

enviroparks

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# Environmental Statement

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## ADDENDUM

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### NON-TECHNICAL SUMMARY

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Amended phase II development and operation  
of a sustainable waste resource recovery and  
energy production park.

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February 2017





# Environmental Statement

## NON-TECHNICAL SUMMARY

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This document is a non-technical summary of the Environmental Statement Addendum for the amended phase II Enviroparks development and operation of a sustainable waste resource recovery and energy production park on Fifth Avenue, Hirwaun Industrial Estate, Hirwaun, South Wales. It was prepared by Savills and Envisage for Enviroparks (Wales) Limited. For further information about this project, please look at the main 2008 Environmental Statement and 2017 Environmental Statement Addendum or contact:

Enviroparks (Wales) Limited  
 1st Floor  
 Tiverton Chambers  
 Tiverton Place  
 Lion Street  
 Abergavenny  
 Monmouthshire  
 NP7 5PN

Tel. 01873 853112

[www.enviroparks.co.uk/planning2017](http://www.enviroparks.co.uk/planning2017)



## Section One INTRODUCTION

### WHAT IS ENVIRONMENTAL IMPACT ASSESSMENT?

1.1 **Environmental impact assessment** (EIA) is a process that aims to improve the environmental design of a development proposal and provide decision makers with information about its environmental effects. During the EIA process the likely effects of a development project on aspects of the environment, including road traffic, air quality, noise, water, soils, the local economy, historical features and wildlife are predicted. If any adverse environmental effects are expected, then measures to reduce or avoid these effects are proposed.

1.2 The findings of the environmental studies are written up and presented in a document called an **environmental statement** (ES). The ES describes the development proposals in detail and explains how the site was chosen and how the project design evolved in the light of environmental studies and consultations with the local community and other interested parties. The ES is then submitted with a planning application for the project to the local planning authority – normally the local council.

1.3 The ES is inevitably a large document and can be accompanied by several technical appendices. To help the reader to gain a general understanding of what is being proposed and its environmental effects, a **non-technical summary** (NTS) is also prepared. This document is the NTS for the amended phase II development and operation of a sustainable waste resource recovery and energy production park proposed on land at Fifth Avenue at Hirwaun Industrial Estate by Enviroparks (Wales) Limited (EWL). At the end of this document are a series of plans that show the planning application site and the development that EWL would like to build.

1.4 Because the planning application site crosses the boundary between Rhondda Cynon Taf County Borough Council (RCT) and the Brecon Beacons National Park Authority (BBNPA), the planning application has been submitted to both local planning authorities.

### ENVIROPARKS

1.5 In the past, most of the waste materials collected from homes and businesses were disposed of in landfill sites – often in old quarries. Targets have been set by the European Union, the UK and Welsh Governments to divert waste away from landfill sites by waste avoidance and recycling.

1.6 Enviroparks (Wales) Limited (EWL) is an energy company that developed a concept of putting a range of waste recycling, energy recovery and related commercial operations on the same site or ‘park’. The company’s approach is to recycle diverse waste streams using integrated advanced technologies to maximise recycling and energy generation with the minimum residual waste and environmental impact.

1.7 Based in Abergavenny, EWL was established with the aim of developing a chain of Enviroparks in the UK. EWL is funded by private investors and investing institutions, notably Zeus Renewables which specialises in investments in renewable energy projects. The directors of EWL previously developed a battery recycling facility in Ebbw Vale which is the most modern of its kind in Europe and one of only two in the UK. Now employing 135 staff, the plant has become one of largest producers of lead roofing materials worldwide.

1.8 EWL is also working with several specialist technology providers to deliver its aims. The combination of technologies brought together by EWL is designed to ensure high levels of efficiency with regard to fuel preparation and electricity production. These technologies are intended to represent 'Best Available Techniques' for the purposes they serve.

1.9 EWL was granted planning permission for an Enviroparks development on the site in 2010 and the first part of the development, along with access roads across the site, has been built. EWL is now applying for planning permission to make changes to the second phase of the development.

## Section Two SITE DESCRIPTION

### LOCATION

2.1 As shown on the planning application drawings at the end of this document, the planning application site lies on Hirwaun Industrial Estate, to the north of the A465 'Heads of the Valley' east-west trunk road, and close to its junction with the A4059 / A4061 north-south route between Brecon and the Rhondda Valley. Road access to the site is gained from the A465(T) Heads of the Valleys road via the A4061 Rhigos Road, which leads onto Fifth Avenue. The site has a new road access from Fifth Avenue to the south-west of the site and two new road accesses from Ninth Avenue along the eastern site boundary.

### LOCAL SETTLEMENTS

2.2 The nearest large towns in the area are Merthyr Tydfil 11 km to the east and Aberdare 7 km to the south-east. Local settlements include Hirwaun 2 km to the south-east of the site, the village of Penderyn 2 km to the north-north-east, and Rhigos, which lies 1.7 km to the south-west of the application site. There are isolated smaller houses closer to the site, and two hotels.

