Non-Technical Summary

Sustainable Energy Plant

Port Talbot

Western Wood Energy

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1 Introduction and Background

1.1 Introduction

1.1.1 Western Wood Energy is proposing to develop a Sustainable Energy Plant (SEP), which utilises recycled wood as fuel to produce electricity on land at the junction 38 of the M4 in Margam, Port Talbot.

1.1.2 A planning application for the proposed development has been submitted to Neath Port Talbot County Borough Council (NPTCBC).

1.1.3 As part of the preparation of the planning application, an assessment has been made of the impact that the development as a whole might have on the environment (Environmental Impact Assessment (EIA)). The findings of this assessment have been used to develop the proposals and a report of the assessment (the Environmental Statement (ES)) has been submitted to accompany the planning application.

1.1.4 The ES has been prepared under the requirements of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. Schedule 4 of those regulations requires that a summary of the ES be provided in non-technical language. This document is the Non-Technical Summary.

1.1.5 The planning application and the ES can be inspected at the offices of Neath Port Talbot County Borough Council, address; The Quays, Brunel Way, Baglan Energy Park, Baglan, Neath, SA11 2GG.

1.1.6 Electronic copies of the ES are available free of charge by writing to Western Wood Energy. Forest Products Centre, Port Talbot, SA12 9AB. Hard copies are available from the same address at a cost to be advised. Copies of this Non-Technical Summary can be obtained, free of charge, from the same address.

1.2 Background

Context

1.2.1 The UK has been set targets by the EU to divert biodegradable municipal waste from landfill. At the same time, an objective of the Government's energy review is to reduce reliance on electricity generation from fossil fuels, which will be assisted by investment in biomass energy recovery

1.2.2 In recent times the Government has made clear its aspirations to deliver greater diversion of waste wood from landfill to reduce carbon impacts of waste management, boost renewable energy generation and contribute to a more diversified fuel chain.

1.2.3 The development proposal aims to divert 355, 000 tonnes (based on a 25% moisture content) of treated waste wood (TWW) from landfill in order to produce electricity to the national grid. Thereby satisfying Government targets for waste management and renewable energy generation.

Targets

1.2.4 The Assembly Government aims to move waste management as far up the waste hierarchy as possible and has set targets for increasing recycling whilst recognising that the achievement of these targets will not avoid the need for a significant amount of residual waste to be dealt with using such techniques as landfill, Mechanical Biological Treatment (MBT) or Energy from Waste (EfW).

1.2.5 The targets include:

- *"by 2003/04 achieve at least 15% recycling/composting of municipal waste with a minimum of 5% composting (with only compost derived from source segregated materials counting) and 5% recycling;*
- *by 2006/07 achieve at least 25% recycling/composting of municipal waste with a minimum of 10% composting (with only compost derived from source segregated materials counting) and 10% recycling;*
- *by 2009/10 and beyond achieve at least 40% recycling/composting with a minimum of 15% composting (with only compost derived from source segregated materials counting) and 15% recycling."*

1.2.6 The Waste Hierarchy has been adopted as an overriding principle of waste planning policy in Wales. Minimisation of waste is a priority, however where waste is generated it should be considered a resource and re—used or recycled. Not all waste can be managed in this way and recovery of energy from waste management is considered a preferable option to landfill disposal; deriving some benefit from material which can not be managed further up the Waste Hierarchy

1.2.7 In addition to waste management targets, the 2001 EU Renewables Directive (Directive on the Promotion of Electricity from Renewable Energy Sources in the Internal Electricity

Market) sets out EU targets for renewable energy supply equating to 12% of total energy and 22% of electricity by 2010.

1.2.8 This is set out in more detail within section 3 of this report.

The fuel

1.2.9 Waste wood arises from a wide variety of sources, in varying quantities and levels of purity. The main three areas in which waste wood arises are Construction and Demolition (C&D), Municipal Solid Waste (MSW) and Commercial and Industrial (C&I). A feature of waste wood arising, particularly C&D and MSW, is that both tonnages and sources are unpredictable and materials are often mixed with other types of waste. As such there is uncertainty over the exact tonnage of waste wood arising in the UK. It is estimated that there are 10.6mtpa of waste wood arising in the UK.

1.2.10 Of this wood only a small fraction is currently thermally treated for electricity and a number of other facilities have gained planning permission more recently. However, it is unknown if these developments are utilising clean or treated waste wood to fuel the processes.

1.2.11 Across both South East and South West Wales the level of waste is predicted to increase to 2024/25 and therefore it is important to establish sustainable forms of waste management to ensure diversion from landfill.

1.2.12 It is acknowledged in National Waste Strategy and guidance provided by DEFRA and WRAP that TWW is difficult to manage further up the Waste Hierarchy, that is re-use or recycle. Therefore recovering energy through an energy recovery facility is considered to be the best practicable environmental option (BPEO), as otherwise this material will continue to be disposed of at landfill.

Current Infrastructure

1.2.13 Of the current facilities processing waste wood few are located in the South Wales Region, or close enough to serve it.

1.2.14 There are permitted biomass plants in the region, however they do not utilise treated waste wood fuel source and therefore do not contribute towards the recovery of waste wood in the South East and South West Waste Planning Region. In summary the permitted plants are:

- The current Biomass Plant owned and managed by Western Wood Energy processes solely clean wood and therefore does not provide for the TWW waste stream as outlined above.
- The Prenergy Plant, which gained planning permission in 2008 and will soon begin construction . However, It does not provide recovery opportunities for the region, instead it will be importing clean wood from America using the port.
- The Port Talbot Power ESBI plant has planning permission in Baglan Bay utilises natural gas as a fuel.

1.2.15 It can therefore be concluded that in order for South Wales and the Port Talbot region to reduce the quantity of TWW being disposed of to landfill, a new facility will be required.

2 The Site and its Setting

2.1 Location

2.1.1 The proposed facility is located off Longlands Lane, Margam, Port Talbot at National Grid Reference SS788858.

2.1.2 The development site is part of a wider area allocated for industrial uses which is bounded by Longlands Lane to the south, the A48 (Margam Road) and M4 to the east and Margam Moors and a railway line to the west.

2.1.3 Figure JER7354 001 shows the general location of the site and JER7354 003 identifies the potential area within which the development will take place.

2.2 The Site

2.2.1 The site is approximately 4 ha in size and is proposed for the construction and operation of a Sustainable Energy Plant (SEP). The land is gently sloping from east to west and is bounded by a wooded area to the south and open scrub land to all other directions.

2.2.2 An area of wet woodlands lies to the immediate south of the application site and beyond this to the south west is the BOC gases installation complex. To the west an extended area of marshy grassland abuts further dense scrub and woodland and a major drainage watercourse called the Upper Mother Ditch. To the east lies improved grazing land, isolated properties and the junction 38 interchange of the M4.

2.3 Environmental Features Likely to be Affected by the Development

Sensitive Receptors

2.3.1 The following table provides a summary of the location and distance of the sensitive receptors to the application site.

Receptor	Type	Distance	Direction
Tyn – y –Caeau	Residential	115m	E
Longlands House	Residential	300m	SE
Greenacres	Residential	360m	SE
Margam Crematorim	Crematorium	300m	SE
Abbotts Close	Residential	600m	N
Eglwys Nunydd	SSSI	900m	S

Margam Moors	SSSI	1.2km	SW
Crymlyn Bog	SAC	9.2km	NW
Kenfig Pool	SAC	3km	S
Cefn Cribwr Grasslands	SAC	6.8km	SE

Table 1.1 Sensitive Receptors

2.4 Planning History

2.4.1 The table set out below shows the areas planning history, those directly relating to the site are shown in bold.

Application Number	Application	Date and Decision
75/0686	Permanent disposal of surplus material from M4 motorway stormey down to groes stage 1.	No decision recorded
80/3361	Light and general industry and warehousing and retail warehousing (non-food).	No decision recorded
88/6338	Motel garden centre, filling station service yard etc.	Withdrawn 11/07/88
88/6581	**Retail development comprising of food superstore, retail warehouses and garden centre, business industrial park (B1 & B2) petrol filling station and car parking. Including landscape and access roads.**	**Refused 18/01/89**
90/7681	**Industrial Park (B1,B2 & B8), with ancillary facilities including car parking, access roads, service areas and landscaping.**	**Approved with conditions 16/01/91**
92/8690	Erect 2 spans of high voltage overhead lines	Approved 12/06/92

93/9228	Relaxation of condition No.2 (90/7681) of the three year time limit for submission of reserved matters.	Approved with conditions 08/11/93
P/2004/0035	**Proposed Biomass Power Plant**	**Approved with conditions 27/04/04**
06/161	**Relocated the Western Log Company headquarters (B1, B2, B8 and A1)**	**Approved with conditions 9/01/07**
02/292	Construction of the Port Talbot peripheral Distributor Road, Stage 2.	Approved with conditions 28/08/07

Table 2.1 Planning History

3 Policy & Sustainability

Waste Policy

3.1.1 At a time when the public environmental consciousness is growing there is an urgent need for faster progress in the provision of new infrastructure to deliver sustainable waste management objectives. The Government's message is that heightened progress needs to be achieved in respect to the diversion of waste from landfill through waste prevention, re use and recycling but also deriving value from the waste that the community produces.

3.1.2 The cornerstone of the Government's approach to development is that proposals should meet the overarching objectives of sustainability in terms of their social, environmental, and economic effects. This is highlighted within Planning Policy Wales 2002, which requires that the Best Practical Environmental Option (BPEO) for each Waste Stream is identified and developed.

3.1.3 Planning Policy Wales 2002 confirmed that the principles of 'proximity' of waste disposal and 'self sufficiency' are to be delivered through the framework provided by development plans and strategies. The objectives are that communities should take more responsibility for their own waste (self sufficiency), and that waste should be disposed of in one of the nearest appropriate installations.

3.1.4 The National Waste Strategy for (Wise about Waste), paragraph 3.17 states that;

"Energy from waste plants will be acceptable if:

- *"it forms part of an integrated approach and that it only recovers energy from residual waste that remains after as much recyclable and compostable material as practically possible has been removed;*
- *the need for it has been established as part of the development of the Municipal Waste Management Strategy which has been consulted upon with local communities at an early stage when all options can be considered;*
- *it represents the BPEO for residual waste, taking into account transportation;*
- *it has been designed so as not to inhibit increasing recycling and composting rates at a later date (in the expectation that the Assembly Government increases the targets further);*
- *it includes combined heat and power wherever practicable; and*
- *it is consistent with the emerging or existing Regional Waste Plan."*

3.1.5 The Strategy requires that each waste stream is analysed and the most sustainable option for management is identified and taken forward. This is re-iterated in the South West Wales Regional Policy 1st Review which identifies a number of preferred options for waste management , of which recovering value from waste through thermal treatment is one.

