Prenergy Power Limited

Port Talbot Renewable Energy Plant

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

- Issue B2
- 27 April 2006

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REGISTERED ENVIRONMENTAL IMPACT ASSESSOR: Sinclair Knight Merz is a Registered Environmental Impact Assessor with the Institute of Environmental Management and Assessment (IEMA), an international organisation dedicated to the promotion of sustainable development and to the promotion of best practice standards in environmental assessment and management.

The Registered Environmental Impact Assessor status (or membership) is awarded to organisations capable of producing environmental statements in accordance with current best practice standards. It is a status which reflects ability in environmental impact assessment work and has been awarded on the basis of a measure of the quality of work produced by Sinclair Knight Merz.

Contents

1. Introduction

1.1 Background

Prenergy Power Limited (Prenergy) is seeking to develop a renewable energy power plant within a disused area of the Port Talbot Docks (Wales), the general location of which is shown within Figure 1 (Appendix 1).

The development (to be known as the 'Port Talbot Renewable Energy Plant' (the Renewable Energy Plant)) lies wholly within the Neath Port Talbot County Borough Council's administrative area and will generate around 300 Megawatt (MW) of renewable electricity from clean wood chip fuel[1]. Additionally, through the displacement of power currently generated by fossil fuelled power stations elsewhere in the United Kingdom (UK), it will assist the Welsh Assembly Government and UK Government national and international commitments on Climate Change, recognised as one of the most serious environmental problems facing the world today.

As the electrical output of the Renewable Energy Plant is over 50MW, the development requires consent from the Secretary of State for Trade and Industry under Section 36[2] of the Electricity Act 1989 for it's construction and operation. Accompanying the Section 36 consent application will be an Environmental Statement which presents the findings of an independent Environmental Impact Assessment prepared under the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000[3] (the EIA Regulations).

An application for a Pollution Prevention and Control (PPC) permit under the PPC Regulations (England and Wales) Regulations 2000[4] will also be required from the Environment Agency for the project.

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1 The wood chip fuel is classified as a renewable energy as it is derived from plant matter, including forestry wood, as defined within The Renewables Obligation Order 2002

2 The construction, extension or operation of a generating station with an electrical generation capacity greater than 50MW requires consent from the Secretary of State for Trade and Industry, administered by the Department of Trade and Industry (DTI) . Section 36 Consent will also effectively give deemed planning permission for the development

3 Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000

4 Pollution Prevention and Control (England and Wales) Regulations 2000, The Stationary Office, 2000

1.2 Purpose of this Scoping Report

As provided for within the EIA Regulations, before making an application for Section 36 Consent a developer may ask the Secretary of State for Trade and Industry for his formal opinion (known as a Scoping Opinion) on the information to be supplied within an accompanying Environmental Statement. In preparing his Scoping Opinion, the Secretary of State will consult with a number of consultative bodies on the content of the Environmental Statement.

This Scoping Report therefore provides the necessary background information for the Secretary of State (and his consultative bodies) to prepare his formal Scoping Opinion, including:

- A description of the proposed development;
- The methodology to be adopted within the Environmental Impact Assessment;
- The possible effects of the proposals, including those that are significant and those not considered to be significant and which can, therefore, be scoped out of the Environmental Impact Assessment; and
- The proposed structure of the Environmental Statement.

This scoping report will enable the Secretary of State and his consultees to formally comment on the possible significant environmental effects identified, the proposed assessment methodologies, and the Environmental Statement structure, and provides an opportunity for the Secretary of State and his consultees to highlight any additional issues that they believe should be addressed within the Environmental Impact Assessment.

The Secretary of State and his consultees are also invited to identify any sources of information which may be of interest to SKM in the course of the Environmental Impact Assessment.

Submission of this formal request for a Scoping Opinion does not constitute an application for consent for the construction or operation of any part of the proposed Renewable Energy Plant.

In recognising the Scoping Report as a critical and valuable element of the Environmental Impact Assessment process, SKM has circulated this Scoping Report to a wider audience than that traditionally consulted by the Secretary of State. Details of the Scoping Report's circulation and instructions for the return of consultees views are provided within Section 1.6 below.

1.3 Consent Application Process

The Department of Trade and Industry (DTI) administers the provisions of the Electricity Act 1989 for those seeking development consent from the Secretary of State for Trade and Industry for the construction, extension or operation of electricity generating stations of over 50MW in England and Wales.

The Section 36 consent application procedures are comprehensive, and bring the views of the local planning authority, the local people, consultative bodies such as the Environment Agency, Countryside Council for Wales (CCW), and other interested parties, into the decision making process.

The EIA Regulations apply to Section 36 consent applications and require any development that is considered to have significant effect on the environment, to be subject to an Environmental Impact Assessment and an Environmental Statement should be submitted with the Section 36 Application.

Schedules 1 and 2 to the EIA Regulations define those developments for which an Environmental Impact Assessment is required. Schedule 1 lists those developments for which an Environmental Impact Assessment is mandatory (including development of thermal power station of 300MW or more), and Schedule 2 describing projects for which the need for Environmental Impact Assessment is judged by the Secretary of State on a case-by-case basis.

At the currently envisaged output of the Renewable Energy Plant (300MW), the proposed development falls within the definition of a Schedule 1 development and an Environmental Impact Assessment is mandatory. Should the electrical output of the Renewable Energy Plant fall below the 300MW threshold, Prenergy commit to continuing with the Environmental Impact Assessment process and submit an Environmental Statement with the Section 36 Application.

In preparing the Environmental Impact Assessment, a developer may ask the Secretary of State for his formal opinion on what information he expects the Environmental Statement to contain. This process allows the developer to be clear about what the Secretary of State considers the main effects of the development, and therefore the topics on which the Environmental Statement should focus. This process is known as ‘Scoping’, and it is for this process that this Scoping Report has been prepared.

On receipt of the Scoping Report, the Secretary of State will consult on the content of the Environmental Statement with the consultative bodies identified within Table 1.1 below. Consultees have 3 weeks to provide their views to the Secretary of State, and within a further 3 weeks of receipt of these views, the Secretary of State will issue a Scoping Opinion to Prenergy stating what information should be included in the Environmental Statement and giving his reasons why.

This Scoping Opinion will influence the scope and methodologies of the Environmental Impact Assessment and content of the Environmental Statement.

On completion of the Environmental Statement and submission of the Section 36 consent application, Prenergy must publicise it by placing a notice in those newspapers available in the locality of the development, thereby ensuring that the public is made aware of the development and is informed where they may obtain information on its environmental effects. Members of the public may make representations to the Secretary of State on the application within 28 days from the date that the notice last appeared in the newspapers.

Prenergy must also consult the Secretary of State's consultative bodies and provide a copy of the application, and Environmental Statement to the Secretary of State's consultative bodies.

The local Council will also place a copy of the Environmental Statement on their Planning Register together with any related documents such as the Scoping Opinion.

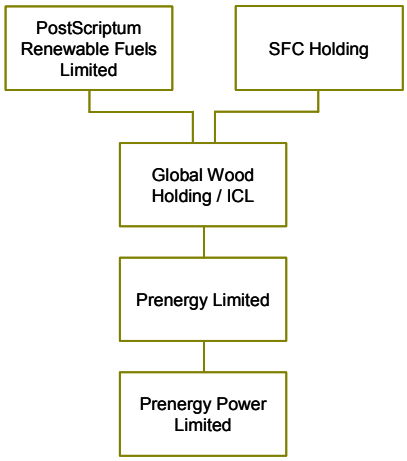
Once the Secretary of State has all the representations and views of the local Council, the consultative bodies and the public, taking these together with the contents of the Environmental Statement, he will come to a decision on whether or not to give consent to the proposed development.

Under the Electricity Act, there is no time limit for the Secretary of State to determine a Section 36 consent application, although he recognises a responsibility to deal with matters as expeditiously as possible.

Once the Secretary of State has determined the Section 36 consent application, he will copy his decision letter to the local Council who will place it on the planning register alongside other documents relating to the application. Copies of this letter will also be sent to the Secretary of State's consultative bodies and non-statutory bodies who were involved in the consultation process.

1.4 Prenergy Power Limited Profile

Prenergy Power Limited is a wholly owned subsidiary of Prenergy Limited, in turn owned by Global Wood Holding / ICL, a company operating in the wood based biomass energy sector which combines the experience, expertise and assets of the ICL Group and PostScriptum Renewable Fuels Limited, as shown on the adjacent organisational chart.



The ICL group (whose holding company is SFC Holding, as shown within the above organisational chart), is a wood and biomass trader, and power development company founded by power engineers with over 15 years of experience in the biomass industry. In addition to the development of traditional power plants, the founders designed and engineered the first rice-husk biomass fuelled power plant in Italy, and developed, built and operated three wood-fuelled biomass power stations in Italy with a total generation capacity of 88MW. The ICL group also includes shipping affiliates which operate three wood chip carriers on long term charter, a port facility in North Carolina and a port facility and chipping plant in Ukraine.

PostScriptum is a private energy investment vehicle owned by experts in the international trading of oil, gas, and power. Its private equity activities focus on renewable energy investments ranging from biomass power plant to wind farm developments.

Global Wood Holding predict a significant growth in biomass-fuelled power plants within Europe, spurred partly by the need to meet renewable energy legislation and partly by the implementation of carbon-reduction incentives across the continent.

The biomass supply required to power this growth of capacity will be sourced from a mixture of long term supply contracts from traditional sellers of wood based biomass, along with dedicated short-rotation forestry. Global Wood Holding's agreements with owners and managers of timberland will ensure sufficient wood based biomass is available each year to ensure a secure supply of wood based biomass to meet the needs of the Renewable Energy Plant.

Through their experience in the development and operation of biomass power plant, combined with their biomass fuel and energy trading experience, Prenergy are ideally positioned to successfully develop and operate the Port Talbot Renewable Energy Plant, contributing to both Wales' renewable energy target and to the local economy.

1.5 Sinclair Knight Merz Profile

SKM is an independent professional services consultancy firm with over 5,000 staff world-wide and with offices throughout the UK. SKM has considerable experience in the development, construction and operation of renewable and conventional fuelled power plant throughout the world, including the assessment of their environmental effects.

SKM is a Registered Environmental Impact Assessor with the Institute of Environmental Management and Assessment (IEMA), a leading international organisation dedicated to the promotion of sustainable development and to the promotion of best practice standards in environmental assessment and management.

The Registered Environmental Impact Assessor status (or membership) is awarded to organisations capable of producing independent Environmental Statements in accordance with current best practice standards. It is a status which reflects ability in Environmental Impact Assessment work and has been awarded on the basis of a measure of the quality of work produced by SKM.

Prenergy has appointed SKM to prepare this Scoping Report, undertake the Environmental Impact Assessment and prepare the PPC Permit application for the proposed Renewable Energy Plant.

1.6 Stakeholder Consultations

Consultation is an important component of the Environmental Impact Assessment process, allowing interested and affected parties and organisations to become involved in the planning and development process of the project and to ensure that their concerns, ideas and hopes for the project are considered.

SKM has already consulted with a number of organisations during the initial development stage of the development, including Neath Port Talbot County Borough Council (the local Council), the Environment Agency and Countryside Council for Wales.

Formal consultation begins with the submission of this Scoping Report to the Secretary of State for Trade and Industry, who consults with a number of consultative bodies for their opinion. On receipt of the consultative bodies opinion, the Secretary of State will prepare a formal 'Scoping Opinion'.

