage and conveying facilities within an area that already contains large power station buildings (with stacks) and associated infrastructure such as cooling towers and elevated conveyors, The proposed development would therefore represent a continuation of existing use and the new structural elements would be seen as additions to existing ones.

## Chapter 10: Traffic and Transport

### Baseline Information

- 5.76 The access to the proposed development will be taken from West Nash Road, Nash Road, Meadows Road and the A4810 during construction and operation, making use of the existing road network that was used to access the power station when fuelled by coal.
- 5.77 Other than the PROW referenced in paragraph 5.49 no pedestrian or cycle facilities service the site. There is a bus stop at the Newport Wetlands Reserve offering two services a day.
- 5.78 West Nash Road is a single carriageway road providing an east to west route between Nash Road and the Simec Uskmouth Power Station via Nash. Between the Simec Uskmouth Power Station and Nash, West Nash Road is derestricted and subject to the national speed limit and there is no street lighting or parking restrictions.
- 5.79 To the east of and through Nash, West Nash Road has a 30mph speed restriction, a footway along its southern side, no parking restrictions, street lighting and frontage access.
- 5.80 At its eastern end, West Nash Road forms the minor arm of a simple priority junction with Nash Road. Nash Road routes north from West Nash Road to Meadows Road as a single carriageway road, with a 40mph speed restriction, an intermittent footway on its eastern side, no street lighting, no parking restrictions and some frontage accesses.
- 5.81 Meadows Road routes broadly north to south between Nash Road and the A4810, with which it forms the southern arm of a four-arm roundabout. It is a single carriageway road with a combined footway/cycleway along its eastern side, an intermittent footway along its western side, street lighting no parking restrictions and a 40mph speed restriction.
- 5.82 The A4810 provides a principal road between the A48 and the M4 Junction 23A and is a dual carriageway road at its western end and a single carriageway road at its eastern end.

### Proposed Approach

#### Baseline studies

- 5.83 Traffic surveys have been undertaken along the local highway network by way of Manual Classified Counts (MCCs) and Automatic Traffic Counters (ATCs) at the following locations:
- West Nash Road (ATC);

- Nash Road (ATC);
- Meadows Road (ATC);
- A4810 (ATC);
- West Nash Road / Nash Road Junction (MCC); and
- Meadows Road / A4810 junction (MCC).

**Assessment of Effects**

- 5.84 The assessment to be included in the ES chapter would focus on:
- Identification of movements likely to be generated during the construction phase (including both construction staff, HGV movements associated with construction work and deliveries);
  - Identification of movements likely to be generated during the operational phase (including staff commutes and HGV movements associated with operational deliveries); and
  - Consideration of the effects on the local highway network due to traffic generated during the construction and operational phases (based on likely agreed routeing strategy).
- 5.85 The assessment would be undertaken with reference to published guidance including the ‘Guidelines for the Environmental Assessment of Road Traffic’ published by the Institute of Environmental Assessment (IEA) (now Institute of Environmental Management and Assessment) (IEA, 1993).
- 5.86 The assessment of construction and operational effects would be based on a quantitative assessment of increases in traffic flows. Where necessary, consideration would be given to any effects on junction capacity and delay on the highway network.
- 5.87 In considering whether effects are likely to be significant in environmental terms a screening assessment as defined in the IEA Guidelines would be taken into account:
- Rule 1: include highway links where traffic flows would increase by more than 30% (or the number of heavy goods vehicles would increase by more than 30%); and
  - Rule 2: include any other specifically sensitive areas where traffic flows have increased by 10% or more.
- 5.88 In the event that these thresholds are exceeded, consideration of the environmental effects of traffic would be undertaken, including:
- Severance;
  - Driver delay;
  - Pedestrian delay and amenity;
  - Accidents and safety; and
  - Hazardous loads.
- 5.89 A Transport Assessment will be prepared, which will assess the construction and operational traffic movements generated by the construction and operation of the proposed development upon the operational capacity of the highway network. The Transport Assessment would form an appendix to the ES.
- 5.90 Where relevant, consideration of air quality/dust and noise effects of traffic would be included within the Air Quality (Chapter 8) and Noise and Vibration (Chapter 11) chapters of the ES.

## Issues Proposed to be Scoped Out

- 5.91 Effects on the public rights of way network during the construction and operation are unlikely to be significant given that no closures are expected.

## Chapter 11: Noise

### Baseline Information

- 5.92 The closest residential noise sensitive receptors (NSRs) to the proposed development site are Great House, Lowlands and Moorcroft Farm and Ty-Portra, which are located c. 650 m south east of the proposed development site along West Nash Road. There is also a dwelling Arch Cottage, circa 1 km to the east of the site and residential NSRs in Nash c. 1.15 km east of the proposed development. Further, residential NSR are located along Nash Road and Goldcliff Road c. 1.66 km east of the development.
- 5.93 NSR may also be present on a temporary basis on the Wales Coastal Path (route code: 401/16/1) which routes approximately 30 m of south eastern boundary of the proposed development. Other public rights of way in the vicinity of the proposed development site are: footpath 401/8/2 located c. 1.14 km east, footpath 401/9/2 located c. 1.06 km east, and footpath 401/13/1 located c. 1.42 km south east.
- 5.94 Current sources of noise in the locality include:
- Industrial noise from the commercial developments in the area including Simec Uskmouth Power Station, Severn Power CCGT, Liberty Steel works, and Alexandra Docks;
  - River traffic on the Usk;
  - Road traffic on the local road network including West Nash Road, Nash Road and Goldcliff Road;
  - Wind induced noise through the surrounding trees and vegetation; and
  - Livestock and bird song.

### Proposed Approach

- 5.95 The chapter will consider the potential construction and operational noise of the proposed development at NSRs identified as being potentially impacted by the development. The assessment will identify where significant effects may occur, what mitigation measures may be necessary, what residual effects there may be and what post commissioning monitoring will be undertaken in accordance with the Town and County Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
- 5.96 The noise assessment will be undertaken with reference to the following documents:
- Control of Pollution Act 1974 (CoPA);
  - BS 7445-1:2003 Description and measurement of environmental noise – Part 1: Guide to quantities and procedures (British Standards Institute (BSI), 2003);
  - BS 7445-2:1991 Description and measurement of environmental noise - Part 2: Guide to the acquisition of data pertinent to land use (BSI, 1991);
  - BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (British Standards Institution, 2014a);
  - BS 4142:2014+ Methods for rating and assessing industrial and commercial sound (BSI, 2014b);
  - Design Manual for Roads and Bridges (DMRB) (Highways Agency *et al.*, 2011); and

- Calculation of Road Traffic Noise (CRTN) (Department of Transport, 1988).

### Baseline studies

- 5.97 A desk-based review of the site and the surrounding area would be undertaken to identify any existing and/or proposed noise sources and any existing and/or proposed NSRs.
- 5.98 A long-term baseline sound survey was installed for a period of one week in September 2019 at Lowlands and Moorcroft Farm to inform the assessment for the environmental permit for the site. Measured data took into account weather conditions during the survey, commensurate with British Standard (BS) 7445-2:1991 'Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use' and relevant other guidance (BSI, 1991) to determine a suitable dataset for the assessment. As this survey was carried out recently, we would seek to use this data to inform the EIA.

