BARRY ENERGY RECOVERY LTD

BARRY ENERGY RECOVERY FACILITY
- PLANNING STATEMENT

December 2008

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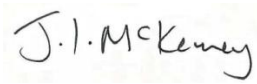
Prepared by	**:**	 **James McKemey**
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ABBREVIATIONS

AQS	Air Quality Strategy
CEMP	Construction Environmental Management Plan
EA	Environment Agency
EAL	Environmental Assessment Level
EfW	Energy from Waste
EIA	Environmental Impact Assessment
ES	Environmental Statement
EU	European Union
IEMA	Institute of Environmental Management and Assessment
LDP	Local Development Plan
LPA	Local Planning Authority
MW_e	Mega Watts (electrical)
BERL	Barry Energy Recovery Ltd
NTS	Non-Technical Summary
PB	Parsons Brinckerhoff Ltd
PPW	Planning Policy Wales
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TAN	Technical Advisory Notice
UDP	Unitary Development Plan
WRH	Waste Reception Hall

SECTION 1

BACKGROUND AND INTRODUCTION

1 BACKGROUND AND INTRODUCTION

1.1 Introduction

1.1.1 This Planning Statement provides supporting information relating to the proposal by Barry Energy Recovery Ltd. (BERL) part of the BioGen Power Limited (BioGen Power) group of companies to build and operate a 7.5 megawatt (MW_e) Energy Recovery Facility at Barry, Vale of Glamorgan. The application site extends to 1.6 Ha and is shown bordered red on Figure 1 accompanying the planning application which also identifies land under the applicants control bordered blue. The Facility will process approximately 80,000 tonnes of residual waste per annum to create renewable energy for transfer to the National Grid system. It is estimated that the proposed facility will generate enough electricity to power approximately 11,000 properties in Barry. The purpose of this Planning Statement is to:

- Provide background on the proposed development, the applicant and the need for the facility;
- Describe the proposed development;
- Outline the methodology applied in formulating the development Facility in the context of the Environmental Impact Assessment (EIA) (it should be noted that the complete findings of the EIA are set out in the separate Environmental Statement (ES)); and
- Assess the proposal's compatibility with relevant Waste Planning Policies.

1.2 Background

1.2.1 The proposed development is a 7.5 MW_e energy recovery plant, that will allow the conversion of non-hazardous residual commercial and industrial (CIW), construction and demolition (C&D) and municipal solid waste (MSW)/refused derived fuels (RDF) into renewable energy (electricity and heat). The Facility will have the capacity to process approximately 80,000 tonnes of local waste per annum and the applicant has targeted the CIW and C & D waste streams based upon the need for recovery capacity within the area.

1.2.2 The applicant proposes to construct and operate an Energos Energy Recovery Facility. The Energos technology was developed in Norway between 1990 and 1997 at the SINTEF in Trondheim. SINTEF is the largest independent research organisation in Scandinavia. Every year, SINTEF supports the development of 2000 or so Norwegian and overseas companies via research and development activity. The design brief was to develop a small scale Energy from Waste Plant which could provide small communities with a cost effective alternative to mass burn incineration with minimum emissions to atmosphere and a high flexibility in handling different waste types and calorific values. The technology developed is a two stage thermal process that eliminates the need for sophisticated and expensive flue gas treatment. The first stage heats the waste in a reduced oxygen environment converting the material into a synthetic gas fuel (i.e. gasification). The gas is then burned as an efficient fuel in an oxygen rich environment and the energy (in the form of steam) from the combustion is used to drive a turbine. The gasification process is classed as Advanced Thermal Treatment under the United Kingdom's (UK) Renewable Obligations Order.

1.2.3 In 1997 the first pilot plant was commissioned in Ranheim, Norway. Today there are seven operational Energos facilities in Europe – five in Norway, one in Germany and one, the most recent to be commissioned, on the Isle of Wight. Unlike many emerging thermal treatment technologies the Energos Energy Recovery Facility has a proven operational and environmental track record. In December 2001 Juniper Consultants carried out an independent due diligence review of the Energos energy recovery process and stated:

'The claim by Energos that the process is environmentally friendly is backed up by very low pollutant levels as measured by Hurum and Averoy. These emissions are probably the lowest measured anywhere for this type of process, particularly the NOx figures which can only be achieved by competing technologies with the application of de-NOx systems.'

1.2.4 Annual operating efficiency is predicted to be approximately 90% with downtime due to planned routine maintenance. However as the technology is modular, maintenance is staggered in order to provide a continuous waste disposal service.

1.2.5 With seven operating plants and collectively in excess of 400,000 operating hours, the plant demonstrates excellent reliability and emissions track record. In February 2008, Energos signed contracts with Hafslund Heat & Infrastructure AS, to supply an Energos facility at Borregaard Industries Limited, Sarpsborg Chemical plant in Norway. This facility is the second facility supplied by Energos in order to provide renewable energy to Borregaard Industries and will dispose of 80,000 tonnes of local waste per year. The initial Energos facility has been in successful operation since 2003.

1.2.6 The proposed Facility at Barry would be a disposal facility with energy recovery. Once waste has been deposited at the plant it is converted to renewable energy, bottom and fly ash and a flue gas. The renewable electrical energy produced can be supplied to the National Grid or directly to businesses, the steam can be used in district heating networks or supplied directly to local industry and the ash residues can be recycled for use in the construction industry (subject to appropriate consents/licenses). The Facility is therefore a sustainable waste disposal solution operating at very high efficiency. Based on a design life of 25 yrs the Facility would provide the equivalent landfill disposal capacity of 2 million m^3.

1.2.7 The small scale nature of the Facility means recycling/recovery initiatives will not be discouraged so the Facility can be a final disposal solution as part of a progressive integrated and sustainable waste management strategy.

1.3 The Applicant

1.3.1 BERL is part of the BioGen Power Ltd. (BioGen Power) group of companies.

1.3.2 BioGen Power is one of the UK's fastest growing and most dynamic renewable energy companies. BioGen Power aims to be a leader within the ATT (Advanced Thermal Treatment) EfW (Energy from Waste) sector, developing, building and operating high-tech, small-scale, energy recovery facilities across the UK.

1.3.3 BioGen Powers' strategy is to build and operate small-scale Energy Recovery Facilities close to waste sources to allow individual areas to deal with their own local waste as part of a progressive integrated waste management strategy for the recycling, treatment and disposal of non hazardous waste arisings.

1.3.4 BioGen Power Ltd is 25% owned by ENER-G plc, which are the parent company of the Energos technology provider.

1.4 Statutory Requirements

Introduction

1.4.1 The proposed Energy Recovery Facility falls under Schedule 1 Part 10 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended) (hereafter referred to as the EIA Regulations) therefore an Environmental Impact Assessment (EIA) is mandatory.

1.4.2 In recognition of the need for an EIA the Planning Application is accompanied by an Environmental Statement (ES), with a Non-Technical Summary (NTS) and relevant plans.

1.4.3 The drawings and figures submitted with this application are:

- Figure 1 - Application and Land Interest Boundary
- Figure 5 – Vale of Glamorgan UDP Proposals Map
- Drawing 08-1353-S01 - Site Photographic Analysis
- Drawing 08-1353-P01 - Proposed Site Layout
- Drawing 08-1353-P02 - Proposed West Facing Elevation
- Drawing 08-1353-P03 - Proposed North Facing Elevation
- Drawing 08-1353-P04 - Proposed East Facing Elevation
- Drawing 08-1353-P05 - Proposed South Facing Elevation
- Drawing 08-1353-P06 - Sketch Proposed Perspectives
- Drawing 08-1353-P07 (sheets 1 - 3) - Sketch Proposed Photomontages
- Drawing P3706-BARRY-SK006 Rev X1 – Admin Building (3 Floors)

Environmental Impact Assessment Scoping

1.4.4 A request for the Local Planning Authority (LPA) to provide a formal Scoping Opinion was issued to the LPA in April 2008.

1.4.5 The LPA was provided with background information on the project, the location of the facility, the proposed technology and an appraisal of the potential environmental impacts associated with the development that were thought to warrant further investigation as part of the proposed EIA, so that effective consultation could be undertaken with statutory consultees.

1.4.6 A formal Scoping Opinion was issued to PB by the LPA on 2 June 2008 (See Appendix A) identifying the issues that the LPA and the statutory consultees expected to see addressed in the ES. These issues are summarised in the ES.

The Environmental Impact Assessment

1.4.7 PB has undertaken the EIA focusing on those elements that the LPA requested to be addressed in their Scoping Opinion. This included the identification of any sensitive aspects of the site and its surroundings. Potential environmental effects have been identified, assessed and potential mitigation has been proposed. The findings of the EIA are presented in the ES. Discussions with the LPA regarding the scope of the ES have allowed Cultural Heritage to be de-scoped from the assessment as the site comprises made ground and has been disturbed by previous uses. It is therefore considered to have limited potential for cultural heritage.

1.4.8 The ES:

- Summarises the scope and approach of the EIA;
- Describes the proposed Facility at preliminary design stage for which planning permission will be sought;
- Describes the baseline environment;
- Describes the main environmental effects of the proposed Facility identified to date in detail, both beneficial and adverse effects; and
- Identifies the environmental mitigation measures that would minimise the environmental impact.

1.4.9 In addition, a NTS of the ES has been prepared as a separate stand-alone document.

1.4.10 As a result, the combined documentation provides adequate information to assess the merits of this application.

1.5 The Need for the Facility

Introduction

1.5.1 This section considers the need for new waste management infrastructure in The Vale of Glamorgan (VoG) and the surrounding Local Authority (LA) areas of Bridgend, Rhondda Cynon Taff (RCT) and West Cardiff.

Overview of the Waste Management Context

1.5.2 The proposed Facility is aimed at contributing to sustainable waste management. All sections of society produce waste and have been doing so in ever increasing quantities over recent years. Traditionally most of this waste has been managed by disposing of it to landfill. However the way in which we manage our waste is currently undergoing substantial change.

1.5.3 It is no longer acceptable to simply throw waste away, it must be first treated to remove wastes that can be reused and recycled, to remove wastes from which value can be recovered, and to process wastes in a way that leaves the residues more stable, thus reducing their potential effect on the environment. Most notably the waste hierarchy has been introduced which together with targets set by the EU

Landfill Directive (1999/31/EC) has presented the UK with significant challenges relating to the need to divert biodegradable waste from Landfill. The UK government has also introduced the Landfill Tax Regulations 1996 which provide fiscal drivers for commerce and industry and LA'S to find alternative methods for treating and disposing of controlled waste – currently the standard rate of landfill tax is £32 per tonne which applies to non inert waste, but this will increase by £8 per year (April) until 2010/11.

Waste Management in Wales

1.5.4 Wise about Waste is the National Waste Strategy for Wales (The Strategy) that replaces the Waste Strategy 2000 (England and Wales). The Strategy has been developed to address Wales' over reliance on landfill as a final disposal solution. The Strategy implements the UK's targets as detailed in relevant European Council (EC) waste directives.

1.5.5 In relation to the amount of commercial and industrial waste (CIW) sent to landfill, the UK targets are:

- To reduce the amount of CIW sent to landfill to less than 85% of that landfilled in 1998;
- By 2010 to reduce the amount of CIW going to landfill to less than 80% of that landfilled in 1998.

1.5.6 To divert biodegradable waste from Landfill:

- By 2005 to reduce the amount of bio-degradable CIW sent to landfill to 85% of that landfilled in 1998; and
- By 2010 to reduce the amount of biodegradable CIW going to landfill to 80% of that landfilled in 1998.

1.5.7 And in relation to Construction and Demolition waste (C&D) - To reuse and recycle C&D waste

- By 2005 to re use or recycle at least 75% of C&D waste produced; and
- By 2010 to reuse or recycle at least 85% of C&D waste produced.

1.5.8 Targets in relation to Municipal Solid Waste (MSW) are as follows:

- By 2010 no more than 75% of the Biodegradable Municipal waste produced in 1995 can be landfilled;
- By 2013 no more than 50% of the Biodegradable Municipal waste produced in 1995 can be landfilled; and
- By 2020 no more than 35% of the Biodegradable Municipal waste produced in 1995 can be landfilled.