The consultative bodies to be consulted by the Secretary of State during the preparation of his scoping opinion are identified within Table 1.1 below. In order to gather opinion from a wider number of interested parties, SKM propose to circulate this Scoping Report to a wider number of consultees also identified within Table 1.1.

Table 1.1: Scoping Report Consultees

Secretary of State's Consultative Bodies	Non-statutory Consultees (consulted by SKM)
Neath Port Talbot County Borough Council	Corus Port Talbot Steel Works
Welsh Assembly Government	Royal Society for the Protection of Birds
Associated British Ports	Civil Aviation Authority
Environment Agency	Cardiff International Airport
Countryside Council for Wales	Swansea Airport
	Defence Estates
	Office of Communications (Ofcom)
	Gwent and Glamorgan Archaeological Trust
	Health and Safety Executive
	Mid and West Wales Fire and Rescue Service
	South Wales Police Authority
	Maritime and Coastguard Agency

The information from all consultees is important and will be used to refine the methodology of the Environmental Impact Assessment, such that consultees and the Secretary of State are in agreement with the proposed methodology used in the assessment.

Further details of how consultees can submit their scoping response is provided within Section 4 of this Scoping Report.

2. The Proposed Development

2.1 Rationale for Development

Renewable energy sources are seen as an essential element of the Welsh Assembly Government, the UK Government and European Union strategy in tackling global climate change and is also widely recognised as an important contributor to the continued growth of local and national economy.

The issue of climate change has been identified as a key challenge for our future energy system. Under the Kyoto Protocol to the United Nations Framework Convention on Climate Change[5], the UK's internationally agreed target is to reduce greenhouse gas emissions by 12.5% against 1990 levels by 2012. This target is complemented by the UK's domestic goal of reducing carbon dioxide (CO_2) emissions by 20% on 1990 levels by 2010.

The UK Government has set out a range of policies to meet those targets in its Climate Change Programme. Part of the UK Government's package of measures to achieve the climate change targets includes working towards a target for renewable energy generation of 10% of UK electricity supplies by 2010 and 15% by 2015, with an interim target of 5% by 2003, as set out in the Energy White Paper[6].

In support of UK Climate Change Programme, the Welsh Assembly Government develop specific renewable energy targets of 4 Terawatt hour (TWh) per annum (equivalent to around 1,000MW installed capacity) by 2010 and 7TWh per annum (equivalent to around 1,750MW installed capacity) by 2020[7].

Government guidance as set out in Planning Policy Statement 22[8] (PPS22), confirms that the increased development of renewable energy resources is vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy.

The key policy mechanism by which the Government is encouraging the growth necessary to reach the UK's renewable energy targets is through the Renewables Obligation[9], introduced in April 2002 under the Utilities Act 2000.

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5 Kyoto Protocol to the United Nations Framework Convention on Climate Change, found at http://unfccc.int/essential_background/kyoto_protocol/background/items/1351.php

6 Energy White Paper: Our energy future – creating a low carbon economy, The Stationary Office, 2003

7 Draft Ministerial Interim Planning Policy Statement on Renewable Energy, Welsh Assembly Government, June 2004

8 Planning Policy Statement 22: Renewable Energy (PPS22), Office of the Deputy Prime Minister, 2004

The Renewables Obligation places a statutory obligation on all licensed electricity suppliers in England and Wales to supply a specific proportion of their electricity from eligible renewable sources (such as the Port Talbot Renewable Energy Plant), with non-compliance with the Renewables Obligation resulting in the levying of financial penalties in proportion to the magnitude of any shortfall.

In December 2004, the UK Government announced[10] that whilst the UK was on track to go beyond its Kyoto target on greenhouse gases, the UK will not, on the basis of current policies alone, achieve the ambitious 2010 domestic goal of a 20% reduction in CO_2 emissions. Renewable energy developments such as the Port Talbot Renewable Energy Plant will assist in the continued achievement of the UK's Kyoto target and assist in the continued drive to achieve the UK Government and Welsh Assembly Government domestic CO_2 emission reduction target.

The Renewable Energy Plant will also provide a greater diversity in our energy mix, which is vital in ensuring security and continuity of supply as fossil fuels commercial availability continue to deplete.

2.2 Description of Proposed Development

2.2.1 Overview

Prenergy is seeking to develop a renewable energy power plant within a disused area of the Port Talbot Docks (Wales), the general location of which is shown within Figure 1. It will generate around 300 MW of renewable electricity from the use of around two and a quarter million tonnes of clean wood chip fuel per year. Other than during the commissioning and start-up phase, no supplementary fuel (such as natural gas or oil) is required.

The extent of the preliminary development site boundary is shown in Figures 2 and 3, and comprised of two key areas, the Fuel Store and Feedstock Preparation Area and the Renewable Power Plant Area, with fuel from the Fuel Store and Feedstock Preparation Area being transferred to the Renewable Power Plant Area via a conveyor belt system. The Renewable Power Plant will operate for a minimum of 20 years and is intended to operate as a baseload (full-time) plant except for maintenance downtime.

Sections 2.2.2 to 2.2.5 below, describe each of the main components of the Renewable Energy Plant.

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9 The Renewables Obligation Order 2002, The Stationary Office, 2002

10 DEFRA press release 504/04, 8 December 2004

2.2.2 Fuel Delivery

The majority of the fuel will be sourced from outside the UK under a long-term supply agreement, delivered to the plant via ship, and offloaded at the existing deep water jetty (adjacent and transferred to the Fuel Store and Feedstock Preparation Area) via a conveyor belt system.

Modifications to the deep water jetty will be the responsibility of the Port operator, Associated British Ports (ABP), and will be subject to separate consent application(s) to be prepared by ABP. As such, modifications to the deep water jetty are outwith the scope of the Section 36 Consent application the Environmental Impact Assessment.

The Renewable Energy Plant will also be capable of accepting by road or sea, locally sourced virgin woodchip, sawdust, sawmill co-product and farmed energy crops when available.

2.2.3 Fuel Storage

The long term Fuel Store and Feedstock Preparation Area will be around 60,000m^2 in footprint and will have a compacted hardcore base incorporating a drainage system feeding to sumps. It is proposed that the Fuel Storage Area will be uncovered and have a perimeter fencing.

Approximately 200,000 tonnes of fuel will be stored within the Fuel Storage Area at any one time, providing sufficient fuel for a month of operation of the Renewable Energy Plant.

Fuel will be transferred from the Fuel Storage Area to the Renewable Power Plant area via a conveyor belt system.

2.2.4 Power Generation

The combustion technology proposed is a circulating fluidised bed (CFB) boiler, which is used in similar plants currently in operation within Europe and considered to be the most effective technology in this instance given the fuel specification and plant size. Within their PPC Sector Guidance for Combustion Activities[11], the Environment Agency recognise that CFB boilers have a higher net thermal efficiency than other fluidised bed technologies and conventional combustion plant for electricity generation. Emissions of oxides of nitrogen and sulphur oxides are also inherently lower than with conventional fuel systems.

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[11] PPC Sector Guidance Note: Combustion Activities, Version V2.03 27.07.05, Environment Agency, 2005

Two parallel lines of equipment will be utilised within the Renewable Power Plant, each generating around 150MW of renewable electricity at a net efficiency of around 36%. Each equipment line will be capable of independent operation thereby ensuring maximum operational flexibility of the Renewable Energy Plant.

The CFB bed within which the fuel is combusted, is typically made-up of sand, is fluidised by the injection of combustion air upwards from the base of the bed. The velocity of the injected air is high enough to carry the bed solids along with it, filling the entire combustion chamber. The hot combustion gases carry the solid matter held within the combustion chamber to the top of the combustion system and into heavy duty cyclones where they are separated from the hot combustion gas and recirculated back to the bottom of the main combustion chamber. The hot combustion gas is subsequently passed to a steam turbine and electrical generator for the generation of around 150MW per CFB boiler line.

Combustion temperatures and long residence time are optimised to ensure the burnout of the fuel is very high, resulting in a high efficiency combustion and emission control process, whilst minimising emissions of nitrogen oxides.

Cooling of the plant will be carried out either by a dry air cooled condenser or by a direct water cooling system. A dry air cooled condenser system draws air in by fans under the condenser elements, and pushes this cooler air through the condenser, cooling down the steam within the condenser elements. A direct water cooling water system will abstract cooling water directly from either Swansea Bay or an existing water body within the Port Talbot Docks area. Although the final design choice has yet to be made on the cooling system, Prenergy believe that the dry air cooled condenser system is the more feasible at this stage.

The flue gases will discharge to atmosphere via one of two stacks currently predicted to be between 70 to 90m in height.

2.2.5 Electricity Export

It is expected that electricity will be exported from the Renewable Power Plant via a 275kV overhead electrical connection to the existing 275 kV electrical substation at Margam, located approximately 2km from the Renewable Power Plant.

The electrical connection will be the responsibility of National Grid Transco and is outwith the scope of the Section 36 Consent application the Environmental Impact Assessment.

2.2.6 Development Programme

Prenergy expect to submit a Section 36 Consent application in the third quarter of 2006. Subject to obtaining the necessary consents, on-site construction of the new plant is expected to commence in the second quarter of 2007 and is predicted to last around 24 months.

2.3 Description of Development Site

The development site is located in a low lying area within the Port Talbot Docks where topographical levels vary between 2m and 8m AOD. Generally, the ground level rises gently towards from west to east heading inland.

The development site is currently derelict, bounded to the west and south by a sea wall defence, and runs the between the length of the Port Talbot Harbour breakwaters.

No public roads run through the development site, although port authority roads run adjacent to the northern and western boundary of the Renewable Energy Plant area and to the north-eastern boundary of the Fuel Store and Feedstock Preparation Area. A number of tracks exist within the Renewable Energy Plant boundary, currently used by vehicles involved in the extraction of sand deposits from the area.

The development site mainly comprises natural and created grassland in the northern and western areas, with some short vegetation interspersed with predominantly wind-sculpted willow shrub in the southern area. The remainder of the area is bare ground, currently used for sand/gravel extraction, as a store or as part of the working area around the conveyor system. There is one pond complex within the western area of the proposed site.

The site is underlain by drift deposits comprising Blown Sand from the present day estimated to be approximately 20m in thickness, and is underlain by Marine or Estuarine Deposits which comprise silts, sands and gravels. Solid geology at the site comprises Carboniferous Middle Coal Measures which include productive seams of coal, sandstones, mudstones and siltstones.

It is anticipated that soil water levels within these soils will be partially controlled by drainage channels although soil water levels are anticipated to be quite shallow.

A geo-environmental site investigation is currently being undertaken to fully understand the sub-surface nature of the development site, the findings of which will influence the construction methodology and mitigation measures to be adopted.

Sand is currently extracted from the central western area of the site at approximately 4m AOD (2m lower than the surrounding land) and replaced with pulverised fuel ash (or slag) from the adjacent steel works.

2.4 Description of Development Site Surroundings

The area surrounding the Renewable Energy Plant consists of an extensive (albeit sparsely populated), upland plateau dissected by populated valleys running to the developed coastal plain and the sweep of Swansea Bay. The population of the Neath Port Talbot are is currently around 135,000 residents.

The surrounding area is the most heavily developed and populated part of the County Borough containing the settlements of Port Talbot, Baglan and Margam. The predominantly two storey residential areas are dominated by adjacent heavy industry located along the coast. Within the wider area, a number of schools, hospitals and places of worship are located, in addition to the Aquadome leisure centre.