### THE IMMEDIATE SURROUNDINGS

2.3 The site is located in an area of varied terrain. Whereas the Hirwaun Industrial Estate occupies a generally level area of land, the land rises gently to the south and east, and more steeply to the east and north. Local land uses are also diverse, with a variety of factories, storage and waste reclamation on the industrial estate itself and a large area to the south-east of the industrial estate occupied by the workings of the former Tower Colliery, a coal mine that closed in 2008. Across Ninth Avenue from the application site is a large industrial complex operated by Eden Industries. The area to the north and west of the planning application site is more rural in character, with woodlands and well-defined fields used for grazing.

2.4 Water storage, transfer and treatment facilities are a notable feature of the locality. Immediately to the north of the planning application site is the Penderyn reservoir, a lake formed by high artificial embankments. The reservoir is used for fishing by the Mountain Ash Fly Fishing Association (MAFFA). In addition to the reservoir there are operational pumping station and treatment facilities at the northern end of Ninth Avenue and on both sides of Fifth Avenue to the south-west of the application site.

2.5 Since EWL was first granted planning permission for the development of its site, there have been a number of notable developments in the wider neighbourhood. These developments include:

- Pen y Cymoedd 76 turbine wind farm has been built on an upland ridge 3.5 km to the south of the application site.
- An electricity sub-station required to connect Pen y Cymoedd wind farm to the electricity distribution network has been built 475 metres to the west of the application site.
- Three further wind farms are built or proposed to the south-south-east of the Enviroparks site, namely the operational nine turbine Mynydd Bwllfa wind farm (3.7 km distant), the operational eight-turbine Maerdy wind farm (5.8 km distant) and the unbuilt Abergorki three turbine wind farm (7.4 km distant), for which planning permission has been granted.
- Permission has been granted for a gas turbine power station to the north of Main Avenue on Hirwaun Industrial Estate, 340 metres to the south of the Enviroparks site at its closest point.
- Since the original planning permission was granted for the Enviroparks project, open-cast coal mining has taken place over an enlarged area of Tower Colliery, 1.5 km to the south of the site.

## THE SITE

2.6 The Enviroparks site is roughly square in shape and totals approximately seven hectares in area. Until the development of the first phase of the Enviroparks scheme began in 2015 the site was a flat grassland with scrub vegetation. The site is classified as previously developed land, and ground investigations have identified made-up ground overlying the natural geology.

2.7 The main change that has taken place at the Enviroparks site since 2010 is the building of the first phase of the Enviroparks development, which began in 2015 and is well advanced. This includes a large building, 'Building 3', known as the Fuel Processing Hall, in the south-east part of the site, a gatehouse, an access road running across the site between Ninth Avenue and Fifth Avenue, temporary construction laydown and parking areas and foul and surface water drainage works.

2.8 The total area of the land affected by this current planning application is around five hectares.

## Section Three

### DESCRIPTION OF THE DEVELOPMENT

3.1 This section provides a detailed description of EWL's proposals. It describes the buildings that EWL would like to build and the waste handling operations that will take place once construction is completed.

#### PROCESSES

3.2 The aim of the proposed development is to recover the energy from the non-hazardous waste that is left after recyclable materials have been removed and to use this to supply low carbon electricity to customers on and off site. To this end, the proposed development includes the following main processes and elements.

#### Waste streams

3.3 Waste will be brought to the site by lorry in two forms for processing:

- **Refuse-derived fuel (RDF)** - this is waste that has already been sorted, shredded and prepared off-site. The RDF would be brought to the site in sealed bales or loose-loaded in specialist vehicles.
- **Commercial and industrial waste (C&I)** – from other waste contractors and businesses in South Wales. This would also be brought to the site in sealed bales or loose-loaded in specialist vehicles.

3.4 No hazardous waste or untreated municipal solid waste will be processed on the site.

#### Waste reception

3.5 Waste delivery vehicles would enter the site from Ninth Avenue. Having been weighed and booked in at the gatehouse, the imported waste would be delivered to a waste reception area in the existing Fuel Preparation Hall. In an enclosed environment the waste will undergo a quality analysis to ensure it is of the right quality and consistency for further processing. The C&I will be shredded to a size no greater than 300 mm. As noted, RDF would arrive at the site already shredded. Both waste streams would be sorted to remove remaining recyclable, materials such as metals or gas bottles, which will be taken off-site for recycling or safe disposal.

3.6 The rest of the waste would be further processed using mechanical means and tested to ensure it meets the fuel specification required by the gasification machinery.

#### Fuel preparation

3.7 Fuel for gasification would finally be shredded to less than 75 millimetres in size and taken to a Gasifier Fuel Store. Any metals recovered from the waste stream would be separated and sent for recycling off-site, and any remaining inert waste such as grit would be extracted and disposed of

at a suitably-licensed landfill site or used as an aggregate for construction use. The remaining material will be the fuel for the gasifiers and would be conveyed to fuel bunkers inside the consented **Fuel Storage Hall** on the Fifth Avenue frontage of the site. The bunkers provide a steady supply of fuel for the gasifiers with reserves available for times when fuel is not being prepared, such as weekends and bank holidays.

### Gasification

3.8 If waste or other some other materials are heated to a very high temperature, they give off lots of gas, which can then be used to make electricity. This process is called *gasification*, and the machinery in which gasification takes place is called a *gasifier*. There would be three gasification units in EWL's proposed development, housed in a central **Gasification Hall**.