1.5.9 In relation to recycling and composting of MSW the targets set by the WAG are

- 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; and

- By 2009/10 achieve at least 40% recycling/composting of municipal waste with a minimum of 10% composting (with only compost derived from source segregated materials counting) and 10% recycling.

1.5.10 According to The Environment Agency Wales (EA) waste return data from licensed sites in 1989/99, 4,143,000 tonnes of CIW, C&D and MSW were landfilled, although a further 1 Million tonnes were sent to transfer stations where the final disposal option is likely to have been landfill. The figures indicate that in 1998/99 Wales landfilled 77% of all waste arisings demonstrating the over reliance on landfill as a final waste disposal solution.

Need Assessment - Sub Regional Context

1.5.11 The Proposed Facility is able to accept a wide range of waste types including CIW, C & D, MSW, Refuse Derived Fuel (RDF) and Agricultural waste.

1.5.12 The proposed Facility is located in the Vale of Glamorgan but would provide Sub Regional merchant disposal capacity. The Sub Region comprises the following local authority areas:

- Vale of Glamorgan,

- West Cardiff,

- Rhondda Cynon Taff, and

- Bridgend

1.5.13 The Facility is well located to service the disposal requirements of the Sub Region, being in close proximity to Junction 33 and Junction 34 of the M4.

Commercial and Industrial and Construction and Demolition Waste Arisings

1.5.14 In 1998/999, a survey of businesses indicated that the South East Region (the Region) generated approximately 3 million tonnes of CIW. However the SE Wales Regional Waste Strategy (SE Strategy) states:

- *"the sample size does not support high levels of precision for local estimates"* and that

- "It must be repeated that the forecast figures give a broad indication of possible trends at regional level but at LA level the figures must be considered as less than robust."

1.5.15 The South East Regional Waste Group – Annual Monitoring Report 2007 (the 2007 Report) forecasts Regional CIW airings to be 1.15M tonnes by 2010 and 1.12M tonnes by 2014.

1.5.16 The 2007 Report indentifies that a significant proportion of the Regions CIW arises within the Sub Region that the proposed Facility would serve. Forecast airings for the

Sub Region are approximately 660,000 tonnes. The data available for the tonnage of CIW disposed of to landfill in the Sub Region are not verified so this assessment assumes that 40% of airings are recycled or reused. The remaining 60% is residual CIW, which is disposed of to landfill.

1.5.17 Very little data are available for predicted C&D waste arising within the Sub Region. It is assumed that in excess of 1 Million tonnes of C&D is generated and that 80% of this is recycled. The remaining 20%, or 200,000 tonnes, is landfilled.

1.5.18 Assuming that 40% of CIW and 80% of C&D waste arisings in the Sub Region are either reused or recycled, by 2010 the Sub Region will require disposal capacity for approx. 600,000 tonnes of residual CIW and C&D waste. The proposed Facility would provide approx 13% of the disposal capacity required.

Current CIW and C&D Waste disposal arrangements

1.5.19 There are no landfill facilities (other than small inert landfill sites) within the VofG. The nearest landfill facilities are located in Merthyr Tydfil (Trecatti Landfill site) and Aberdare (Bryn Pica Landfill Site). The continued transportation of waste from the VofG to these remote disposal facilities is not sustainable and does not accord with the principles of Wise about Waste, particularly the Proximity Principle and Regional Self Sufficiency. Alternative disposal capacity to deal with the areas residual CIW and C&D waste is urgently required.

Municipal Solid Waste Arisings

1.5.20 The Report on the Landfill Allowances Scheme (LAS 08) Wales 2007/2008 was published in September 2008 and is considered to provide the most accurate and up to date assessment of MSW arisings for Wales. The report covers the period 1st August 2007 to 31st March 2008.

1.5.21 The LAS 08 Wales was established through the Landfill Allowances Scheme (Wales) Regulations 2004 (the 2004 Regulations). The 2004 Regulations establish the Environment Agency as the monitoring authority for Wales.

1.5.22 The Landfill Allowance Scheme aims to divert the amount of bio-degradable municipal waste (BMW) from landfill by setting limits on the amount that Local Authorities in Wales can landfill. Targets for the diversion of BMW are as follows:

- By 2010 reduce the amount of BMW going to landfill to 75% of that produced in 1995;
- By 2013 reduce the amount of BMW going to landfill to 50% of that produced in 1995; and
- By 2020 reduce the amount of BMW going to landfill to 35% of that produced in 1995.

1.5.23 In 2007/08, according to the LAS 08, the Sub Region produced a combined total of approx. 370,000 tonnes of MSW. Predications of waste growth in Wales vary from 1.5% to 3% and therefore this assessment considers 1.5% as a best case and 3% as a worst case scenario. Using the 2007/08 MSW arisings and waste growth **predictions, by 2010/11 the Sub Region will produce between 386,000 and**

413,000 tonnes of MSW, rising to between 415,000 and 479,000 tonnes by 2015 and by 2020, between 448,000 and 555,000 tonnes will be generated.

1.5.24 Wise about Waste requires LA's in Wales to recycle or compost at least 40% of all MSW arisings by 2010, with that percentage increasing in later years. Using the predicted waste growth figures referred to above, by 2010 the Sub Region will need to recycle/compost between 195,000 and 203,000 tonnes of MSW. Current rates of recycling for the authorities of VofG, RCT, Bridgend and Cardiff are 34% 32%, 33% and 34% respectively.

1.5.25 By 2010/11, when the Facility is anticipated to be operational, the Sub Region will need to recycle/compost between 154,000 and 165,000 tonnes of MSW to meet the target rate of 40% and, between 231,000 and 248,000 tonnes of MSW to achieve 60% composting/recycling.

1.5.26 The above assessment of MSW arisings in the Sub Region indicates that although considerable progress has been made towards achieving the WAG's target of recycling/composting 40% of MSW arisings by 2010, further work is required to meet and then exceed this target.

Current MSW Disposal Arrangements

1.5.27 According to the LAS 08 the current disposal arrangements within the sub region are as follows:

- Vale of Glamorgan's MSW disposal requirements are provided for at the Trecatti Landfill Site in Merthyr Tydfil;
- Bridgend's does not have a landfill disposal facility – its disposal requirements are provided for at The MRF and Energy Centre in Swansea, Pwllfawatkin Landfill Site in Neath and Port Talbot and Nantycaws Landfill Site Carmarthen;
- West Cardiff's MSW disposal requirements are provided by Lamby Way Landfill Site; and
- Rhondda Cynon Taff's MSW disposal requirements are provided for by Bryn Pica Landfill Site in Aberdare.

1.5.28 In South Wales a number of LA's are working together to procure waste management infrastructure to treat and dispose of MSW. The timescales to secure non landfill treatment/disposal infrastructure, that will allow the authorities to meet the Landfill Directive targets, are becoming increasingly tight even if the 40% recycling target by 2010 is achieved. An assessment of MSW waste arisings and recycling/composting rates indicates that the proposed Facility could provide residual MSW disposal capacity for the Sub Region in the event that the procurement of any preferred waste management infrastructure options, as referred to in the SE and SW Regional Waste Plans, are delayed. Further, the Facility could provide disposal capacity for RDF produced by Mechanical Biological Treatment (MBT) plants which is preferable to the RDF being landfilled.

1.5.29 Following an assessment of waste arisings in the Sub Region the Applicant predicts that by 2010, when the Facility is planned to be operational, 600,000 tonnes of CIW and C&D waste will continue to be landfilled in the Sub Region. Further more, if suitable arrangements are not in place to treat residual MSW arisings by 2010, the

Sub Region will require disposal capacity for 765,000 tonnes of residual CIW, C&D and MSW (Assuming 60% composting/recycling of MSW).

1.5.30 There is a demonstrable need for sustainable CIW/C&D disposal capacity within the Sub Region and by 2010 the proposed Facility would provide 13% of the required CIW and C&D disposal capacity. Currently a significant proportion of the waste arisings in the four local authority areas is transported and disposed of outside the area. This situation is unsustainable and conflicts with the driving principles set out within Wise about Waste particularly Self Sufficiency and the Proximity Principle.

1.5.31 BERL's proposal to construct and operate an Energy Recovery Facility in VoG will provide businesses in VoG, Bridgend, West Cardiff and Rhondda Cynon Taff with a sustainable, reliable and cost effective waste disposal solution which will contribute to the economic growth of the Sub Region.

SECTION 2

SITE DETAILS

2 SITE DETAILS

2.1 Introduction

2.1.1 This section explores the nature of the site and the surrounding environment and sets the context in order to demonstrate the suitability of the site for the proposal.

2.2 The Site and its Environs

Overview

2.2.1 The site is situated on a level plot covering approximately 1.6 ha off Atlantic Way within Barry Docks (NGR: 312810, 167260). The site is approximately 100m south east of eastern dock wharf, approximately 450m east of the main dock gates and approximately 370m to the north of the Severn Estuary.

2.2.2 The site is currently unoccupied and vacant of buildings, with no evidence of containing any previous buildings. The site appears to comprise made ground covered by grasses and scrub vegetation which will be removed for the proposed development. There is evidence on-site of fly tipping of materials including inert waste. The site is located within an area designated as Developed Coast under the Vale of Glamorgan Unitary Development Plan (UDP) Proposals Map. The site is considered to be of low ecological value.

The Surrounding Area

2.2.3 The site is located within a well established industrial area, including waste management activities (scrap yards, waste segregation, and landfill) and bulk materials storage and handling (including stockpiles of sand and other aggregates) and other small industrial units.

2.2.4 In terms of the built environment, industrial buildings in the surrounding area range in size from single story industrial units through to large warehouses some of which may exceed 10m in height. Tall structures in the vicinity of the site are limited to lighting towers for other sites. Approximately 1.1km north east of the site is a chemical works facility with a number of tall structures estimated to be approximately 70m in height.

2.2.5 Land approximately 300m north-east of the site is identified as Comprehensive Redevelopment Area, which is encompassed by the Residential Settlement Boundary.

SECTION 3

PROPOSED DEVELOPMENT

3 PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 This section provides a description of the proposal in terms of the overall form of the Energy Recovery Facility and associated infrastructure and provides an outline of the energy recovery process the Facility will use to generate renewable electricity.

3.2 Outline of Proposed Developments

Site Layout

3.2.1 The site is a large level plot and is accessed off Atlantic Way within Barry Docks. With reference to the site layout shown on Drawing 08-1353-P01, accompanying this planning application, the main building will be located in the centre of the site and will house the majority of plant, which includes:

- The Waste Reception Hall (WRH);
- Waste/Fuel Silo;
- Energy Recovery Hall (ERH);
- Control Room/Office;
- Workshop/Store room;
- Dust Filters and Filter Dust Silo;
- Lime and Carbon Silo; and
- Air Cooling Condensers;
- Covered Ash Bunker.

3.2.2 The WRH will form the north-eastern end of the main building which will be approximately 15.6m in height above ground level. The waste silo and fuel silo areas will occupy the middle section of the main building where it will be approximately 20.8m in height. The ERH will be located in the south-west side of the building where the height will be approximately 23.58m .

3.2.3 In terms of appearance the building is to be finished in a similar manner to the visuals provided in Drawing No. 08-1353-P02, 08-1353-P03, 08-1353-P04 and 08-1353-P05 with a 'finned' effect on much of the main building. The colour of the finish shall meet the requirements of the LPA (further information is given in the Landscape section of the ES).

3.2.4 Dust filters and a silo for dust from the filters will be located adjacent to the main building on the south-west elevation, and will measure approximately 17m and 23.6m in height (respectively). A lime and carbon silo will be located adjacent to the main building on the north-west elevation measuring approximately 15m in height. Parking

bays and turning areas adjacent to the silos have been provided for associated vehicles.

3.2.5 The turbine and air cooling condenser units will be located outside the main building in the east corner of the site adjacent to the entrance. The turbine and units will be installed on a flat slab (i.e. no building) adjacent to the south-west and north-west boundaries, measuring approximately 26m by 17m and having a height of approximately 10 m.