3.1.6 Technical Advisory Note TAN21 (Waste), paragraph 6.9, requires that where a proposal is environmentally unacceptable or would cause adverse impact on amenity and the problems cannot be mitigated to an acceptable standards by conditions , planning permission should be refused. The TAN sets out a number of planning considerations that should be assessed in order to establish if a facility is acceptable.

Energy

3.1.7 In order to meet the UK's emission reduction commitments and to satisfy the EU's Renewables Directive , the UK Government introduced the Renewables Obligation Order (ROO) in April 2002 as an order under the Utilities Act 2000 .

3.1.8 The Renewables Obligation (RO) 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. Non-compliance with the RO results in the levying of financial penalties in proportion to the magnitude of any shortfall. The RO therefore provides a substantial market incentive for all eligible forms of renewable energy.

3.1.9 The Review of Energy Policy in Wales Part 1 (2002) sets out a number of recommendations for energy supply including:

- *"Recognise that over the next 20-50 years it will be necessary to move towards a zero carbon electricity system.*
- *Seek to develop indigenous renewable resources.*
- *Promote renewable sources of energy in such a way as to enhance industrial, rural and commercial opportunities in Wales, without prejudicing tourism and areas of environmental significance."*

3.1.10 Whilst Technical Advisory Note 8 (Energy) provides the policy guidance for Renewable Energy Developments and states that electricity derived from waste can provide for significant savings in carbon emissions.

3.1.11 The Renewable Energy Route Map for Wales has also identified a need to recover renewable energy from waste. Chapter 6 has identified that due to the stringent standards set to ensure compliance with the Waste Incineration Directive the risk of health impacts are not significant.

The Development Plan

3.1.12 Neath Port Talbot Unitary Development Plan (UDP) was adopted in March 2008. Policy W1 provides the location criteria by which waste sites should be identified. These include:

- Industrial and Commercial Land;
- Derelict, contaminated or despoiled land;
- Previously used (Brownfield land);
- Former mineral working;
- Existing or former waste management facilities; and
- As part of land reclamation and management schemes.

3.1.13 The development proposal is located on land allocated for industrial purposes.

3.1.14 Policy GC2 provides guidance for Engineering works and operations (including minerals and waste). This policy states that any proposals for or including energy engineering works and other operations will not be permitted if it would create an unacceptable impact. The policy lists a number of requirements which are assessed below:

- Respect the landscape, seascape and/or townscape including its local topography, character, features, and archaeological remains;
- Ensure that there are no adverse effects on the biodiversity of the site and the surrounding area, with particular care being given to priority species and habitats and designated areas;
- Take into account local communities and their amenity and health, including noise, pollution, blasting, grit, dust, smoke, smell, vibration, illumination, views and cumulative impacts;
- Ensure that there are no adverse effects on water supply, water quality or quantity, land drainage and flooding;
- Satisfactorily address any ground contamination;
- Satisfactorily address ground stability;
- Ensure that there is adequate access, parking and servicing provision;
- Ensure that unacceptable hazard or inconvenience for users of highways and rights of way are not created;
- Ensure that satisfactory arrangements are made for the moving of materials, supplies, personnel and other operational needs to, within and from the site;
- Make the best practical environmental use of materials on the site and which would reasonably be made available as a result of the work;
- Ensure that it does not sterilize minerals, soil, agricultural holdings or high quality farmland, or other resources (including the potential for the creation of renewable energy), or land which is within a settlement limit or allocated in the UDP for other purposes; and

A scheme has been submitted as part of the proposals which indicates satisfactorily how the work will be undertaken including:

(i) The method, planning and duration;

(ii) The control of environmental and other impacts; and

(iii) Restoration and/or aftercare which ensures a beneficial after use which takes full account of the potential to create habitats in line with the LBAP, landscaping, and any proposals to mitigate the impacts created upon the community and environment.

3.1.15 Chapter 15 of the Unitary Development Plan provides the policy against which proposals for infrastructure and energy projects will be considered. Policy IE6 relates to renewable energy and states that proposals for the creation of renewable energy will be supported provided there impacts are acceptable.

4 The Proposed Development

4.1 Summary of Development

4.1.1 In summary the development will comprise of a Sustainable Energy Plant (SEP) with the potential to manage a material that is currently disposed of to landfill, recovering energy with the potential to provide heat for future heat customers

4.1.2 The facility will utilise 355 000 tonnes per annum (at 25% moisture content) of treated waste wood diverted from the commercial and industrial, and Construction and Demolition waste streams in the South Wales Region.

4.1.3 Western Wood Energy have eight identified clients to supply the waste wood. These client are contracted to supply the wood in a chipped form before transporting it to the proposed development.

4.1.4 The proposed plant consists of the following:

- Boiler Building
- Turbine Building
- Service/ E Building
- Air Cooled Condenser
- Fuel Reception Building
- Bottom Ash Storage Area
- Stack and ID Fan
- Wood Chip Storage
- Fuel Preparation Area
- Step-up Transformer
- Fly Ash Silo
- Sedimentation Tank/Neutralisation Tank
- Auxiliary Air Cooler
- Station Auxiliary Transformer
- Fire/Raw Water Tank
- Fire Water Unit
- Oil Tank
- Switch Building
- Additive Silo

- Ancillary development including:
    - Main Entrance
    - Administrative building including showers, kitchen, offices and gatehouse
    - Two weighbridges and associated infrastructure;
    - Internal road system and staff and visitor parking for 16 cars
    - Fuelling and vehicle washing facilities
    - Site landscaping
    - Site lighting
    - Temporary Access
    - Future Access off the Peripheral Distributor Road (PDR).

4.1.5 The SEP will utilise proven and reliable thermal treatment technology providing 35 MW of electricity to the National Grid.

4.2 Design and Landscaping

4.2.1 The Design Strategy for the SEP and the rest of the development has focused on providing a high quality proposal. This has evolved from a thorough understanding of the landscape context of the site and guided by the outputs from the Environmental Impact Assessment (particularly the hydrology and ecology assessments).

4.2.2 The building layout has been derived from operational requirements.

4.2.3 The site is well defined on three sides by existing woodland and field hedge boundaries. The mitigation proposals therefore provide a boundary treatment to the eastern side to achieve enclosure and definition.

4.2.4 This comprises a screen bund, approximately 2m high, with a 1 in 3 outer face and a 1 in 2 inner side.

4.2.5 A hedge comprised of native species is proposed along the top of this bund to achieve consistency with the existing landscape structure.

4.2.6 The outer face of the bund is planted with more decorative shrubs to create an appropriate and attractive frontage to the proposed Distributor Road (PDR).

4.2.7 Within the bund and hedge boundary, and in key locations, standard trees are proposed. These will provide structure and create a more varied frontage treatment.

4.3 Access

4.3.1 Site access will be via the existing field entrance that connects with Longlands Lane to the south of the existing Biomass Plant. This access will be used temporarily before completion of the Peripheral distributor road (PDR) which is anticipated in 2012.

4.3.2 Following construction of the PDR, both plants will use the access directly from the roundabout on the PDR into the site.

4.3.3 Longlands Lane will cease to be used and the access road will be maintained for emergency access only.

4.3.4 The new internal road layout will link the PDR onto the main access through the site. The proposed route of the PDR is illustrated in location plan JER7354 001.

4.4 SEP Operations

4.4.1 Treated waste wood collection vehicles arriving at the plant will be weighed on an automatic weighbridge before discharging their load into the fuel reception building and being re-weighed before leaving the site.

4.4.2 The fuel will then be moved to the fuel preparation unit and passed to the Wood Chip Storage Building.

4.4.3 Fuel transfer from the Fuel Storage Building will be fed to the Boiler Building continuously via conveyor.

4.4.4 The wood chip will be burnt within the Boiler Building, powering the turbine generating electricity controlled by the switch building and fed into the national grid.

4.4.5 The heat released by the combustion of the recycled wood would be recovered in a water tube boiler, which is integral to the grate. The superheated steam produced by the boiler would be available to feed a condensing turbo-generator linked to an air-cooled condenser.

4.4.6 When the wood reaches the end of the combustion grate, only a small amount of incombustible material remains. This material is known as 'bottom ash' and will be conveyed to a storage pit for disposal off site to a licensed landfill.

4.4.7 The flue gas will be passed through a bag filter and finally through a stack. Residuals removed from the flue gas will be stored in the fly ash silo and removed off site to a licensed landfill.

4.4.8 The plant would consume around 10% of the electricity produced by the process, the balance (around 90%) being exported to the Grid through a step-up transformer.

4.4.9 The Plant will operate 24 hours a day. Fuel delivery periods will be limited to the following:

- 0700 to 1900hrs from Monday to Friday;
- 0700 to 1400hrs on Saturdays

4.4.10 No fuel deliveries will be accepted on Sundays or public holidays.

4.5 Construction

4.5.1 The total construction programme for the new SEP is expected to last approximately 18 months. Prior to this, the layout and establishment of the construction site will take approximately three months. Civil works will follow soon after and will include the groundworks and laying of foundations for equipment, followed by the erection of the grate, boiler and flue gas treatment systems. This will be followed by the erection of the building's structural steel work and cladding, and installation of the turbine and electrical works.

4.5.2 Commissioning of the plant will commence following the completion of the plant construction and installation.

4.5.3 Construction operations will generally take place between the following hours:

- 07:00 – 19:00 Monday to Friday
- 07:00 – 13:00 Saturday

4.5.4 No construction works will take place on Sundays or Public Holidays.

4.5.5 However, it is envisaged that non-intrusive activities (such as electrical installations and plumbing etc) would be undertaken outside of these hours in order to minimise overall construction time. HGV movements associated with such activities would be insignificant.

4.5.6 Any intrusive work outside of these hours would be with the prior agreement of the Planning Authority, except in the case of any emergency.

5 Scope & Methodology

5.1 Scope of the Environmental Assessment

5.1.1 The content of the ES is drawn from the Authorities response to informal scoping exercises undertaken by each of the project team, which included Neath Port Talbot County Borough Council, Countryside Council for Wales and the Environment Agency.

5.1.2 The project team's own experience of dealing with planning applications and Environmental Impact Assessments was also used to scope the content on the work.