### Electricity generation and the future high energy user

3.9 The gas produced in the gasifiers will be used to drive a steam turbine that will generate electricity. This renewable energy will be fed by underground cables to the local electricity supply network. It might also be made available to future users of the large industrial building on the northern part of the Enviroparks site for which EWL already has planning permission. It is expected that the availability of renewable energy will be particularly attractive to inward investors.

## BUILDINGS

3.10 For completeness this section describes all of the buildings on the Enviroparks site to present a complete picture of the development. Plans and drawings of the buildings can be found at the back of this report.

### Fuel Preparation Hall

3.11 This building formed a part of the proposals approved in 2010 and has been built, occupying land in the south-eastern part of the site.

### Fuel Storage Hall

3.12 This building formed a part of the proposals approved in 2010 and 2015 but has not been built. The site is on the Fifth Avenue frontage and, under the current proposals, would be increased by two metres in height. As now proposed this building would measure 16 metres to ridge in height. Having regard to internal sub-divisions, part of the fuel storage element would account for approximately two-thirds of this building, which would also accommodate the Turbine Hall and the southern part of the Gasification Hall.

### Gasification Hall

3.13 The Gasification Hall is the main new element in the current proposals. The Gasification Hall brings together the consented Gasification Yard, Pyrolysis Building and Engine House in the 2010

scheme. It would contain three gasification lines, each with a bag filter unit used to treat exhaust emissions prior to discharge via the stack.

3.14 The building would occupy the central-southern area of the site. The Gasification Hall would also include some space in the Fuel Storage Hall Building.

### Stack

3.15 The stack would occupy the same central location on the site as it did in the approved 2010 proposals. To ensure effective dispersion to air, the stack in the current proposals would be 45 metres in height – five metres higher than currently consented. It would contain three flues – one for each gasifier – within a cylindrical external casing with an overall diameter of 3.5 metres.

### Turbine Hall

3.16 The steam turbine would be accommodated at the western end of the proposed Fuel Storage Hall building on the Fifth Avenue frontage. The electricity generated will be sent by underground cable to the proposed sub-station at the eastern end of the same building for onward transmission to Western Power Limited’s local electricity distribution network.

### Service yard

3.17 As in the 2010 approved scheme, the service yard in the south-western corner of the site would contain the air-cooled condensers for the steam turbine, along with other secondary structures including fire water tanks, process water storage tanks, a gas supply station and a standby generator. The yard as now proposed would be screened from views from Fifth Avenue by a belt of trees and shrubs.

### On-site high energy user building

3.18 This building was consented under the 2010 planning permissions and remains unbuilt and outside of the red line boundary for the current planning applications.

### Biomax building

3.19 This building was also consented under the 2010 planning permissions but remains unbuilt and outside of the red line boundary for the current planning applications.

### Visitor centre and administration building

3.20 The proposals that were granted planning permission in 2010 incorporate a combined administration building and visitor centre at the south-east corner of the site, visible from Fifth Avenue. The building is unaffected by the current proposals.

### Site access, circulation and parking

3.21 Road access to the site would be from Fifth and Ninth Avenues. Internally, the site has been arranged to facilitate the safe and efficient movement of lorries and other vehicles around the site, and to ensure the safe separation of operational and visitor traffic. The main car park will be near the visitor centre and administration building in the south-east corner of the site. This will include spaces for cars and a visiting coach.

3.22 The development will include covered bicycle parking and shower / changing facilities for cyclists. The visitor centre and administration building would make provision for disabled access. The car parking complies with the guidance issued by Rhondda Cynon Taf CBC.

### LAYOUT, LANDSCAPE AND DESIGN

3.23 The buildings and structures described above would be laid out in a manner reflecting a range of planning and design considerations. These are considered in detail in a *Design and Access Statement* that accompanies EWL's planning application. As well as operational efficiency, these considerations include a desire to make sure that the buildings are acceptable in external views of the site – particularly from Fifth and Ninth Avenues and from the Penderyn reservoir embankment on the northern site boundary.

3.24 Extensive landscape and planting is proposed around the edges of the site and in the car park. Trees and shrubs would be selected to reflect the aims of integrating new planting with that which already exists on the site boundaries, providing a suitable visual foil for the buildings and some wildlife benefit.

### SUMMARY OF INPUTS AND OUTPUTS

3.25 Estimates of the materials that will go into and out of the proposed development are set out in table 3.1.

**Table 3.1: Enviroparks Hirwaun – estimated inputs, outputs and emissions**

<i>Inputs and outputs</i>	<i>Volume (annual unless specified)</i>
<b>Waste inputs</b>	
Refuse-derived fuel	83,000 tonnes
Commercial and industrial waste	155,000 tonnes
<b>Materials to support the gasification process</b>	
Lime	1,183 tonnes
Urea	473 tonnes
Activated carbon	47 tonnes
Process Water	35,083 cubic metres
<b>Outputs</b>	
Metals for recycling	6,346 tonnes
Additional recyclates and other materials removed during fuel preparation	61,654 tonnes
Effluent water	13,560 cubic metres
Ash from gasification	20,341 tonnes
Syngas from gasification	16.4 cubic metres per second
Emissions to air	47.7 cubic metres per second
Electricity	86,724 Megawatt hours per year

## THE SCHEME IN OPERATION

3.26 The effective operation of the site will require a highly competent workforce. It is expected that the skills can be found locally. EWL will put in place a competent management team experienced in the relevant procedures including operations and maintenance, environmental permitting, health and safety, quality assurance, site security, weighbridge, grid connection, electricity production and transmission.