### Assessment of Effects

- 5.99 The construction of the proposed development may result in noise and vibration impacts to noise sensitive receptors in the vicinity of the proposed development. An assessment of construction noise effects would be undertaken in accordance with the guidance contained within BS 5228:2009+A1:2014: Code of Practice for Noise and Vibration Control on Construction and Open sites. Part 1: Noise (BS 5228-1).
- 5.100 The available detail on anticipated construction working areas, phases, methods and anticipated plant will be summarised in relation to noise and a qualitative assessment of likely compliance with the derived assessment criteria will be undertaken. Where the exact construction details are not known at the time of preparing the EIA Report, assumptions will be made based on professional judgement and experience of similar developments. A quantitative assessment of noise at the site during operation will be undertaken and on the basis of the results of the baseline sound level surveys, constraints in the proposed development from existing and proposed noise sources within the area would be assessed.
- 5.101 As stated in Section 2, during operation under normal circumstances the majority of logistical movements will be made via rail. However, it may be possible that the rail network fails, preventing normal deliveries. In this instance, deliveries would be made by road using the strategic network via Corporation Road. HGVs within the site and rail deliveries will be included in the operational noise assessment.
- 5.102 The number of road-going HGVs would be well below the criteria where a noise impact assessment would be required for road traffic on the local highway network. Therefore, this aspect has been scoped out of the assessment.
- 5.103 Where necessary, appropriate levels of mitigation would be identified, in accordance with best practice and the NCC's policies, to ensure that noise levels are acceptable during the construction phase.

### Issues Proposed to be Scoped Out

- 5.104 Construction traffic would take access from West Nash Road. Given the temporary nature of the impacts from construction traffic significant noise effects are not considered likely. Therefore, an assessment of construction traffic is proposed to be scoped out of the EIA process.
- 5.105 It is anticipated that the number of traffic movements resulting from normal operating procedures are likely to result in negligible impacts to NSR. Further assessment is therefore proposed to be scoped out of the EIA process.
- 5.106 Operational rail movements are unlikely to result in significant off-site effect for NSRs and so is proposed to be scoped out of the EIA process. Rail unloading will be part of the operational site assessment.

- 5.107 Vibration effects during both construction and operation of the proposed development are not expected to be significant and the intention will be to scope these effects out of the assessment. This is based upon likely levels and the distances to vibration sensitive receptors.

## Chapter 12: Air Quality

### Baseline Information

- 5.108 The site is located to the south west of Newport. Neighbouring the site are industrial developments including Severn Power CCGT immediately to the west of the proposed development. To the east of the site is Newport sewage works. In addition, there are further industrial activities undertaken by the business around Stephenson Street and Corporation Road.
- 5.109 There are several Air Quality Management Areas (AQMA) declared for annual mean nitrogen dioxide (NO<sub>2</sub>) within Newport (see Figure 5). The closest of which (Newport – George Street AQMA) is located approximately 4.19 km north west of the site.

### Proposed Approach

#### Baseline studies

- 5.110 Current air quality in the area will be characterised with specific regard to the findings of Newport Council's Review and Assessment process, the results of available local monitoring and data available in the Defra maps.

#### Assessment of Effects

- 5.111 The potential air quality effects from the construction and operation of the proposed facility are considered to be:
- Construction effects – potential dust effects from construction activities and potential effects associated with emissions from construction vehicles on the local road network;
  - Operational effects (from facility) – potential air quality effects from the stack and potential fugitive emissions on human health receptors and ecologically designated sites; and
  - Operational effects (from traffic) – potential air quality effects from changes in traffic flow characteristics on the local road network associated with the operation of the proposed facility.
- 5.112 The risk of impacts from dust and emissions during construction of the proposed development will be assessed, having regard to the Institute of Air Quality Management (IAQM) 'Guidance on the assessment of dust from demolition and construction'.
- 5.113 Generic mitigation measures designed to control dust nuisance effects and emissions during construction, consistent with the level of risk, will be recommended. These will be drawn from the IAQM 'Guidance on the assessment of dust from demolition and construction'.
- 5.114 The effects of emissions from the stack will be evaluated using the air dispersion model ADMS 5. The dispersion modelling will take account of terrain, local building and meteorology effects. Five years of hourly sequential meteorological data collated at Rhoose will be used within the model.
- 5.115 Pollutant concentrations will be predicted for a grid of receptors centred on the stack and sensitive human health receptors.
- 5.116 The significance of the illustrated effects will be described using professional judgement and relevant criteria, including those set out in: the Environment Agency online guidance entitled

‘Environmental management – guidance, Air emissions risk assessment for your environmental permit’ and the IAQM/EPUK ‘Land-Use Planning & Development Control: Planning for Air Quality’.

- 5.117 Concentrations of nitrogen oxides, sulphur dioxide, ammonia, nutrient nitrogen deposition and acid deposition rates will be modelled for a grid of receptors at designated habitat sites within 15 km of the stack.
- 5.118 For traffic-related emissions, traffic generated by the development will be compared with the relevant threshold criteria in the IAQM/EPUK ‘Land-Use Planning & Development Control: Planning for Air Quality’. If the threshold criteria are not exceeded, the impacts will be considered to not have a significant effect. If the threshold criteria are exceeded, air pollution levels will be predicted at locations around the site using the detailed dispersion model, ADMS Roads. The significance of the illustrated effects will be described using professional judgement and relevant criteria, including those set out in the IAQM/EPUK ‘Land-Use Planning & Development Control: Planning for Air Quality’.
- 5.119 Mitigation measures to improve air quality during the operational phase will be recommended, should initial results of the assessment show any adverse air quality effects arising from the proposed development.

### **Issues Proposed to be Scoped Out**

- 5.120 Operational rail movements would be no greater than those required for the operation of the existing coal powered fire station onsite. Therefore, assessment of operational rail is proposed to be scoped out of the EIA process.
- 5.121 The nearest sensitive receptors to odour are more than 500 m from the site. Therefore, assessment of odour is proposed to be scoped out of the EIA process.
- 5.122 The feedstock is only likely to be significantly biologically active if it contains putrescible material (e.g. rotting food) and exposure is likely to occur only if the material is subject to an activity that creates airborne particles, for example shredding. However, any putrescible material in the feedstock for the facility is unlikely to be in an advanced state of decomposition by the time it reaches the shredding stage. On this basis, bioaerosol emissions are not expected to be significant and are proposed to be scoped out of the EIA process.

## **Chapter 13: Climate Change**

### **Background**

- 5.1.1 This section of the scoping report considers the assessment of potential impacts on and due to climate change. Climate change here is considered broadly in two domains: the impact of greenhouse gas emissions (GHGs) caused directly or indirectly by the proposed development, which contribute to climate change; and the potential impact of changes in climate to the development, which could affect it directly or could modify its other environmental impacts.

### **Baseline Information**

- 5.1.2 Regarding current climate, the baseline is the local and regional climate and resulting weather patterns, recorded in Met Office data (UKCP, 2018). This is in the context however of trends in global climate changes affecting the UK climate, which at their present rates may be considered part of the known baseline (subject to uncertainty in the projections). These changes are discussed further in the Climate Projections section.
- 5.1.3 Regarding GHG emissions, given that Uskmouth B power station is not currently operating, the baseline for direct GHG emissions from activity on site is zero. However, the baseline for

emissions indirectly from alternative electricity generation (in the absence of generation capacity provided by the proposed development) must also be considered.