To the north, the Baglan Chemical Works are being transformed into a major commercial site and the busy M4 motorway runs the length of the coastal plain in a north westerly / south easterly direction.

To the east of the site, the land rises up to the upland plateaus of Mynydd Margam and Moel Ton-mawr. This is a strong landform, forming the edge of the coalfield plateau, and cut through by steep sided valleys. It is covered with woodland, pasture and rough grassland, heather and scrub and has some rock exposures through small scale quarrying in the past.

To the west of the development site, extensive views are gained seaward across Swansea Bay towards Mumbles Head and the Bristol Channel. To the east, the railway, M4 and A48 give access along the coast between Bridgend and Swansea, situated below the rising hills further to the east.

Locally, the skyline is dominated by the large scale heavy industry of the Corus Port Talbot Steel Works. The docks are largely out of view from the surrounding area.

There are two Special Areas of Conservation (SAC) within 10km of the site boundary (i.e. Cors Crymlyn/Crymlyn Bog and Cynffig/Kenfig). There are no other European designated ecological sites within 10km. There are also nine Sites of Special Scientific Interest (SSSI), two National Nature Reserves (NNR) and three Local Nature Reserves (LNR) within 10km of the site boundary. The statutory designated sites are listed in Table 3.4 below and shown within Figure 4.

3. Environmental Impact Assessment Methodology

3.1 Introduction

Environmental Impact Assessment refers to the whole process by which environmental information on the construction, operation and decommissioning of a development is collected, publicised and taken into account in reaching a decision on a relevant consent application.

The objectives of the Environmental Impact Assessment of the proposed Renewable Energy Plant will be to:

- Identify environmental constraints and opportunities within the study area, taking account of the characteristics of the development and the local environment;
- Identify potential impacts and interpret the nature of these impacts;
- Describe the mitigation measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment; and to
- Determine the significance of any residual environmental effects following mitigation measures.

The Environmental Impact Assessment will consider the various stages of the proposed development including:

- Construction impacts: typically these effects are short term in nature but could be significant in magnitude;
- Operational impacts: typically these effects last for the life of the project and include physical emissions to air, water and land, and impacts on the surrounding environment such as landscape, visual, noise, ecological and socio-economic impacts; and
- Decommissioning impacts: likely to be some 25 years in the future, these are typically short term impacts associated with the removal of plant and infrastructure, although overall, the longer term impacts of decommissioning are considered to be very small.

To evaluate environmental impacts and determine their effects and significance, it is important that appropriate impact assessment criteria are identified. Wherever possible, accepted environmental standards and guidelines will be followed (e.g. Guidelines for Landscape and Visual Assessment produced by the Landscape Institute and the Institute of Environmental Management and

Assessment). The methodologies proposed within each impact assessment area are identified within Sections 3.2.1 to 3.2.9 below.

Each impact assessment section within the Environmental Statement will typically include the following information:

- **Environmental baseline:** a discussion of the existing conditions, services, and physical environment of the site and its surroundings where appropriate;
- **Thresholds used to determine significance of impacts:** the amount or type of impact, which constitutes a substantial or potentially substantial adverse change in the environment. Some thresholds are quantitative (e.g. noise), while others are qualitative (e.g. visual effects). Thresholds are used to provide the basis behind the conclusions reached regarding the significance of a particular impact. Impacts can have both direct and indirect effects, be cumulative, short term, medium term or long term, permanent or temporary and have positive or negative effects;
- **Predicted effects:** an evaluation of the proposed project's impacts in quantitative and qualitative terms. In general, the effect of an impact is assessed by a combination of sensitivity of the environment to change and the predicted degree of alteration from the baseline state. Effects can be positive or negative;
- **Significance of effects:** significance is evaluated in terms of the magnitude, geographic effect, duration and frequency, irreversibility and any regulatory standards which may apply. For effects where an assessment of significance cannot be determined (e.g. for reasons of uncertainty), this issue will be highlighted and an explanation given as to why significance could not be determined;
- **Mitigation measures:** a description of the measures proposed to minimise, reduce, offset, enhance or avoid potential significant adverse effects; and
- **Residual impacts:** determination of the proposal's remaining significance of effect after all the required and recommended mitigation measures are implemented.

To assist consultees in preparing their scoping response, Sections 4.6 to 4.14 below, outline the baseline sensitivity, the assessment methodology and the likely mitigation for each of the key Environmental Impact Assessment chapters.

Consultees are invited to comment on the baseline sensitivity, methodologies and likely mitigation within their scoping response.

3.2 Key Areas for Assessment

Applying SKM's experience in the consenting of renewable and conventional power plant and considering the surrounding environment of the Renewable Energy Plant, the following topic areas are considered to represent the key areas for assessment within the Environmental Impact Assessment:

Table 3.1: Key areas for Environmental Impact Assessment

Key areas for assessment	Scoping Report Section
Air quality	Section 3.2.1
Noise	Section 3.2.2
Landscape and visual	Section 3.2.3
Terrestrial ecology	Section 3.2.4
Surface and groundwater	Section 3.2.5
Land	Section 3.2.6
Socio-economic	Section 3.2.7
Cultural heritage	Section 3.2.8
Transport	Section 3.2.9

3.2.1 Air Quality

Overview

The air quality impact assessment is a key assessment area within the Environmental Impact Assessment, and will comprise the identification of baseline air quality levels, dispersion modelling of operational emissions, optimisation of stack height and the assessment of impact on air quality.

Baseline Description and Sensitivity

Air quality within the development area is influenced predominantly by vehicle emissions from the M4 motorway and A48 and the operations of industrial processes within the Port Talbot docks area, including the Corus Port Talbot Steel Works.

The Council's second round Review and Assessment of Air Quality[12] considers the need for an Air Quality Management Area within the Council's administrative area, and concludes that whilst there is no need to declare an Air Quality Management Area for nitrogen dioxide, there remains a sufficient exceedance of the Particulate Matter (PM_{10}) air quality limit to warrant continuation of an Air Quality Management Area within the Taibach and Margam area (known as the Taibach Margam Air Quality Management Area).

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12 Review and Assessment of Air Quality Round 2: Detailed Assessment of Nitrogen Dioxide and PM_{10}, Neath Port Talbot County Borough Council, November 2004

Although the Renewable Energy Plant development area is around 1.5km from the Air Quality Management Area, it falls within an Action Plan Area which details actions to be taken in pursuit of the achievement of the Air Quality Objective for PM_{10}. Action Plan A3, suggests that new developments which contribute less than 0.2% of the PM_{10} air quality standard are likely to be insignificant, and contributions of more than 2% are likely to be significant.

The air quality assessment will establish the predicted contribution of PM_{10} and other emissions, which are generally at a low level given the efficiency of the CFB combustion process and the flue gas treatment technologies available.

Assessment Methodology

The air quality assessment will follow the Environment Agency document "Air dispersion modelling report requirements for detailed air dispersion modelling"[13] and will comprise a review of ambient air quality and a detailed atmospheric dispersion modelling study.

The review of existing air quality in the area will be undertaken to understand the baseline conditions, including the location and nature of existing sources of emissions in the locality of the proposed development site and the location of sensitive receptors. These existing conditions will be determined by site reconnaissance and data review. Data sources will include the local authority's air quality monitoring data and Air Quality Review and Assessment studies. No site specific air quality monitoring is proposed as part of the assessment.

The atmospheric dispersion modelling study of operational emissions will be undertaken using the United Kingdom Atmospheric Dispersion Modelling System, Version 3.3 (ADMS) to optimise the stack height and determine the predicted process contribution of substances released from the Plant.

ADMS is a computer based model of dispersion in the atmosphere of passive, buoyant, or slightly dense, continuous or finite duration releases from single or multiple sources (including point, area or line sources). ADMS is regarded as being a 'new generation' dispersion model, using an up-to-date parameter definition of the boundary layer structure based on the Monin-Obukhov length and the boundary layer height. The model incorporates a number of complex modules, allowing for the effects of plume rise, complex terrain, buildings and coastlines to be incorporated within the modelling study, and is widely used by industry and regulatory authorities including the United Kingdom Environment Agency.

Further justification of the choice of the ADMS dispersion model will be presented within the impact assessment.

In line with the Environment Agency guidance, it is proposed to utilise five year's (2001-2005) of sequential meteorological data from Mumbles Head meteorological monitoring station for the modelling study. This meteorological monitoring station is considered to be representative of the Port Talbot area and is located in a coastal area on the opposite side of the Swansea Bay, around 14km to the west of the development site.

Given the rising land to the east and the coastal nature of the site, it is proposed to incorporate terrain and coastal influences within the modelling study, in addition to the structural influences of the buildings within the proposed development. The extent and density of the receptor grid will be optimised and agreed with the local authority.

The dispersion modelling study will be used to determine the most appropriate stack height for the Renewable Energy Plant stacks for a variety of defined operational scenarios (i.e. full load operation and typical part-load operation) based on the resultant maximum short term and long term ground level air quality predicted during these operational scenarios.

Direct comparison will be made with the long-term and short-term process contribution from the Renewable Energy Plant and predicted environmental concentration (i.e. process contribution plus background levels) with the limits and objectives within the relevant Air Quality Regulations.

The potential for fugitive emissions will also be assessed, as will dust emissions during the construction and decommissioning phases.

The abatement of emissions to air will be discussed in relation to the severity of impact, frequency of emission and comparison with relevant standards.

Potential Mitigation Measures

The following mitigation measures will be adopted where practicable during the construction, operational and decommissioning phases of the development:

- Construction and decommissioning:
  - Plant and equipment will be designed and used in a manner which minimises dust generation;
  - Water spray dampening of soils and spoil will be undertaken to prevent dust blow during hot, dry weather conditions;

[13] Air dispersion modelling report requirements (for detailed air dispersion modelling), Environment Agency, Undated

- Careful location, grading and management of stockpiles of soil and similar materials to prevent windblow;
- Sealing and / or re-vegetation of completed earthworks will be undertaken as soon as reasonably practicable;
- Preparation of surfaced site roads early in the construction programme – on un-surfaced areas of the site, vehicle speeds will be limited to less than 20 mph;
- Sheeting of lorries during transportation of friable construction materials and spoil;
- Minimising drop heights for material transfer activities, such as unloading of friable materials;
- Cleaning of surfaced roads and maintenance of un-surfaced roads to reduce offsite transport of soils and to avoid dust generation; and
- Wheel washing facilities for vehicles entering the public road system.

- Operation:
  - The use of advanced combustion technology to minimise the generation of emissions; and
  - Appropriately designed stacks to ensure adequate dispersion of emissions to atmosphere.

3.2.2 Noise

Overview

The environmental noise impact of the proposed Renewable Energy Plant on nearby residential and commercial premises will be considered during the construction, operational and decommissioning phases of the development and, where appropriate, mitigation measures will be introduced in order to ensure that environmental noise levels remain acceptable.

Baseline Description and Sensitivity

The existing acoustic environment of the site and its surrounding area is dominated by the industrial activities within the Port Talbot docks area. In particular, the Corus Port Talbot Steel Works and the M4 motorway are believed to be significant contributors.

The closest noise sensitive residences to the proposed development are located around 350m to the north of the development site at Darwin Road and Mariners Point. These properties are likely to receive noise from industrial activities within the Port Talbot docks.

Assessment Methodology

The impact of construction and decommissioning noise will be assessed based on a knowledge of the likely equipment to be used during the construction and decommissioning periods, and guidance on equipment noise levels provided by BS 5228 :1997 Noise and vibration control on

construction and open sites[14]. This will allow working practices to be adapted and/or mitigating measures to be introduced in advance in order to ensure that environmental noise levels remain acceptable throughout the construction and decommissioning periods.