5.1.3 As a result of the scoping exercise and responses received, the following topics were identified as primary issues to be examined in detail within the ES:

- Traffic and Transportation Issues
- Air Quality
- Landscape and Visual Impact
- Ecology and Nature Conservation Issues
- Hydrology and Flood Risk
- Hydrogeology and Ground Conditions
- Noise and Vibration
- Archaeology and Cultural Heritage
- Human Health Issues

5.1.4 Other issues addressed within the Statement, though not to the extent of the primary issues include:

- Site History
- BPEO, Need and Alternatives
- Planning Policy and Context
- Waste
- Socio-Economic Issues

5.2 Methodology

5.2.1 Independent specialist consultants have assessed each of the environmental issues identified. These specialist assessments generally involve site visits; the collection of data about the site and its surroundings; identification of the likely significant effects of the development; and the making of recommendations on how these effects could be avoided or reduced.

5.2.2 The assessment of each environmental topic forms a separate chapter of the ES. For each topic, the methodology adopted has been set out together with an evaluation of existing (baseline) environmental conditions. The likely effects of the project have been identified together with an assessment of their significance.

5.2.3 The methods for predicting the nature and magnitude of any potential environmental impacts vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. It is not always possible though to ascribe values to environmental assessments and thus qualitative assessments are used: such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area are described within the individual chapters.

5.2.4 The significance of an effect has been assessed taking into account factors such as extent and magnitude of effect, duration and sensitivity of the receiving environment. In general, the following levels of significance have been used in the assessment:

- Neutral No significant effects
- Minor Not noteworthy or material – impacts are of low magnitude and frequency and will not exceed relevant quality standards, residual effects will be negligible
- Moderate Noteworthy, material – impacts are of moderate magnitude and frequency. Relevant quality standards may be exceeded to limited extent. Possible secondary impacts, residual effects will be minimal.
- Major Impacts are likely to be of a high magnitude and frequency With quality standards being exceeded, at times considerably. There may be secondary impacts of some magnitude, residual effects will be of some significance.
- Substantial Impacts will be of a consistently high magnitude and frequency with standards exceeded by a significant margin. Secondary impacts also likely to have a high magnitude and frequency. Significant residual effects.

5.2.5 Where an effect is described as 'neutral' this means that there is no effect or that the significance of any effect is considered to be negligible. All other levels of significance apply to both adverse and beneficial effects.

5.2.6 Whilst individual environmental impacts, such as noise and air quality have been considered in individual sections of the environmental statement, there is the potential for one environmental subject area to impact upon another; for instance the effect of air quality

against ecological designations. Such combined effects have been addressed in each of the respective sections within the Environmental Statement.

5.2.7 The effects of the proposals together with other developments planned in the area have also been identified. Information on these planned developments has been obtained from a number of sources including the relevant local authorities and development plans.

6 Environmental Effects

6.1.1 The development proposals include a range of measures that have been designed to reduce or prevent significant adverse environmental effects arising. In some cases these result in enhancement of existing environmental conditions. The assessment of effects has taken into account all measures that form part of the development proposals and to which Western Wood Energy's ES is committed. These measures are part of the description of development provided in the ES and include, for example landscape planting to provide ecological enhancement.

6.1.2 This section provides a non-technical summary of each of the topics assessed within the Environmental Impact Assessment in the order in which they appear in the Environmental Statement.

6.2 BPEO, Need and Alternatives

6.2.1 The ES identifies, describes and evaluates the considerations and decisions underpinning the choice of waste management technology and recycling performance, which define the proposal.

6.2.2 Waste Strategy (WS) 2000 for England and Wales, the Waste Strategy for Wales 2002, and Technical Advisory Note 21 (TAN21) Waste Management, have guided the development of the Port Talbot Unitary Development Plan (March 2008).

6.2.3 Annex H of TAN21 sets out a number of recommended stages for the assessment of BPEO; requiring that each waste stream is assessed against a number of different options for waste management. Each option is required to be tested against a number of different national criteria as follows:

- Environmental
- Economic
- Social
- Practicability
- Compliance with other policies

6.2.4 The process and decisions underpinning the choice of waste management technology, need for the facility and alternative sites considered have been identified, described and evaluated.

6.2.5 The assessment of alternative technologies concluded that when each waste stream was assessed against a number of waste management objectives reuse was the most favourable option, followed by energy recovery.

6.2.6 Due to the difficulties in reuse of TWW it was concluded that thermal treatment., with energy recovery offers the most sustainable solution for managing this waste stream.

6.2.7 The assessment of need for a TWW treatment facility is documented within Chapter 5 and demonstrates that at the current time the majority of TWW produced within the region is landfilled, which is contrary to waste policy and is also costly in terms of landfill tax. It is therefore concluded within the assessment that there is a demonstrable need for such a facility within the region.

6.2.8 In addition, chapter 5 sets out the assessment of potential alternative sites for development in the South Wales Region.

6.2.9 This identified 326 potential alternative sites (according to policy criteria) for the development of the SEP. A number of sieves where then carried out on these sites to test if these sites could be used on both policy terms and on practicality grounds.

6.2.10 The assessment concluded that there are no more preferable options for development than the proposed site.

6.3 Traffic

6.3.1 The proposed SEP will have access via the existing site access road and Longlands lane during construction. During operation and, following completion of the PDR, all traffic will enter and access directly onto the recently permitted PDR. At the current time details of the PDR's design have not been finalised as such the access arrangements provided with the assessment are indicative only.

6.3.2 It has been assessed that once operational, the proposed development will generate 54 small vehicle and 114 heavy goods vehicle movements per day (two-way).

6.3.3 This level of increased traffic represents a worst case scenario and its assessed impact upon junction 38 of the M4 motorway is generally less than 10% across the assessed arms and is likely to amount to less than the daily variation in background traffic.

6.3.4 With the addition of only low traffic flows, the traffic impact of the proposed development would be low and is not considered significant. The PDR, by its very nature has been designed to take development traffic from this region and the roundabout included within its scheme provides for access from the site.

6.3.5 The short term traffic impacts of the construction phase have been examined and are considered only to add a marginal increase in traffic to Longlands Lane. The construction phase is not considered likely to bring about any harm or unacceptable impact.

6.3.6 It is therefore concluded that there will be an insignificant traffic impact on the surrounding area.

6.4 Air Quality

6.4.1 An assessment of the air quality effects associated with the proposed development has been undertaken. The assessment includes a description of the legislation and policy framework relating to air quality issues associated with facilities of this type. It also

establishes the current air quality conditions within the study area and describes the methodology used to assess the air quality effects of the proposed facility.

6.4.2 Dispersion modelling was carried out to quantify the impact of emissions to air from the proposed SEP plant near Margam.

6.4.3 It was concluded that the construction phase will generate only very minor emissions from the exhausts of construction vehicles. The effect of dust during this phase will not be significant for the closest residents, assuming the implementation of mitigation measures in accordance with Best Practicable Means.

6.4.4 The impacts of emissions to air from the proposed plant are low and none of the relevant air quality objectives or Environmental Assessment Levels (EALs) for the protection of human health or for the protection of vegetation and ecosystems are predicted to be exceeded.

6.4.5 In the consideration of air quality objectives for the protection of human health, emissions of PM_{10}, CO and HCl were screened out of the assessment due to their very small maximum process contributions (PCs). The maximum PC for SO_2 was 1% of the non-statutory Environmental Assessment Level (EAL) and when combined with a measured background concentration produced a predicted environmental concentration (PEC) that was only 18% of the EAL and therefore can be deemed as insignificant.

6.4.6 The AQMA at Margam had four years out of the five considered in the assessment (2003-2007) where the number of exceedence days for daily average PM_{10} levels breached the maximum permitted 35 per year. The impact of PM_{10} emissions from the Sustainable Energy plant caused no further days where the daily average PM_{10} level was exceeded.

6.4.7 Contributions to nitrogen and acid deposition at Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs) are low.

6.5 Landscape and Visual Issues

6.5.1 An assessment has been carried out to identify the significance of the effect of the proposed SEP on:

- The character of the landscape and its component features; and
- Views of the landscape that people experience.

6.5.2 The significances of landscape impact on the defined character areas are relatively low, the worst impact being Moderate Adverse in two cases. However these are a consequence of the quality and sensitivity of the receiving landscape, rather than from the effects of the proposal. In general the existing study area is heavily influenced by industrial elements, and therefore the introduction of a new industrial development is of less consequence than it would be in other landscapes.

6.5.3 Visual impacts are primarily from the introduction of industrial forms into an already industrialised scene, again resulting in relatively small changes, and consequently being of lower significance.

6.5.4 The nature of the scheme's impact means that it is not feasible to provide effective landscape mitigation measures. Both landscape and visual effects are caused by the large scale industrial elements of buildings and chimneys, which cannot be screened through planting.

6.5.5 The Port Talbot Peripheral Distributor Road would bring receptors closer to the proposed development and therefore a 2m landscaped bund is proposed to reduce close scale visual impacts through screening and boundary establishment.

6.6 Ecology and Nature Conservation

6.6.1 An ecological appraisal has been undertaken to determine the ecological value of the site and the scale of potential impacts on the site itself and the surrounding area. The appraisal has been informed by a Phase I Habitat Survey and Phase 2 Surveys for; Invasive Species, Otter and Water Vole and Reptiles.

6.6.2 No invasive species were observed within the main development site or along its boundaries. However dense stands of *Rhododendron ponticum* were recorded within the wet woodland and dense scrub to the north of the site within which the Wood Chip Storage Unit is to be situated.

6.6.3 During the habitat update survey no protected species or evidence of protected species was observed within the site although it is known from previous surveys that a number of bird species utilise the boundary woodland and scrub for breeding. During on site surveys a small number of bird species were observed using the site for foraging.

6.6.4 It was also noted that the site has some potential for use by Otters for feeding although it is unlikely to be used for resting up given its distance away from the nearest watercourses and the dense scrub located between the areas. During one site visit two Roe Deer (*Capreolus capreolus*) were observed on site and within the adjacent wet woodland.

6.6.5 There is some potential for good populations of reptiles to be found on site, especially Grass Snakes, although this is limited given the tall rank sward and lack of suitable basking areas. A single young grass snake was found on site during the survey within the ditch to the eastern boundary. No other reptiles were found during the surveys.

6.6.6 A number of mitigation measures have been included within the design and management of the proposal. These include:

- Enhancement of remaining habitats through appropriate management and habitat creation through landscape planting to compensate for areas lost including the use of buffers zones within the site boundary itself.
- Ensure that site drainage does not alter the hydrology of the surrounding areas, the use of SUDS should minimise this and provide additional wildlife habitat as well as maintaining water quality in the area.
- Ensure that all pollution prevention measures are installed to control and prevent pollution incidents.

- Create vegetation buffer zones around the site through appropriate landscape planting to minimise disturbance to species in the area from noise pollution, light spill and general site activity.
- Limit light spill through appropriate light management, the use of directional lighting and avoidance of lighting along the boundary areas.
- Maintain reptile exclusion fencing around the site or if this is to be removed ensure that vegetation immediately adjacent to developed areas is suitably managed to create a barrier of unsuitable habitat to discourage reptile activity into the developed area.