- 5.1.4 The baseline scenario used in the assessment will draw from published sources of information about the carbon intensity of electricity generation. These sources are likely to include:
- the present-day grid-average average emissions factor for UK electricity generation (BEIS, 2018a);
  - the projected future marginal generation emissions factor for generation capacity that would be displaced by the proposed development during its operational lifetime (BEIS, 2019); and/or
  - the Energy Performance Standard of 0.45 tCO<sub>2</sub>e/MWh (DECC, 2012) expected to be applicable to coal-fired generation plant from 2025 (BEIS, 2018b).
- 5.1.5 The future baseline depends on how the displaced marginal generation emissions factor develops over time, which is presented in the BEIS projections.
- 5.1.6 Given that it would be possible to re-activate the existing coal-fired generation units, the generating capacity of Uskmouth B as coal-fired power station is also appropriate to consider as a comparison to the proposed fuel-fired development.
- 5.1.7 The government has set out its plans in consultation to limit existing coal fired power stations to an emissions intensity of 0.45 tCO<sub>2</sub>e/MWh (BEIS, 2018b) for contracts in the capacity market from 2025 onwards, which would affect facilities in years prior as they bid into that market. While currently there is no legislation that limits the GHG emissions intensity for existing coal fired power stations, the existing power station if re-activated prior to 2025 could also be subject to the Energy Performance Standard of 0.45 tCO<sub>2</sub>e/MWh (DECC, 2012) were plant changes or upgrades as specified in that legislation required. For these reasons the Energy Performance Standard will be considered as the future baseline in a scenario where comparison of the proposed development is made to coal-fired generation.

## Proposed Approach

### Potential Significant Effects on GHG Emissions

- 5.1.8 GHG emissions would contribute to the effect of global climate change. Assessment guidance (IEMA, 2017) indicates that in principle, any GHG emissions may be considered to be significant, and advocates as good practice that GHG emissions should always be reported at an appropriate, proportionate level of detail in an ES.
- 5.1.9 Regarding operational GHG emissions, the main impact would be direct GHG releases from combustion of the fuel pellets. Fossil and biogenic CO<sub>2</sub> released by pellet combustion will be assessed, with the former causing a net increase in atmospheric GHG concentration and the latter regarded as net neutral.
- 5.1.10 GHG emissions from the transportation of pellets from their point of supply to the proposed development and from transport of ash to a point of disposal or re-use will also be assessed. GHG emissions from other operational activities (e.g. staff commuting traffic, and production and delivery of non-fuel process consumables) are considered to be *de-minimis* and not proposed to be assessed.
- 5.1.11 The fuel pellets will be supplied as a commercial fuel and the upstream processing to manufacture the pellets from waste, or alternative management routes for that waste in the absence of pelletisation are proposed to be scoped out of the assessment as these do not form part of nor are directly attributable to the proposed development.
- 5.1.12 Regarding construction-stage GHG emissions, the main impact would be the embodied carbon in construction materials used, i.e. the indirect GHG emissions from the supply chain for those materials. These are expected to be relatively minor compared to operational emissions, but also

to have higher uncertainty, and so are proposed to be estimated where possible to consider whether effects may be significant. Direct GHG emissions from construction activities (e.g. fuel consumption by construction plant) are considered to be *de-minimis* and not proposed to be assessed.

- 5.1.13 GHG emissions due to land-use change are to be scoped out of the assessment due to minimal land-use change. The most significant construction element is the new fuel storage silos, which will be constructed on the former coal storage area, meaning that there will be no significant loss of soil carbon stocks.
- 5.1.14 Furthermore, the soil type at the site has been identified as loamy and clayey soil which does not contain significant carbon stocks (UKSO, n.d).

**Assessing Significance of Effects**

- 5.1.15 There are no clear, generally-agreed thresholds or methods for evaluating the significance of GHG impacts in EIA. The IEMA guidance referenced above recommends contextualising a development’s GHG impacts, for example on a sectoral basis or compared to the UK’s national carbon budget.
- 5.1.16 It is considered that broadly speaking, the significance of the proposed development’s GHG emissions can be contextualised in the following ways:
  - with reference to the absolute magnitude of net GHG emissions as a percentage of the UK’s national carbon budget;
  - through considering any increase/reduction in absolute GHG emissions and GHG intensity compared with baseline scenarios, including projections for future changes in those baselines; and/or
  - with reference to whether the proposed development contributes to and is in line with the UK’s national carbon budget sectoral goals for GHG emissions reduction, which are consistent with science-based commitments to limit global climate change to an internationally-agreed level.
- 5.1.17 Taking these factors into account, where applicable, the evaluation of significance will ultimately be a matter of professional judgement, as it is not considered that a fixed numerical threshold can be defined.

**Potential Impact of Changes in Climate to the Development**

**Overview**

- 5.1.18 The following paragraphs summarise potential changes in climatic parameters at the proposed development location and considers whether there is potential for likely significant environmental effects, in order to determine whether further assessment of climate change risks and resilience should be scoped in to the EIA.
- 5.1.19 Besides climate risks to the proposed development itself, there are potential inter-relationships between climate change and several other environmental topic areas reported in other chapters of the ES, most notably flood risk. The climate projections summarised in this section will be provided to all ES chapter authors in order that any changes in the future baseline or sensitive receptors due to climate change can be evaluated, where relevant to the respective impact assessments.
- 5.1.20 The remainder of this appendix considers potential climate change risks to the proposed development and concludes that they should be scoped out of the assessment on the basis that significant effects during its operating lifetime are not considered likely.

**Climate Change Projections**

- 5.1.21 The Met Office Hadley Centre (MOHC) publishes both probabilistic climate change projections and downscaled global circulation model outputs for the UK at various spatial scales. This is called the UKCP18 dataset, first published in November 2018 and at v1.1.2 at the time of writing (MOHC, 2018). The projections are based on representative concentration pathway (RCP) scenarios used by the Intergovernmental Panel on Climate Change, thereby giving a low-high range in potential global GHG reduction initiatives and resulting rate of climatic effects over a given time period.
- 5.1.22 The probabilistic projections published at 25 km grid cell scale are considered the most useful for this assessment, being designed to show a range of projection values that reflect uncertainty in modelled outcomes. The CP18 Overview Report and supporting factsheets (MOHC, 2018) for the wider regional and UK context have also been drawn from.
- 5.1.23 The proposed development has an expected operating lifetime of circa 20 years. Climate change projections, therefore, for the 20-year period 2020-2039 have been considered.
- 5.1.24 The Overview Report and factsheets indicate that in general, warmer, wetter winters and hotter, drier summers are predicted, though of course still with natural variations in that pattern from year to year. No clear trend in wind speeds or storminess is predicted, and local-scale data published at 2.2km grid cell scale predicts no significant changes in wind speed and max gust speed over the relevant time period.
- 5.1.25 Within the last two decades, annual average temperature and precipitation records have been consistently set in the UK relative to the preceding baseline period, although generally wetter rather than drier summers have been seen in this period. In the near future, perhaps over the course of a decade, these natural variations will likely continue to be the most visible year-to-year changes in climate but in subsequent decade the anthropogenic climatic changes are expected to become more apparent.
- 5.1.26 Table 5.1 shows potential climatic changes from the UKCP18 probabilistic dataset averaged over the 2020-2039 time period relative to the 1981-2000 baseline for the 25 km grid square in which the proposed development site is located. The data presented here is for the emissions pathway RCP8.5, which is a high-emissions scenario assuming 'business as usual' growth globally with little additional mitigation. This is a conservative (worst-case) approach for scoping.