### Environmental mitigation and monitoring

3.27 The Enviroparks planning permissions granted in 2010 were the subject of a wide range of planning conditions and obligations, all of which are designed to ensure that the building and operation of the scheme takes place in an acceptable and neighbourly manner.. These have been discharged insofar as they are relevant to or triggered by the commencement of phase I of the development.

3.28 The Applicant remains agreeable to all of the existing planning conditions and obligations for the site, including those concerning the construction and operation of the plant and the safeguarding of Dŵr Cymru Welsh Water’s Penderyn Reservoir. The 2010 planning permissions thus provide an appropriate template for the consenting of the current applications. EWL requests / proposes that relevant planning conditions and obligations are applied to the current proposals in the event that they are approved.

### Community fund

3.29 EWL set up Enviroparks (Community Liaison) C.I.C Limited in 2010 to share a predicted £600,000 that EWL would contribute over a ten-year period, principally to the local communities of Rhigos, Hirwaun and Penderyn. Working with the local communities and the Welsh Government it is hoped that this sum can be increased by attracting match-funding from other sources. The money raised will be used to improve energy efficiency by paying for increased insulation in buildings, replacement windows, etc, but can also be used for any related purpose. Local residents have been invited to sit on the governing board to advise as to the best use of the funds alongside two board members from EWL.

## Section Four

### SITE SELECTION, ALTERNATIVES AND SCHEME DEFINITION

#### INTRODUCTION

4.1 This section explains how the development has progressed and evolved since planning permission was granted in 2010. It includes an explanation of the changing circumstances that led to the revised scheme for which planning permission is now sought. For completeness, a summary of the development as approved in 2010 is provided.

#### SUMMARY OF THE 2010 SCHEME

4.2 The proposed site layout of the Enviroparks development that was granted planning permission in 2010 is shown at end of this document. The objective of the proposed development was to operate a series of advanced resource management processes in one place so that, together, they can recover as much material and energy as currently possible under closely-controlled environmental conditions. Thus, whereas many waste processing technologies such as incineration will burn a large proportion of the recyclable material and leave a large amount of ash or other material that is typically disposed of to landfill, the Enviroparks concept employs alternative technologies that extract the full recyclable value from the waste stream.

4.3 The approved development would do this by:

- sorting the waste materials that arrive at the site efficiently to extract recyclable materials, and preparing the feedstock for further processing. This takes place in what is called a 'fuel preparation area';
- using five technologies in an interlinked manner to process the residual wastes and recover energy resources.

4.4 These five processes currently with planning permission on the site are as follows:

- i). a 'Biomax' separator that extracts oil akin to a biodiesel from organic materials.
- ii). anaerobic digestion, in which biomass waste is placed in sealed vessels and warmed and stirred in the absence of oxygen. This process provides a useful energy source in the form of methane gas and a clean water effluent.
- iii). pyrolysis, in which solid organic wastes are converted to a useful fuel gas under high temperatures and in the absence of oxygen.

- iv). a similar gasification process in which any materials are converted to simple gases or an inert, glass-like solid material that can be used as an aggregate in construction.
- v). the liquid and gas-based fuels produced through these processes would then be used to fuel a range of reciprocating engines located in a proposed engine house. Some of this recovered energy would then be used by a high energy user – a manufacturing employer with high energy needs, occupying an industrial unit on the northern part of the Enviroparks site.

4.5 The approved development includes a visitor centre designed to accommodate visiting parties from organisations such as schools and colleges.

### IMPLEMENTATION AND EVOLUTION OF THE PROJECT BETWEEN 2010 AND 2016

4.6 Building began in May 2015 on the first part of the Enviroparks development in Hirwaun. The layout plan at the end of this document shows the approved layout of phase I, the main elements of which are Building 3 – identified in the 2010 approved scheme as the Fuel Preparation Area Building and now called the Fuel Preparation Hall – internal site access roads running across the site from Fifth Avenue to Ninth Avenue and supporting drainage provision. It is first phase of the development is largely complete but is not operational.

### CHANGING CIRCUMSTANCES

4.7 Since the original Enviroparks development was designed almost a decade ago, changing circumstances have prompted a reconsideration of the range of processes that can operate on the site.

#### Opening of the Bryn Pica AD plant

4.8 In 2015 an anaerobic digestion plant opened at the Bryn Pica waste site north of Aberdare, 7km to the east of EWL's Hirwaun site. This plant will process up to 22,500 tonnes of food waste annually. It is intended to be the hub for food recycling in South Wales.

#### Changes in the composition of waste

4.9 The contents of municipal solid waste (MSW) and commercial and industrial waste (C&I) that, under the approved scheme, would have arrived at the site in conventional dustbin lorries for sorting, is much changed now that waste is being sorted into different collection bins at source by householders and businesses. This led EWL to reconsider the nature of the waste materials it can process.

## Contracts for Difference

4.10 Contracts for Difference (CfD) have replaced the previous Renewable Obligations Certificates (ROCs) scheme through which renewable energy generation was formerly supported.