6.6.7 The report concludes that there is potential for some residual impacts to remain resulting from noise, light spill, vibration and air pollution and deposition and from the increased activity in the area however with the use of appropriate measures these should be largely short term and of limited significance.

6.7 Hydrology and Flooding

6.7.1 A flood consequence assessment was carried out as part of the Biomass 1 scheme and, along with the findings of the Ground Investigations assessing the groundwater regime, the site levels are to be raised to 6.5 mAOD prior to construction of the plant. This would not only negate the risk of flooding from a 1 in 1000 annual chance flood event but also serve to geotechnically improve the underlying ground conditions through the process of surcharging and consolidation.

6.7.2 The effect of this will be to initially and temporarily impact upon the natural drainage conduits formed within the site boundary potentially leading to new pathways for the perched shallow lying groundwaters to drain into the surrounding land drains and wetlands. Close monitoring of nearby drainage channels during the raising of site levels will be undertaken to assess any temporary surge expulsion of additional groundwaters into the drainage channels.

6.7.3 During construction a temporary settlement lagoon feature will be installed onsite to collect surface water runoff and attenuate its release into the ground. The temporary settlement lagoon feature is positioned towards the site access in the southeastern corner of site and will be infilled following completion of the construction phase.

6.7.4 Other temporary drainage measure are proposed in order to ensure that the construction of the site does not adversely impact on the hydrological regime of the area and its surrounds.

6.7.5 The hydrological assessment concludes that the development area and roads on site is approximately 15,200m^2, which will drain via oil interceptors at an estimated average flow rate of 46m^3 per day.

6.7.6 The total estimated volume of water from the building roofs is approximately 13.4m^3 per day based on an average annual rainfall of 1,110mm/year.

6.7.7 All roof derived rainwater will be partially harvested by employing a Grey water scheme for general use onsite in process whilst the majority may be released into the marshlands to

the west of the site. The incorporation of a SUDS system would allow controlled release into the underlying soils and negate the risk of potentially causing disturbance to the local ecosystem at ground level within the neighbouring marshlands.

6.7.8 Similarly runoff from hardstanding will be released into the ground via SUDS along the western area of site that will naturally drain into the lower neighbouring lands.

6.7.9 As part of the end landscape design a 2.0m high screen earth bund will be located along the eastern boundary of the site. With surface waters directed to western lying Sustainable Drainage Systems any impacts on the bund itself or impacts that may arise from the construction of the bund of the envisaged surface water drainage scheme is considered to be negligible.

6.7.10 Waters generated through plant processes will be treated to the necessary standards and quality prior to discharge, however, there will remain an output of water which does not meet these standards for land disposal and as such this will be disposed of via foul water mains. Any waters not meeting the necessary water quality standards will be piped and connected to mains drainage.

6.7.11 The mains connection is likely to take the form of along the access roadway into the SEP site from the southeast corner which is also shared with Biomass 1 site. The foul water drain will connect to the existing drainage networks which is utilise by the neighbouring Plants to eventually converge along Longlands Lane. Land usage to the north, west and east does not offer a means of foul mains connection, therefore the access road is best served for this purpose.

6.7.12 A proposed composite Drainage Plan for End Design (Operations Phase) detailing the positioning of Soakaway Drainage Systems, interceptors and foul water mains connection for the new SEP development is displayed as Appendix 10.7.

6.8 Hydrogeology and Ground Conditions

6.8.1 The underlying geology of the site indicates a minor aquifer at considerable depth with intermediate to high leachibility soils overlying. However, from ground investigations it is evident that considerable perched water lies at shallow level across the site indicating layers of natural soils with low permeability, retarding the movement of this infiltrated water. It is, therefore determined that the minor aquifer would not be at risk from the new development. Furthermore in light of the findings of the Flood Consequence Assessment the addition of surface water run off into the ground should be compensated by the flood storage capacity calculated based on an end site level of 5.5mAOD (the actual end site level will be 6.50mAOD).

6.8.2 Partial shallow flow of water is envisaged to enter the lower lying protected woodland area immediately south of the site, however, the should not adversely impact the vegetation on this site.

6.8.3 With stringent health and safety and good working practices the risk of chemical spillage is deemed to be negligible and as such the groundwater and site ground conditions should not be influenced.

6.8.4 In summary, the construction phase and operations phase should have a negligible impact on the site and surrounding lands assuming all necessary mitigation practices are implemented along with suitable SUDS designs as proposed.

6.9 Noise and Vibration

6.9.1 At the current time the impacts of the proposed SEP at construction phase have not been calculated as the building of the facility has not been contracted. Best practice measures, in line with government guidance will be followed during the temporary construction phase and details of the noise and vibration impacts at construction will be submitted to the County Borough Council prior to commissioning of the plant.

6.9.2 An assessment of the potential noise and vibration effects from the operation of the SEP has been undertaken in accordance with the appropriate methodologies and relevant British Standards and guidance documents.

6.9.3 The proposed plant would not operate effectively if subject to large amounts of vibration and, as such any vibration has been designed out of the facility. It is therefore concluded that the proposed development will not have a detrimental impact on vibration levels of the area.

6.9.4 The operational noise levels at the identified sensitive receptors have been based on a propagation model defined in ISO9613-2, which assumes worst case light down wind conditions and takes into account the effects of atmospheric attenuation and ground effects. All duty plant was assumed to run on a 24 hour basis. Tonal sources have been designed out of the facility, however a 5db correction for all noise sources has been included to account for any distinctive characteristics that may occur.

6.9.5 In addition the impact of noise generated from operation traffic has been assessed, based on the traffic assessment proposed as part of this submission.

6.9.6 The report concludes that the development will cause no increase in the current ambient noise levels or background vibration at the nearest sensitive receptors.

6.10 Waste

6.10.1 An assessment of the waste implications of the proposal has been undertaken looking at both the waste likely to be generated by the facility and the impact of the proposals on the management of waste within the County.

6.10.2 The assessment has examined the likely quantity and nature of waste generated by both the construction and operational phases. There are no structures on site that will need to be demolished ahead of development and the main construction activities will involve the removal of vegetation and the levelling of overburden material across the site. The site is not considered to be contaminated and it is intended to maximise the reuse of excavated materials on site thereby minimising the requirement for off-site disposal.

6.10.3 General site waste generated throughout construction will be segregated wherever practical in accordance with good industry practice and a detailed waste minimisation

statement will also be submitted prior to development. The effect of waste arisings from the construction phase on local waste management capacity is therefore considered to be of minor significance.

6.10.4 The main residual material arising from the operation of the facility will be the bottom ash remaining after the waste combustion process. Where appropriate, the remaining ash material will be processed at a suitable offsite facility and reused as a secondary aggregate in the construction industry (e.g. road construction). Flue gas treatment residues will be exported from the site in purpose built vehicles for beneficial re-use, re-processing or disposal at appropriately licensed sites. Recycling of the bottom ash and re-processing of flue gas treatment residues will result in beneficial impacts from the scheme in terms of waste arisings and/or landfill diversion.

6.10.5 It is not anticipated that the proposal will generate any commercial waste. Any modest quantities of wastes requiring disposal offsite are likely to have a negligible impact.

6.10.6 The assessment of the impact of the proposals on the management of waste within the County has concluded that the SEP will have a positive effect on the provision of general waste management services for TWW within Port Talbot and the wider South Wales area, by reducing the existing dependence on landfill sites and enhancing levels of materials and energy recovery. The diversion of a large tonnage from landfill and the potential for recovery of electricity will provide a substantial benefit in waste management and resource recovery terms for the local environment and for Port Talbot.

6.11 Community & Social Effects

6.11.1 The potential community and social effects of the proposed development have been assessed. The assessment identifies as the study area of Port Talbot and its surrounds.

6.11.2 Baseline conditions were established using relevant tables form the 2001 Census and other, more up to date, sources where available.

6.11.3 The key impacts identified are the additional employment created in the construction and operational stages. As is usually the case for such capital-intensive projects, the numbers employed in the construction phase exceed those in the operational phase – in this instance, up to about 150 jobs at the peak of construction, compared with approximately 22 permanent jobs when the facility is operational. Impacts are therefore considered to be “moderate beneficial” and “slight beneficial” respectively.

6.11.4 It is concluded that the provision of additional employment in the area will be a benefit. No adverse effects of such provision were identified. However, it was also concluded that the number of jobs created, especially in the operational stage, would not go far to alleviate the difficulties still experienced in the area.

6.12 Archaeology and Cultural Heritage

6.12.1 The proposed development lies on the edge of what was formerly a coastal plain. No archaeological sites are known of within the proposed development area.

6.12.2 A buried peat deposit underlies much of the site. The peat may contain important palaeoenvironmental evidence of how the historic landscape has developed and was utilised. However, the peat is buried beneath made up ground and it is not anticipated that the peat will be disturbed during development.

6.12.3 The peat deposit has been compacted by the made up ground. It is not anticipated that the proposed development will significantly alter this compaction. It is also not expected that the proposed development will lead to drying and degradation of the peat.

6.12.4 The visual impact on nearby Registered Historic Landscapes is assessed as minor, there are no residual impacts.

6.13 Human Health

6.13.1 An assessment concerned with the evaluation of possible effects on the health of humans due to emissions from the Western Wood Energy proposed Sustainable Energy Plant at Margam, Port Talbot was undertaken. This was focused on chemicals, including metals and dioxins, for which any effects are likely to be chronic arising from prolonged exposure.

6.13.2 Potential secondary exposures, following the deposition of metals and dioxins, through the ingestion of affected soils, home-grown produce, beef, milk, pork, poultry and eggs at receptors within the vicinity of the site were also considered in the assessment.

6.13.3 In the absence of UK protocols for this type of assessment, the USEPA methodology "Human Health Risk Assessment Protocol 2005" was used utilising the commercial software IRAP-h View. The USEPA default exposure parameters and toxicological data were replaced by those recommended by DEFRA and the EA reports CLR10 and R&D Publication TOX reports where available

6.13.4 The report concluded that potential exposure to the facility emission with consideration to background exposure, where appropriate, will not pose unacceptable risk to the residential or farmer receptors identified in the vicinity of the proposed facility.

7 Conclusions

7.1.1 This non-technical summary has outlined the findings of the Environmental Impact Assessment (EIA) of the development proposals contained within the Environmental Statement (ES) that accompanies the planning application for an SEP at Margam, Port Talbot.

7.1.2 The EIA has considered the likelihood of significant environmental impacts occurring from the development of the SEP upon the site itself and its surroundings. The environmental issues addressed as part of the scheme have been identified through consultation with the Council and other key statutory bodies.