3.2.6 A vehicle manoeuvring area for the delivery vehicles will be located at ground level on the north-east side of the main building. Delivery vehicles will manoeuvre in this area and reverse into the WRH where fast closing shutter doors will close behind to prevent the release of odours from the Facility. Adjacent to the WRH within the main building are the waste and the fuel silos. Delivery vehicles will deposit their load into the waste silo which together with the fuel silo will be constructed to a depth of 8 m below ground level to avoid the need for access ramps. The remainder of the facility will be above ground.

3.2.7 The site will incorporate 18 car parking spaces (2 disabled) – 7 adjacent to the front entrance of the site and 11 abutting the workshop and office building. 5 bicycle parking spaces will also be provided close to the office and workshop. Prior to full operation of the Facility opportunities for car sharing and provision of a staff minibus service will be explored by the applicant.

3.2.8 The onsite lighting scheme will be developed as part of the detailed design. Externally, it is anticipated that there will be security lighting fixtures and external lamps. All lighting features will be designed in order to minimise light pollution through appropriate siting and orientation, and to ensure safe conditions.

Employment

3.2.9 During construction, employment levels will vary but are anticipated to be between 40 and 80 site staff during the first year, with approximately 20 site staff during the remaining 6 months of the construction period. Construction staff will be sourced from the local employment market where possible. In addition, the construction phase will generate indirect jobs through the requirement for construction materials such as concrete, steel work and cladding. The possibility of car sharing and other sustainable forms of transport will be explored by the construction company.

3.2.10 The operational Facility will provide the following employment opportunities:

- 8 skilled plant operators working on a shift system;
- 4 additional skilled fitters to undertake planned maintenance and repairs in normal working hours;
- 3 people to operate the waste reception and processing plant;
- 1 weighbridge operators; and
- 1 manager and 1 administration assistant.

3.2.11 The Energy Recovery Facility will also provide indirect employment generation given the need for services to the site, including specialist mechanical and electrical engineers to service plant, delivery of consumables, buildings and grounds maintenance and cleaning etc.

3.2.12 Waste disposal opportunities are an important consideration for many businesses and it is hoped that the proposal will aid economic growth in the area through the provision of a reliable and cost effective waste disposal facility in Barry.

3.2.13 The proposal therefore has the potential to provide socio-economic benefits through employment creation in Barry.

Operating Hours

3.2.14 The proposed Facility will process waste materials and generate energy on a 24 hour basis. However, in terms of operational hours, waste will only be accepted on site during the following times:

- 0700 to 1900 Monday to Friday; and
- 0700 to 1700 on Saturdays.

3.2.15 Movement of waste, shredding and sorting and the loading and internal processing of waste materials will operate continuously (24 hours) and all internal maintenance and non-routine external repair/maintenance will take place as and when required. Routine external maintenance will take place during waste delivery hours.

3.3 Process Description

Waste Acceptance

3.3.1 On arrival, delivery vehicles will report to the weighbridge where waste documentation, waste carrier certificates and transfer notes will be checked to ensure compliance with the Duty of Care Regulations and the sites Environmental Permit. Vehicles containing any non-conforming waste will be quarantined and managed in accordance with the sites Environmental Permit. The quantity of waste the vehicles carry will then be assessed by passing them over the weighbridge.

Waste/Fuel Bunker and Transport System

3.3.2 Delivery vehicles will deposit the waste directly into the waste silo from where an overhead crane grab will transfer the waste into the re-cycling area for removal of any ferrous components and for shredding. Once the material has been processed this fuel material is then discharged into a fuel silo. Fuel in the fuel silo will be mixed by an automated grab to improve the homogeneity of the fuel, thereby increasing the efficiency of the gasification process.

3.3.3 Fuel is transferred from the fuel silo to the fuel feed hopper via an automated crane grab.

Energy Recovery and Electricity Generation

3.3.4 Gasification of the fuel is carried out in the gasification unit, forming a synthetic gas. The fuel then passes through a high temperature oxidation unit where air, waste reception hall air and recycled flue-gas are injected enrich the oxygen environment still further. Introduction of these gases creates an environment suitable for combustion. At the end of this stage the waste has been converted to a hot flue gas and to bottom ash. The bottom ash is passed through a quench pit before being transferred to a bunker for storage prior to removal from site. Similar facilities currently in operation in Norway produce approximately 18% bottom ash by weight however the quantity is dependant upon the composition of the waste entering the process. Bottom ash will be assigned an appropriate European Waste Code by the developer in accordance with the Landfill Regulations (England and Wales) 2002. Bottom ash is suitable for re-use as an aggregate material in construction. The remaining flue gases will then pass through an Air Pollution Control System (APC) as described in Paragraph 3.3.7.

3.3.5 Typically the quench pits in such a Facility are supplied with blow down water from the condensers but surface water from either haul roads or the roof can be used. Any surface water not required for quenching will be transferred (via an interceptor in the case of car park/hard standing drainage) to a surface water storage pond at the north eastern corner of the site, prior to discharge at Greenfield rate.

3.3.6 Heat from the oxidation unit will be transferred to the heat recovery steam generator. The steam produced is transferred to a steam turbine to drive an electricity generating unit. On passing through the steam turbine significant energy is lost from the steam which is further cooled by passing through the air cooled condenser.

3.3.7 The flue gases pass through an APC which will control the concentration of pollutants released to the atmosphere. This will include the addition of a reagent (lime and carbon) into the flue gas. The reagent and flue gas combine to form an APC residue (known as fly ash). The fly ash will be removed from the air flow by a bag filter and collected and stored in the APC silo. Fly ash currently produced at similar facilities in Norway account for approximately 4% by weight. However the amount of fly ash produced is dependant upon the composition of the waste entering the system. APC residues are normally classified as hazardous waste and require disposal at a licensed special waste landfill. The applicant is currently investigating emerging technologies capable of treating fly ash to produce reusable building/aggregate materials.

Opportunities for Waste Heat Usage

3.3.8 Potential uses for the steam are being sought, including as district heating for the nearby proposed developments at East Quay and South Quay. A copy of correspondence with the Developers of East Quay and South Quay is included in Appendix C indicating the intention of both parties to pursue the option of provision of a district heating system. BERL has also entered into discussions with Dow Corning Chemicals with regard to supplying renewable electricity and heat directly to their plant located approximately 1700 m to the north east. Opportunities are also being explored with ABP.

Remnants

3.3.9 The bottom ash will be tested to determine its characteristics; bottom ash is normally classified as non-hazardous waste and is suitable for re-use as an aggregate material in construction.

3.3.10 The applicant is investigating recycling opportunities for the fly ash; however should this not prove possible the fly ash will be disposed of at a suitably licensed waste management facility.

Facility Appearance

3.3.11 The Barry Energy Recovery Plant has been designed to respond to the language of its industrial park setting. The mass of the building has been broken to achieve a "layering" effect to lighten its appearance. A materials palette of predominantly natural green rainscreen cladding with grey coloured accent framework seeks to blend the building with adjacent grassed and planted landscaped areas.

3.3.12 On site there will be a fully structured landscape planting scheme with feature trees and shrubs to L.A approvals. This planting will screen the services and circulation activities proposed. The introduction of a pond at the Atlantic Way/ Atlantic Crescent corner of the site provides a reference point to the surrounding wetland, whilst giving a quality visual amenity focal point when viewed from both inside the site boundaries and the surrounding area.

Air Management

3.3.13 Of concern with all waste processing schemes is odour and with any combustion process there are air emissions concerns. However, the proposed process, coupled with the design of the buildings ensures that, from the point that waste is received, through to the production of renewable energy, heat and final ash products, emissions will be contained and used as part of the stringently controlled process prior to release to atmosphere. Odour release will therefore be controlled.

3.3.14 The WRH will be fitted with an air management system designed to extract air at a rate which maintains an internal negative air pressure. The effect is that air will be drawn into the WRH and processed through the plant rather than flowing out. In addition the WRH will incorporate fast closing shutter doors to reduce the length of time waste material is exposed to the atmosphere. These measures will minimise the potential for fugitive emissions to atmosphere.

Site Access and Material Delivery

3.3.15 Waste will be transported by the local road network to the site. Site access is provided via the entrance along the north-west boundary off Atlantic Way. Waste will be taken from vehicles parked at the north-east of the main building and taken into the WRH.

3.3.16 It is estimated that at full capacity the site will be serviced by approximately 11 vehicle deliveries per day based on a fleet of vehicles transporting 21 tonne loads.

Facility Timescales

3.3.17 Construction of the Facility, pending a positive planning decision is planned to start in 2010/11 and will take approximately 18 months. Where possible, activities will be scheduled to minimise the potential environmental impact, for example site clearance will take place outside of the breeding bird season.

SECTION 4

ENVIRONMENTAL IMPACTS AND MITIGATION

4 ENVIRONMENTAL IMPACTS AND MITIGATION

4.1 Introduction

4.1.1 This section outlines the potential environmental impacts associated with the proposal. Furthermore it details those mitigation measures incorporated into the site design that will minimise these impacts.

4.1.2 A full assessment of each of the following topics is available in the associated ES document.

4.1.3 The proposed development has progressed as part of an iterative design process that has considered the advice given in the scoping report and through a number of assessments relating to establishing and mitigating for the proposal's potential significant environmental effects, throughout the lifecycle of the Facility.

4.1.4 The mitigation measures proposed have been designed to safeguard the natural environment and amenity of local residents. Wherever possible, measures to provide environmental enhancement are incorporated into the proposal.

4.2 Air Quality

Background

4.2.1 The Air Quality assessment contained in the ES considers the potential impacts of the proposed Facility. The criteria used in the assessment compared readings against UK National Air Quality Strategy (AQS) objectives. The report establishes:

- Baseline air quality at the site and surrounding area;
- Potential effects of the proposals emissions on air quality;
- Optimum height of the Facility's flue stack to ensure that pollutants are safely dispersed of;
- Generation and dispersion of dust; and
- Any mitigation measures required to ensure that the effect on air quality would not be significant.

Mitigation Measures Incorporated into the Site Design

4.2.2 The emissions of pollutants outlined in the Waste Incineration Directive have been assessed by estimating the impact of emissions on sensitive receptors and resources.

4.2.3 Through calculation, the minimum height of the flue stack to allow for dispersion of emissions, such that they are at suitably low concentrations when at local receptors has been determined. With the stack height set to 45m, predicted concentrations of all pollutants are less than 5% of the relevant objectives and Environmental Assessment Levels (EALs). Since background concentrations in the area are well below the objectives and EALs, this is deemed to be a negligible impact.

4.2.4 Beyond having the stack at the required height, limited mitigation measures for emissions to air are required. The assessment of construction dust effects identified that there were no significant offsite dust impacts due to the sites distance from identified receptors. However, a Construction Environmental Management Plan (CEMP) is to be implemented by the Contractor to encourage good site practice and minimise emissions during construction.

4.2.5 In addition, there is potential for odour emissions from the reception of waste at the site. However, the use of fast closing roller shutters, negative internal air pressure and regular cleaning will ensure no significant odour impacts on the closest sensitive receptors.

Conclusions of the Assessment

4.2.6 With the stack height set to 45m, the overall impact of the development on air quality is not considered to be significant.

4.3 Ecology

Background

4.3.1 The ecology and nature conservation features of interest in the development site have been determined through a combination of desk study and site appraisal, involving the following stages:

- Consultations;
- Baseline studies and evaluation of ecological receptors;
- Identification of Valued Ecological Receptors;
- Identification and characterisation of potential impacts; and
- Assessment of impact significance.

4.3.2 The study area was found to be of low conservation value and biodiversity interest.

Mitigation Measures Incorporated into the Site Design

4.3.3 The CEMP to be implemented by the Contractor will detail good management practices to prevent unnecessary environmental damage. Some generic mitigation measures to reduce impacts that may assist in further limiting ecological impacts include:

- Restricting the workforce to working areas through the erection of fencing, to prevent damage to any habitats;
- Following best practice methods throughout; and
- Establishing protocols and contingency plans to deal with incidents should they arise.

4.3.4 Japanese Knotweed has been recorded within the boundary of the site. The presence of knotweed will require remediation to prevent spread and ideally to eradicate it on site as if left untreated it could result in damage to the new development.