4.11 A CfD is a private law contract between a low carbon electricity generator and the Low Carbon Contracts Company, a government-owned company. Low carbon energy generators bid for CfDs in auctions held by the UK government. EWL bid for a contract in the first auction. On 26 February 2015 the government announced that Enviroparks has been awarded a CfD for the generation of electricity through ‘advanced conversion technologies’ – defined as the generation of electricity from fuel from gasification and pyrolysis of biomass or waste. Advanced conversion technologies are at the heart of the Enviroparks development approved in 2010.

## Evolving technical specifications

4.12 With a CfD in place, EWL moved quickly to progress with the building of its project. Whereas the 2008 planning applications and ES reflected understanding of waste and energy technologies at the time, building the scheme needs a more detailed consideration of how specific items of processing plant and machinery can be best fitted on the site. Implementation also demands consideration of the physical requirements for ensuring that operations can secure and comply with the terms of an Environmental Permit for the site, which EWL will apply to NRW for.

## Changing circumstances - implications

4.13 EWL has balanced all of these changes in working out how its development should best proceed. The current planning applications reflect the outcome of this review process, with a clear focus on waste gasification and with the deletion of the AD and Biomax components of the overall scheme, for the reasons given above.

## LAYOUT OPTIONS

### Scheme amendments

4.14 The award of a CfD led Enviroparks to engage with specific equipment suppliers to enable the implementation of the second and main phase of the development. Arising from this was a clear picture of the shape and size of the plant and machinery required for fuel preparation, gasification and heat and power generation and the associated accommodation requirements.

### Scheme review

4.15 EWL took the opportunity to undertake a more extensive rethink of how its operations could be accommodated. The outputs of this review process are summarised as follows.

- i). **Waste reception and fuel preparation** – as proposed originally, this activity will take place in the Fuel Preparation Hall now built in the south-eastern part of the site.

- ii). **Gasification and energy generation** – In the development approved in 2010, the gasification, pyrolysis and energy generation components of the scheme were located in three adjacent but effectively separate areas of the site, with the gasifiers in an open yard. Improvements in operational supervision and noise and odour containment could be gained if all of these elements were incorporated into a single building. Several layout options were considered before the layout now proposed was selected. This takes the form of a Gasification Hall extending into the central area of the site from behind buildings on the Fifth Avenue frontage, with exhaust gases piped over only a short distance to the stack in the approved central location. As in the layout approved in 2010, the remaining area of open yard in the south-western part of the site will contain the air-cooled condensers for the gasifiers and other ancillary structures such as fire water tanks.
  
- iii). **Landscape treatment** – the landscape strategy for the site remains unchanged in the current proposals with the exception of the green wall that enclosed the gasifier yard in the 2010 scheme. This wall was proposed to screen views of the gasification units and AD tanks. However, now that the gasification units are proposed to be enclosed in a building towards the centre of the site and the AD tanks are being removed this primary need has disappeared. The remaining items of external plant are lower than the gasifiers and AD tanks and a ‘soft’ landscape scheme of trees and shrubs is proposed instead for the south-western corner of the site, fronting onto Fifth Avenue.

### Environmental protection

4.16 Enviroparks proposes that all of the environmental safeguards embodied in the planning conditions and section 106 planning obligations attaching to the 2010 planning permission should be retained for the current proposals. These include amenity and environmental protection requirements during the construction phase, safeguarding provisions for the Penderyn reservoir to the north of the site, and measures to deter lorry traffic from using local residential roads.

## Section Five POLICY CONTEXT

### CONTEXT

5.1 The consistent concern of many of the policies reviewed is the need to contain global climate change by reducing the emission of greenhouses gases, particularly carbon dioxide (CO<sub>2</sub>), that contribute to global warming. The extensive use of fossil fuels – coal, oil and natural gas – that accompanied the industrialisation of the world’s economy has released large volumes of CO<sub>2</sub> back into the atmosphere. The accumulation of greenhouse gases in the upper atmosphere reduces the planet’s ability to reflect solar radiation back into space, resulting in a gradual increase in average global air temperature. Amongst other things, this is thought to be causing a retreat of polar icecaps and a trend towards more extreme weather, with hotter, drier summers and warmer, wetter and windier winters forecast for Wales. Rising sea levels caused by the melting of the polar ice sheets could have serious consequences for coastal communities and residents of other low-lying areas.

5.2 The obvious response to this challenge is to reduce fossil fuel use, partly by using energy more efficiently and partly by finding alternatives. A repeated concern of the policies summarised in chapter five of the ES addendum is the need to develop renewable and low carbon sources of energy – forms of energy that occur naturally and repeatedly in the environment – including energy resources that would otherwise remain locked up in the waste stream.