**Table 5.1 Climate Parameter Projections 2020–2039**

Parameter <sup>†</sup>	Units	10 <sup>th</sup> percentile	Median value	90 <sup>th</sup> percentile
Precipitation – annual average	%	-3.9	0.6	5.6
Precipitation – driest season	%	-35.7	-13.9	9.2
Precipitation – wettest season	%	-4.2	6.0	17.3
Precipitation – driest month	%	-37.5	-8.9	25.3
Precipitation – wettest month	%	-15.6	6.0	27.6
Temperature – annual average	°C	0.3	0.9	1.7
Temperature – hottest season average	°C	0.2	1.2	2.2

Temperature – coldest season average °C		-0.1	0.8	1.8
Temperature – hottest month maximum °C		-0.3	1.3	3.0
Temperature – hottest month average °C		0.1	1.3	2.7
Temperature – coldest month minimum °C		-0.5	0.9	2.3
Temperature – coldest month average °C		-0.6	0.7	2.1
Humidity – annual average	%	-0.4	5.8	12.3
Humidity – winter	%	-1.7	5.7	13.2
Humidity – summer	%	-1.6	4.9	11.4

† daily mean, maximum or minimum, as applicable, averaged over time period specified

5.1.27 Table 5.2 displays time-mean sea level anomalies at the location of the proposed development between 2020-2039, compared to the 1981-2000 baseline.

5.1.28 Sea level rise of up to approximately 20cm at the proposed development on the South Wales coast by 2039 under the RCP8.5 high emissions scenario is projected.

**Table 5.2 Marine Projections 2020–2039**

Year	Units	10 <sup>th</sup> percentile	Median value	90 <sup>th</sup> percentile
2020	cm	7.4	9.6	11.8
2025	cm	9.4	12.1	15.1
2030	cm	11.5	14.9	18.6
2039	cm	15.7	20.5	25.8

**Climate Risk and Resilience Scoping**

5.1.29 The proposed development primarily comprises continued use of an existing power station (and rail connection) with a different fuel. New construction required is limited to fuel silos and conveyor systems, within the existing built footprint and former coal storage area. Given these minimal changes, it is considered that there would be no significant changes to development’s physical vulnerability to climate change compared to the without-development scenario.

5.1.30 The operation of the steam turbine and cooling/condenser system could be affected by the changes in ambient humidity and temperature. The likely higher average humidity may lead to a very minor change in the net thermal efficiency and the likely increase in temperatures could have a minor negative effect on cooling performance.

- 5.1.31 The possible decrease in summer rainfall could exacerbate potable water supply stress in the region, but the proposed development would not be a major consumer of potable water, which would be needed in limited quantities mainly for wash-down and boiler de-min top-up. Either of these could also be from a raw water supply as washdown water need not be potable and boiler top-up water will require treatment on site in any event. Furthermore, climate change is accounted for in the local water supplier's Water Resources Management Plan (Dŵr Cymru, 2019)
- 5.1.32 While no clear trend in wind speed is shown in the projections, national climate risk and resilience assessments have noted that weather extremes such as winter storms may become more likely, which would include high winds. However, risks of gale force winds in the UK already exist and structurally the proposed development is expected to be designed for resilience to these conditions.
- 5.1.33 The risks of flooding, including from change in sea level and the coastal environment, will be the topic of the Flood Risk Assessment.
- 5.1.34 In conclusion, with the exception of inter-related effects and flood risk, assessed elsewhere, no significant physical or operational climate change risks to the development are considered likely and further assessment of climate change risk and resilience measures is proposed to be scoped out of the assessment.

### **Inter-Related Effects**

- 5.1.35 As previously noted, there are potential inter-related climate change effects with other ES topics, where climate change could modify the potential for impact, the future baseline circumstances or the sensitivity or vulnerability of receptors. The climate projections summarised in this scoping chapter will be provided to relevant ES topic authors in order that inter-related effects can be considered in the corresponding ES chapters.
- 5.1.36 Briefly, the main areas of where there is a (hypothetical) potential for inter-related effects, subject to assessment, are considered to be:
- landscape and visual – consideration of climate resilience (e.g. drought tolerance) in the design and species mix of any landscape planting proposed;
  - ecology – potential changes in the sensitivity of habitats or species to development impacts in the future due to the effects of climate change;
  - flood risk – changes in rainfall frequency and intensity; change to sea level and coastal flooding potential including storm surge;
  - air quality – changes in weather patterns that affect local air pollutant dispersion (annual average) or transboundary pollutant transport;
  - health and wellbeing – potential changes in sensitivity of human receptors to development impacts due to climate changes, e.g. vulnerability to air pollution during certain weather conditions, heat stress during heatwave conditions.

## **Chapter 14: Population and Health**

### **Baseline Information**

- 5.1.37 Evidence suggests that individuals and communities have varying susceptibilities to adverse and/or beneficial population and health effects associated with changes in environmental and socio-economic conditions as a result of: demographic structure (i.e. age); existing burden of poor health; behaviours (i.e. lifestyle choices which constitute risk factors); and socio-economic circumstance. As an example, an elderly individual with an existing chronic cardiovascular health condition who is a smoker and has a lower than average socio-economic circumstance, would be considered more sensitive than a healthy working age individual.

5.1.38 For the purposes of the Scoping Report, a sample of public health statistics is provided in Table 5.3 to give an overview of local community health circumstance.

**Table 5.3 Public health statistics.**

Health indicator	Newport	Wales	Date	Source
<b>Physical health</b>				
All-age all-cause mortality, 3-year average (per 100,000 population)	1111.7	1079.0	2015 - 17	Health Map Wales
Cancer mortality, 3-year average (per 100,000 population)	296.9	278.6	2015 - 17	Health Map Wales
Cardiovascular disease mortality, 3-year average (per 100,000 population)	293.5	274.6	2015 - 17	Health Map Wales
Respiratory disease mortality, 3-year average (per 100,000 population)	175.5	162.5	2015 - 17	Health Map Wales
Hospital admissions due to cardiovascular diseases, 3-year average (per 100,000 population)	1603.2	1694.8	2015/16 - 2017/18	Health Map Wales
Hospital admissions due to respiratory diseases (per 100,000 population)	1902.1	1769.7	2015/16 - 2017/18	Health Map Wales
Asthma prevalence (0-24 years) (%)	48.9	51.6	2012	Public Health Wales Observatory (Health of Children and Young People)
<b>Mental health</b>				
Mortality from dementia/Alzheimer's, 3-year average (per 100,000 population)	128	114	2015 - 17	Health Map Wales
<b>Lifestyle factors</b>				
Alcohol-related mortality (per 100,000 population)	15.1	14.1	2009 - 11	Health Map Wales
Hospital admissions due to alcohol-specific and attributable conditions, 3-year average (per 100,000 population)	1862.5	1767.2	2015/16 - 2017/18	Health Map Wales
Hospital admissions due to illicit drug use (per 100,000 population)	305.1	218.6	2017/18	Health Map Wales
4/5 year olds overweight or obese (%)	27.7	22.0	2011/12	Public Health Wales Observatory (Health of Children and Young People)

Sources: (Public Health Wales, 2013); (Public Health Wales, n.d.)

Key	Lower burden of poor health compared to the Wales average
	Higher burden of poor health compared to the Wales average

5.123 There is a lower burden of poor health compared to the Wales average for hospital admissions due to cardiovascular diseases and asthma prevalence (0-24 years). However, it is evident that the local burden of poor health in Newport is higher than the Wales average for the majority of public health statistics collected at this stage. However, where this is the case, most figures are broadly comparable to the Wales average which suggests that the local population should not be

considered disproportionately sensitive to changes in environmental conditions attributable to the proposed development.