4.3.5 A landscaping scheme as illustrated on Fig 8.6 will be developed which will utilise a percentage of native species and incorporate a wetland areas, thus providing habitat for a range of species. The landscaping scheme will provide benefits to wildlife in the vicinity of the Facility. Site clearance will avoid the bird nesting season. Shrubs and all wetland planting will be subject to a five year aftercare period and trees to a ten year aftercare period consistent with a scheme to be agreed with the planning authority.

4.3.6 Opportunities for incorporating features such as nest boxes within the new structures for birds such as House Martin (*Delichon urbicum)* and/or Swift (*Apus apus*) will be considered during detailed design.

Conclusions of the Assessment

4.3.7 The ecology and nature conservation features of interest in the development site have been determined through a combination of desk study and site appraisal. The study area was found to be of low conservation value and biodiversity interest.

4.3.8 The proposed development is assessed as being unlikely to result in any significant ecological impacts on the ecological features identified within the ecological assessment. A landscape scheme has been proposed in line with legislative requirements, which will provide opportunities for net ecological gain.

4.3.9 The presence of knotweed will require remediation.

4.4 Ground Conditions

Background

4.4.1 Ground conditions at the site have been examined in terms of the potential for contaminated land associated with the soil and underlying geology. Consideration has been given to the area within the site boundary and the proximal area.

4.4.2 The examination indicates that there were a number of historical site uses, including railway sidings and landfill activity, which may have left behind a range of contaminants, some of which are potentially harmful to human health and / or the environment.

4.4.3 A number of potential “pollutant linkages” have been identified as potentially occurring at the site. These linkages may allow contaminants from the site to impact upon current and future site users, construction workers and adjacent sites.

4.4.4 Potential key receptors to be considered are:

- Site users;
- Construction workers;
- Surface water bodies;

- Protected ecosystems; and
- Future site building foundations.

4.4.5 No detailed consideration has been given to the geotechnical ground conditions at the Site. These will be addressed by the proponent as part of the detailed design for the Facility.

Mitigation Measures Incorporated into the Site Design

4.4.6 The results of the intrusive investigation have indicated that no further action is required with respect to soil and groundwater contamination. Notwithstanding this conclusion, conditions may vary away from the exploratory hole locations. Therefore during development, good working practices including appropriate personal protective equipment for construction workers and dust control measures should be implemented as necessary throughout the construction period.

4.4.7 Furthermore, it has been recommended that structures incorporate landfill gas protective measures (although ongoing landfill gas monitoring may indicate such measures are unnecessary). In addition, discrete patches of Japanese Knotweed have been observed on-site. Advice provided within the Environment Agency document 'The Knotweed Code of Practice' will be followed to prevent further spread of the plant and to ensure appropriate control.

Conclusions of the Assessment

4.4.8 Based on the available information the Facility is considered to have a moderate negative impact during the construction phase and a slight positive impact during the operational phase.

4.4.9 In order to refine the remaining likely impacts associated with the proposal and identify appropriate and effective mitigation, further assessment is ongoing.

4.5 Landscape

Background

4.5.1 A landscape and visual impact assessment has been undertaken, in accordance with published Landscape Institute (LI)/Institute of Environmental Management and Assessment (IEMA) guidelines. The method of the study involved:

- Determination of the landscape character (including patterns and scale of landform, land cover, land use and built development in the area);
- Field survey to examine visual amenity, ascertain the approximate visibility of development, identify visual receptors and identify the location of principal viewpoints; and
- Assessment of the scale, nature, magnitude and duration of effects, which was combined with an assessment of the sensitivity to change of the various receptors, to determine the significance of predicted changes.

4.5.2 The site lies in the Atlantic Trading Estate Area of Special Identity. There would be a slight adverse change on this designation due to the scale of the proposed building and stack.

4.5.3 Temporary moderate adverse visual impact from a close distance was identified from one industrial location (low sensitivity) during the construction phase. The temporary and permanent impacts on all other views were assessed as either slight adverse or no change. The most significant change would be to south facing views where the proposed large scale building and stack would be a prominent feature in relation to adjacent low rise industrial buildings set against the low horizon of the Bristol Channel and distant English coastline.

Mitigation Measures Incorporated into the Site Design

4.5.4 In order to mitigate against any potential landscape impact the colours of building cladding have been selected to reduce the visual presence of the buildings as viewed against the sky. Planting along the highway boundary and site entrance will consist of non-native species; the remaining planting will consist of groups and belts of native deciduous trees, supplemented with shrub planting. Aftercare of planted trees will be carried out to reduce weed competition and increase growth rates.

4.5.5 Overall, these mitigation measures have been applied to minimise the industrial appearance of the site after development. As previously discussed shrubs and all wetland planting will be subject to a five year aftercare period and trees to a ten year aftercare period consistent with a scheme to be agreed with the planning authority.

Conclusions of the Assessment

4.5.6 The design (with mitigation) of the proposed development would comply with the objectives of policies contained in the Vale of Glamorgan UDP 1996-2011 (adopted 2005) and supplementary planning guidance that seek to control development and minimise adverse environmental effects. The development would make a positive contribution to the regeneration of Atlantic Way and the Atlantic Trading Estate as a whole.

4.6 Noise

Background

4.6.1 The noise assessment aims to identify and assess the impact of noise and vibration resulting from the construction and operation of the proposed Facility. The report proposes mitigation measures to prevent any adverse noise impacts.

4.6.2 The quantification and assessment of potential noise and vibration impacts have been undertaken by a combination of site surveys, desktop studies, literature reviews, consultations and predictions. The main sources are identified as:

- Construction related noise;
- Operational noise as a result of on site plant and operational processes; and
- Noise impact from traffic on existing and future sensitive receptors surrounding the proposed Facility.

Mitigation Measures Incorporated into the Site Design

4.6.3 Different potential noise impacts are expected to arise during the construction and operation periods.

Construction Mitigation

4.6.4 In order to keep noise impacts from the construction phase to a minimum, the following mitigation measures will be considered for implementation through the CEMP:

- Establish core site working hours. Where work outside these hours is necessary discussions would be held with the Environmental Health Officer (EHO) in advance;
- Require specific method statements and risk assessments for night working. In order to minimise the likelihood of noise complaints in such eventualities, the contractor will inform and agree the works in advance with the relevant EHO and inform residents of the works to be carried out outside normal hours. Furthermore, residents will be provided with a point of contact for any queries or complaints;
- All vehicles and mechanical plant used for the purpose of the works will be fitted with effective exhaust silencers and regularly maintained;
- Inherently quiet plant will be used where appropriate. All major compressors will be sound-reduced models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- All ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance and if necessary, install acoustic barriers or enclosures; and
- The contractor will adhere to the codes of practice for construction working and piling given in British Standard BS 5228:1992 and the guidance given therein minimising noise emissions from the site.

Operational Mitigation

4.6.5 Several processes create significant noise during operation of the proposed Facility. However, through careful plant design; including the potential use of noise attenuating acoustic enclosures and high performance silencers upon any ventilation apertures, operational noise levels from the Facility are predicted to be suitably low.

4.6.6 As such the proposal is not considered to warrant a detailed noise mitigation strategy.

Conclusions of the Assessment

4.6.7 The impact of construction noise and vibration has been assessed and is considered to be of only minor significance due to the distances between the proposed construction site and the nearest noise sensitive receptors and due to the temporary and changing nature of the noise source. These noise levels are well within accepted noise limits for construction.

4.6.8 The impact of predicted operational noise from the development has been assessed against background noise levels obtained during the baseline noise survey. The assessment has shown that noise levels associated with the operation of the Facility are predicted to be of less than marginal significance at all the identified noise sensitive receptor locations, and that complaints from existing residents about noise are unlikely.

4.6.9 The impact of increased traffic noise has been assessed and the predicted increases in traffic noise are not considered to be significant.

4.6.10 Overall the noise and vibration impact of the proposed Facility is considered to be of less than marginal significance.

4.7 Traffic

Background

4.7.1 A traffic impact assessment considered the increase in volumes of traffic (both HGVs and other vehicles) associated with the construction and operation phases of the Facility. The result of this assessment is that there is a less than 10% increase in HGVs on the local highway network as a result of either the construction or operation of the Facility. The development traffic will have no impact on the local highway network greater than daily variation in traffic flows, and therefore the effects of the proposal on traffic will be not significant.

4.7.2 The findings of the assessment indicate there will be no change in the environmental effects that road traffic has in this area, greater than the daily variation in traffic flow. This includes transport related effects such as severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation, and accidents and safety.

Mitigation Measures Incorporated into the Site Design

4.7.3 The assessment of predicted impacts shows that the proposal will have no discernable or significant environmental effects caused by the traffic generation. No mitigation schemes are required.

Conclusions of the Assessment

4.7.4 The effects of the proposal on traffic will not be significant.

4.8 Water Resources

Background

4.8.1 An assessment of potential impacts on the water environment was undertaken for the EIA in general accordance with the provisions of the Design Manual for Roads and Bridges (DMRB) Volume 11, and following current best practice guidelines and standards.

4.8.2 Potential water environment receptors include surrounding surface water features, underlying groundwater or aquifers, and flood sensitive areas. All permanent surface water features are located at least 100m from the site and the site is underlain by a Minor Aquifer with variable permeability.

4.8.3 In terms of flood risk from sea or rivers the Environment Agency (EA) has indicated that the site lies entirely within Zone C2, as defined by the development advice maps (dam). TAN 15 identifies Zone C2 as areas of the floodplain without significant flood defence infrastructure.

4.8.4 The EA requested that a Flood Consequence Assessment (FCA) be submitted to demonstrate the consequences of flooding can be acceptably managed, in accordance with TAN 15. The FCA is included with the ES.

Mitigation Measures Incorporated into the Site Design

4.8.5 Mitigation measures for minimising adverse impacts to the water environment during the construction phase include the formulation and compliance with a suitable CEMP. Compliance with the CEMP will lead to good working practices and reduce the risk of spillage or seepage of pollutant to local water resources.

4.8.6 During operation, the Facility will have hardstanding/roadways almost entirely throughout the site, which will increase the proportion and rate of rainfall-runoff when compared with the existing 'Greenfield' conditions. On-site drainage, therefore, has the potential to cause a marginal increase in the risk of flooding in receiving watercourses adjacent to the site. This can be mitigated by appropriate and effective drainage design, which may include soakaways. Landscape proposals have been prepared which incorporate a wetland area as illustrated in Fig 8.6. The design will be confirmed during the detailed design phase to ensure that the system has sufficient storage capacity, whilst maximising opportunities for biodiversity. Where possible, swale ditches and other Sustainable Drainage System (SUDS) techniques will be incorporated into the drainage scheme at the detail design stage. Further, the facility will recycle roof water and condenser water for use in the quench pits.

4.8.7 In general, standard good working practises should ensure that the quality of water discharging from the site during construction will have insignificant impacts on the environment.

Conclusions of the Assessment

4.8.8 With incorporation of appropriate mitigation measures and through the use of construction best practice impacts on water resources during construction are considered to be slight adverse, impacts during operation are considered to be not significant. Overall the impacts of the proposed Facility on water resources are not considered to be significant.

4.9 Cumulative Impacts

Background

4.9.2 An assessment of potential cumulative impacts was undertaken for the EIA using guidance contained in DMRB Volume 11 Section 2 part 5 and IAN 81/06.

4.9.3 Two proposed development sites with the potential to cause cumulative impacts were identified in consultation with the LPA, these being the 'Quays' development and a Wood Burning Gasification Facility. A Planning Application has not been received for the 'Quays development, however the LPA confirmed that approximately 2,000 homes plus some commercial development are planned for land to the west of the application site. A Planning Application has been received for a Wood Burning Gasification Facility to the north of the Application site. Limited environmental information has accompanied the Planning Application and it is understood that the LPA have requested additional information.

4.9.4 The cumulative impact assessment considered only those environmental topics identified in the ES as having a negative impact, this being only Landscape (landscape/townscape and effect on views).

4.9.5 The cumulative impact assessment found that cumulative impacts to Landscape (landscape/townscape and effect on views) were likely to result in cumulative impacts in association with this application. The increased urbanisation of the area as a result of the two proposed developments considered has the potential to reduce the impacts to landscape/townscape associated with this application.