5.3 A comprehensive range of policies, strategies and guidance are summarised in chapter five of the *Environmental Statement*. The following policy documents have been considered:

#### International

- Paris Agreement 2015
- Waste Framework Directive (2008/98/EC)
- Directive on the promotion of the use of energy from renewable sources (2009/28/EC)
- Industrial Emissions Directive (IED, 2010/75/EU)
- Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, and amendments in Directive 2014/52/EU

#### UK law and policy

- Climate Change Act 2008
- UK Low Carbon Transition Plan (2009)
- The Carbon Plan (2011)
- Energy Act 2013 and Electricity Market Reform (EMR)

#### Energy and waste law and policy in Wales

- Planning (Wales) Act 2015

- Environment (Wales) Act 2016
- Natural Resources Policy Statement (2016)
- Well-being of Future Generations Wales Act 2016
- The Waste (England and Wales) Regulations 2011
- The Waste (England and Wales) (Amendment) Regulations 2012
- Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2016
- A Low Carbon Revolution: the Welsh Assembly Government Energy Policy Statement – March 2010
- Energy Wales: A Low Carbon Transition (2012)
- Towards Zero Waste – One Wales: One Planet (2010)
- Industrial and Commercial Sector Plan (2013)

### **Policy in Wales**

- Planning Policy Wales edition 9, November 2016
- Technical Advice Note 21: Waste (2014)

### **Local**

- Adopted Brecon Beacons National Park Local Development Plan
- Rhondda Cynon Taf County Borough Local Development Plan up to 2021

5.4 These documents set out a wide range of planning, waste and energy policy of general or specific relevance to the Enviroparks proposals. The conclusions drawn from the policy review confirm that there is strong and consistent encouragement for advanced sustainable waste resource recovery and energy production. The current Enviroparks proposals are closely in line with the overarching policy framework and would be a notably sustainable form of development.

5.5 The Enviroparks operation would be consistent with international agreements seeking to reduce the risk of unconfined climate change. The latest and most significant of these is the Paris Agreement, which was negotiated by representatives of 195 countries at the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change in Paris and adopted by consensus on 12 December 2015. The Enviroparks operation would be consistent with the Paris Agreement (i) as the recovery of recyclable materials from the waste stream reduces the need to produce and refine new materials through mineral extraction, agriculture or forestry, which can be more energy intensive; and (ii) energy from waste is recognised as a low carbon energy source and an alternative to energy generated from carbon-rich fossil fuels.

5.6 The Enviroparks proposals are in keeping with the guiding principles of waste development and the waste hierarchy. The current proposals address the recycling and other recovery elements of the hierarchy, because they would process the residual materials that are left after most recyclable materials have already been recovered from the waste stream.

5.7 Policies indicate that that Hirwaun Industrial Estate is an appropriate location for in-building waste management uses of the type proposed by Enviroparks in the current application. The Enviroparks site is allocated for an employment use in both BBNPA's and RCT's local plan documents.



5.8 Whereas the policy landscape has evolved substantially since the 2008 ES was completed, it remains the case that the Enviroparks development would respond positively to a wide range of policy concerns regarding waste recycling, energy production, environmental protection and economic and social regeneration. From a planning perspective, the review suggests that the current proposals remain consistent with local plan policy.

## Section Six

### SCOPING AND CONSULTATION

#### ENVIRONMENTAL IMPACT ASSESSMENT SCOPING

6.1 Scoping is an important part of the EIA process and helps developers and their consultants to identify and assess the likely main environmental effects and issues of concern, assisted by feedback from, among others, planners, relevant government agencies and other consultees.

6.2 To be effective, environmental impact assessment is a process initiated at an early phase in project development and which then continues through the planning and decision-making phase to the implementation and monitoring of a development project. EWL's team has developed a close understanding of potential interactions between the Enviroparks development and the local environment from a combination of:

- the scoping opinion and the knowledge gained during the completion of the 2008 ES;
- the further environmental information prepared in 2009;
- the discharge of planning conditions and obligations prior to the implementation of the project, including conditions and obligations requiring environmental monitoring;
- the practical experience and further enhancement in knowledge of the site gained during the implementation of phase I, including an application made to NRW for an Environmental Permit for the phase I operation;
- dialogue with bodies including RCT (planning, highways, ecology and landscape), BBNPA, Dŵr Cymru Welsh Water and NRW.

6.3 A second scoping exercise for the revised development proposals was thus considered to be unnecessary. Where appropriate, the technical assessment chapters of the ES addendum provide a further explanation of how the detailed scope of individual studies was established.

#### CONSULTATION AND COMMUNITY ENGAGEMENT

##### Welsh pre-application consultation requirements

6.4 The Planning (Wales) Act 2015 requires developers making large planning applications to consult with the local community and government bodies before making a planning application. Alongside seeking any formal pre-application advice from local planning authorities (which is not a legal requirement), consultation is required with the general public (including adjacent owners and occupiers), community consultees (town and community councils and local members) and 'specialist' consultees (i.e. statutory consultees). During the pre-application consultation process, comments are provided to EWL as the applicant.



6.5 Enviroparks undertook the required pre-application consultation in January-February 2017. Formal responses to the consultation process have been considered and are summarised in the *Pre-Application Consultation Report* submitted with the planning application.

**Further comments**

6.6 In accordance with the EIA Regulations and normal planning procedures, once formally submitted to the local planning authorities, the planning application and ES addendum will be advertised, provided to consultees and made available to members of the public. During the consultation period, written representations on EWL's planning application should be sent to the local planning authorities.

## Section Seven

### ENVIRONMENTAL EFFECTS

#### COMMUNITY EFFECTS

7.1 EWL undertook a review of the social and economic status of the Hirwaun and Rhondda Cynon Taf area, using National Census information, Welsh Government Statistics and Research, Office for National Statistics and other local information. This information suggests that whilst there have been improvements and benefits within Rhondda Cynon Taf when compared to the performance figures in the 2008 ES, the County Borough still suffers from the legacy of the decline in mining and manufacturing.