## Proposed Approach

- 5.124 'Health' is commonly defined as "*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*" (the definition used by the World Health Organisation, WHO, since 1948) (WHO, 1948).
- 5.125 The population and health assessment propose to apply a broad model of health that encompasses conventional health impacts such as disease, accidents and risk, along with wider health determinants vital to achieving good health and wellbeing such as employment and local amenity. Consistent with the WHO definition, the population and health assessment considers both physical and mental health, and addresses equality and social impacts where possible.
- 5.126 The assessment proposed to follow a source-pathway-receptor approach to identify and assess population and health effects that are plausible and directly attributable to the proposed development. A hazard source by itself is not necessarily a health risk: it is only when there is a hazard source, a sensitive receptor and a pathway of exposure where there is any potential for risk. Where a source-pathway-receptor linkage does exist, then the nature of the specific hazard source, the magnitude of impact via the pathway and the sensitivity of the receptor determine what level of health risk is predicted, and its significance.

## Baseline studies

- 5.1.1 The population and health baseline study will constitute a desk-based exercise and will expand upon the statistics presented in Table 5.1 to include a wider set of indicators and provide more analysis on trends. Furthermore, some baseline statistics would be applied in any quantitative health assessment undertaken.

## Assessment of Effects

### Construction

- 5.1.2 Construction activities associated with the proposed development have the potential to influence a range of environmental health determinants. Specifically, construction-related health determinants proposed to be scoped in comprise: changes in air quality; changes to noise exposure; and changes to transport nature and flow rate.
- 5.1.3 These health determinants will be covered to some extent by inter-related technical disciplines within the ES, namely: Chapter 10 (Traffic and Transport); Chapter 11 (Noise); and Chapter 12 (Air Quality).
- 5.1.4 The population and health assessment will draw from and build upon key air quality and noise modelling outputs to investigate and quantitatively assess (where possible) potential changes to local population health outcomes.
- 5.1.5 The potential changes in transport nature and flow rate from construction-related HGVs and workers (and consequent impacts on community severance, pedestrian amenity and risk of accident/injury) would be assessed by the traffic and transport discipline. The conclusions of this assessment would be further communicated in the population and health assessment.

### Operation

- 5.1.6 While proposed operations would remain similar to what is already permitted, the health determinants proposed to be scoped in also comprise: changes in air quality; changes to noise exposure; and changes to transport nature and flow rate. In addition, a risk perception section will

be included to address any material health concerns raised by statutory and non-statutory stakeholders during the consultation process.

- 5.1.7 As per the construction phase assessment, excluding risk perception, these health determinants will be covered to some extent by inter-related technical disciplines within the ES. As such, the population and health assessment will draw from key outputs from the inter-related technical disciplines to investigate and quantitatively assess (where possible) potential changes to local population health outcomes.
- 5.1.8 A technical assessment relating to socio-economic effects is proposed to be scoped out as a technical discipline entirely on the basis that no significant effects as predicted as construction-related employment would be temporary, and operation activities would provide an anticipated net increase of up to 15 staff. While employment (and the associated income generated therein) is a key wider determinant of health, it is proposed to scope out population and health effects associated with construction and operational employment on the same basis.
- 5.1.9 A technical assessment relating to socio-economic effects is proposed to be scoped out as a technical discipline entirely on the basis that no significant effects as predicted as construction-related employment would be temporary, and operation activities would provide an anticipated net increase of up to 15 staff. While employment (and the associated income generated therein) is a key wider determinant of health, it is proposed to scope out population and health effects associated with construction and operational employment on the same basis.
- 5.1.10 A technical assessment relating to socio-economic effects is proposed to be scoped out as a technical discipline entirely on the basis that no significant effects as predicted as construction-related employment would be temporary, and operation activities would provide an anticipated net increase of up to 15 staff. While employment (and the associated income generated therein) is a key wider determinant of health, it is proposed to scope out population and health effects associated with construction and operational employment on the same basis.
- 5.1.11 In addition, it is anticipated that the majority of the construction workforce would be home-based and therefore not increase demand on local services, including on healthcare facilities. As a result, potential social impacts associated with the construction workforce is proposed to be scoped out.
- 5.1.12 An assessment relating to electromagnetic fields (EMF) is proposed to be scoped out as a technical discipline on the basis that the existing on-site electricity transmission infrastructure will not be altered and is not a significant emitter of EMF. As a result, any further assessment of population and health effects is also proposed to be scoped out.

## **Cumulative Effects**

- 5.127 As set out in Section 3 of this report, each topic chapter will consider the potential for significant cumulative effects with other major proposed developments. Other developments considered within the cumulative assessment include those that are:
  - Under construction;
  - Permitted, but not yet implemented;
  - Submitted, but not yet determined; and
  - Identified in the Development Plan (and emerging Development Plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
- 5.128 A list of other proposed developments and allocations to be considered within the EIA process will be agreed with NCC. Comments are invited on the content of this list and the extent to which allocations from neighbouring authorities may need to be considered.

- 5.129 Each topic author will review the overall list of developments and allocations and identify those relevant to their topic. The chapter will include an assessment of the potential for significant cumulative effects with the relevant developments.

## Summary of Issues Proposed to be Scoped Out of Topic Chapters

- 5.130 The table below provides a summary of the main issues to be scoped out as detailed above in each topic section.

**Table 5.4 Issues Proposed to be Scoped Out of Topic Chapters**

Chapter Title	Scoped Out
Chapter 7: Ecology	Species confirmed to be absent by surveys
Chapter 9: Historic Environment	No ASIDOHL2 assessment will be undertaken regarding the proposed development.
Chapter 10: Traffic and Transport	Effects on PRoW during construction and operation
Chapter 11: Noise	Construction traffic effects Operational rail movements Vibration effects
Chapter 12: Air Quality	Operational rail movements
Chapter 13: Climate Change	GHG emissions as a result of the production of the waste-derived SFR Resilience to future climate change will be detailed in Chapter 2 and Chapter 6 Change in the baseline as a result of climate change will be considered by each topic (Chapters 5 to 13) individually
Chapter 14: Population and Health	Socio-economic effects Demand on local services, including on healthcare facilities as a result of the construction workforce An assessment relating to electromagnetic fields

## REFERENCES

- Department for Business, Energy & Industrial Strategy (BEIS) (2018) UK Government GHG Conversion Factors for Company Reporting v1.01 (Online). Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018>
- Department for Communities and Local Government (2006) EIA: A Guide to Good Practice and Procedures.
- BEIS (2018,a) UK Government GHG Conversion Factors for Company Reporting v1.01 (Online). Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2018>. (Last accessed 29/11/2019).
- BEIS (2018,b) IMPLEMENTING THE END OF UNABATED COAL BY 2025 - Government response to unabated coal closure consultation. (Online). Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/672137/Government\\_Response\\_to\\_unabated\\_coal\\_consultation\\_and\\_statement\\_of\\_policy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672137/Government_Response_to_unabated_coal_consultation_and_statement_of_policy.pdf). (Last accessed 29/11/2019).
- BEIS (2019) Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. (Online) Available at: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal>. (Last accessed 29/11/2019).
- Environment Agency and Met Office (2018) UK Climate Projections project (UKCP18). (Online) Available at: <https://ukclimateprojections-ui.metoffice.gov.uk>. Last accessed (25/11/2019).
- British Geological Survey (BGS) (n.d.) Geology of Britain viewer (Online). Available at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>
- British Standards Institute (BSI) (2003) BS 7445-1:2003 Description and measurement of environmental noise – Part 1: Guide to quantities and procedures. London, BSI.
- British Standards Institute (BSI) (1991) BS 7445-2:1991 Description and measurement of environmental noise - Part 2: Guide to the acquisition of data pertinent to land use. London, BSI.
- British Standards Institute (BSI) (2014a) BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: London, BSI.
- British Standards Institute (BSI) (2014b) BS 4142:2014 Methods for rating and assessing industrial and commercial sound. London, BSI.
- Cadw (2017a) Heritage Impact Assessment in Wales.
- Cadw (2017b) Setting of Historic Assets in Wales.
- Cadw and CCW (2007) A Guide to Good Practice on Using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process (2<sup>nd</sup> edition).
- CERC (2016) ADMS 5 User Guide Version 5.2.
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.
- Committee on Climate Change (2017) UK Climate Change Risk Assessment 2017.
- Department of Transport (1988) Calculation of Road Traffic Noise. London, HMSO
- Highways Agency, Scottish Government, Welsh Assembly Government, The Department for Regional Development Northern Ireland (2008) Design Manual for Roads and Bridges (DMRB), Volume 11 'Environmental Assessment', Section 2 'Environmental Impact Assessment', Part 5 - Assessment and Management of Environmental Effects (HA 205/08).