SECTION 5

WASTE POLICY

5 WASTE POLICY

5.1 Introduction

5.1.1 Advances in technology and the introduction of new legislation, policies and practices mean that many modern waste management / resource recovery facilities on the outside look no different to any other industrial building and on the inside contain industrial manufacturing processes or energy generation activities that are no different to many other modern industrial processes in terms of their operation or impact. For this reason, B2 ('general industrial' employment sites, existing major industrial areas), and new B2 sites allocated in development plans will be suitable locations for the new generation of building waste management facilities.

5.1.2 The Waste Policy assessment considers the requirements of waste management policy, including those concerned with targets for waste recovery and diversion from landfill. It further establishes the need for the proposed Facility at Barry by addressing the following key points:

- There are targets for the diversion of waste from landfill, for which failure to meet will often result in financial penalties. Meeting these targets will require the development of new waste management infrastructure; and

5.1.3 At present, the sub region includes the Vale of Glamorgan, West Cardiff, Bridgend and Rhondda Cynon Taff. The available non hazardous landfill disposal facilities are not well located to serve the disposal requirements of the Sub Region and so residual waste is being transported long distance – particularly from the Vale of Glamorgan and Bridgend. As outlined previously in this Planning Statement, the proposed Facility would contribute to meeting landfill diversion and waste recovery aims. Such aims are translated through local policy, derived from national and European policies. This section provides a review of the higher level policies before focussing on local waste policy.

5.2 European Legislation

5.2.1 Waste Management legislation in Wales is derived predominately from European Directives. The principal Waste Directive (Directive 2006/12/EC) indicates the following priorities for the European Member States:

i) The recovery of waste and the use of recovered materials as raw materials should be encouraged in order to conserve natural resources;

ii) Restricting the production of waste is to be encouraged, particularly by promoting clean technologies and products which can be recycled and re‑used and taking into consideration existing or potential market opportunities for recovered waste;

iii) Movements of waste should be reduced; and

iv) Costs not covered by the proceeds of treating the waste must be defrayed in accordance with the 'polluter pays' principle.

5.2.2 This principal Directive is backed up by a number of 'daughter' Directives on waste, e.g. the Council Directive 1999/31/EC on the landfill of waste, 1999, the aim of which is to divert waste from landfill sites. To this end it sets targets for European Member States for the reduction of biodegradable municipal waste disposed to landfill. A range of EU legislation covers other waste streams, with directives including Council Directive 94/62/EC on packaging and packaging waste.

5.3 National Policy and Legislation

The National Waste Strategy for Wales (Wise About Waste)

5.3.1 The National Waste Strategy for Wales (Wise About Waste), published in 2002, recognises the need for the development of significant waste management infrastructure in order to achieve Sustainable Waste Management Objectives.

5.3.2 The strategy's purpose is to provide a land use planning document to assist the LPAs in Wales to plan for future waste management facilities that will be required to treat or dispose of most forms of waste produced in the different regions including industrial and commercial waste, construction and demolition waste, hazardous waste and municipal waste. 'Wise about Waste: The National Waste Strategy for Wales' sets targets for the reduction/recycling of CIW and C&D waste:-

- To reduce the amount of Industrial and Commercial waste sent to landfill to less than 85% of that landfilled in 1998; and
- By 2010, to reduce the amount of Industrial and Commercial waste going to landfill to less than 80% of that landfilled in 1998.

5.3.3 To divert biodegradable waste from landfill;

- By 2005 to reduce the amount of biodegradable industrial and commercial waste sent to landfill to 85% of that landfilled in 1998; and
- By 2010 to reduce the amount of biodegradable industrial and commercial waste going to landfill to 80% of that landfilled in 1998.

5.3.4 In relation to C&D waste - To reuse and recycle construction and demolition waste;

- By 2005 to re use or recycle at least 75% of C&D waste produced; and
- By 2010 to reuse or recycle at least 85% of C&D waste produced.

5.3.5 Businesses have been set the following targets:

- By 2005 achieve a reduction in waste produced equivalent to at least 5% of the 1998 arisings figure; and
- By 2010 achieve a reduction in waste produced equivalent to at least 10% of the 1998 arisings figure.

5.3.6 For recycling/composting of municipal waste:

- By 2003-04, recycling/compost at least 15% of municipal waste, with at least 5% each of recycling and composting (only composting of source segregated material will count);

- By 2006-07, recycling/compost at least 25% of municipal waste, with at least 10% each of recycling and composting (only composting of source segregated material will count); and

- By 2009-10 recycling/compost at least 40% of municipal waste, with at least 15% each of recycling and composting (only composting of source segregated material will count).

5.3.7 Compliance with these targets would contribute towards several strategic objectives including:

- The development of sustainable management of municipal wastes predicted on the conservation of material resources through re-use, recycling and composting;

- Promotion of training and employment opportunities through re-use, recycling and composting;

- Assisting authorities with compliance under the Landfill Allowance Scheme in Wales and so avoiding potential fines arising from non-compliance with the requirements of the Landfill Directive;

- Reducing expenditure on waste disposal and increasing income from the sale of materials for recycling and composting;

- Provision of clean recyclate and compost for Welsh industry, including horticulture and agriculture; and

- Contributing towards the management of wastes and material resources in ways that contribute to environmental protection, including the reduction of greenhouse gas emissions as a contribution to addressing the challenges of global warming.

5.3.8 The Welsh Assembly is in the process of updating the National Waste Strategy for Wales and is proposing to publish the update in 2009/2010.

Technical Advisory Notice 21 (TAN21)

5.3.9 The need for infrastructure development was also recognised in Planning Policy Wales and Technical Advice Note 21 Waste (TAN 21), published in 2001. TAN 21 recognises that the land use planning system has an important role to play in facilitating sustainable waste management. In order to achieve this, TAN 21 sets out a regional waste planning process to assist in the delivery of waste management Facilities in Wales.

5.4 Regional Waste Management Policy for South East Wales

5.4.1 The proposed Facility is to be located within in Barry Docks in the South East Wales region.

5.4.2 The Regional Waste Plan provides a long-term strategic waste management strategy and land-use planning framework for the sustainable management of wastes and recovery of resources in South East Wales.

5.4.3 The Welsh Assembly Government (WAG) has given the responsibility of preparing, monitoring and reviewing the plan to the South East Wales Regional Waste Group. This group is led by a Steering Group of councillors from the 10 local planning authorities in the region with a Technical Group of officers from local government, the WAG, EA and other government bodies, and representatives from the waste industry and environmental groups.

5.4.4 The first Regional Waste Plan was endorsed by all of the local authorities in the region and published in March 2004.

The Regional Waste Strategy

5.4.5 The Regional Waste Strategy is as follows:

- aim to achieve the 2020 Landfill Directive targets by 2013;
- achieve this principally through maximising recycling and composting;
- deal with residual waste by Mechanical Biological Treatment;
- choose between either sending the residual waste from Mechanical Biological Treatment to landfill or using it as Refuse Derived Fuel; and
- limit the amount of waste going to landfill to that which can not be dealt with acceptably in any other way.

5.4.6 To implement this Strategy for all the waste streams will require a wide range of waste management facilities.

5.4.7 The diversity of South East Wales, ranging from large coastal cities to remote rural communities, means that within this framework it is appropriate that decisions on the way in which capacity requirements are met in terms of the location and size of facilities should be left to each local authority to determine in relation to its own area either unilaterally or in collaboration with others.

The Regional Waste Plan

5.4.8 If the Preferred Strategy is successfully implemented, then the required disposal capacity for residual MSW across the region by 2013 will be 290,000 tonnes compared with 653,000 tonnes in 2001. It is calculated that the existing landfill capacity of 16.5 million tonnes is likely to be sufficient until that time and beyond for both MSW and Non-Inert Industrial and Commercial Waste.

5.4.9 Consideration of what additional, specialist facilities are required to deal with specific wastes is not clear. Nevertheless, it is concluded that it is probable that facilities for dealing with these specific wastes will serve either the region as a whole or in some cases an even larger area. They will locate in response to the area from which the waste is drawn and the potential markets for products. In many cases this effectively makes them 'footloose' within the region, and even beyond, with broad location within the region determined by market forces and development proposals subject to locally determined criteria.

5.5 Local Waste Policy

Waste Management Strategy

5.5.1 Vale of Glamorgan Council adopted their Waste Management Strategy in August 2004. In line with the National Assembly's Waste Management Strategy (Wise About Waste), the LPAs strategic aim is to reduce the use and consumption of natural resources and production of waste.

5.5.2 The Waste Management Strategy document outlines the LPAs various strategic objects to deliver the aims. These include operation of waste management techniques in accordance with a waste "hierarchy", by prioritising operations according to their environmental impact and by supporting the resident's of Barry in achieving the aims by providing an efficient and cost effective waste management service. The hierarchy is expressed in Waste Policy 13 of the Vale of Glamorgan UDP is as follows, with the most preferable at the top, the least at the bottom:

- Waste minimisation / avoidance;
- Re-use;
- Recycling or recovery (including conversion to energy); and
- Disposal at landfill with minimal environmental impact.

5.5.3 Other strategic objectives include ensuring that waste minimisation is central to reducing the amount of waste produced in the Vale, continued development of the kerbside collection scheme for dry recyclable and organic (compostable) materials, enhancement of the Household Waste Recycling Centre provision to facilitate improved access to the principal population centres and increased diversion of materials for recycling and reuse, and enhancement of the existing network of 'Bring Sites', to include the provision of a number of strategically located community based recycling centres.

5.5.4 Furthermore, the LPA has set targets and monitor performance to support the Waste Management Strategy. Specifically these are as follows:

Local Authority Waste Minimisation Targets

- To achieve at least 40% recycling/composting, with a minimum of 15% composting (with only compost derived from source segregated materials counting) and 15% recycling by 2009/10; and
- To achieve a reduction in waste produced (by the authority) equivalent to at least 10% of 1998 arisings figure by 2010.

5.6 Current Legislation

5.6.1 For waste minimisation there are two separate targets. The first applies to local authorities themselves. Local authorities should:

- **by 2010** achieve a reduction in waste produced (by the authority) equivalent to at least 10% of the 1998 arisings figure.

5.6.2 The second suggests that each local authority should seek to stabilise/reduce their household waste as follows

- **by 2009/10** (and to apply beyond) waste arisings per household should be no greater than those (for Wales) in 1997/98; and
- **by 2020** waste arisings per person should be less than 300kg per annum.

5.6.3 For recycling and composting the targets are that for all municipal waste collected within its area each local authority must:

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

5.6.4 The Landfill Directive is having a major impact on municipal waste management in Wales. Vale of Glamorgan Council predicts this will continue over coming decades and its importance needs to be stressed.

5.6.5 The Landfill Directive requires that biodegradable municipal waste (BMW) being landfilled in Wales is reduced to meet the following targets:

- **by 2010** to reduce BMW landfilled to 75% (by weight) of that produced in 1995;
- **by 2013** to reduce BMW landfilled to 50% (by weight) of that produced in 1995; and
- **by 2020** to reduce BMW landfilled to 35% (by weight) of that produced in 1995.

5.7 Summary

5.7.1 Although waste management techniques such as waste reduction, composting of biodegradable waste and recycling are considered preferable to Energy Recovery, the stringent (financial penalty driven) landfill diversion targets mean that such techniques are unlikely to satisfy these targets alone. The proposed Facility will assist in moving the management of residual waste in the area up the waste hierarchy and would form a vital component of a progressive and sustainable integrated waste management solution for the area.

SECTION 6

PLANNING POLICY APPRAISAL

6 PLANNING POLICY APPRAISAL

6.1 Introduction

6.1.1 This chapter provides an overview of statutory policy and guidance relevant to waste development. Planning Policy Wales (PPW), published in March 2002, sets out the land use planning policies of the WAG. It is supplemented by a series of Technical Advice Notes (TANs). The Vale of Glamorgan UDP 1996 – 2011 (2005) provides the strategic and detailed policy framework for development in the Vale of Glamorgan Council. The application for the Facility must be in accordance with the development plan unless material considerations indicate otherwise.