7.2 In this context it is considered that the Enviroparks project is likely to result in a range of beneficial effects on the socio-economic conditions within the catchment of the project, which could be built upon with complementary measures such as local employment and skills initiatives. Foremost are the direct economic effects of the 69 full time jobs in a range of sectors and skills created in the project.

7.3 The effects of the proposed scheme during operation are predicted to be beneficial. Enviroparks has already set up a Community Interest Company, Enviroparks (Community Liaison) Ltd and will invite members of the local community to sit on the board along with two directors from Enviroparks (Wales) Ltd. The purpose of this company is to promote good community relations with respect to the operations of the plant and distribute funds raised by Enviroparks (up to £600,000 over the first ten years of operations) to wards local needs relating specifically to energy poverty.

7.4 Other measures considered to add further value to the area as a result of the Enviroparks development include the development of specific job training initiatives with local employers, schools and colleges, to help local people to develop new skills and to strengthen good public relations with the scheme. In addition, there will be early contact with local people for their training and potential employment once the scheme is completed, along with local labour agreements to encourage employment of local people and businesses. The use of local purchasing initiatives to capture the maximum benefits of the scheme for construction firms and product manufacturers based in RCT will be implemented where possible.

7.5 Over the past three to five years, there has been an improvement in the UK and Welsh economy following the recession. However, recovery has not been equal and RCT still suffers from the legacy of the decline in mining and manufacturing. In this context the assessment suggests that the Enviroparks scheme would be of significant benefit to job creation and the local economy.

TRANSPORT AND ACCESS

7.6 The ES addendum looks at the effects of road traffic generated by the proposed development during construction and operations. Where possible, the worst-case scenario has been applied in order to provide a robust assessment.

7.7 When compared to the approved 2010 Enviroparks scheme, the overall contribution of the operational Enviroparks site to the road network has reduced, with daily movements of commercial vehicles reducing by 58. A reassessment of the necessary construction vehicle movements has however identified a likely increase in vehicle movements during this two-year period from that which was originally assumed. The potential impact of construction movements has therefore been assessed, and traffic count data from 2008 and 2015 has been applied, updated to 2017 – 2019 levels to take into account the two-year construction period.

7.8 Because the most significant increase in road traffic is predicted to occur only during the construction period and on the industrial estate’s road network which is relatively little used, no detailed modelling work is considered necessary. Assessments of the potential impact from construction traffic noise and emissions were also prepared. Noise from construction traffic movements was deemed to have a neutral effect and the contribution to air quality pollutants from construction traffic movements was considered to have a negligible effect.

AIR QUALITY

7.9 An assessment of the main site releases to atmosphere has been undertaken to determine the likely impact of the proposed development on the local air quality. Information on the current background levels of pollutants in the area has been presented, and has been included in a modelling exercise to assess the overall pollutant concentrations which will result from the combined background and process related emissions.

7.10 The ground level concentrations of all of the modelled pollutants were within the relevant assessment level for the protection of human health and for the protection of vegetation and ecology. The overall risk from the emissions to air is considered to have a medium negative impact.

7.11 An assessment of the pollution from increased traffic movements during the construction phase was also undertaken and, as noted, these were considered to have a negligible impact.

7.12 Consideration was given to issues of nuisance from the site in the form of dust or odour. There is a low negative impact potential for emissions of dust during building works, and a short term, medium negative impact potential for odour risk. Dust and odour creation potential and therefore the risk of impact will be controlled by careful works management.

## NOISE AND VIBRATION

7.13 Potential noise from the site construction, operations and associated transport movements has been assessed. Noise modelling assessment was undertaken to calculate noise levels at 'sensitive receptors' including the closest houses and anglers using the Penderyn reservoir. Information regarding the likely noise levels from the proposed development at construction and operation phases was incorporated into the model and enabled the prediction of the likely noise levels during daytime and nighttime activities at each of the chosen monitoring points.

7.14 Without a detailed construction programme, an assessment of the potential noise impacts associated with building works has been undertaken through a prediction of likely noise levels, based on experience of similar building work elsewhere. Traffic movements associated with the construction phase have been assessed by predicting the changes in noise levels on the surrounding road network arising from the increase in vehicle movements. Increases in lorry movements during the construction phase will not result in any significant noise impacts.

7.15 The operational phase of the development is not predicted to generate significant levels of noise or ground borne vibration, partly because the gasifiers that EWL is permitted to build outside will, under the current proposals, be inside a building. Noise associated with off-site vehicle movements during the operational phase are also shown to be of neutral significance.

7.16 In summary, the short term effects of the construction operations will be controlled by means of a Construction Method Statement required by a planning condition to ensure that any noise impacts during the construction phase are suitably controlled. Overall, the long term noise and vibration impacts are predicted to be neutral at the identified receptor locations.

## GROUND CONDITIONS, DRAINAGE AND FLOOD RISK

7.17 An assessment of the current and proposed conditions of the land and drainage at the site has been undertaken and a flood risk assessment has been produced. In terms of drainage and flood risk, the current Enviroparks proposals shall integrate with the drainage system that EWL has already constructed. The current Enviroparks proposals introduce a number of additional and improved drainage features which shall provide additional and more substantial mitigation against contamination and flooding of downstream receptors.