The impact of operational noise will be assessed based on existing background noise levels, the preliminary design of the plant and a knowledge of typical noise levels generated by the proposed equipment.

It will be important to establish background noise levels at the nearest noise sensitive locations during time periods when disturbance would be most likely to occur. For any commercial premises, this would normally be during working hours in order to ensure that noise from the proposed plant did not cause disturbance to the workforce. For residential premises, this would normally be during the late evening and night-time, when people are preparing to sleep and background noise levels have reduced.

Up to four background noise monitoring locations are proposed, and these will be used both for measuring existing background noise levels and also for assessing the impact of construction, operational and decommissioning noise from the proposed development.

The location of these noise monitoring positions will be discussed and agreed with the local authority in advance in order to ensure that the most sensitive locations are identified for the assessment.

When existing noise levels have been established, they will be used to assess the environmental noise impact of the proposed development by comparing them with predicted noise levels generated by the new plant, in line with the requirements of BS 4142:1997 Method for rating industrial noise affecting mixed residential and industrial areas[15].

The predicted noise levels generated by the new plant will be established by creating and running a computer based environmental noise model of the proposed plant, using procedures detailed in ISO 9613:1993 Acoustics – Attenuation of sound during propagation outdoors[16].

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14 BS 5228 :1997 Noise and vibration control on construction and open sites, British Standards Institute, 1997

15 BS 4142:1997 Method for rating industrial noise affecting mixed residential and industrial areas, British Standards Institute, 1997

16 ISO 9613:1993 Acoustics – Attenuation of sound during propagation outdoors British Standards Institute, 1993

Potential Mitigation Measures

Construction and decommissioning noise will be controlled by employing reliable good practice policies and limiting operations to acceptable working hours, typically 0700-1900 (Monday-Friday) and 0800-1700 (Saturday).

Additionally, the timing of any piling activity may be limited where appropriate, and low noise methods such as auger piling may be used dependant on the established sensitivity of the development site and its surrounding area.

Operational noise will be controlled by careful acoustic specification and design of the plant. Typical design considerations include the incorporation of noise enclosures, acoustic insulation, silencers and high performance building materials into the scheme, as required.

3.2.3 Landscape and Visual

Overview

A landscape and visual impact assessment of the proposed Renewable Energy Plant will be carried out and presented within the Environmental Statement.

The landscape and visual impact assessment will consider the change to the prevailing visual amenity and landscape character of the site and surrounding area as a result of the proposed development.

A Zone of Theoretical Visibility (ZTV) illustrating the maximum potential visibility of the two new chimney stacks is presented within Figure 5, and identifies the likely areas within which the landscape and visual receptors are located.

Baseline Description and Sensitivity

The development site lies within the Neath Port Talbot Landmap Landscape Assessment area. Within the landscape character assessment[17], the development site lies across the Port Talbot Docks and Margam Works and Margam Sands/Aberavon Sands landscape character areas (character areas 50 and 52 respectively).

The landscape of Neath Port Talbot consists of an extensive, sparsely populated, upland plateau dissected by populated valleys running to a developed coastal plain and the sweep of Swansea Bay.

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17 Neath Port Talbot Landmap Landscape Assessment, Neath Port Talbot County Borough Council / Countryside Council for Wales, 2004

The site is situated on the coastal plain, which stretches from Margam Burrows in the south to the border with Swansea along Swansea Bay. The dominance of the sea (large, open and exposed) has a strong impact on the area's character. The sweep of the bay with large sandy beaches and views to Mumbles Head and England forms a dramatic edge to the County Borough. The dune complexes bordering the beach are important natural features which would have dominated the coastline in the past but have now been replaced with development over much of their length and are now under pressure for recreation.

The surrounding area is the most heavily developed and settled part of the County Borough containing the settlements of Port Talbot, Baglan and Margam. The predominantly two storey residential built form is dominated by adjacent heavy industry related to the coast. To the north, the Baglan Chemical Works are being transformed into a major commercial site. The busy M4 motorway is a strong linear element sitting just below the adjacent scarp slope and running the length of the coastal plain.

To the east of the flat urbanised coastal plain, the backcloth of the scarp slope rises up to the upland plateau. This is a strong landform, forming the edge of the coalfield plateau, and cut through by steep sided valleys. It is covered with woodland, pasture and rough grassland, heather and scrub and has some rock exposures through small scale quarrying in the past. This scarp slope is a major visual barrier to views of the coastal plain from the upland plateaux to the east.

The development area is situated on the coastal plain and is entirely industrial within a port area, situated on the coastal margin of the Margam Moors. The area lies between 10m and 20m above ordnance datum (AOD). To the west, extensive views are gained seaward across Swansea Bay towards Mumbles Head and the Bristol Channel. To the east the railway, M4 and A48 give access along the coast between Bridgend and Swansea, situated below the scarp slope and rising hills of Margam Forest and Afan Forest Park.

Locally, the skyline is dominated by the large scale heavy industry of the Corus Port Talbot Steel Works. The docks are largely out of view, although proposals for residential development across the docks will open up this area. The key characteristics of this area are:

- Industrial area sited on a coastal plain;
- Dominance of adjacent steelworks;
- Development of smaller commercial units; and
- Docks constituting a large expanse of water.

The proposed development is likely to be visible from much of the coastal plain and scarp slope, and to residents in Port Talbot, Cwmafan, Baglan, Pyle, Briton Ferry, Neath and Swansea. Views can be gained from the M4 and A48, as well as from footpaths on the western faces of Mynydd Margam, Mynydd Emroch and Mynydd Dinas, and the more distant Foel Fynyddau, Moel Gallt y Cwm and Mynydd Pen-rhys. It is also likely that views will be gained across Swansea Bay from Mumbles Head.

A number of landscape character areas lie within the theoretical ZVT and include:

- Margam Marsh;
- Margam Burrows;
- Margam Country Park;
- Coedhirwaun;
- Mynydd Bromil, Mynydd Emroch & Mynydd Dinas;
- Baglan Bay Works;
- Neath Estuary Mouth;
- Port Talbot Sandfields and Margam;
- Neath;
- Neath Estuary;
- Former Landarcy Refinery;
- Jersey Marine;
- Earlswood;
- Crymlyn Bog;
- Cae'r Hendy;
- Elba Crescent; and
- Cwmafan.

Views of the proposed site are also likely to be gained from the Margam Mountains Historic Landscape Character Area (51) and also from the Gower Peninsula Area of Outstanding Natural Beauty.

Assessment Methodology

The assessment methodology will follow guidelines and principles described in the following documents:

- Guidelines for Landscape and Visual Assessment (second edition)[18];
- Landscape Character Assessment[19];
- Seascape Character Project: Swansea Bay[20]; and
- Guide to using the Register of Landscapes of Historic Interest In Wales in the Planning and Development Process[21].

Both landscape and visual assessments are iterative processes which involve the refinement of design proposals to ensure an environmentally appropriate and acceptable solution is achieved. The process can broadly be divided into baseline assessment, assessment of effects and mitigation.

A comprehensive visual assessment will be undertaken to determine the likely extent of visual change that the proposed development would cause to the surrounding landscape. A visual envelope has been determined using a computer-generated viewshed analysis. Receptors within the envelope which could be affected by the development will be identified, and assessed through field survey in terms of their sensitivity, magnitude of change and level of significant impact on their visual amenity.

Up to 12 viewpoints will be agreed with Neath Port Talbot Planning Officers as representative of views towards the site, one of which will be from the proposed residential development at Port Talbot docks. Photomontages will be generated from a number of specific viewpoints to illustrate the likely scale and massing of the proposed development in its local setting.

Research will be undertaken to understand the local landscape character, followed by field survey to verify landscape characteristics and produce more detailed assessment of the qualities and sensitivity of the proposed development site.

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18 Guidelines for Landscape and Visual Assessment (second edition), The Landscape Institute and the Institute of Environmental Management and Assessment, 2002

19 Landscape Character Assessment, Countryside Agency and Scottish Natural Heritage, 2002

20 Seascape Character Project: Swansea Bay, Countryside Council for Wales,/White Associates, 2001

21 Guide to using the Register of Landscapes of Historic Interest in Wales in the Planning and Development Process, CADW/CCW/Welsh Assembly

The landscape impact assessment will consider the impacts on the existing landscape features within the site, together with impacts on the setting of designated landscapes and character areas across the area of visibility.

The sensitivity of the receptor is based on a combination of factors including receptor type, the frequency of use of the receptor, the speed at which the receptor is travelling or the amount of time that a view would be observed, and the landscape designation at the receptor. This is illustrated in Table 3.2.

- **Table 3.2: Sensitivity of Viewpoint Landscape and Receptors**

Sensitivity	High	Medium	Low
Receptor type	Residential properties	Public rights of way, scenic routes, recreational and community facilities	Industry, workplaces, roads other than scenic routes
Frequency of use and length of time viewed/speed of receptor	Hourly, static	Daily, walking	Weekly, driving
Landscape designation	National landscape designations (e.g. National Parks, Areas of Outstanding Natural Beauty)	Local landscape designations (e.g. Areas of Great Landscape Value, Country Parks)	No landscape designation
Intervening landscape in view/context of view	Pristine rural view, all in landscape designation	View mainly rural with skyline intact, some buildings, not all in designated landscape	Mainly development in view

The magnitude of visual impact tends to reduce with distance and change with angle of view. Magnitude of impact is divided into four categories: substantial, moderate, slight and negligible as explained below.

- **Substantial:** the new proposals make a dominant or immediately apparent contribution to the view/scene significantly changing the character;
- **Moderate:** the new proposals form a recognisable new element;
- **Slight:** the new proposals form only a small part of a wider view and awareness of the proposals does not have a marked effect on the overall scene; and
- **Negligible:** the new proposals have very little effect either because only a small part is discernible or because the distance means that they are hardly discernible.

A review of the sensitivity and magnitude of predicted effects will be undertaken. Effects to be considered will include the effects on the landscape character of the site context caused by the proposals; effects on the landscape character of the viewpoint caused by the proposals; and effects on the visual amenity of the viewpoint caused by the proposals. The effects may be beneficial or adverse.

Once effects have been identified, their significance will be evaluated. Significance thresholds are determined by different combinations of sensitivity of the receptor and magnitude of the visual impact as shown within Table 3.3 below.

- **Table 3.3: Significance of Effects**

		Magnitude of change			
		Substantial	**Moderate**	**Slight**	**Negligible**
Sensitivity of landscape/ viewpoint	**High**	Major	Major/Moderate	Moderate	Moderate/Minor
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
	Low	Moderate	Moderate/Minor	Minor	Minor

Potential Mitigation Measures

Measures to reduce the visual impact of the proposal from sensitive receptors (including the proposed new residential development at Port Talbot Docks) could include:

- Minimisation of proposed stacks (whilst ensuring adequate dispersion of emissions);
- Balancing of the scale and mass of the development with the local backcloth of existing development;
- Application of appropriate colour and finishes to reduce the visibility of the stacks and new buildings in key views; and
- Landscaping of areas of the site to reduce the visibility of new buildings and storage areas.

3.2.4 Terrestrial Ecology

Overview

This section describes the issues and impacts likely to affect species and habitats associated with the development site. It considers the likely importance of species and habitats based on legal, conservation, welfare and biodiversity grounds. The understanding of the likely ecological issues at work on the site is based on preliminary literature review and a site visit carried out in early April 2006.