6.2 National Planning Policy Guidance

Planning Policy Wales 2002

6.2.1 Planning Policy Wales (PPW) sets out the land use planning policies of the WAG. It is supplemented by a series of TANs. PPW, the TANs and additional advice submitted in "circulars" together comprise national planning policy for Wales which is taken into account by LPAs when preparing their policies and documents.

6.2.2 The PPW outlines key strategies to be implemented at regional and local level, it encourages sustainable development and directly encourages LPAs to assist in reducing waste, increase waste recovery and seek the implementation of suitable waste management facilities.

6.2.3 The WAG have introduced a number of Ministerial Interim Planning Policy Statement (MIPPS) to supplement the PPW. The two of potential significance to the proposal are as follows:

MIPPS 01/2005 Planning for Renewable Energy

Overview:

6.2.4 MIPPS 01/2005 promotes the use of renewable energy in order to reduce the emission of greenhouse gases that contribute to climate change. This is intended to be achieved by securing an appropriate mix of energy provision for Wales, whilst minimising the impact on the environment.

Assessment:

6.2.5 As the Facility will process biodegradable waste, it can be classed as a renewable energy source. As demonstrated in Section 4 of this Planning Statement, and in more detail in the associated ES document, the impact of the proposed Facility on the environment will be limited.

MIPPS 01/2008 Planning for Good Design

Overview:

6.2.6 MIPPS 01/2008 seeks to encourage increasing sustainability through the application of good design practice. The statement considers that sustainable development design should go beyond aesthetics to include the social, environmental and

economic aspects of the development, including its construction, operation and management, and its relationship to its surroundings.

Assessment:

6.2.7 The development and design of the proposal has evolved from a detailed process and will be to a high standard to minimise environmental impacts.

6.3 Welsh Technical Advice Notes

6.3.1 The TANs have been issued by the WAG in conjunction with the PPW. The following TANs are of relevance to the proposed Facility. The Overview (below) represents a summary of the TAN while the Assessment considers compliance of the facility with the TAN.

TAN 5 Nature Conservation and Planning (1996) (Revised version issued for public consultation – January to April 2006)

Overview:

6.3.2 TAN 5 provides advice on implementing the Statutory Framework for nature conservation and designated sites. It sets out the development control issues for Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSIs) and the selection and designation of non-statutory nature conservation sites, such as local nature reserves.

Assessment:

6.3.3 The proposed development will be located on a Brownfield site in an industrial area which is not a SPA, a SAC or a SSSI. Furthermore, it will be constructed and operated in order to have the minimum impact upon surrounding biodiversity and ecological receptors.

TAN 8 Renewable Energy (2005)

Overview:

6.3.4 TAN 8 makes provision for renewable energy and planning, onshore renewable energy technologies and design and energy. It also sets out guidelines for development control and monitoring.

Assessment
:

6.3.5 The proposal will offer a renewable energy from waste facility and offers a more sustainable option for waste management. The proposal therefore supports the objective of TAN 8.

TAN 11 Noise (1997)

Overview:

6.3.6 TAN 11 seeks to minimise adverse impacts of noise without placing unreasonable restrictions on development.

Assessment:

6.3.7 As detailed in Section 4.6, with effective mitigation measures, the Facility would not cause significant noise impacts.

TAN 15 Development and Flood Risk (2004)

Overview:

6.3.8 TAN 15 provides technical guidance in relation to development and flooding.

Assessment:

6.3.9 The Water Resources report contained in the ES and addressed in Section 4.8 considers water resources in the vicinity of the proposal and any potential impact. It concludes that with incorporation of appropriate mitigation measures, impacts on water resources during operation are not considered to be significant.

TAN 18 Transport (2007)

Overview:

6.3.10 TAN 18 provides technical guidance in relation to transport.

Assessment:

6.3.11 The transport section of the ES considers transport provision in the vicinity of the proposed site and concludes that options for use of public transport are limited due to distance from existing provision and the shift system to be employed at the Facility. However, options for car sharing and use of a company minibus will be considered at the appropriate time.

TAN 21 Waste (2001)

Overview:

6.3.12 TAN 21 provides advice on how the land use planning system should contribute to sustainable waste resource management.

Assessment:

6.3.13 The proposed Facility contributes to a more sustainable management of waste by diverting material from landfill disposal and recovering energy from waste. The proposal is considered to be consistent with the aims of TAN 21.

6.4 Local Planning Policy

Vale of Glamorgan Unitary Development Plan (UDP) 1996-2011

6.4.1 The current development plan for the proposed site is the Vale of Glamorgan UDP 1996-2011, adopted 18 April 2005. The UDP provides the strategic and detailed policy framework for the Vale of Glamorgan.

6.4.2 On 1st February 2006, the Vale of Glamorgan Council resolved to commence work on the preparation of a Local Development Plan (LDP) for the Vale of Glamorgan, in accordance with Part 6 of the *Planning and Compulsory Purchase Act 2004*. It is intended that the LDP will be adopted in 2011 and will supersede the current UDP.

6.4.3 Table 6.1 sets out the UDP policies relevant to the proposed Facility. Some relate to specific UDP Proposals Map designations on the proposed site and its surrounding area. Other policies address planning issues by topic and those that apply to this type of development are outlined. The table assesses whether the proposal supports, fails to support or has neutral effect to the policy objectives.

Table No. 6.1: Policies Identified from the Vale of Glamorgan UDP Proposals Map

Planning Designation/Topic and Source Document	Applicable Policies	Applies to Site	Applies to Surrounding Area/ General Policy	Relevant Policy Objectives	Implications	Assessment
Developed Coast	ENV 6	Yes	Yes	In areas of existing or allocated development within the coastal zone, a new proposal should be designed with respect to its local context and sensitive to its coastal setting.	Development must be designed with respect to its coastal setting and context.	Supports policy aim.
Employment Allocated Site	EMP 1 (3: Barry Docks and Chemical Complex)	No	Yes	The employment land allocation is based on sites already with planning permission together with an assessment of employment opportunities both in the Vale of Glamorgan and in neighbouring areas. Suitable uses include: B1 (Light Industry/Offices), B2 (General Industry) and B8 (Warehousing and Distribution).	Need to consider future land allocations when designing the plant.	Supports policy aim.
Existing Employment Site	EMP 4	No	Yes	Developments that are not contained in B1, B2 or B8 (as in EMP 1), will not be permitted.	The proposed Facility should not affect the Existing Employment Site as it is located approximately 200m east of the designation.	Neutral.

Planning Designation/Topic and Source Document	Applicable Policies	Applies to Site	Applies to Surrounding Area/ General Policy	Relevant Policy Objectives	Implications	Assessment
Waste Management	Waste Hierarchy	Topic based policy	Topic based policy	Development proposals which encourage sustainable principles for waste disposal are judged on a hierarchical approach of: Waste minimisation; • Re-use; • Recycling/recovery (including Energy from Waste); and • Waste to Landfill.	The development falls into category "iii" of this Waste Hierarchy and, as such, is considered preferable to landfill and will thus provide a further waste management option in the Vale of Glamorgan area.	Supports policy aim.
	WAST 1 – Provision of WMFs	Topic based policy	Topic based policy	Proposals for the provision of Waste Management Facilities (WMFs) will be permitted on existing waste site, existing and allocated sites for B2 and B8 employment uses, within operational mineral working sites and, for green waste, land within or adjacent to farm building complexes.	The site is part of the Atlantic Trading Estate, which is identified as a suitable location for B2 and B8 uses, accordingly this is considered to be a suitable site for a WMF (albeit not a traditional WMF such as land fill)	Supports policy aim.
	WAST 2 – Criteria for assessing WMFs	Topic based policy	Topic based policy	Subject to WAST 1, WMF will be permitted if the proposal conforms to (inter alia) the principles of the waste hierarchy; doesn't have an unacceptable effect on residences, public health, ground/surface water, ecology,	The proposed Facility is assessed against these environmental policy objectives in the	Supports policy aim.

Planning Designation/Topic and Source Document	Applicable Policies	Applies to Site	Applies to Surrounding Area/ General Policy	Relevant Policy Objectives	Implications	Assessment
				geology, agriculture; and has adequate links to the highway network and is of a high standard of design.	relevant ES chapters. In summary, the proposed Facility is consistent with the policy objectives	
Safeguarding of water resources	ENV 7	Topic based policy	Topic based policy	Inland and underground waters will be safeguarded. Development is permitted where it would not have an unacceptable effect on water quality or quantity of water resources, nature, heritage, recreation or amenity interests relating to such water. Development will be permitted if it would not be potentially at risk from flooding, nor increase the risk of flooding to an unacceptable level.	The proposed Facility is assessed against these environmental policy objectives in the relevant ES chapters. In summary, the proposed Facility is consistent with the policy objectives	Supports policy aim
New business and industrial development	EMP 2	Topic based policy	Topic based policy	Proposals for new business and industrial development will be permitted if the proposal lies within a suitable area for the proposed land use does not significantly impact areas of sensitive landscape, archaeology or ecology, is appropriately sized for its setting, access and parking accord with the Council's standards, adequate landscaping is provided, doesn't have unacceptable environmental effects on residential properties, has adequate infrastructure available, and does not present an undue health and safety risk and does not unacceptably effect surrounding land uses from pollution.	The proposed Energy Recovery Facility is classified as sui generis (non-conforming use) however it has some similarities with industrial and business use classes. This is considered to a suitable site for such as use. The proposed Facility is	Supports policy aim

Planning Designation/Topic and Source Document	Applicable Policies	Applies to Site	Applies to Surrounding Area/ General Policy	Relevant Policy Objectives	Implications	Assessment
					assessed against these environmental policy objectives in the relevant ES chapters. In summary, the proposed Facility is consistent with the policy objectives.	
General Industry	EMP 3	Topic based policy	Topic based policy	Development will be permitted for B2 use (general industry) where the proposal is compatible with existing uses, will not cause detriment to the amenities of nearby residential areas, the nature and scale of the development does not unacceptably affect surrounding uses, does not unacceptably pollute land, air or water, and does not pose undue health and safety risks and does not unacceptably effect surrounding land uses from pollution.	The proposed Facility is assessed against these environmental policy objectives in the relevant ES chapters. In summary, the proposed Facility is consistent with the policy objectives.	Supports policy aim.
Development involving hazardous substances	EMP 5	Topic based policy	Topic based policy	Developments involving hazardous substances will be permitted if the proposal does not pose undue health and safety risks, does not unacceptably pollute land, air or water, does not unacceptably effect surrounding land uses from pollution, not have an unacceptable effect on water quality or quantity of water resources, does not unacceptably affect the amenity and character of neighbouring land, does not unacceptably affect areas of sensitive	The proposed Facility is assessed against these environmental policy objectives in the relevant ES chapters. In summary, the proposed Facility is consistent with the policy objectives.	Supports policy aim.

Planning Designation/Topic and Source Document	Applicable Policies	Applies to Site	Applies to Surrounding Area/ General Policy	Relevant Policy Objectives	Implications	Assessment
				landscape, archaeology or ecology, and provides satisfactory arguments for the after treatment and future use of site.		
Non-conforming business & industrial uses	EMP 9	No	Yes	Part of the Atlantic Trading Estate is allocated for suitable non-conforming business and industrial uses.	The proposed plant is a sui generis (non-conforming use). Although this particular designation EMP9 is approximately 200m north east, the site is part of the Atlantic Trading Estate and as such its land use may be deemed suitable.	Neutral/Supports policy aim.
East Vale Coast	ENV 6	No	Yes	Development within the Undeveloped Coast Zone will be permitted if a coastal location is necessary for the development, the proposal would not have unacceptable environmental effects (i.e. noise intrusion, landscape impacts, air, land, water impacts, exacerbation of flooding and erosion risk, hazardous impacts and/or impacts on ecology or sites of geological interest) In areas of existing or allocated development within the coastal zone proposals should be designed with respect to its local context and sensitive to its coastal setting.	The Undeveloped Coast is located approximately 230m south east. This limits direct implications for the proposed Facility.	Neutral.

6.5 Summary

6.5.1 The proposed development will take place on land designated for Developed Coast (Policy ENV 6). The site is currently vacant and whilst the development of an Energy Recovery Facility would result in a Change of Use; B2. The change would be General Industrial to *sui generis,* this change is supported by UDP Policies EMP 3 and EMP 9.