7.1.3 The ES has not identified any significant impact from the proposed development. It has shown that the development will create both beneficial and slight adverse effects and that mitigation measures embodied within the project design, or imposed through planning conditions, will limit any impacts identified.

8 Glossary of Acronyms

EIA	Environmental Impact Assessment
ERF	Energy Recovery Facility
ES	Environmental Statement
FGT	Flue Gas Treatment
HGV	Heavy Goods Vehicle
EPA	Environmental Permit
IWMS	Integrated Waste Management Strategy
LAS	Landfill Allowance Scheme
LNR	Local Nature Reserve
MLA	Mature Landscape Area
MRF	Materials Recycling Facility
MW	Megawatt (a unit of power)
NPTCBC	Neath Port Talbot County Borough Council
SEP	Sustainable Energy Plant
SINC	Site of Interest for Nature Conservation
SSSI	Site of Special Scientific Interest
TWW	Treated Waste Wood
WS	Waste Strategy

Figures

MARGAM GREEN ENERGY PLANT

Proposed development of a biomass plant and associated infrastructure for the generation of electricity on land off Longlands Lane, Margam, Port Talbot

ENVIRONMENTAL STATEMENT ADDENDUM
VOLUME 3: NON-TECHNICAL SUMMARY

July 2014

Camellia House
Water Lane
Wilmslow
SK9 5BB

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FOREWORD

On 8 March 2011, Western Log Energy LLP gained planning permission (ref. APP/Y6930/10/2135473) from the Welsh Ministers in 2011 for the development of a wood fuelled biomass plant on land off Longlands Lane, Margam, Port Talbot. The planning application was supported by an Environmental Statement (ES).

During the determination of the application, Neath Port Talbot County Borough Council (NPT) identified a number of topics for which further clarification and the submission of additional environmental information would be required. NPT formally requested this further environmental information under Regulation 19 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 by letter dated 13 July 2009. As a result of this request, an ES Regulation 19 submission was prepared and submitted to NPT dated 24 September 2009. This submission supplemented the original ES and now forms part of it.

Margam Green Energy Ltd. is now applying, under Section 70 of the Town and Country Planning Act 1990 (as amended) for a waste wood biomass plant of a similar but slightly amended design to the consented plant (ref. APP/Y6930/10/2135473). The application is supported by an ES in the form of a new ES Addendum submitted alongside the original ES and the associated environmental information.

The ES Addendum is comprised of the following documents:

- The ES Addendum Main Report (Volume 1), which contains the detailed project description; an evaluation of the current environment in the area of the proposed development; the predicted environmental impacts of the scheme; and details of the proposed mitigation measures which would alleviate, compensate for, or remove those impacts identified in the study. Volume 1 also includes a summary of the overall environmental impacts of the proposed development and all relevant schematics, diagrams and illustrative figures;
- The ES Addendum Technical Appendices (Volume 2), which includes details of the methodology and information used in the assessment, detailed technical schedules and, where appropriate, raw data. Volume 2 also contains the original ES submitted in 2008 and the associated environmental information submitted in support of the original application; and

- The ES Addendum Non-Technical Summary (Volume 3), containing a brief description of the proposed development and a summary of the ES, expressed in non-technical language.

Electronic copies of the ES comprising this ES Addendum, the originally submitted ES and associated environmental information are available via email free of charge (make requests to victoria@eco2uk.com). A free electronic CD copy of the full application including the ES can also be made available by Margam Green Energy Ltd. on request. Requests should be made to Margam Green Energy Ltd, Vision House, Oak Tree Court, Mulberry Drive, Cardiff Gate Business Park, Cardiff, CF23 8RS (FAO: Victoria Plageman) or via the above email address. Alternatively, a paper copy of the Non-Technical Summary is available and can be purchased on its own from the same point of contact for £20.

1.0 INTRODUCTION

1.1 Background

1.1.1 In November 2008 Western Log Energy LLP, submitted a planning application, reference P2008/1409, to Neath Port Talbot County Borough Council (NPT) for the development of a wood fuelled biomass plant, referred to within the planning application documents as a Sustainable Energy Plant, on land off Longlands Lane, Margam, Port Talbot.

1.1.2 The planning application was accompanied by an Environmental Statement (ES), hereon in referred to as "the original ES", which was supplemented by further information supplied in September 2009 on a variety of matters. In addition, on 18 February 2010 revised elevations, landscaping arrangements, an air quality statement and an addendum to the Design and Access Statement were submitted to NPT.

1.1.3 The revised application was considered by the Council's Planning Committee on 16 March 2010, where planning permission was refused. The applicant subsequently lodged an appeal against the Council's refusal of the planning application. A Public Inquiry was held between 1st and 3rd February 2011 and the appeal was granted by Appeal Decision dated 8 March 2011 (Ref: APP/Y6930/A/10/2135473).

1.1.4 Since the approval of the consented plant, the developer has been working with technology suppliers on the detailed design in advance of the construction of the plant. This has resulted in a number of amendments being required to the plant, together with some of the supporting infrastructure. As such Margam Green Energy Limited is submitting a planning application for a revised scheme.

1.1.5 The proposed facility is very similar in scale and design to the consented plant, as such much of the information provided in the original application and in support of the subsequent appeal is relevant to the new proposal. On this basis, and in agreement with NPT Council, the applicant has decided to update the original ES (and associated further information) by way of an ES Addendum. The ES Addendum describes the proposed development and

provides an assessment of the likely significant environmental effects that may arise from the construction and operation of the Margam Green Energy Plant.

1.1.6 This Non-Technical Summary provides a brief description of the proposals and a summary of the ES Addendum, expressed in a non-technical language.

1.2 The Scheme and Its Context

1.2.1 As with the consented plant the proposed Margam Green Energy Plant would generate renewable electricity by way of a steam turbine which would be driven through the combustion of treated waste wood (TWW) that would otherwise be disposed of at landfill. The consented plant proposed the combustion of up to 355,000 tonnes per year; Margam Green Energy Limited would reduce this to 335,000 tonnes per year.

1.2.2 As a result the detailed design of the facility, and hence the proposed modifications to the plant, the Margam Green Energy plant would now generate 40MW of renewable electricity. This increase in electrical output is solely as a result of increased efficiency and does not include an increase in the volume waste wood treated at the plant.

1.3 The Applicant

1.3.1 The Applicant, Margam Green Energy Limited, is an independent British company specifically formed to develop the Margam Green Energy Plant (MGEP) project.

1.3.2 Eco2, a joint venture partner on the project, is a creative and open-minded renewable energy company with a practical vision for the future. Eco2 specialises in initiating, developing, financing and operating renewable energy projects throughout the UK and Europe. The company's current activities encompass Biomass, Wind and emerging technologies such as Tidal Power.

1.4 This Document

1.4.1 This document, the Non-Technical Summary, forms part of the overall ES Addendum as described above, which has been prepared to support the

planning application. It provides a brief description of the proposals and a summary of the ES Addendum, expressed in a non-technical language.

1.4.2 Following on from this introduction, Chapter 2.0 outlines the site and its setting, Chapter 3.0 provides a summary of the relevant planning history, Chapter 4.0 provides a description of the proposed development and Chapter 5.0 provides the Best Practicable Environmental Option (BPEO) assessment, an outline of the need for the facility and details of the alternatives considered. Chapters 6.0 to 16.0 provide a summary of the potential environmental impacts of the proposal during its construction and operation, including proposed mitigation measures, under a series of headings. Finally, Chapter 17.0 provides a conclusion to the document.

1.5 Approach to the Assessment of Environmental Effects

1.5.1 The approach adopted in the ES Addendum and this non-technical summary is to provide an update on all matters that have altered since the consent was granted in 2011.

2.0 THE SITE AND ITS SETTING

2.1 Location

2.1.1 The proposed facility is located off Longlands Lane, Margam, Port Talbot at National Grid Reference SS788858.

2.1.2 The development site is part of a wider area allocated for industrial uses which is bounded by Longlands Lane to the south, the A48 (Margam Road) and M4 to the east, the Port Talbot Peripheral Distributor Road to the north and Margam Moors and a railway line to the west.

2.1.3 Figure 1 illustrates the location of the site in context to the surrounding area.

2.2 The Site

2.2.1 The site is approximately 2.86 ha in size. The land is gently sloping from east to west and is bounded by a wooded area to the south and open scrub land to all other directions.

2.2.2 An area of wet woodlands lies to the immediate south of the application site and beyond this to the south and south west is an existing biomass energy plant and the BOC gases installation complex respectively. To the west an extended area of marshy grassland abuts further dense scrub and woodland and a major drainage watercourse called the Upper Mother Ditch. To the east lies improved grazing land, isolated properties and the junction 38 interchange of the M4.

3.0 PLANNING HISTORY AND PLANNING POLICY CONTEXT

3.1 Planning History

3.1.1 The original ES identified the planning history relevant to the proposed development site in Chapter 3.0. This has been updated within the table below.

Application Number	Application	Date and Decision
75/0686	Permanent disposal of surplus material from M4 motorway down to Groes Stage 1	No decision recorded
80/3361	Light and general industry and warehousing and retail warehousing (non-food).	No decision recorded
88/6338	Motel garden centre, filling station service yard etc.	Withdrawn 11/07/88
88/6581	Retail development comprising of food superstore, retail warehouses and garden centre, business industrial park (B1 & B2) petrol filling station and car parking. Including landscape and access roads.	Refused 18/01/89
90/7681	Industrial Park, B1, B2 and B8 (outline) with ancillary facilities including car parking, access roads, service areas and landscaping.	Granted 16/01/91
92/8690	Erect 2 spans of high voltage overhead lines	Granted 12/06/92
93/9228	Extension of time in which to submit reserved matters for 90/7681 above	Granted 08/11/93
P/2004/0035	Proposed Biomass Power Plant	Granted 27/04/04
P2006/0161	Relocated the Western Log Company headquarters (B1, B2, B8 and A1)	Granted 09/01/07
P2007/0292	PDR Stage 2	Granted 28/08/07
P2007/0826	Biomass Power Station (revised design of P2004/0035 above)	Granted 18/9/07
P2009/0267	New sub- station for National Grid	Granted 01/04/10

P2010/1100	Revised PDR Stage 2	Granted 17/02/10
P2010/1101	Relaxation of condition relating to P2007/0292	Granted 07/12/10
P2008/1409	Proposed Sustainable Energy Plant	Refused 16/03/10
APP/Y6930/A/10/2135473	Appeal against the above decision	Upheld 08/03/11
P2012/0189	Proposed link access road to connect the energy plant to the Port Talbot Peripheral Distributor Road	Granted 06/03/14

3.1.2 It is evident from the above, that other than the Council's refusal of planning permission for the Sustainable Energy Plant, the subsequent grant of planning permission for the plant at appeal and the granting of the link access road to connect the energy plant to the Port Talbot Peripheral Distributor Road, nothing material has changed in terms of the site's planning history since submission of the application for the consented plant in 2008.