Baseline Description and Sensitivity

The proposed site mainly comprises natural and created grassland in the northern and western areas (see Photograph 3.1 below), with some short vegetation interspersed with predominantly wind-sculpted willow shrub in the southern area (see Photograph 3.2). The remainder of the area is bare ground, currently used for sand/gravel extraction, as a store or as part of the working area around the conveyor system (see Photograph 3.3). There is one pond complex within the western area of the proposed site, which has the potential to hold great crested newts (GCN) (*Triturus cristatus*) (see Photograph 3.4). Whilst this pond area is not likely to encroach on the physical development footprint, it is likely to fall within 500m of the development footprint.

Photograph 3.1: Open grassland habitat

Photograph 3.2: Moss and scrub habitat

Photograph 3.3: Bare ground and dumps

Photograph 3.4: Pond habitat with GCN potential

There are two Special Areas of Conservation (SAC) within 10km of the site boundary (i.e. Cors Crymlyn/Crymlyn Bog and Cynffig/Kenfig). There are no other European designated ecological sites within 10km. There are also nine Sites of Special Scientific Interest (SSSI), two National

Nature Reserves (NNR) and three Local Nature Reserves (LNR) within 10km of the site boundary. The statutory designated sites are listed in Table 3.4 below and shown within Figure 4.

- **Table 3.4: Statutory Designated Sites within 10km of Development Site**

Site	Designation
Cors Crymlyn/Crymlyn Bog	SAC SSSI NNR
Cynffig/Kenfig	SAC SSSI NNR LNR
Crymlyn Burrows	SSSI
Earlswood Road Cutting and Ferry Boat Inn Quarries	SSSI
Eglwys Nunydd reservoir	SSSI
Margam Moors	SSSI
Pant-y-Sais	SSSI NNR LNR
Penycastell, Cefn Cribwr	SSSI
Waun Cimla	SSSI
Frog Pond Wood	LNR

Information was not obtained on non-statutory designated sites for this Scoping report, but these will be addressed in the Ecological Impact Assessment presented within the Environmental Statement.

Assessment Methodology

The proposed approach utilises standard methodologies designed to provide robust baseline data from which the impact on ecology can be fully assessed. The scope of the surveys proposed has been evaluated from a broad initial assessment of the site and the species that are likely to be present, based on a site visit carried out in April 2006. The CCW, Glamorgan Wildlife Trust, the Royal Society for the Protection of Birds, and the local Council Biodiversity Officer will all be consulted regarding the proposals.

Initial Desk Study

The first phase of the ecological assessment will be to carry out a desk study to review the available information on the site and facilitate more informed planning of the ecological assessment process.

The desk study will investigate the occurrence of statutory wildlife sites (i.e. the SSSIs and SACs) in the area up to 10km from the proposed development site. A more detailed review will study an area of interest of up to 2km radius (following Institute of Environmental Assessment guidance), and will include a review of the non-statutory nature conservation designations and protected species.

All available information will be sought from relevant sources, including CCW, Glamorgan Wildlife Trust, the Royal Society for the Protection of Birds, the local Council Biodiversity Officer, the local Biological Records Centre and the local Badger and Bat Groups. Any additional sources of information identified during this desk study will also be considered.

Habitat Surveys

An extended Phase 1 survey of the extension site (based on the standard methodology of the Nature Conservancy Council[22]) will be carried out to map the habitats to Phase 1 standard, recording any notable areas of semi-natural vegetation. It is known from discussions with local workers on-site that some areas have been reseeded with biodiversity grass mixes, as part of restoration following sand and gravel extraction. These areas will have details recorded of species composition and estimates of abundance of each species using the DAFOR[23] scale.

In addition to the habitat and species mapping, any signs of protected species will be recorded, and the suitability of the habitat for those species noted. This will include:

- A broad assessment of any water bodies to determine their suitability for GCN; and
- The broad assessment of the site to determine its suitability for badgers and reptiles.

Baseline surveys carried out in support of the Environmental Impact Assessment will generally follow the nationally recognised Guidelines for Baseline Ecological Assessment[24], or more recent species-specific standard methodologies, such as those described in Gilbert *et al*[25] and Hill *et al*[26].

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22 Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit, Nature Conservancy Council, 1990

23 The DAFOR scale is: Dominant / Abundant / Frequent / Occasional / Rare and is a standard defined scale for estimates of species abundance

24 Guidelines for Baseline Ecological Assessment, Institute of Environmental Assessment, 1995

25 Bird Monitoring Methods, Gilbert et al, RSPB, 1998

26 Handbook of Biodiversity Methods: Survey Evaluation and Monitoring, Hill et al, Cambridge University Press, 2005

In addition to the terrestrial ecology, the intertidal and marine habitats will be described in the vicinity of proposed water intake pipes (should direct sea water cooling be adopted).

Species Surveys

Information from the initial walkover survey, the desk study and the extended Phase 1 survey will be used to determine the requirement for further more detailed protected species surveys, if required, to ensure that all relevant baseline information is included in the Environmental Statement.

From the preliminary visit, several species issues were considered to be important at the site. They are described in more detail below, with a proposal for any survey requirements.

- A **great crested newt** presence/absence survey will be carried out in the pond complex identified during the site evaluation visit. This will be done in accordance with the standard guidance from English Nature and the scope and specific methodology will be agreed with CCW;
- The area does not appear to be particularly suitable for foraging or roosting **bats**, as it is devoid of tall trees and natural linear features, and is well lit at night, because of the surrounding activity. As there are no mature trees or buildings that are expected to be removed as part of the proposed works, impacts upon roosts are not expected and bat surveys are not recommended at this site. SKM therefore intend to assume that there may be some limited potential for foraging bats on the site, if they are able to roost in the nearby steelworks or other industrial buildings in the area. We would therefore intend to assess the impact and any mitigation on this basis and Consultees' views on this approach would be welcomed;
- Depending on the findings of the desk study and extended Phase I habitat survey, it may be necessary to carry out detailed surveys for **badgers**, although from the initial visit, this was not identified as a likely issue at this site;
- **Reptiles** may use the site, which is predominantly sandy with deposited rubble piles and relatively undisturbed. Reptile surveys will therefore be carried out in summer, using current best practice survey methods; and
- The initial site visit noted the presence of several **birds**, particularly skylarks and lapwings, displaying territorial behaviour that was taken as an indication of likely breeding on site. Based on this information, it is proposed to carry out breeding bird surveys, using a modified Common Birds Census technique over four visits, to establish the number and locations of breeding bird territories.

Impact Assessment

The information collected and evaluated during the determination of the baseline ecological status of the study area will be used as the basis for identifying and predicting potential ecological impacts associated with the proposed development. The methodology used to assess the impacts will be that detailed in the current draft *Guidelines for Ecological Impact Assessment in the United Kingdom*[27].

The principal impact on terrestrial ecology would be that associated with landtake, however, the full range of impacts will be appraised, including direct, indirect, secondary and cumulative impacts, both temporary and long term and adverse and beneficial. The level of significance of any identified impacts will be addressed, across all phases of the project lifecycle.

Changes in air quality, including deposition of nitrogen, due to the atmospheric emissions from the proposed Renewable Energy Plant will be assessed for each of the statutory designated nature conservation sites within 10km of the site.

Potential Mitigation Measures

Once the potential environmental impacts have been evaluated, measures to prevent identified significant adverse impacts or reduce them to acceptable levels will be developed, where appropriate. Proposed mitigation is likely to include, among others:

- Works programming to prevent disturbance to breeding birds;
- Application to Department of Food and Rural Affairs (DEFRA) for a licence to create alternative pond accommodation, hibernacula and translocate great crested newts, if required;
- The development of a landscaping plan identifying areas for habitat enhancement, relevant to local and regional biodiversity priorities, if required; and
- The planting of native scrub species and development of species-rich grassland areas and reptile basking areas, if required.

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27 [Draft] Guidelines for Ecological Impact Assessment in the United Kingdom, Institute of Ecology and Environmental Management, 2006

3.2.5 Surface and Ground Water

Overview

The effects of the Renewable Energy Plant on the hydrological and hydrogeological environment at the site will be evaluated to ascertain the likelihood of the development causing impacts to the surface water and groundwater environment as follows:

- Potential impacts of the development on land drainage and flooding;
- Potential impacts associated with the pollution of surface watercourses during construction, operation and decommissioning; and
- Potential impacts of the development on the underlying groundwater system, both in terms of groundwater quality, and possible alterations to the groundwater flow system.

Baseline Description and Sensitivity

The site is located in a low lying area where topographical levels vary between 2m and 8m AOD. The southern boundary of the site is bounded by Swansea Bay, with the Eastern boundary of the site formed by the docks associated with the loading and unloading of freight.

There are no surface watercourses running through the site, though there are a number of surface features within the site such as ponds and wetland areas. The assessment will consider the potential effects on these features, which could include the impacts of sediment runoff during construction, other discharges during the operation of the proposed development and the effects of these on surface water dependant ecosystems.

Consultation has been undertaken with the Environment Agency though there has been no feedback at this stage relating to flooding or the need for a flood risk assessment. Reference to the Environment Agency website[28] indicates that part of the site is located within the extreme flood extent (1 in 1,000 chance). Any flooding on the site is likely to be associated with tidal flooding. Further details on flood risk will be collected from the Environment Agency.

It is not expected that the groundwater in the vicinity of the site will be used for domestic water supply, although this is to be confirmed.

It will be important during the assessment to consider the management of shallow groundwater during the construction process, and to whether there will be any detrimental effects to groundwater quality either during or following construction.

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28 www.environment-agency.gov.uk

Assessment Methodology

There are no defined criteria for assessing the impacts of developments on the water environment, therefore the assessment will be based on the guidance for undertaking impact assessments given in the Institute of Environmental Management and Assessment (IEMA) *Guidelines for Environmental Impact Assessment*[29].

SKM has developed a methodology based on this guidance for assessing impacts on the water and soils environment. This is based on defining the baseline sensitivity of the water and soils environment and defining criteria for impact magnitude relating to a range of water and soil processes.

The assessment will be based on site visits, a desk-based data collection exercise and consultation with the Environment Agency. Data will be collected from a wide range of sources including the following as appropriate:

- Topographical survey mapping;
- British Geological Survey (BGS); and
- The Environment Agency.

Private water supplies and other water uses which rely on flows from the site are not envisaged to be present at this site, however their presence will be confirmed.

To complement the assessment a Flood Risk Assessment may be required to assess the likelihood of flooding at the site and if required, will be produced in accordance with TAN15: Development and Flood Risk[30]. The assessment will consider the existing flood levels available from the Environment Agency and predict likely changes due to climate change. This will provide the basis for considering flood proofing measures on the site.

Potential Mitigation Measures

The design of the mitigation measures will be based on relevant guidance provided by the Environment Agency and others, such as the Construction Industry Research and Information Association (CIRIA). It is expected that many mitigation measures will be implemented through the appropriate design of the development and layout modifications following consultations with the Environment Agency and other key stakeholders.

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29 Guidelines for Environmental Impact Assessment Institute of Environmental Management and Assessment, 2004

30 TAN15: Development and Flood Risk, 1998

The following mitigation measures are expected to be included for the protection of surface water and groundwater quality:

- Adoption of best practice pollution prevention control measures, including stand-off from ditches, cut-off drains or small bunds around potentially polluting activities, designated areas for fuel storage and refuelling, and Environmental Management Method Statements for contractors working on-site;
- Appropriate design of foundation installations taking into account the possibility of encountering shallow groundwater. This will be based on Environment Agency guidance for piling and foundations; and
- There may be a need for mitigation measures relating to combating the risks associated with flooding. Such measures will focus mainly on the need for flood protection, health and safety aspects of flood risk and the incorporation of flood resilience measures.