Highways Agency, Transport Scotland, Welsh Government, The Department for Regional Development Northern Ireland (2011) DMRB, Volume 11: Environmental Assessment. Section 3: Environmental Assessment Techniques - Part 7: Noise and Vibration (HD 213/11).

Institute of Air Quality Management (2014) Guidance on the Assessment of Dust from Demolition and Construction.

Institute of Environmental Management and Assessment (IEMA) (2017) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (Online). Available at:

<https://www.iema.net/assets/newbuild/documents/IEMA%20GHG%20in%20EIA%20Guidance%20Document%20V4.pdf>

Newport City Council (n.d.) My Newport maps (Online). Available at:

<http://my.newport.gov.uk/iShare/mynewport.aspx?>

Natural Resources Wales (n.d.) LANDMAP - the Welsh landscape baseline. (Online) Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en>

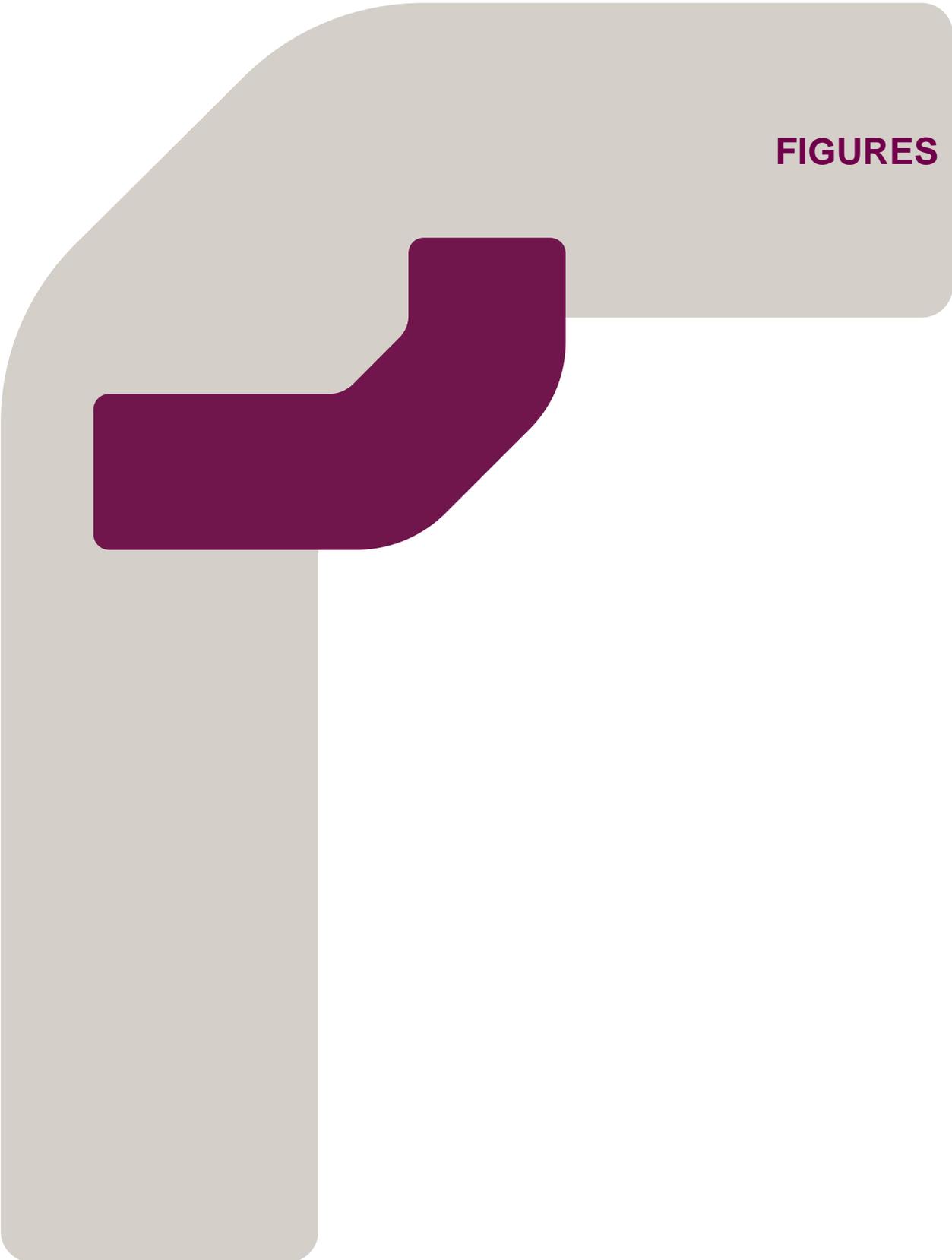
Natural Resources Wales (2013) LANDMAP Guidance Note 4 – ‘LANDMAP and the Cultural Landscape’.

Natural Resources Wales (2014) National Landscape Character Area 34 (NLCA34): Gwent Levels

Natural Resource Wales (2018) LANDMAP (Online). Available at: <https://landmap-maps.naturalresources.wales/Default.aspx>

UK Soil Observatory (n.d.) UK Soil Observatory mapping service (Online). Available at:

<http://mapapps2.bgs.ac.uk/ukso/home.html?>



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**Legend**

Site Boundary

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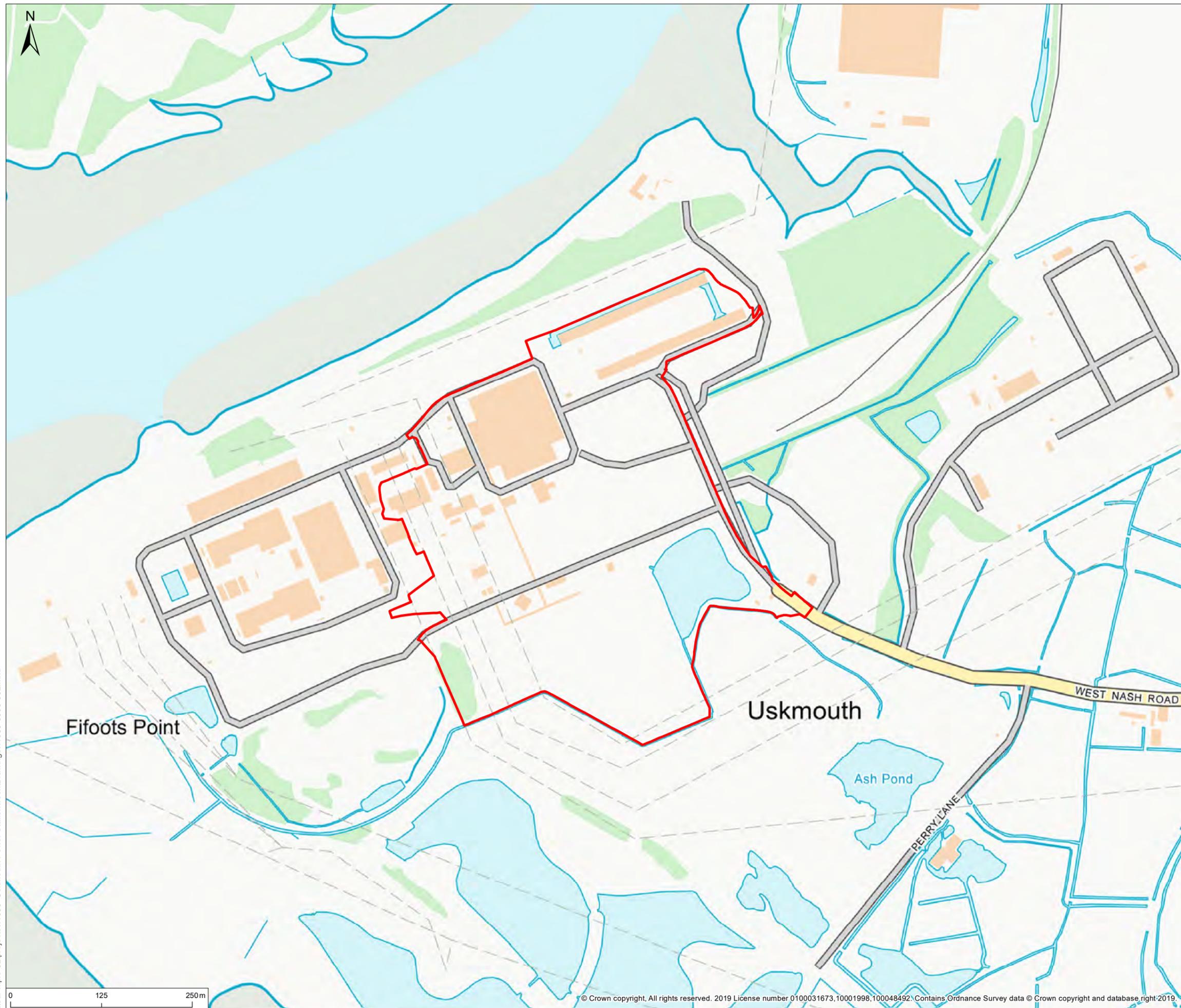
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 Project **SUP Fuel Conversion project**  
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**Legend**  
 Site Boundary

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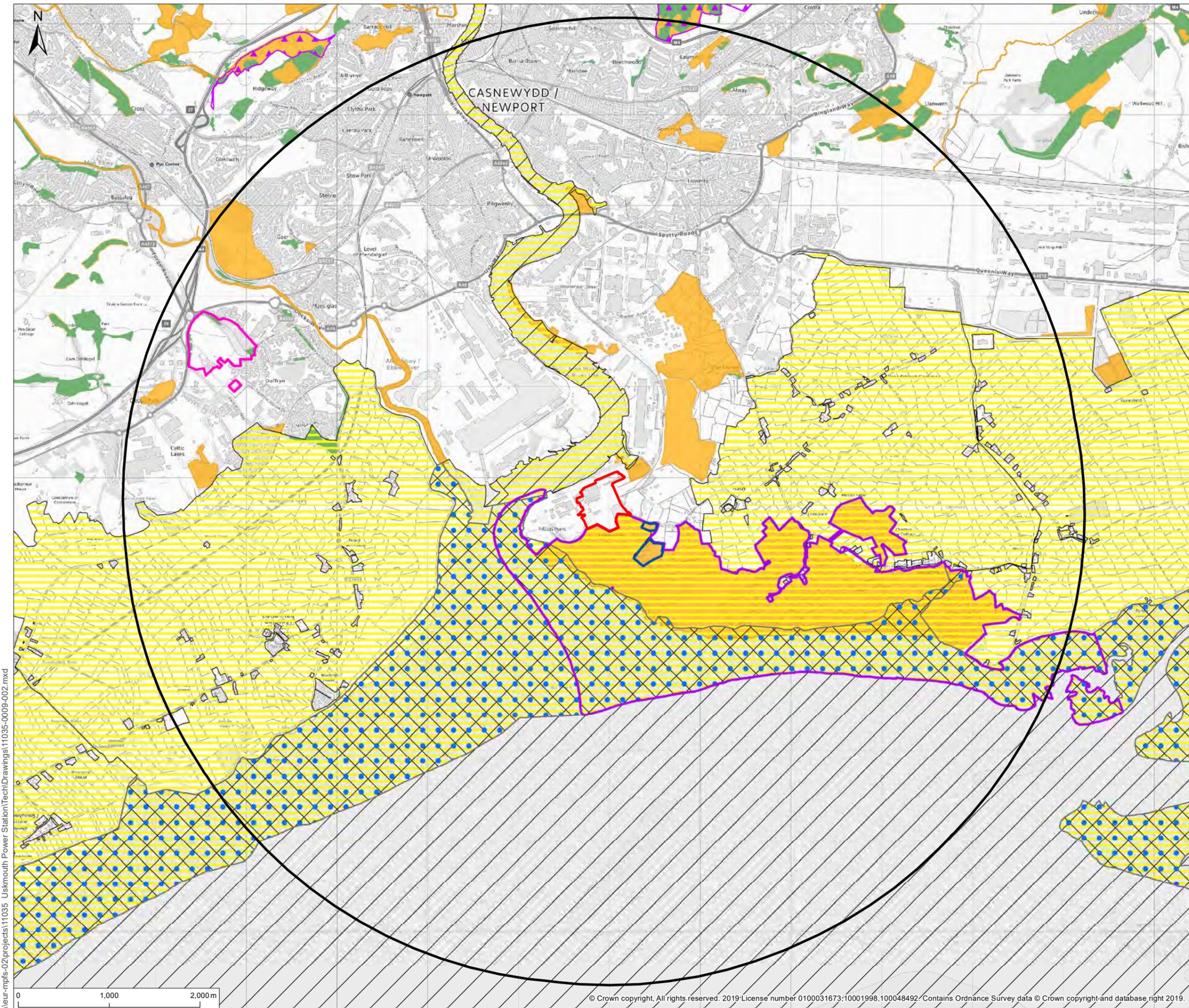
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- Legend**
- Site Boundary
  - 5km Search Area
  - Ancient Woodland
  - Country Park
  - Local Nature Reserve
  - National Nature Reserve
  - Ramsar
  - Special Area of Conservation
  - Special Protection Area
  - Site of Special Scientific Interest
  - RSPB Reserve
  - SINC within Newport City Council