3.2 Planning Policy Context

3.2.1 An assessment of planning policy is not a requirement of the EIA Regulations and it is not considered appropriate for inclusion with the ES or the non-technical summary. However, a separate Planning Statement has been submitted in support of the planning application and this provides a full appraisal of the planning policy position of the proposed development, in light of any policy changes since the grant of planning permission for the original development.

4.0 DEVELOPMENT PROPOSALS

4.1 Summary of Development

4.1.1 In summary the development will comprise the Margam Green Energy Plant with the potential to manage waste wood that is currently disposed of to landfill, recovering energy to generate renewable electricity.

4.1.2 The facility will utilise 335 000 tonnes per annum of treated waste wood diverted from the commercial and industrial, and Construction and Demolition waste streams in the South Wales Region and surrounding areas. The plant will utilise proven and reliable thermal treatment technology to generate 40MW of renewable electricity for export to the local electricity distribution network.

4.1.3 The proposed plant is illustrated on Figure 2 and comprises the following elements:

- Boiler Building
- Turbine Building
- Service/ E Building
- Air Cooled Condenser
- Fuel Reception Building
- Bottom Ash Storage Area
- Stack and ID Fan
- Wood Chip Storage
- Fuel Preparation Area
- Step-up Transformer
- Fly Ash Silo
- Sedimentation Tank/Neutralisation Tank
- Auxiliary Air Cooler
- Station Auxiliary Transformer
- Fire/Raw Water Tank
- Fire Water Unit
- Oil Tank
- Switch Building
- Additive Silo

- Ancillary development including:
    - Main Entrance
    - Two weighbridges and associated infrastructure;
    - Internal road system and staff and visitor parking for 16 cars
    - Fuelling and vehicle washing facilities
    - Site landscaping
    - Site lighting
    - Temporary Construction Access
    - Substation and Control Building

4.2 Design and Landscaping

4.2.1 The Design Strategy for the Margam Green Energy Plant has focused on providing a high quality proposal. This has evolved from a thorough understanding of the landscape context of the site and guided by the outputs from the Environmental Impact Assessment.

4.2.2 The building layout has been derived from operational requirements.

4.2.3 The site is well defined on three sides by existing woodland and field hedge boundaries. The mitigation proposals therefore provide suitable boundary treatments to assist its integration into the surrounding landscape.

4.2.4 The indicative Landscape scheme presented at Figure 3 includes a number of constituent parts as follows:

- Existing marshy grassland – an area of grassland to the east of the development platform and north of the balancing pond for the consented link road will be retained and fenced at the commencement of development to prevent construction encroachment

- New areas of open grassland will be created around the site periphery using species rich meadow seed mix incorporating wild flowers. Road verges will be established using a species rich grass mix

- Wet woodland / dense scrub – a number of areas of new planting are proposed to mitigate for losses elsewhere on the site. A species

mixture that includes Common Alder, Birch, Hawthorn, Blackthorn, Sessile Oak, Grey Willow and Goat Willow is proposed.

- New native hedgerows area proposed along the consented link road and along the proposed access route to the south of the site (linking to the existing Biomass Plant). Species proposed are Hawthorn, Hazel, Blackthorn, Field Maple and Dog Rose. Where appropriate larger individual tree specimens will also be planted along the hedgerows. Species proposed are Oak and Rowan

- Where appropriate, open elements of the site drainage system (balancing ponds, swales etc.) will be established with suitable marginal and wetland vegetationIt is anticipated that should permission be granted for the Margam Green Energy Plant then a condition requiring a detailed landscaping scheme to be submitted and agreed in writing with the Council would be required.

4.3 Operations

4.3.1 Waste wood collection vehicles arriving at the plant would be weighed on an automatic weighbridge before discharging their load into the fuel storage building. HGVs would be reweighed before leaving the site.

4.3.2 Fuel from the Fuel Storage Building would be fed to the Boiler Building continuously via conveyor.

4.3.3 The wood chip would be burnt within the Boiler Building. The heat released by the combustion of the waste wood would be recovered in a water tube boiler. The superheated steam produced by the boiler would power a turbine that would generate renewable electricity. The electricity generated at the plant would be exported to the local electricity distribution network.

4.3.4 When the wood reaches the end of the combustion process, only a small amount of incombustible material remains. This material is known as ‘bottom ash’ and would be conveyed to a storage container before being taken offsite for reuse or disposal. The bottom ash would be suitable for recycling as a secondary aggregate for use in the construction industry, alternatively the bottom ash would be disposed of at a suitably licensed landfill.

4.3.5 Gases generated during the combustion process would be cleaned in the flue gas treatment plant before being released into the atmosphere. The treatment plant works by using a number of filters and chemicals to remove pollutants from the gases, this process ensures that the plant operates within the emission limits set out in the Waste Incineration Directive. The materials left following the treatment of the combustion gasses would be stored in a secure silo before being removed off site to a suitably licensed landfill.

4.3.6 The Margam Green Energy Plant would operate 24 hours a dat. HGV deliveries would be limited to the following:

- 0700 to 1900 hrs from Monday to Friday;
- 0700 to 1400 hrs on Saturdays.

4.4 Construction

4.4.1 The total construction programme for the proposed development is expected to last approximately 28 months. Initially construction works would involve the layout and establishment of the construction site, this would take approximately three months. Civil works will follow soon after and will include the groundworks and laying of foundations for equipment, followed by the erection of the grate, boiler and flue gas treatment systems. This will be followed by the erection of the building's structural steel work and cladding, and installation of the turbine and electrical works.

4.4.2 Commissioning of the plant will commence following the completion of the plant construction and installation.

4.4.3 Construction operations will generally take place between the following hours:

- 07:00 – 19:00 Monday to Friday
- 07:00 – 13:00 Saturday

4.4.4 No construction works will take place on Sundays or Public Holidays.

4.4.5 However, it is envisaged that non-intrusive activities (such as electrical installations and plumbing etc) would be undertaken outside of these hours in order to minimise overall construction time.

4.4.6 Any intrusive work outside of these hours would be with the prior agreement of the Planning Authority, except in the case of any emergency.

5.0 BEST PRACTICAL ENVIRONMENTAL OPTION (BPEO), NEED & ALTERNATIVES

BPEO

5.1.1 The ES identifies, describes and evaluates the considerations and decisions underpinning the choice of waste management technology and recycling performance, which define the proposal.

5.1.2 In terms of extant national policy, the Wales national waste strategy *Towards Zero* Waste makes no reference to BPEO as a decision making principle for developments that have a waste management component. Likewise *Planning Policy Wales (Edition 6)* and TAN 21 (Feb 2014) have removed reference to BPEO. It remains the case however that the detail of assessment has always been a matter for the determining local planning authority and it is for the individual authority to consider the weight to be given to BPEO in any particular case.

5.1.3 A review of the proposed development has been undertaken referencing the approach adopted for the consented plant in respect of BPEO. This involved testing the proposed development against a number of criteria as follows:

- Environmental
- Economic
- Social
- Practicability
- Compliance with other policies

5.2 Need

5.2.1 The need for the proposed development (and the benefits arising from the scheme) has been considered in the context of a number of strategic policy documents and the current renewable energy position for the UK and Wales. The full assessment is presented within Chapter 4.0 of the Planning Statement. However, the following presents a summary of the case which establishes the need for the proposed development.

The Need and Benefits of Margam Green Energy Plant

- The proposed development would increase the proportion of Neath Port Talbot's existing and future energy requirements to be met through a renewable / low carbon source and help minimise in its carbon footprint.
- The production of up to 40 MW of renewable electricity from biomass would assist in supporting national renewable energy and make an important contribution towards local renewable energy targets.
- The Energy White Paper (2007) and the UK Renewable Energy Strategy (2009) both recognise that biomass is a renewable resource. The latter states: *"biomass is an important tool for tackling climate change, as well as offering new commercial opportunities"*.
- The UK Renewable Energy Strategy (July 2009) sets out that the Government agreed with EU partners to a binding target that 15% of the UK's energy consumption will come from renewable sources by 2020. The Government sees this as a very challenging target and has set out the means by which they intend to achieve it. The Strategy considers all methods of renewable energy generation and states: *"Our analysis suggests that using biomass to generate heat and electricity is a cost-effective way to meet the 2020 renewable energy target… Our analysis indicates that around 30% of the UK renewable energy target could come from bioenergy for heat and power, rising to around 50% if biofuels for transport are included. In addition, it can provide the feedstock for a wide range of sustainable low carbon renewable materials and products"* (Paragraph 4.121).
- A Low Carbon Revolution, the Welsh Assembly Government Energy Policy Statement, which was published in March 2010, builds upon the results of the emerging Bioenergy Action Plan and other work on UK and Welsh energy policy. The Statement requires action to produce low carbon electricity on a large scale using offshore, tidal energy, onshore wind, hydro power and biomass energy. It also sets out that one of the main aims of the Assembly Government is to deliver up to 6 kWh/d/p of electricity from biomass by 2020 (of which 50% will be indigenous and 50% imported).

- The emerging Bioenergy Action Plan for Wales seeks to secure 5 TWh of electricity from renewable biomass by 2020 and states that the use of renewable energy sources will contribute to reducing the amount of carbon dioxide emissions from using fossil fuels per year, which will help the UK meet its target of producing 15% of the total energy used from renewable sources by 2020.

Waste Management Need / Benefits

- Towards Zero Waste (the Wales Waste Strategy) sets targets to reduce the quantities of waste sent to landfill. These are focused on recycling and composting 70% of all municipal and commercial and industrial waste by 2025. It is accepted within national guidance that the balance not recycled will need to be managed further down the hierarchy with a preference for energy recovery (in high-efficiency energy generation plants) over disposal.
- From a national, regional and local perspective, all relevant extant and emerging policy and strategy documents support the principle of thermal treatment of residual waste with efficient energy recovery.
- At a national and regional level the need for new facilities to deal with residual waste is recognised as is its potential use as a fuel.

Other Benefits of the Development

- The economic benefits of the proposed Facility include the creation of approximately 22 new full-time, permanent jobs, together with temporary jobs during the construction phase of the development.

5.2.2 In conclusion, there is a clear, demonstrable need for the proposed Facility and the benefits it would bring in helping to combat climate change through renewable energy production. The scheme offers significant benefits and, in accordance with the identified policy framework, these should be afforded significant positive weight (in planning terms).