3.2.6 Land

Overview

The potential land impacts assessment of the proposed Renewable Energy Plant will ascertain the likelihood of the development causing impacts soils and geology. Potential impacts are anticipated to be minimal however it is important to establish the likelihood of impact from the proposed development.

Baseline Description and Sensitivity

The development site is located in a low lying area where topographical levels vary between 2m and 8m AOD. Generally, the ground level rises gently towards from west to east heading inland. Topographic highs on site are generally associated with areas where man made deposits have been placed.

The site is underlain by drift deposits comprising Blown Sand from the present day. Wind Blown Sand is generally fine (<0.06mm) and is commonly associated with costal regions. It is anticipated that soil water levels within these soils will be partially controlled by drainage channels although soil water levels are anticipated to be quite shallow.

Sand is currently extracted from the central western area of the site at approximately 4m AOD (2m lower than the surrounding land) and replaced with pulverised fuel ash (or slag) from the adjacent steel works. It is understood that approximately 10m of sand has been extracted across the north-western area of the site under licence granted by the local authority.

The Blown Sand, estimated to be approximately 20m in thickness, is underlain by Marine or Estuarine Deposits which comprise silts, sands and gravels.

Solid geology at the site comprises Carboniferous Middle Coal Measures which include productive seams of coal, sandstones, mudstones and siltstones. There are no listed sites of geological interest listed within the site boundary.

Assessment Methodology

The assessment will be based on site visits, a desk based data collection exercise, consultation and intrusive investigation. Intrusive site investigation is a critical element to determine the sensitivity of the soils and geology. The intrusive investigation will provide physical evidence on ground conditions and the contaminative status of soil and geology.

Data will be collected from a wide range of sources including the following:

- Topographical survey;
- Aerial photographs;
- British Geological Survey (BGS) maps and borehole logs;
- Historical maps;
- Coal Authority report;
- Information from a third party environmental database;
- Surface water and groundwater information from the Environment Agency;
- Information from the local authority Environmental Health and Planning Departments; and
- Physical site investigation ,chemical analysis and gas monitoring.

Impact Assessment Criteria

There are no defined criteria for assessing the impacts of developments on the soils and geological environment. Therefore the assessment will be based on the guidance for undertaking impact assessments given in the Institute of Environmental Management and Assessment (IEMA) *Guidelines for Environmental Impact Assessment*.

SKM has developed a methodology based on this guidance for assessing impacts to the soil and geological environment. This is based on defining the baseline sensitivity of the soil and geological environment and defining criteria for impact magnitude relating to a range of soil and geological processes.

Potential Mitigation Measures

The design of the mitigation measures will be based on relevant guidance provided by the Environment Agency and others, such as CIRIA. It is expected that many mitigation measures will be implemented through the appropriate design of the development and layout modifications following consultations with the Environment Agency and other key stakeholders.

The following mitigation measures are expected to be included within the power plant design:

- Appropriate design of foundation installation taking in to account the management of soils and soil water;
- DEFRA guidance on the handling of soils for earthworks activities and formation of foundation excavations;
- Piling works to be undertaken with reference to the Environment Agency guidance and if necessary a piling risk assessment shall be undertaken;
- Stockpiles of soil to be kept away from watercourses and mitigation measures to be included to minimise surface water run off;
- Construction workers to be made aware of any risks and appropriate personal protective equipment and hygiene facilities to be provided; and
- Management of construction traffic to minimise creation of fugitive dust.

3.2.7 Socio-economic

Overview

The socio-economic study will focus primarily on the social and economic effects that are likely to take place as a result of the construction, operation and decommissioning of the proposed development.

The study area will extend to cover Port Talbot, the wider area of Neath and South Wales in general in order to assess the likely effects that may be caused within the local community.

Receptors of socio-economic effects include both individual people and communities as a whole that are both directly and indirectly affected by development in the local area. In addition, receptors also include individuals and communities who are not in the immediate local area but are nevertheless affected by the project as a result of the economic activity.

A key consideration within the socio-economic impact assessment will be employment generation, with around 350 – 400 construction workers employed on-site site during the peak construction period and around 250 staff being employed during operation of the Renewable Energy Plant.

Baseline Description and Sensitivity

The Port Talbot Docks were reopened by ABP in 2000 for commercial shipping after having been closed for 26 years. During the time of closure, the area was used for a variety of industrial and commercial uses and suffered from a lack of strategic development and poor access.

Large areas of land surrounding the docks have lain vacant for many years due to the closure of the docks and the gradual movement of the steel industry out of the area. The area was therefore identified as being economically deprived.

However, at present there are a number of catalysts for regeneration in the area including the construction of the Port Talbot Peripheral Distributor Road (PDR) which was completed in 2005 and provides direct access from the Docks to the M4 motorway. In addition the site lies within a designated European Union Objective One area which allows access to major funding from the European Union in support of economic regeneration initiatives as well as investors being eligible for the highest level of grant support for job creation projects from the UK Government.

The Port Talbot Docks is also considered to be of strategic importance to the UK as it is one of a limited number of deep-water ports around the UK, and the development of the Renewable Energy Project will contribute significantly to the long-term security of the deep water facility and docks.

Neath Port Talbot has a total population of 135,000 residents, of which 80,000 are of working age. The number of jobs within Neath Port Talbot is approximately 44,000 (excluding the self-employed) and there is a local workforce of around 53,000, although businesses are able to recruit labour from the wider travel to work area. The region has retained its prominence as an area of manufacturing, accounting for 29% of jobs compared to just over 13% for Great Britain as a whole.

The likely impacts as a result of the proposed development are expected to include:

- Employment creation;
- Improved long-term security of a strategically important deep water port;
- Potential influx of workers to the area;
- Strengthening of the local economy;
- A market for locally sourced timber and energy crops;
- Potential pollution issues that may affect health and safety of local populations; and
- Catalyst for further related (and unrelated) industrial activity within the Docks.

Assessment Methodology

The methodology of the socio-economic impact assessment will be based on the collection of a wide range of data and information from published material, plus consultation with the local authority and key stakeholders.

In order to predict the potential impacts of the Renewable Energy Plant, it is important to have a clear understanding of the current and past socio-economic conditions of the area. This can be used as a baseline against which predicted changes can be assessed for significance. In addition, social impacts of similar developments will be reviewed in order to provide an indication of the likely effect of the development.

Social criteria that will be used to assess the impact of the Renewable Energy Plant will be divided into four groups as listed below. This division into groups makes it possible to distinguish between project effects on different aspects of the socio-economic structure and how they interrelate.

- ***Population characteristics*** including population changes, relocation of populations, influx and/or outflow of temporary workers;
- ***Economic & community structures*** including historical experience with changes, economic characteristics, new employment opportunities, industrial diversity;
- ***Individual differences*** including perceptions of risk, health and safety, attitudes towards the project; and
- ***Community resources*** including land use patterns, effects on cultural, historical and archaeological resources.

Impacts will be assessed, based on the above criteria, during the construction, operation and decommissioning phases of the Renewable Energy Plant.

Potential Mitigation Measures

Mitigation measures available will aim to minimise and, where possible avoid, adverse impacts caused by the proposed development. Positive impacts will also be maximised where such opportunities exist.

As with impact identification, mitigation measures will be split into those relating to construction, operation and decommissioning impacts, depending on the nature of the impacts identified. However, at this stage it is anticipated that the following mitigation measures will be appropriate:

- Construction and decommissioning mitigation:
  - Where possible, employees, services and goods will be sourced locally to maximise the economic benefits in Neath Port Talbot;

- Communication with the local community will be carried out on a regular basis (through appropriately selected media) to inform the local community of site operations and provide the opportunity for the local community to table any questions they may have;
- Traffic will be controlled by encouraging vehicle sharing and plant vehicles will only operate during designated working hours that will be agreed with the Council; and
- Best practice will be followed to minimise the potential for pollution.

- Operational mitigation:
  - Employees, goods and services will be sourced from the local area where possible, thereby having a strengthening effect in the local economy;
  - Locally sourced wood fuel can be utilised within the Renewable Energy Plant, thereby proving an additional outlet for local growers and having a strengthening effect in the local economy;
  - Pollution prevention and control measures will be put in place to minimise the potential for pollution incidents occurring and to alleviate the perception of risk that the local population may have about the Renewable Energy Plant.

3.2.8 Cultural Heritage

Overview

The direct and indirect impact on cultural heritage of the proposed Renewable Energy Plant will be considered during the construction, operational and decommissioning phases of the development and, where appropriate, mitigation measures will be introduced in order to ensure the appropriate protection of cultural heritage features.

The impact assessment will include a desk-top study, site walkover and impact assessment and will consider the potential impact on unrecorded archaeological features within the development site.

Baseline Description and Sensitivity

A preliminary review of archaeological sites in the area shows there to be no Scheduled Ancient Monuments, Listed Buildings, Parks and Gardens or Battlefields in the development area. The known archaeological sites in the Port Talbot area (dating from Prehistoric to medieval times) all lie to the north and east of the development. Similarly, World War II and other defensive sites lie to the north and south of the development. No known archaeological sites are recorded in the development area.

Assessment Methodology

Consultation with the Curatorial Section of Glamorgan-Gwent Archaeological Trust (acting as archaeological advisors to the local planning authority) has identified the principal parameters of the cultural heritage impact assessment, as presented below. Prior to the impact assessment commencing, SKM will prepare and submit a Method Statement and Project Design to the planning authority for approval.

The assessments will comprise a desk-based study and field walkover of the whole application area. The objective of the assessment will be to make full and effective use of existing information in establishing the archaeological impacts. All work will be undertaken with reference to the Institute of Field Archaeologists, *Guidance for archaeological desk-based assessments*[31].

The desk-based assessment and field walkover will comprise the following:

- Identification of known or potential historic environment resource within the proposed development area through the review of available primary and secondary documentary, cartographic, pictorial, aerial/ground photographic and oral sources in order to provide an historical framework for the surviving archaeological remains;
- Undertake a visual inspection in the form of an organised walk-over survey to locate visible unrecorded sites and to analyse the topography of the area. The area will be walked in transects 30m apart, save on open land where 50 m transects may be justified, all sites will be recorded using a pro-forma record sheet and remains of all periods will be recorded to 12 figure National Grid reference using a hand held GPS;
- Assess the character, extent, date, integrity state of preservation and relative value and quality of the potential historic environment resource that exist in the study area;
- Assess the national/regional context within which the historic environment exists;
- Assess the effect of the proposed development on any scheduled and unscheduled archaeological sites and monuments and on their settings;
- Identify constraints to historic environment survival;
- Formulate a strategy for further investigation (intrusive or not) where the character and value of the resource is not sufficiently defined to permit a mitigation strategy or other response to be defined;
- Formulate a strategy to ensure the recording, preservation or management of the resource;
- Identify any significant artefactual or ecofactual potential;
- Identify appropriate mitigation measures to protect archaeological features;

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31 Guidance for archaeological desk-based assessments, Institute of Field Archaeologists,

- Prepare a report providing information that is sufficiently detailed so that informed decisions to protect the historic environment resource can be undertaken;
- Identify potential for palaeo-environmental samples within the proposed development area;
- Identify previous disturbance or truncation on the site, which may have affected archaeological remains, including any significant changes in levels from those indicated on old Ordnance Survey maps; and
- Where information is available, the physical impact of the proposed development including the full extent of ground works associated with construction of buildings, access roads and car park will be assessed.