6.5.2 In addition, the proposed Facility contributes towards sustainable waste disposal in the area, as outlined in Waste Policy 13 Waste Hierarchy, where the proposal is shown to be preferable to landfill. Since the ES shows that the Facility should not cause environmental harm it accords with local waste policy ENV 6 and EMP 9.

6.5.3 As such the proposed Facility is in accordance with the Vale of Glamorgan UDP policies.

6.6 Planning Conclusions

6.6.1 Having regard to the statutory polices and guidance relevant to the proposal, it is considered that the development of an Energy Recovery Facility on an existing B2 (General Industrial Use) land use site accords with the development plan. The ES has established that any significant environmental effects, associated with the proposal, can be effectively mitigated and that the facility would contribute to the sustainable management of waste by sourcing energy from this resource and reducing the amount of material landfilled.

6.7 Cumulative Impacts

Background

6.7.2 An assessment of potential cumulative impacts was undertaken for the EIA using guidance contained in DMRB Volume 11 Section 2 part 5 and IAN 81/06.

6.7.3 Two proposed development sites with the potential to cause cumulative impacts were identified in consultation with the LPA, these being the 'Quays' development and a Wood Burning Gasification Facility. A Planning Application has not been received for the 'Quays development, however the LPA confirmed that approximately 2,000 homes plus some commercial development are planned for land to the west of the application site. A Planning Application has been received for a Wood Burning Gasification Facility to the north of the Application site. Limited environmental information has accompanied the Planning Application and it is understood that the LPA have requested additional information.

6.7.4 The cumulative impact assessment considered only those environmental topics identified in the ES as having a negative impact, these being Air quality (effect on ecological receptors) and Landscape (landscape/townscape and effect on views).

6.7.5 The cumulative impact assessment found that cumulative impacts to air quality (effect on ecological receptors) were likely to arise as a result of the Wood Burning Gasification Facility but not as a result of the 'Quays' development. The scale of the impact could not be determined as a result of insufficient information accompanying the Wood Burning Gasification Facility Planning Application.

6.7.6 The cumulative impact assessment found that cumulative impacts to Landscape (landscape/townscape and effect on views) were likely to result in cumulative impacts in association with this application. The increased urbanisation of the area as a result of the two proposed developments considered has the potential to reduce the impacts to landscape/townscape associated with this application

SECTION 7

CONCLUSIONS

7 CONCLUSIONS

7.1.1 The proposal is for an Energy Recovery Facility on an unused brownfield site at Barry Docks, Barry, Vale of Glamorgan. The Facility will process approximately 80,000 tonnes of MSW, commercial, industrial, and construction and demolition wastes based upon the need for disposal capacity within the subregion. The Facility could also provide capacity for MSW/RDF, which would be preferable to landfilling. The Facility will generate 7.5 MWe of renewable electricity for export to the National Grid and the applicant is exploring opportunities to export heat (in the form of steam) to local businesses and residential developments.

7.1.2 The Facility would be an Energos Energy Recovery Facility that uses a two stage thermal process that eliminates the need for sophisticated and expensive flue gas treatment to produce renewable electricity and is classed as Advanced Thermal Treatment under the UK's Renewable Obligations Order. With seven operating plants and collectively in excess of 400,000 operating hours, the plant is proven technology and demonstrates an excellent operational track record. Further the technology demonstrates a proven environmental track record particularly its performance in relation to the Waste Incineration (England and Wales) Regulations 2002.

7.1.3 The proposal encourages industry and commerce in the sub region to deal with their own waste in a sustainable manner consistent with the objectives of the Waste Hierarchy (reuse, recycling and recovery). Currently residual wastes are disposed of at landfill facilities outside the sub region (Merthyr Tydfil, approximately 30m north of the Barry site) which results in additional HGV miles on the road network and with the attendant associated environmental impacts. The proposal would reduce HGV movements on the road network by providing a sub regional disposal facility and is therefore consistent with the driving principles of Wise about Waste; the Proximity Principle and Regional Self Sufficiency.

7.1.4 The application is accompanied by an ES, which has addressed all the potential effects of the proposed development.

7.1.5 The project design has accounted for the results of the environmental baseline information obtained from specialist consultants on a range of topics including hydrology, ecology, traffic, air quality, noise and visual intrusion. This has allowed the design of the appropriate mitigation measures and the identification of environmental enhancement measures that include additional shrub/trees planting and the creation of a wetland habitat to enhance the biodiversity of the site over and above that which exists at present. With the mitigation measures in place, it has been concluded that the environmental effects of the proposal can be minimised to conform to relevant standards and Government policy.

7.1.6 The design of the Facility is to a high standard, and the scale and activities will be in keeping with the nature of the surrounding land uses which are characterised by industrial and other waste management activities at Barry Docks.

APPENDIX A

SCOPING OPINION

Date/Dyddiad: 28 May 2008
Ask for/Gofynwch am: Administration
Telephone/Rhif ffôn: (01446) 704656
Fax/Ffacs: (01446) 704843
Your Ref/Eich Cyf:
My Ref/Cyf: P/DC/2008/00483/SC2
e-mail/e-bost: Planning&Transport@valeofglamorgan.gov.uk

The Vale of Glamorgan Council
Dock Office, Barry Docks, Barry CF63 4RT
Tel: (01446) 700111

Cyngor Bro Morgannwg
Swyddfa'r Doc, Dociau'r Barri, Y Barri CF63 4RT
Ffôn: (01446) 700111

www.valeofglamorgan.gov.uk

VALE of GLAMORGAN
BRO MORGANNWG

Parsons Brinckerhoff,
Queen Victoria House,
Redland Hill,
Bristol.
BS6 6US

Dear Sir,

Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 : Schedule 4
Construction of a gasification facility at Barry Docks

The Council in accordance with the application and plans registered by the Council on 17 April 2008 is of the opinion that Environmental Impact Assessment submitted should cover the matters referred to in Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, as referred to in the information details as submitted with the request but should also include an assessment of the following:

1. That the applicants be advised that, in addition to the scope of the Environmental Statement (ES) identified in the supporting submissions, that the proposed ES cover those matters raised in the officer's report (attached), with particular respect to the comments of the Environment Agency on ground contamination and protected sites (copy of comments provided) and the highway engineers concerning the scope of the required Traffic Statement.

Yours faithfully,

Head of Planning and Transportation

P474

Mr Rob Thomas - Head of Planning and Transportation
Vale of Glamorgan Council
Docks Office Subway Road
Barry
South Glamorgan
CF63 4RT

Ein cyf/Our ref: SE/2008/106237/01-L01
Eich cyf/Your ref: P/DC/SJB/2008/00483/SC2

Dyddiad/Date: 14 May 2008

Annwyl Mr Thomas / Dear Mr Thomas

EIA SCOPING OPINION REQUEST FOR CONSTRUCTION OF A GASIFICATION FACILITY FOR BIOGEN POWER LTD AT BARRY DOCKS, BARRY, VALE OF GLAMORGAN.

Thank you for your letter of 22 April 2008 with regard to a request for a scoping opinion from Parsons Brinckerhoff. The Environment Agency would request the following matters are addressed in an Environmental Statement (ES):-

- Flood Risk Matters
- Groundwater and Contaminated Land Matters
- Waste / Pollution Prevention Measures
- Biodiversity Aspects

Flood Risk Matters

The site lies entirely within zone C2, as defined by the development advice map (dam) referred to under TAN 15 Development and Flood Risk (July 2004). We would therefore request the risk of flooding be considered as part of the Environmental Impact Assessment (EIA) and request that a flood consequence assessment be submitted to demonstrate in accordance with Technical Advice Note (TAN15) that the consequences of flooding can be acceptably managed. For further information please contact Mr Gary Purnell, Technical Specialist, Development Control on 02920 245022.

We acknowledge within the letter from Parsons Brinckerhoff dated 16th April 2008, Reference FSE97027A within Section 3.9 that a flood consequence assessment (FCA) is recommended for this site.

there is an existing discharge consent the applicant should ensure that any increase in volume is permitted under the present conditions. Please contact Lisa Kirby on 02920 245221 for further details or visit the Environment Agency website on www.environment-agency.gov.uk

There are 5 licensed abstraction within 5 km of the National Grid Reference. It is the responsibility of the applicant to ensure that the development will not affect any water features (ie. wells, boreholes, springs, streams or ponds) in the area, including licensed and unlicensed abstractions.

There is no mention that water will be required for the works or for the process at the plant. If water is required for any of these purposes then we recommend that you refer to the CAMS document for the Thaw and Cadoxton and contact us as soon as possible with the details.

If during construction of the plant dewatering will be required a licence may now be required. An abstraction licence can take up to 4 months to issue once a valid application has been received. Under the terms of the Water Resources Act 1991, an Abstraction Licence may be required from the Environment Agency for the abstraction of water from any inland water or underground strata. This is dependent on water resource availability and may not be granted.

Waste / Pollution Prevention Issues

The site must be drained by a separate system of foul and surface water drainage, with all clean roof and surface water being kept separate from foul water. The local sewerage undertaken should be consulted by the Local Planning Authority and be requested to demonstrate that the sewerage and sewage disposal systems serving the development have sufficient capacity to accommodate the additional flows generated as a result of the development, without causing pollution.

Carriers transporting waste from the site must be registered waste carriers. If controlled wastes are to be utilised for construction purposes the developer must register the activity with the Environment Agency Wales. The Duty of Care Regulations apply to all movements of controlled waste.

The developers should adopt all appropriate pollution control measures, both underground and on the surface, to ensure that the integrity of the aquatic environment, both groundwater and surface water is assured. Site operators should ensure that there is no possibility of contaminated water entering and polluting surface or underground waters. The Environment Agency's Pollution Prevention Guidelines (PPGs) can be found on the internet at www.environment-agency.gov.uk/ppg and should be followed.

Prior to being discharged into any watercourse it is recommended that all surface water drainage from parking areas and hard standings be passed through an oil interceptor designed and constructed to have capacity and details compatible with the site drained. Roof water should not pass through the interceptor. The interceptor shall be retained thereafter. The applicant should ensure that any land proposed for soakaways has adequate permeability in accordance with BS 6297:2007.

The proposed development will require a permit under the Environmental Permitting (England & Wales) Regulations 2007, including demonstration of compliance with

Cont/d..

2008/00483/SC2 Received on 17 April 2008

BioGen Power Ltd., C/o Agent.
Parsons Brinckerhoff, Queen Victoria House, Redland Hill, Bristol., BS6 6US

Barry Docks

Construction of a gasification facility

INTRODUCTION

A request has been made under Regulation 10 of the Town and Country Planning (Environmental Impact Assessment) (England & Wales) Regulations 1999 (as amended by Town and Country Planning (Environmental Impact Assessment) (Amendment) (Wales) Regulations 2006) for a Scoping Opinion prior to the preparation of an Environmental Statement to accompany an application for the construction of a "gasification facility" in Barry Docks.

The submission has formed the basis of the Council's consultations with statutory and non-statutory bodies, with comments received informing the scoping report, and such responses to be provided to the applicants. Formal consultations will, of course, also be undertaken at application stage.

This scoping opinion will inform the applicants as to the content of the Environmental Statement (ES) as part of the Environmental Impact Assessment (EIA) process. It will consider the applicants submissions and identify aspects of the proposal which require attention during the preparation of the ES. The Council reserve the right to request and further information which, as part of the EIA process, may be subsequently required to inform consideration of the scheme at application stage.

SITE DESCRIPTION

The site is 1.6 hectares in size, sited approximately 100m southeast of Eastern Dock Wharf. The site is currently disused, forming part of the Atlantic Trading Estate employment allocation.

DESCRIPTION OF DEVELOPMENT

This relates to a small to medium scale gasification project, with the focus of the organisation being to provide local waste management solutions that process locally generated wastes, in accordance with the Government's proximity principle.

The proposed scheme will process approximately 80,000 tpa of waste including municipal solid waste, commercial, industrial and construction and demolition wastes. It will utilise proven gasification technology operational in Europe for ten years. The process will generate approximately $7MW_e$ (gross) electricity for distribution to the local grid network. It will also generate steam and heat available for export to local users and opportunities are being sought for its use within existing or new facilities locally.