Rev	Description	By	CB	Date



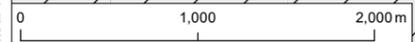
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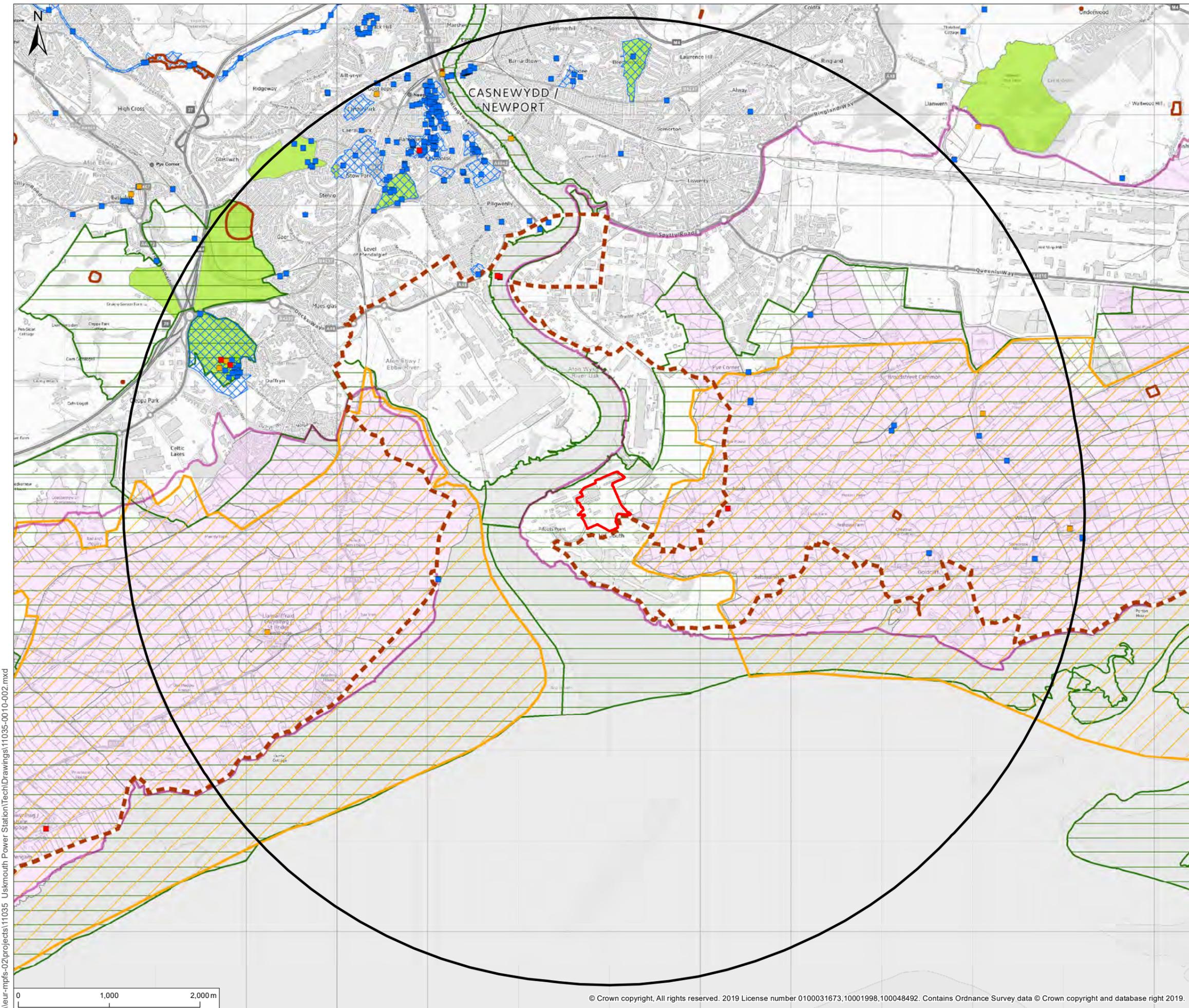
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 Title **Ecological Constraints**

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- Legend**
- Site Boundary
  - 5km Search
  - Registered Parks & Gardens of Special Historic Interest
  - Listed Building Grade I
  - Listed Building Grade II\*
  - Listed Building Grade II
  - Scheduled Ancient Monument
  - Conservation
  - Gwent Levels Landscape of Outstanding Historic Interest
  - Historic Landscape Character Areas
  - Gwent Levels Archaeologically Sensitive Areas
  - Coastal Path
  - Special Landscape

Rev	Description	By	CB	Date



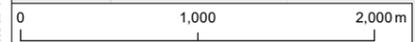
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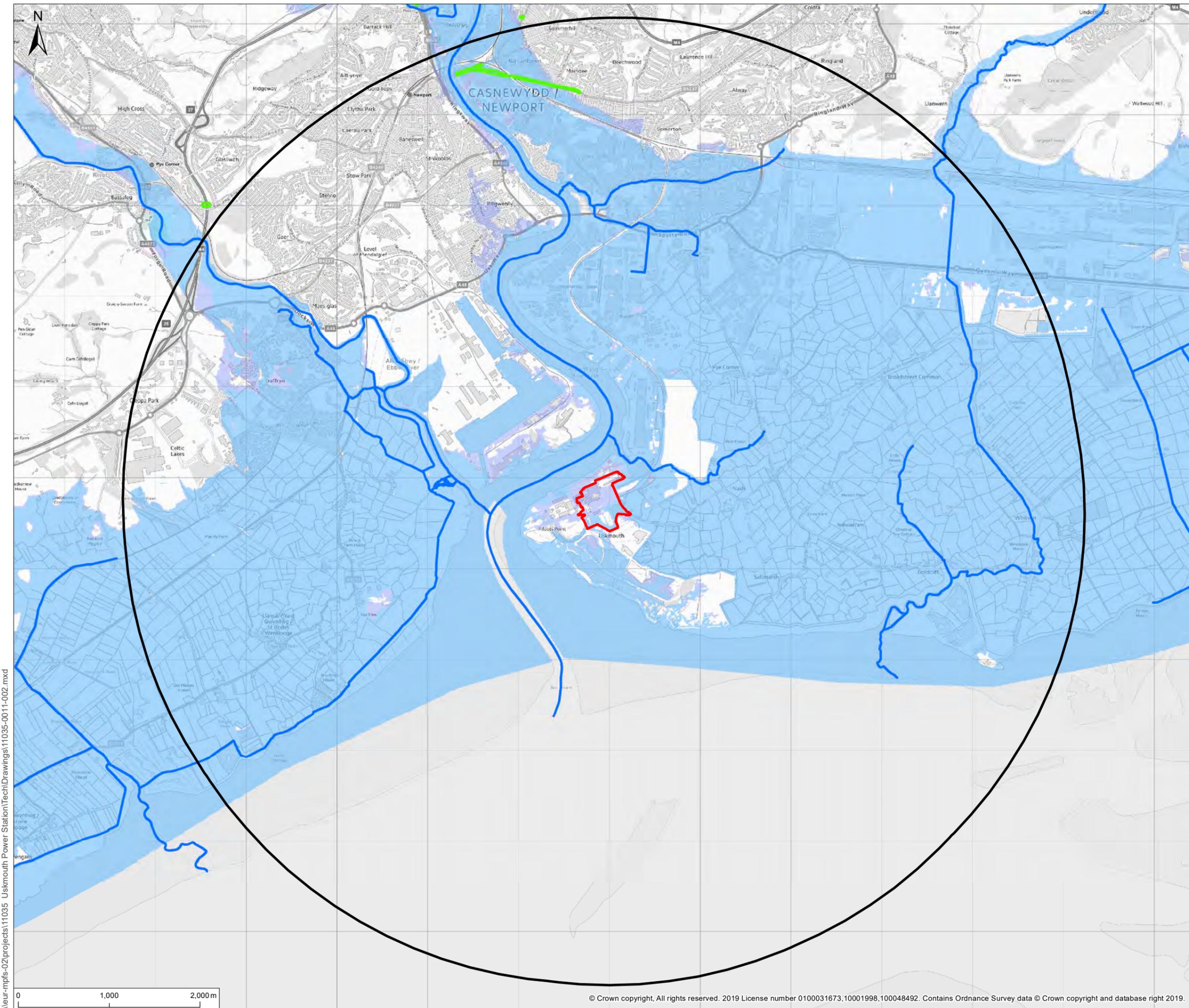
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 Project **SUP Fuel Conversion project**  
 Title **Heritage and Landscape Constraints**

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- Legend**
- Site Boundary
  - 5km Search Area
  - Flood Zone 3
  - Flood Zone 2
  - Main River
  - AQMA

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