5.3 Alternatives

5.3.1 On the basis that the application for the Margam Green Energy Plant is being made to refine the design previously consented, the only alternatives considered by the applicant were in relation to detailed technology solutions. In establishing the design of the facility the applicant has undergone a detailed procurement exercise to enable the development of the most efficient and reliable facility that aligns as closely as possible to the consented scheme, which by virtue of being granted consent was considered to have acceptable effects on the environment. As a result of the detailed design process a more efficient plant is being proposed and therefore this facility would provide even greater renewable energy and climate change benefits to that of the consented scheme.

6.0 SUMMARY OF EFFECTS

6.1 Traffic and Transportation

6.1.1 During construction, access to the proposed development site would be via an access road link to Longlands Lane. However, once constructed the operation traffic would access the site via a link road to the recently constructed Peripheral Distributor Road.

6.1.2 It has been assessed that once operational the proposed development will generate 54 small vehicle and 114 heavy goods vehicle movements per day (two-way).

6.1.3 This level of increased traffic represents a worst case scenario and its assessed impact upon junction 38 of the M4 motorway is generally less than 10% across the assessed arms and is likely to amount to less than the daily variation in background traffic.

6.1.4 With the addition of only low traffic flows, the traffic impact of the proposed development would be low and is not considered significant. The PDR, by its very nature has been designed to take development traffic from this region and the roundabout included within its scheme provides for access from the site.

6.1.5 The short term traffic impacts of the construction phase have been examined and are considered only to add a marginal increase in traffic to Longlands Lane. The construction phase is not considered likely to bring about any harm or unacceptable impact.

6.1.6 It is therefore concluded that there will be an insignificant traffic impact on the surrounding area.

6.1.7 The current proposal scheme would effectively give rise to the same traffic volumes and adopt the same access strategy as the previously consented biomass scheme at the site. Such biomass related development traffic matters have previously been assessed and considered acceptable by a Planning Inspector, who noted that the predicted development traffic volumes and proposed routing strategy via the PDR did not represent a tenable reason for

the refusal of development. The Margam Green Energy Plant proposal scheme is therefore only anticipated to result in negligible residual highways and traffic environmental effects on the surrounding highway network and does not need to be supported by the implementation of specific mitigation measures.

6.2 Air Quality and Human Health

6.2.1 The assessment has identified that the operation of the facility would give rise to a number of substances that would be emitted to the atmosphere. As a result, the potential environmental effects of these emissions have been assessed using a detailed air quality model. The results of the modelling have been assessed against relevant air quality objectives and guidelines identified from national legislation and Environment Agency guidance documents. The assessment has also examined the potential air quality effects of the construction phase.

6.2.2 The assessment concluded that the construction phase will generate only very minor emissions from the exhausts of construction vehicles. The effect of dust during this phase will not be significant for the closest residents, assuming the implementation of mitigation measures in accordance with Best Practicable Means.

6.2.3 The results of the modelling have indicated that the proposed stack would provide more than adequate dispersion to the atmosphere and that the operation of the facility would not have a significant impact on local air quality. No significant operational impacts relating to dust or odour have been identified. As a result, no significant effects on air quality are predicted.

6.2.4 The air quality assessment also examined potential air quality effects on designated ecological sites. The results of the modelling have shown that the facility would not result in significant effects on the designated sites.

6.2.5 In light of the above, no significant effects on air quality are predicted as a result of the construction and operation of the Margam Green Energy Plant.

6.3 Landscape and Visual Impacts

6.3.1 A landscape and visual impact assessment has been undertaken following current best practice guidance. The assessment found that the proposed development would not result in any significant landscape or visual effects.

6.3.2 The proposal consists of a large scale industrial building with a tall stack. It is however proposed within an area allocated for industrial uses, on a site which already enjoys planning consent for a very similar development. The development would also be set against a backdrop of active heavy industry and energy infrastructure.

6.3.3 Two previous LVIA's that were undertaken in respect of the consented development on the site both also found that there would be no significant effects. A review of these assessments found their findings to be sound.

6.4 Ecology and Nature Conservation

6.4.1 An ecological assessment has been undertaken that is based on evaluation of local nature conservation records and the results of field survey work undertaken at the site. The survey data used in the assessment includes data that supported the original application in 2008 and also updated surveys undertaken in 2013 and 2014.

6.4.2 No invasive species were identified within the main development site or along its boundaries. However dense stands of *Rhododendron ponticum* were recorded within the wet woodland and dense scrub to the north of the site.

6.4.3 The site and the adjacent habitats have the potential to support breeding birds and there is some potential for good populations of reptiles to be found on site, especially Grass Snakes.

6.4.4 A series of mitigation measures have been proposed that includes the trapping and translocation of Grass Snakes to a nearby receptor location. A landscape scheme is also proposed that would help mitigate the effects of the proposed development on the habitats currently found at the site. This scheme would include the provision of an ecological mitigation area to the north of the site. This would fall outside

6.4.5 The ecological assessment concludes that through the implementation of the proposed mitigation measures it would be possible to avoid or reduce many of the potential adverse effects from the scheme to an acceptable level.

6.5 Hydrology and Flood Risk

6.5.1 An assessment of the surface water and flooding impacts of the proposed facility has been undertaken, including a formal Flood Consequences Assessment. The assessments were based on the information gathered from the ground investigation desk study, topographic survey, Environment Agency data and previous flood risk assessments undertaken at the site.

6.5.2 Standard best practice construction methods would be implemented to ensure that no water quality impacts result from the construction works. These would be documented in the Construction Environmental Management Plan and would include measures such as storage of fuel, oils and chemicals in bunded areas and use of settlement lagoons.

6.5.3 The development site is located within an area susceptible to flooding. However, the assessment has demonstrated that by raising the development platform to 6.79m AOD in accordance with condition 5 of the consented scheme then flood risk at the site can be mitigated. Furthermore it is recommended that in order to mitigate against any residual risk of flooding from groundwater and surface water, the finished floor level would be set at a minimum of 0.15 m above adjacent ground levels following reprofiling of the site. This would enable any potential surface water to be conveyed safely across the site without affecting property in accordance with the approach promoted by DEFRA.

6.5.4 Other potential impacts during the operation phase of the development include the potential to increase offsite flood risk and the potential for pollution of local watercourses. Mitigation in the form of an onsite attenuation lagoon and integrated pollution prevention measures would mitigate these effects.

6.5.5 Following implementation of the proposed mitigation measures the development is expected to have an overall negligible impact on hydrology and flood risk during both the construction and operation phases, with some

minor beneficial impact in respect of land drainage and surface water quality through the incorporation of SuDS.

6.6 Hydrogeology and Ground Conditions

6.6.1 The underlying geology of the site indicates a minor aquifer at considerable depth with intermediate to high leachibility soils overlying. However, from ground investigations it is evident that considerable perched water lies at shallow level across the site indicating layers of natural soils with low permeability, retarding the movement of this infiltrated water.

6.6.2 It is, therefore determined that the minor aquifer would not be at risk from the new development.

6.6.3 Partial shallow flow of water is envisaged to enter the lower lying protected woodland area immediately south of the site, however, this should not adversely impact the vegetation on this site.

6.6.4 With stringent health and safety and good working practices the risk of chemical spillage is deemed to be negligible and as such the groundwater and site ground conditions should not be influenced. In summary, the construction phase and operations phase should have a negligible impact on the site and surrounding lands assuming all necessary mitigation practices are implemented along with suitable SUDS designs as proposed.

6.7 Noise

6.7.1 To establish any likely impact from noise a baseline noise survey was undertaken to determine existing noise levels in the local area. Appropriate noise guidance and standards have been used to determine the potential noise impact from the proposal. Impacts from both the plant operations and vehicle movements have been assessed.

6.7.2 For operational noise, the introduction of appropriate mitigation measures relative to building design and attenuation measures relative to the nearest residential receptor, would ensure that the resultant noise levels are within appropriate guidance and standards and are not considered to be significant.

The measures would be based on the employment of best practice measures to mitigate any potential peak noise sources

6.7.3 Noise impacts from operational traffic remains unchanged from the original ES noise assessment and therefore no significant impact.

6.8 Waste Management

6.8.1 The Margam Green Energy Plant is designed to manage waste wood; reducing the amount of waste currently assigned to landfill whilst using the waste as a resource for the recovery of energy. However, the facility itself, both during the construction and operational phases, would result in the generation of waste.

6.8.1 During the construction phase there is the potential to create excess volumes of materials which must be managed. These include, but are not limited to, concrete, wood, metals, soils and sub soils. During the operational phase, bottom ash, flue ash and commercial waste would be generated.

6.8.2 The conclusions of the assessment can be summarised as follows;

- substantial beneficial impact arising from site preparation, namely through the use of imported waste material for raising of levels;
- moderate adverse impact if waste generated during the construction phase is sent to landfill;
- moderate adverse impact arising from the generation of bottom ash and flue gas and the need to manage this waste; and
- minor adverse impact from the generation of commercial waste during operation.

6.8.3 The following mitigation measures were identified;

- minimisation of construction waste followed by re-use and recycling throughout each phase of the construction process;

- good site working practices including effective ordering of materials and good separation of waste types; and

- suitable storage and disposal systems for commercial waste.

6.8.4 The assessment has demonstrated that there would be no significant effects as a result of waste generated from the construction and operation of the facility.

6.9 Community and Social Effects

6.9.1 The potential community and social effects of the proposed development have been assessed.

6.9.2 The key impacts identified are the additional employment created in the construction and operational stages. As is usually the case for such capital-intensive projects, the numbers employed in the construction phase exceed those in the operational phase – in this instance, up to about 150 jobs at the peak of construction, compared with approximately 22 permanent jobs when the facility is operational. Impacts are therefore considered to be “moderate beneficial” and “slight beneficial” respectively.

6.9.3 It is concluded that the provision of additional employment in the area will be a benefit. No adverse effects of such provision were identified.

6.10 Archaeology and Cultural Heritage

6.10.1 An assessment on cultural heritage features at the site and in the surrounding area has been undertaken.

6.10.2 The proposed development lies on the edge of what was formerly a coastal plain. No archaeological sites are known of within the proposed development area and therefore no impact on the known archaeological resource would occur.

6.10.3 A buried peat deposit underlies much of the site. The peat may contain important palaeoenvironmental evidence of how the historic landscape has developed and was utilised. However, the peat is buried beneath made up ground and it is not anticipated that the peat will be disturbed during development.

6.10.4 In relation to indirect effects on the settings of historic assets the assessment has concluded that there would not be any significant effects on assets within the study area. This concurs with the conclusions reached by the Planning Inspector that granted permission to the previous scheme.