The development will comprise a number of buildings with a maximum height of 20m. The process will require an emissions stack, the height of which will be determined through detailed atmospheric dispersion modelling, although it is stated that it is likely to be 40m in height.

Full details of the proposal are provided in the submissions.

The applicants accept that an ES is required since the proposal would, in their submissions, fall within Schedule 1 Part 10 of the EIA Regulations as *"waste disposal installations for the incineration or chemical treatment (as defined in Annex IIA to Council Directive 75/442/EEC under heading D9) of non-hazardous waste with a capacity exceeding 100 tonnes per day"*.

PLANNING HISTORY

The site has no specific planning history but forms part of a wider employment area with a detailed planning history.

CONSULTATIONS

A number of statutory and non-statutory consultations have been undertaken on this request for a formal scoping opinion, with responses received from the following bodies (and their representations summarised and discussed below in the main issues of the report): -

- Environment Agency Wales
- Highway Development
- Economic Development
- Countryside Council for Wales
- Ecology
- Environmental Health
- Glamorgan Gwent Archaeological Trust
- Civil Aviation Authority

In addition, Barry Town Council was notified for their information, although no response has been received.

REPRESENTATIONS

No neighbour consultations have been requested or are required to be undertaken as part of a request for a Scoping Opinion.

REPORT

Issues

In reaching a scoping opinion, the Council must have regard to the matters listed in Paragraph 10 (6) of the Regulations, which requires that the following matters are taken into account::

(a) the specific characteristics of the particular development;
(b) the specific characteristics of development of the type concerned; and

(c) the environmental features likely to be affected by the development.

In assessing the environmental impact of the development, the main issues required to be addressed in the Environmental Statement – in addition to those raised in the applicants' submissions are as follows:

Traffic and Transport

The submissions advise that the number of traffic movements associated with the development is relatively small and would have relatively small traffic implications. Therefore, they propose to undertake a qualitative transport assessment based on information regarding typical vehicle types, quantity of waste transported and the number of staff and contractors accessing the site. It will also consider the potential impact associated with the construction phase of the development.

The highway engineers advise, after discussions with the Traffic Engineer, that a qualitative Transport Statement (TS) as outlined in the EIA would be acceptable in this instance. If, however, any transport issues arise through the Transport Statement which are not provided for within the EIA, then the Highway Authority reserve the right to require these issues and any related ones be provided for in the TS. In this respect, they recommend that prior to the full submission, the Developer/Consultant meets with the Highway/Traffic Engineers to discuss and agree the scoping and the suitability of the existing highways and access arrangements.

Ecological Assessment

In addition to the baseline study proposed by the applicants, to review current habitats and species, assess any impacts upon them arising from the proposal, and propose avoidance, mitigation and compensatory measures to overcome any ecological impacts, consideration of the following are required: -

- Designated sites

  The Environmental Statement (ES) should automatically include assessment of relevant direct and secondary impacts on statutory and non-statutory designated sites located within or outside the application site (including candidate Sites of Importance for Nature Conservation)

  Although the applicants submissions state that following a brief assessment of protected sites, no Sites of Special Scientific Interest (SSSIs) were found to be present within 2km of the proposed application site, it is noted that the Hayes point to Bendrick Rock and Barry Island SSSIs occur within 2 km of the proposed application site.

  The Environment Agency advises that impacts on these sites should be determined, along with relevant impacts to the Severn estuary cSAC and SPA.

- Habitats and Species

  To enable the impacts on biodiversity to be fully assessed, the ES should include baseline surveys, assessment of impacts (including both direct and secondary), mitigation measures where appropriate, and statement of significance, to include the following:

  Habitats

  Identification and mapping of all habitats present on site using a Phase 1 approach. This should include identification of habitats which have potential to support any protected species or Wales / UK / local Priority species.

  Phase II / detailed survey of any UK / Wales / local Priority habitats present on site, including hedgerows, which should be assessed to ascertain whether or not they qualify as Important under the Hedgerow Regs. 1997.

- Birds: whole site baseline survey to include breeding bird survey.

- Any protected species which have potential to be affected, and in particular:

  (1) All bat species (including surveys of trees / buildings / foraging surveys as necessary).

  (2) Barn Owl (Wildlife and Countryside Act Schedule 1 species).

  (3) Great Crested Newt: Water bodies are present within 500m radius of site boundary (which is the recognised foraging range for great crested newt) these could potentially support great crested newt.

  (4) Badger.

  (5) Reptiles.

- Any Wales / UK / Local Priority species which have potential to be affected.

- Arboricultural matters

  The scope of the ES should include identification of and assessment of the impacts on any hedgerows, mature or veteran trees on site, and all trees and woodlands protected by Tree Preservation Orders. The assessment should be conducted by qualified arboriculturalists.

Flood Risk

The site lies entirely within zone C2 as defined by the development advice map (dam) referred to under TAN 15. The Environment Agency requests that the risk of flooding be considered as part of the EIA and that a Flood Consequence Assessment (FCA) should be undertaken and submitted to demonstrate that the

consequence of flooding can be acceptably managed. They acknowledge that parsons Brinckerhoff recommend that a FCA is undertaken.

Accordingly, it is emphasised that a FCA must be undertaken as part of the preparation of the Environmental statement.

Groundwater and Contamination

The Environment Agency concur with the proposed preliminary desk study risk assessment that will identify if intrusive investigation of ground conditions is necessary, but outline their expectation that this would lead to a detailed site investigation, which should include assessment of the risk that piled foundations might create additional migration pathways for contaminants.

They also refer to the need for a method statement to be agreed to include all measures taken to prevent detriment to the environment and any contingency plans, with reference in particular to the minimisation of risk of pollution of hazardous materials stored on site. It should also take account the protection of groundwater.

They also refer to investigating the possibility of gas migration, and make detailed comments in respect of water resources, and abstraction.

These requirements are supported by the Council's Environmental Health Officer.

Accordingly, the Council's expectation is that the ES will incorporate full details of detailed site investigations, together with mitigation proposals, as well as an assessment of the gas migration issues raised by the EA, unless it is otherwise agreed following preliminary studies that such surveys are not required.

Waste / Pollution Prevention Issues

The Environment Agency have provided detailed advice regarding treatment of foul and surface water drainage, and require that it be demonstrated that the sewerage and disposal systems have sufficient capacity to accommodate the additional flows generated as result of the development, without causing pollution. They also require that the integrity of the aquatic environment, both groundwater and surface water, is assured.

Noise

The submissions are generally accepted. However, in addition to the existing residential and business communities, the impact of the proposal upon *prospective* residential communities/development at East Quay and South Quay on the Waterfront 2 development (approximately 320m and 750m distance respectively) will also need to be considered.

Given that the nearest (potential) residential receptor will be significantly less than the 600m stated in the submissions, it is therefore considered likely that additional noise monitoring will be required to assess such potential impacts.

The Environmental Health Officer also advises that the installation as described will need a permit under the Environmental Permitting Regulations, and that the scope of the permit application process and any granting of this permit must include the impacts offsite. This will include an assessment of off site impacts noise / air and be subject to detailed scrutiny – the development could not operate legally without such a permit.

In this respect, it is requested that, where possible, the submissions provide evidence from existing similar facilities, for example from emissions, in order that appropriate comparisons can be drawn.

Air Quality Dust

The Environmental Health Officer advises that the impact upon ambient air quality from the proposed source will need to be modelled and accepted. The EIA should also include details of a scheme to control dust during remediation and construction phases.

Cultural Heritage - Archaeology

The Council's advisors, Glamorgan Gwent Archaeological Trust, advise as follows:

The impact on the archaeological resource could become a factor in the determination of any planning application for the proposed development. They recommend that the survey of the existing historic information be conducted in accordance with the Standards and Guidance for Desk-Based Archaeological assessment issued by the Institute of Field Archaeology. Further investigation including archaeological evaluation may also be required prior to determination of any application if significant archaeological features are identified during the compilation of the desk study.

Other Matters / Responses

The Council's Waste Development Manager is satisfied that the proposal is comprehensive and aligns with current legislative requirements.

The Civil Aviation Authority/ Cardiff Airport are satisfied that there are no safeguarding objections to the proposal.

The Head of Economic Development has raised comments in respect of the potential impact on local businesses, together with issues regarding the potential significant increase in vehicular traffic and its resultant impact on business and highway safety.

RECOMMENDATION – OFFICER DELEGATED

That the applicants be advised that, in addition to the scope of the Environmental Statement (ES) identified in the supporting submissions, that the proposed ES cover those matters raised in the report above, with particular respect to the comments of the Environment Agency on ground contamination and protected sites (copy of comments provided) and the highway engineers concerning the scope of the required Traffic Statement.

Environmental Impact Assessment submitted should cover the matters referred to in Schedule 4 of the Town and Country Planning (Environmental Impact Assessment((England and Wales) Regulations 1999, as referred to in the information details as submitted with the request but should also include an assessment of the following:

1. That the applicants be advised that, in addition to the scope of the Environmental Statement (ES) identified in the supporting submissions, that the proposed ES cover those matters raised in the officer's report, with particular respect to the comments of the Environment Agency on ground contamination and protected sites (copy of comments provided) and the highway engineers concerning the scope of the required Traffic Statement.

APPENDIX B

SUMMARY OF STATUTORY POLICY RELEVANT TO THE DEVELOPMENT

Summary of statutory policy relevant to the development

EUROPEAN POLICY

- Waste Directive (2006/12/EC)
- Incineration Directive (2000/76/EC)
- Landfill Directive (99/31/EC)
- Environmental Impact Assessment Directive (97/11/EC).

NATIONAL POLICY AND GUIDANCE

- Waste Strategy for England and Wales (2007)
- The Landfill (England and Wales) (Amendment) Regulations 2005
- Wales Spatial Plan (2004)
- The Waste Incineration (England and Wales) Regulations 2002
- Planning Policy Wales (2002)
- National Waste Strategy for Wales (2002)
- Environmental Protection Act 1990
- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Act 1999.

Welsh Assembly Technical Advice Notes

- TAN 5- Nature and Conservation (1996)
- TAN 11 - Noise (1997)
- TAN 12 – Design (2002)
- TAN 15 – Flood Risk (2004)
- TAN 18 - Transport (2006)
- TAN 21-Waste (2001)

REGIONAL POLICY AND GUIDANCE

- South East Wales Regional Waste Plan (2004)

LOCAL POLICY AND GUIDANCE

- The Vale of Glamorgan Unitary Development Plan 1996-2011 (2005)
- The Vale of Glamorgan Municipal Waste Management Strategy (2004)
- The Vale of Glamorgan Local Biodiversity Action Plan (LBAP) (2002)

APPENDIX C

CORRESPONDENCE WITH THE DEVELOPERS OF EAST QUAY AND SOUTH QUAY

Nathaniel Lichfield and Partners

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Steve Ball
Development Control
Vale of Glamorgan Council
Dock Office
Barry Docks
Barry
CF63 4RT

Date: 10th December 2008
Our ref: WE30327
Your ref:

Dear Sir

PLANNING APPLICATION FOR ENERGY RECOVERY FACILITY OFF ATLANTIC WAY, BARRY DOCKS

Nathaniel Lichfield and Partners (NLP) has been instructed by the Consortium of developers taking forward the Barry Waterfront redevelopment (Persimmon Homes, Barratt Homes and Taylor Wimpey) to confirm their support of the above planning application for a renewable power facility at Barry Docks.

The Barry Waterfront redevelopment will deliver a high quality new urban quarter that will link the existing settlement of Barry to Barry Island. In doing so, it will provide approximately 2,000 dwellings, infrastructure, community facilities, retail and leisure uses. As part of the proposed development, the Consortium is examining the potential sustainable energy sources. In undertaking this, several potential options are being explored, including the potential to connect to this facility as part of a possible district heating solution.

It should be noted that, whilst the Consortium supports the principles behind this application, this support should not be seen as a firm assertion that the proposed Barry Waterfront development will in fact connect to the system. The potential to connect to the system will be visited at a later date and will depend upon several factors, including, most importantly, the availability of funding, which will be needed in order to connect the site to the proposed facility.

We hope that this support is helpful in assisting you in your planning decision.

Yours sincerely

SARAH WATSON
PLANNER