Given the preliminary review of the site undertaken to date, it is assumed that no geophysical or trial trenching will be required as part of the cultural heritage scope or works.

The potential for impact on the Historic Setting of cultural heritage features will also be addressed.

Potential Mitigation Measures

Should any archaeological sites be found in the development area these will be assessed and suitable mitigations proposed depending on the level of importance of the archaeological sites.

Mitigation could include standing building recording, watching briefs or excavation, depending on the results of the assessment. Mitigation will be recommended for construction, operation and decommissioning of the site.

3.2.9 Transport

Overview

The overall construction period for the proposed development will be around 2 years, potentially involving up to 350 – 400 construction workers on site during the peak construction period, working a 12 hour shift, rising to around 600 during the commissioning phase. Once operational, around 5 shifts of 50 staff (250 staff in total) would be employed within the plant.

Imported fuel for the operational facility would arrive at Port Talbot docks by ship and be transferred to the Renewable Energy Plant via a conveyor system. Locally sourced fuel will be delivered to the operational facility by road vehicle or ship.

The most significant vehicle movements associated with the development will therefore occur during the construction period. The transport impact assessment will therefore focus on the peak

period for construction as the traffic impact is likely to be negligible when the facility is operational.

Baseline Description and Sensitivity

Discussions with Neath Port Talbot County Borough Council have confirmed that the main vehicular route to the construction site should be via the M4 Junction 41a, A4241 Seaway Parade, Afan Way, Dock Road and then via a new dual carriageway into the Port Talbot docks.

Access to the docks via Oakwood Road should be avoided as the frequent operation of the level crossing leads to queuing and congestion on A48 Heilbron Way / Talbot Road corridor. The A4241 is currently being improved to dual carriageway standard and these works will include the introduction of traffic signals at the junction of Afan Way with Victoria Road. These works are due for completion in 2008 so capacity on the access route corridor should not be an issue.

Assessment Methodology

As stated, the transport impact assessment will focus on the peak period for construction and it will include details of daily/hourly construction worker traffic and construction vehicle traffic. The assessment of traffic impact will comprise a comparison between the background traffic flows and the background traffic flows plus construction traffic on the M4 Junction 41a, A4241 Seaway Parade, Afan Way, Dock Road access route.

Background traffic flows for the access route will be determined from historical traffic data, where available. The local Council has confirmed that no operational assessment of junctions on the access route is required.

The transport impact assessment will provide details of the likely location of, for example, the concrete batching plant and details of any abnormal load routes. It will also detail the measures to be employed to minimise traffic congestion on the immediate highway network during the peak periods for background traffic.

The environmental impact of development generated traffic will be assessed with reference to the 'Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2000' and the 'Guidelines for the Environmental Assessment of Road Traffic'[32]. In accordance with this guidance, issues of traffic impact, accidents, severance, vibration, visual impact, driver delay, pedestrian delay, amenity, fear and intimidation, associated with development traffic will be investigated.

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[32] Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment

Potential impacts on noise and air quality resulting from construction and development traffic will be considered elsewhere in the Environmental Statement.

For evaluation purposes, the scale of impacts associated with construction and development generated traffic will be categorised as follows:

- Major: Where the impact leads to serious and lasting disruption and major mitigation measures are required;
- Moderate: Where the impact leads to moderate disruption and mitigation measures are required;
- Slight: Where the impact exceeds design thresholds but does not lead to disruption. No mitigation measures are required;
- Insignificant: No perceived impact. No mitigation measures required; and
- Positive: Where the proposals result in an improvement to current conditions.

Potential Mitigation Measures

All impacts relating to construction traffic will be short term and temporary in nature.

The likely changes in traffic flows on the immediate highway network are not predicted to be significant, however, the types of vehicles, their routeing to and from the development site and the hours of operation will be sensitive and a Construction Management Plan will therefore be agreed with the local Council to minimise these impacts.

3.3 Areas of Non-significant Impact

In preparing this Scoping Report, SKM has sought to identify those issues which are considered not to be significant in nature and which are therefore proposed to be scoped out of the Environmental Impact Assessment. These non-significant issues are presented within Table 3.5 below.

Consultees are invited to consider these non-significant issues and advise whether they agree with SKM's independent view that these issues need not be assessed within the Environmental Impact Assessment.

This identification of non-significant issues has been made through a review of the development proposal and the development site, its environmental setting, available baseline information and is based on professional judgement.

- **Table 3.5: Non-significant Issues to be Scoped Out of the Environmental Impact Assessment**

Topic area	Non-significant issue to be scoped out	Rational for scoping out
Air quality	Vehicle and plant emissions during construction, operation and decommissioning	Temporary and low magnitude nature of construction, operation and decommissioning vehicle and plant emissions
Noise	Traffic noise during construction, operation and operation and decommissioning	Temporary nature of construction and decommissioning traffic noise and infrequent nature of operational traffic noise
Noise	Vibration during construction, operation and decommissioning	Distance of receptors from site and temporary nature of vibration related activities
Landscape and visual	None	N/A
Terrestrial ecology	Bat roost survey	Lack of suitable habitat
Surface and ground water	None	N/A
Land	None	N/A
Socio-economic	Tourism	The vicinity of the site is industrial in nature and is not considered to represent a strong tourism focus
Cultural heritage	None	N/A
Transport	Operational traffic flows	Low volume of operational traffic required during operation

3.4 Cumulative Impacts

The cumulative impact of the Renewable Energy Plant in combination with existing and proposed development of a similar nature (identified within Table 3.6) will be undertaken and incorporated within each environmental impact assessment chapter. The degree of interaction between theses developments will vary dependant on the distance from the Renewable Energy Plant and the precise nature of the development's operations.

- **Table 3.6: Developments for Incorporation within Cumulative Impact Assessment**

Development	Status	Distance from Port Talbot renewable Energy Plant	Areas of cumulative impact
Port Talbot 1100MW Combined Cycle Gas Turbine Power Station	Scoping request submitted to DTI and application not yet submitted	0.7km	Air quality and landscape and visual impact
Corus Port Talbot Steel Works	Operational	2.4km	Air quality
Baglan Bay 525MW Combined Cycle Gas Turbine Power Plant	Operational	4km	Air quality

3.5 Draft Outline of Environmental Statement Structure

The key output of the Environmental Impact Assessment process is the Environmental Statement, an independent document which sets out the predicted significant environmental impacts and effects of the proposed development. The Environmental Statement enables the relevant authorities and consultees to determine whether the proposed development and associated impacts are acceptable.

SKM proposes to adopt a four volume Environmental Statement format, comprising the following volumes:

- Volume 1: Non-technical Summary;
- Volume 2: Environmental Impact Assessment Main Text;
- Volume 3: Environmental Impact Assessment Figures (A3 size); and
- Volume 4: Appendices.

The Environmental Impact Assessment Main Text (Volume 2) will comprise of a series of introductory chapters and environmental impact assessment chapters. The preliminary format of Volume 2 of the Environmental Statement is presented below.

- Introduction;
- Need for development;
- Details of proposed development;
- Site selection and layout iterations;
- Environmental Impact Assessment methodology;
- Stakeholder consultations;
- Air quality impact assessment;
- Noise impact assessment;
- Landscape and visual impact assessment;
- Terrestrial ecology impact assessment;
- Surface and ground water impact assessment;
- Land impact assessment;
- Socio-economic impact assessment;
- Cultural heritage impact assessment;
- Transport impact assessment; and
- Summary of effects and mitigation.

4. Invitation to Comment

Consultees are invited to comment on the possible significant environmental effects of the Renewable Energy Plant, the proposed environmental impact assessment methodologies and the Environmental Statement structure, as presented within the Scoping Report.

Consultees are also invited to highlight any additional issues that they believe should be addressed within the Environmental Impact Assessment, and to identify any sources of information which may be of interest to SKM in the course of the Environmental Impact Assessment.

Consultee responses should be directed to the relevant organisation as per Table 4.1 below, within three weeks of receipt of this Scoping Report.

Table 4.1: Consultee Response

Consultee type	Consultee	Address for scoping submissions
Secretary of State's Consultative Bodies	■ Neath Port Talbot County Borough Council ■ Welsh Assembly Government ■ Associated British Ports ■ Environment Agency ■ Countryside Council for Wales	Mr Gary Mohammed Power Station Consents Manager Consents and Policy Division Department of Trade and Industry 1 Victoria Street London SW1H 0ET
Non-statutory consultees	■ Corus Port Talbot Steel Works ■ Royal Society for the Protection of Birds ■ Civil Aviation Authority ■ Cardiff International Airport ■ Swansea Airport ■ Defence Estates ■ Office of Communications (Ofcom) ■ Gwent and Glamorgan Archaeological Trust ■ Health and Safety Executive ■ Mid and West Wales Fire and Rescue Service ■ South Wales Police Authority ■ Maritime and Coastguard Agency	Brian McGrellis Port Talbot Renewable Energy Plant EIA Project Manager Sinclair Knight Merz Prism House Rankine Avenue Scottish Enterprise Technology Park East Kilbride Glasgow G75 0QF Tel.: 01355 576 828 Fax.: 01355 576 801 e-mail: bmcgrellis@skm.co.uk

It should be noted that consultees responses will not be treated as confidential unless otherwise explicitly stated with a consultees response.