6.11 Grid Connection

6.11.1 Margam Green Energy Plant would generate electricity for export to the local electricity distribution network. The grid connection works do not form part of the Planning Application. However, on the basis that export of electricity is an integral part of the scheme it is considered appropriate that the potential environmental impacts associated with the connection to the local electricity grid are assessed.

6.11.2 The assessment concludes that no significant residual adverse impacts are likely to arise from the construction or operation of the grid connection.

7.0 CONCLUSIONS

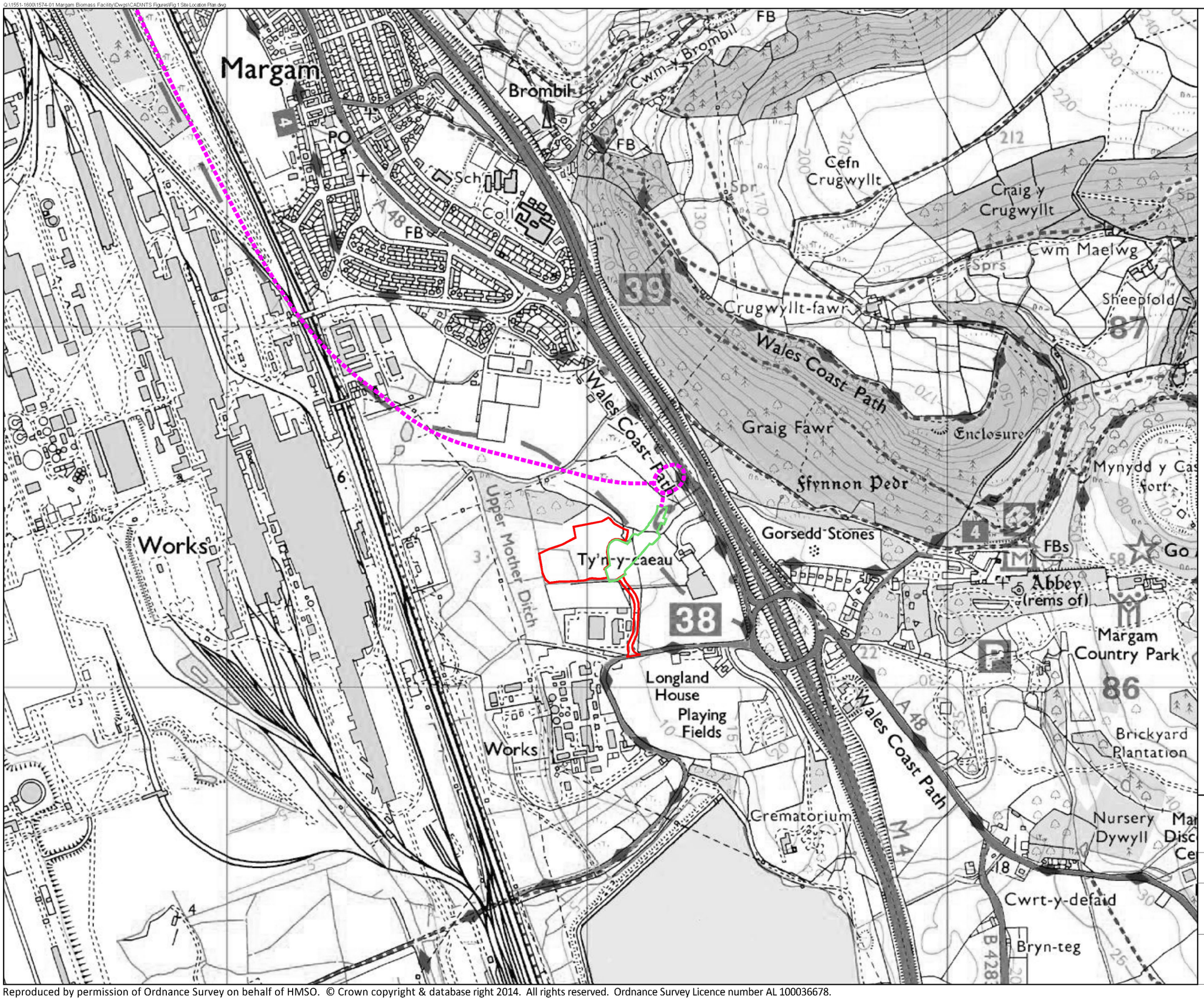
7.1.1 This non-technical summary has outlined the findings of the Environmental Impact Assessment (EIA) of the development proposals that accompanies the planning application for a Green Energy Plant at Margam, Port Talbot.

7.1.2 The EIA has considered the likelihood of significant environmental impacts occurring from the development of the Green Energy Plant upon the site itself and its surroundings.

7.1.3 The ES Addendum has not identified any significant impact from the proposed development. It has shown that the development will create both beneficial and slight adverse effects and that mitigation measures embodied within the project design, or imposed through planning conditions, will limit any impacts identified.

FIGURES

Q:\1551-1600\1574-01 Margam Biomass Facility\Dwgs\CAD\NTS Figures\Fig 1 Site Location Plan.dwg



axis

- Application Boundary
- Approximate New Peripheral Distributor Road Route
- Link Access Road

Margam Green Energy Plant	
ES Addendum NTS Figure 1	
Site Location Plan	
Scale 1:10,000@A3	Date July 2014

Q:\1551-1600\1574-01 Margam Biomass Facility\Dwgs\CAD\NTS Figures\Fig 2 Site Layout.dwg

axis

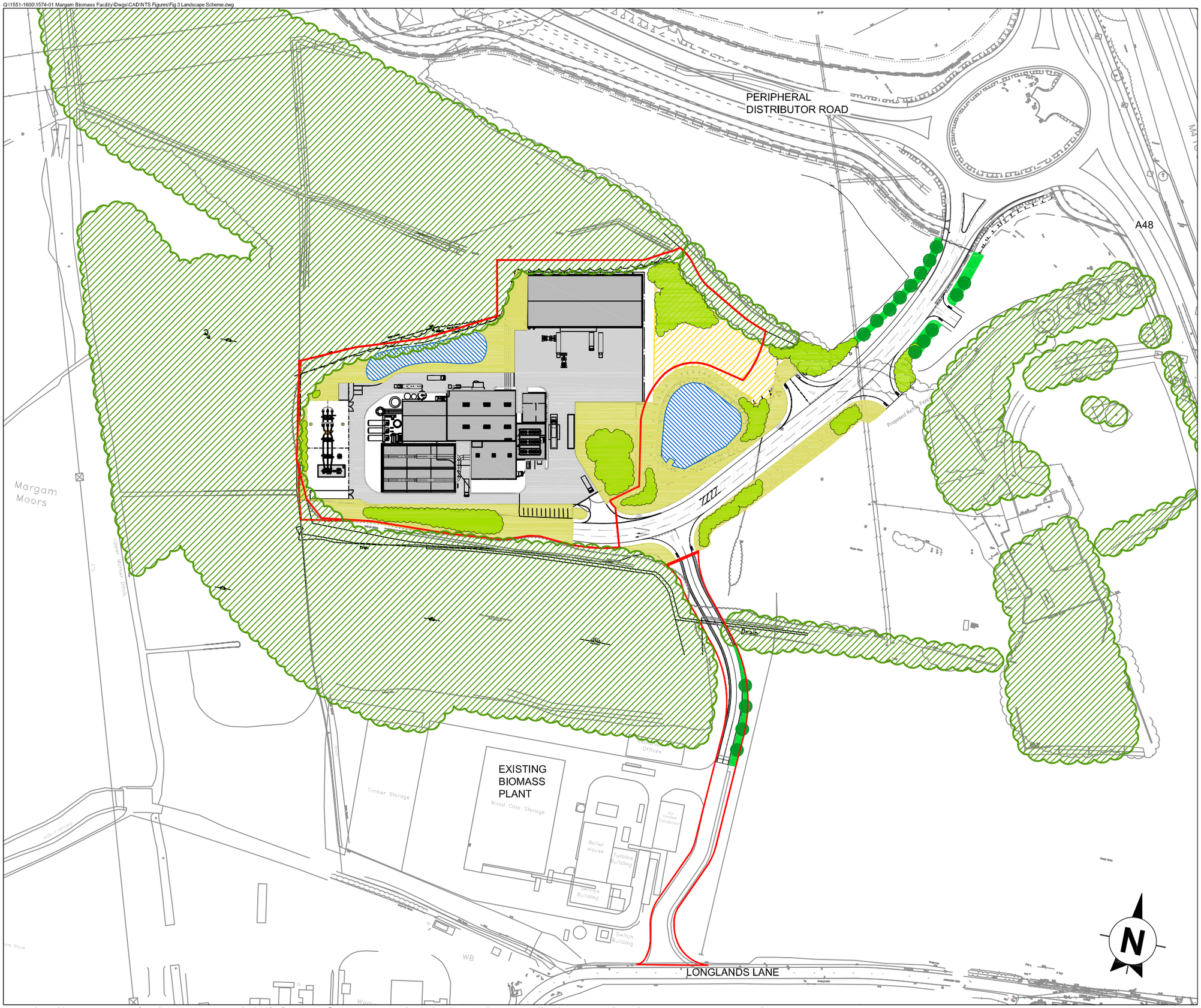
KEY TO BUILDINGS

1. Wood Chip Storage Silo.
2. Conveyor.
4. Fuel Reception.
5. Main Gate / Entrance.
6. Weigh Bridge.
7. Service E Building.
8. Auxiliary Air Cooler.
10. Boiler Building.
11. Turbine Building.
12. Stepup Trafo & Station Auxiliary Transformer.
13. Sedimentation Tank / Neutralization Tank.
14. Oil Tank.
15. Air Cooled Condenser.
16. Bag Filter.
17. Stack & ID Fan.
18. Fly Ash Silo.
19. Bottom Ash.
20. 132kV Substation.
21. Firewater Tank
22. Condensate Tank
23. Ammonium Tank

Spreads
Culvert
P/R
Undergrowth
End of Ditch
Drain
Water Course
P/W

Margam Green Energy Plant	
ES Addendum NTS Figure 2	
Site Layout	
Scale 1:800@A3	Date July 2014

Q:\1551-1600\1574-01 Margam Biomass Facility\Dwgs\CAD\NTS Figures\Fig 3 Landscape Scheme.dwg



axis

- Planning Application Boundary
- Existing Tree Cover
- Proposed Dense Scrub/Wet Woodland
- Marshy Grassland
- Grass
- Water Bodies
- Hedgerow
- Hedgerow Trees

Note:
Landscape proposals shown outside red line are to be implemented as part of separate link road consent and are shown for information only.

Margam Green Energy Plant

ES Addendum NTS Figure 3

Landscape Scheme

Scale	Date
1:1500@A3	July 2014