Appendix A Figures

Prenergy Power Limited

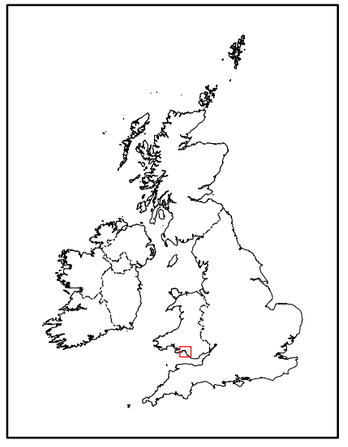
Port Talbot Renewable Energy Plant

Figure 1

Site Location Plan

Legend

Site Location



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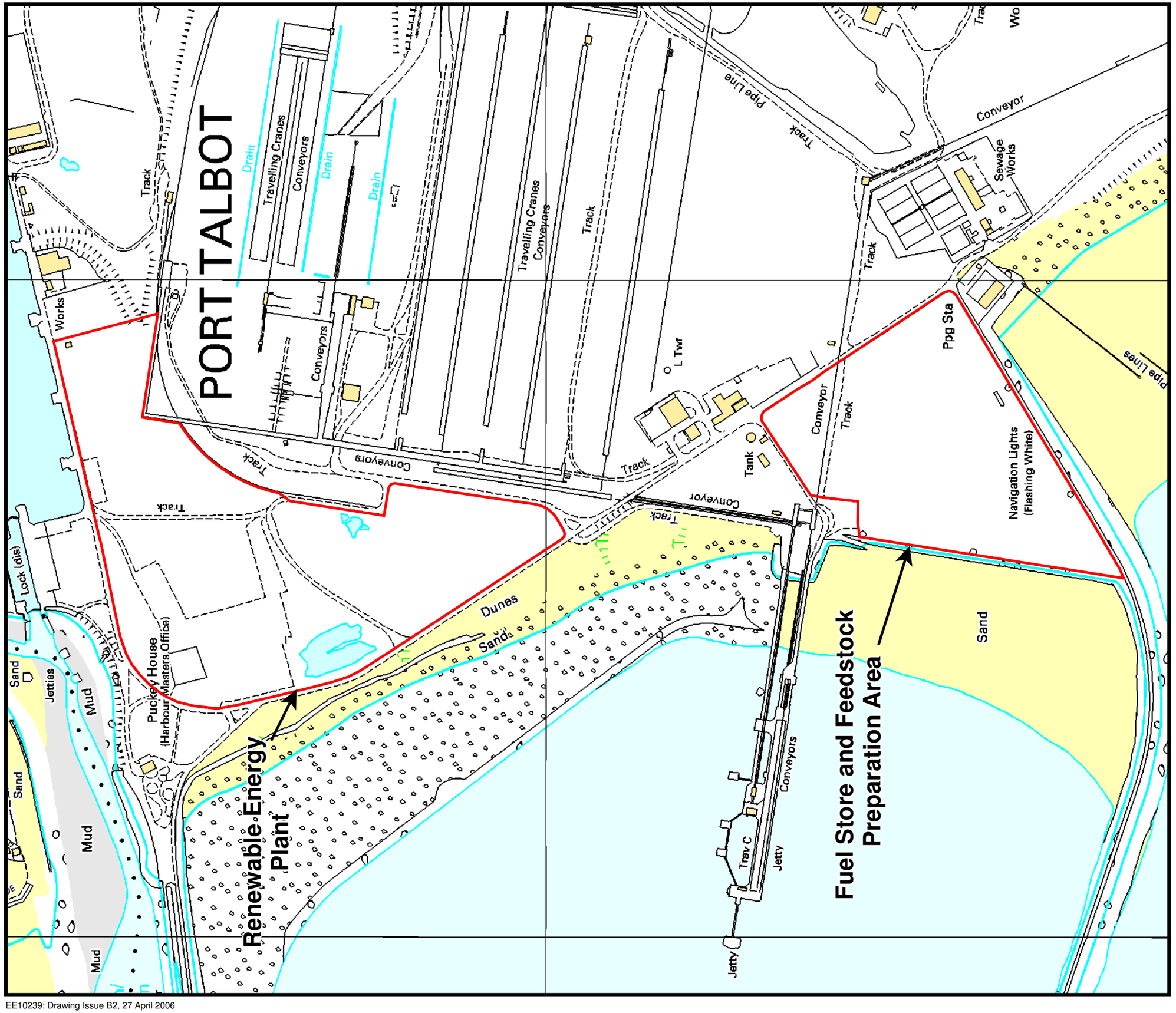
SKM



Prenergy Power Limited

Port Talbot Renewable Energy Plant

Figure 2

Preliminary Development Site Boundary

Legend

Preliminary Development Site Location

0 50 100 150 200

Meters

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SINCLAIR KNIGHT MERZ SKM

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Port Talbot Renewable Energy Plant

Figure 3

Preliminary Development Site Boundary (Aerial Photography)

Legend

Preliminary Development Site Location

0 50 100 150 200

Meters

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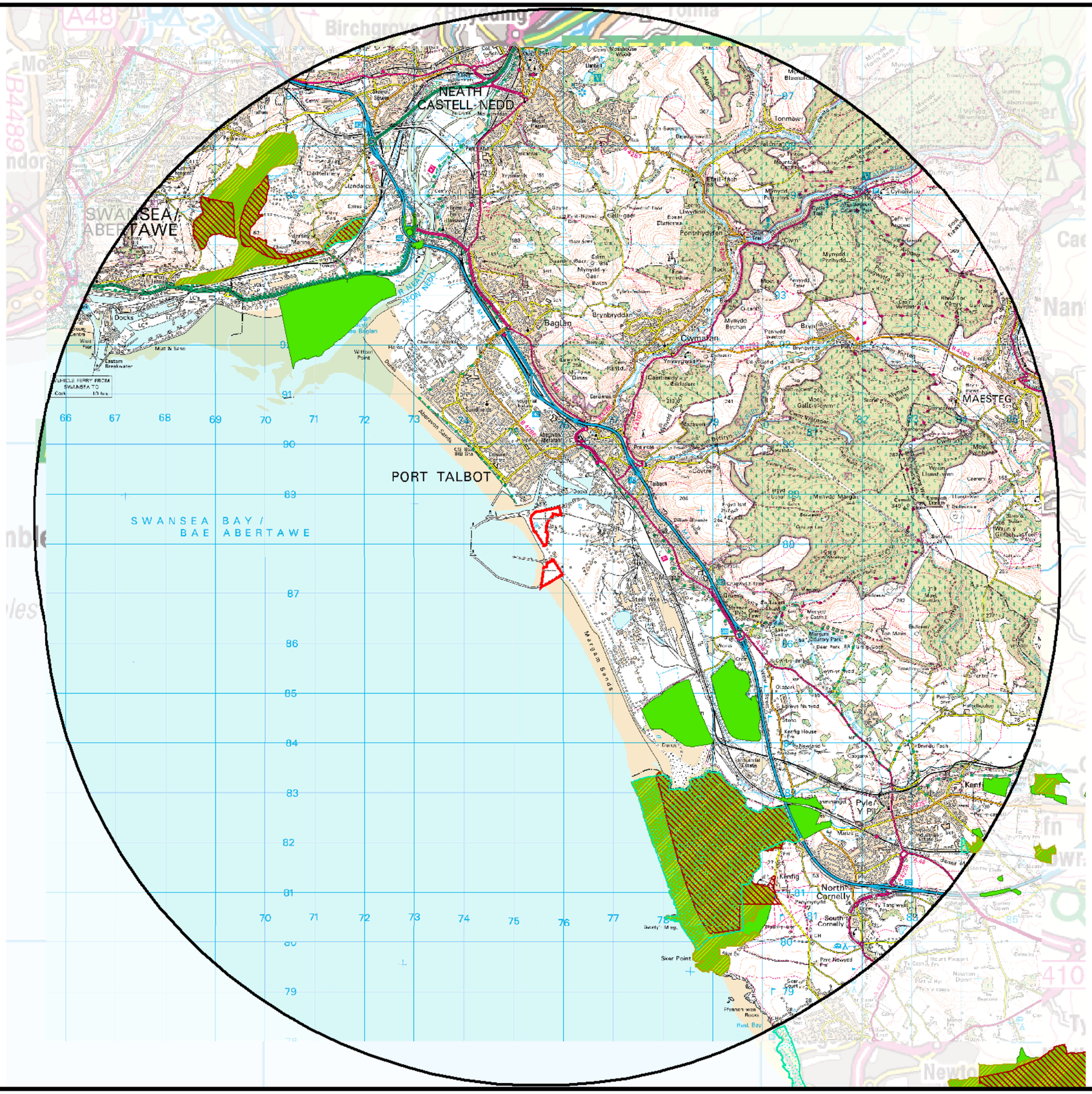
SINCLAIR KNIGHT MERZ SKM



Prenergy Power Limited

Port Talbot Renewable Energy Plant

Figure 4

Environmental Constraints

Legend

- Preliminary Development Site Location
- Local Nature Reserve
- National Nature Reserve
- Special Area of Conservation
- Site of Special Scientific Interest

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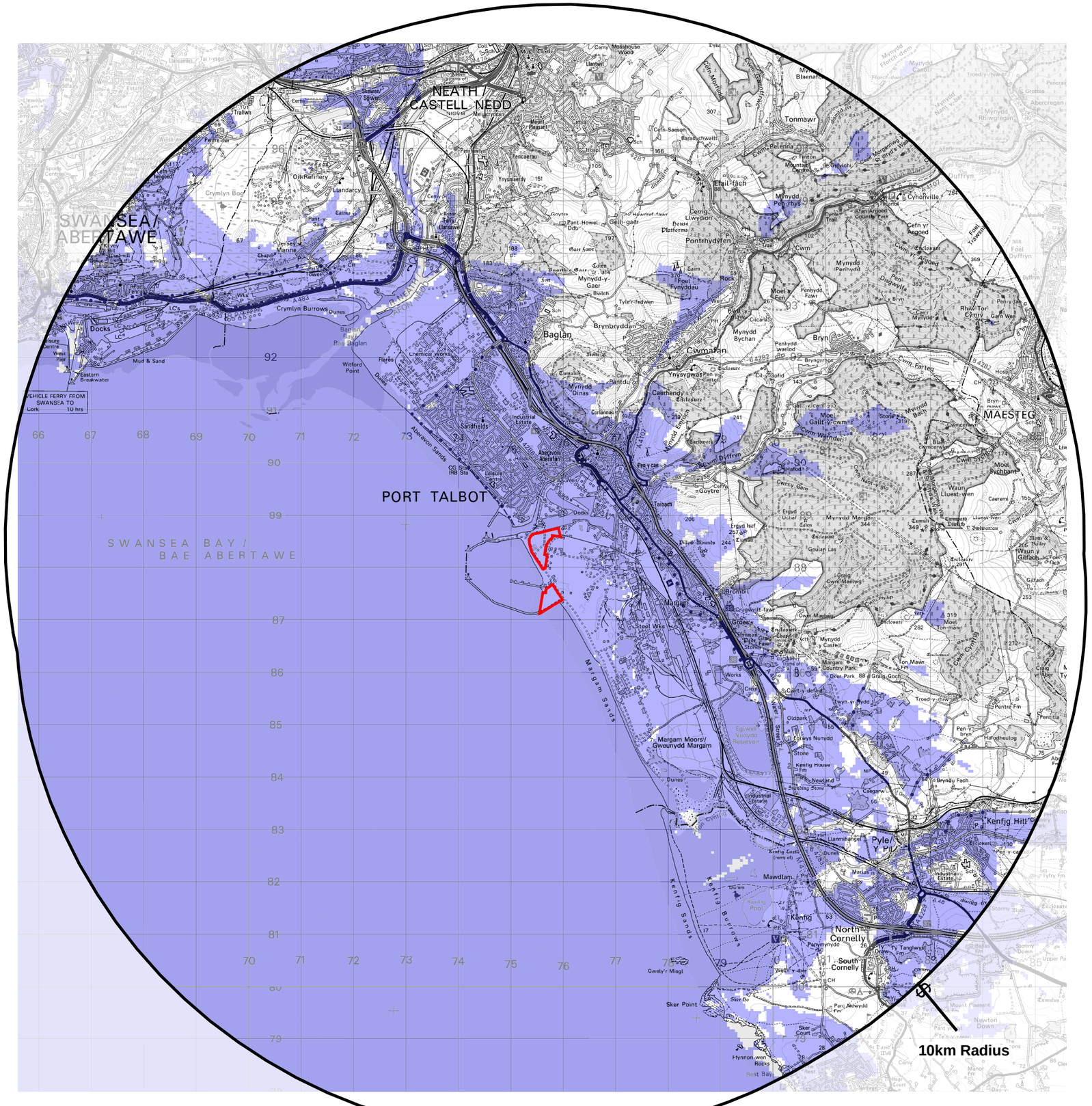

Prenergy Power Limited

Port Talbot Renewable Energy Plant

Figure 5

Theoretical Zone of Visual Influence

Legend

- Preliminary Development Site Location
- Theoretical Zone of Visual Influence of 90m Stack

Note
Zone of Visual Influence (ZVI) based on observer at an eye level of 2m above ground level viewing a 90m high stack. ZVI based on Ordnance Survey Digital terrain data on a 50m grid and adjusted to take account of the earths curvature and effects of light refraction and does not take into account screening effects of vegetation, buildings or other surface areas.

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