7.18 The current proposals feature a larger roof area and correspondingly less hard surfacing at ground level, with associated drainage systems that provide an improved foul and surface water positive drainage system for the site. As in the approved scheme, there would thus be a large waterproof surfaced area preventing pathways for water to the principal aquifer. These will help to manage the potential movement and extent of groundwater within the site. Provision for 'sustainable drainage systems' incorporating ponds and swales (a basin created in the ground to manage rainwater run-off) is made in the landscaped area, as in the proposals approved in 2010.

7.19 The swale and balancing pond arrangement will receive surface water flows from the drainage network on the site and also accept groundwater. A downstream penstock – a sluice gate

for controlling the flow of water - will provide a final isolation system on the swale in the event of an accidental spillage of, for example, fuel oil on site, thereby protecting water courses downstream and water users downstream.

7.20 The current Enviroparks proposals require the diversion of an existing Dŵr Cymru Welsh Water 300mm diameter foul water sewer into the Fifth Avenue and the enlargement of the swale and balancing pond arrangement within the landscape area along the southern boundary. This feature will provide a significant portion of the overall surface water storage for the full Enviroparks development. Drainage features including swales and balancing ponds will be inspected regularly to ensure the stream adjacent the western site boundary is protected.

## LANDSCAPE AND VISUAL EFFECTS

7.21 The Landscape and Visual Effects chapter of the ES addendum covers the theoretical effects resulting from the proposed Enviroparks development. The chapter provides an assessment of the differences between the consented 2010 scheme and the current 2017 proposals.

7.22 It is assessed that the landscape and visual construction effects would be no greater than the operational landscape and visual effects of the proposed scheme at Year 1 following completion of construction.

7.23 Significant landscape and visual effects at Year 1 of the development would be restricted to the areas around the site and localised parts of the surrounding landscape. These areas comprise the Penderyn Visual and Sensory Aspect Area and the Brecon Beacons National Park, Cultural Landscape Aspect Area.

7.24 The adverse effects at Year 15 upon landscape character would reduce as the trees and shrubs planted around the Enviroparks site matures, reducing views particularly of the lower and mid-levels of the buildings. The external materials of the buildings, in particular the wood cladding would also fade and become less apparent, particularly in medium and long range views of the buildings.

7.25 The Viewpoint Assessment identified significant visual effects at Year 1 from the majority of close range viewpoints including the Penderyn Reservoir and localised points on the nearby public footpath. More distant views of the current proposals with the potential for significant effects upon visual amenity were assessed from a localised section of a public bridleway near Moel Penderyn. The visual assessment at Year 15, allowing for growth of boundary trees and shrubs and the fading of the building facades would result in the reduction of the visual effects to a non-significant level from some locations, although the scheme would remain visible to anglers using Penderyn Reservoir.

7.26 Potential significant effects upon visual amenity have been identified for users of Open Access land near Moel Penderyn and road users passing the Enviroparks site on Fifth Avenue. No significant impact on any views from homes is predicted.

7.27 The landscape and visual assessment has identified the locations where both the Enviroparks proposals and a consented gas-fired power station elsewhere on Hirwaun Industrial Estate would be most visible. Only minor cumulative landscape and visual effects were identified that would be not significant.

7.28 The differences in landscape and visual effects between the proposed scheme and consented scheme have been assessed. No significant changes upon landscape elements or landscape character would occur as a result of the proposed development. The increase in buildings and the slight increase in the height and width of the stack would be most noticeable from close range locations; however in all cases this would only have a small increase in the adverse level of effects. At no location would the proposed Enviroparks scheme result in significant adverse effects upon visual amenity where previously they were not significant with the consented scheme.

7.29 In conclusion, it is assessed that the proposals could fit within the landscape with only localised significant landscape and visual effects. These effects would reduce over time from publicly accessible locations, following the growth of new planting and the weathering of the buildings.

## ECOLOGY

7.30 In the neighbourhood of the planning application site are several areas of land protected for nature conservation purposes. These include the Blaen Cynon Special Area of Conservation (or 'SAC'), which includes the Cors Bryn-y-Gaer Site of Special Scientific Interest (SSSI) and the Woodlands Park and Pontpren SSSI. In addition, the Coedydd Nedd a Mellte SAC, which includes the Coedydd Nedd a Mellte SSSI and Dyffrynoedd Nedd a Mellte a Moel Penderyn SSSI, is located 1.1km to the west of the application site. There are seven ancient woodlands within two kilometres of the application site. There are no other non-statutory designated conservation sites within two kilometres of the application site.

7.31 Protected species records from within a two kilometre radius of the site included nationally scarce invertebrates, various bird species, toad, frog and common lizard, bats, pine martin and bluebell. Species surveys indicated that the site supports populations of butterflies, a small population of slow worms and breeding birds and provides foraging areas for bats.

7.32 All of the proposed changes to the approved Enviroparks scheme are within the development boundary of the consented scheme. Effects on wildlife species and habitats within the site are therefore unlikely to change. Planning conditions for the consented scheme include the requirement to produce a Wildlife Management Plan explaining how all of the recommended ecological mitigation measures would be implemented. This Wildlife Management Plan has now been operational for over two years. It is recommended that the Wildlife Protection Plan is updated to allow for the layout changes within the site and any alteration to the construction phases. Additional mitigation measures might be required and will be implemented as necessary.

7.33 The current development proposals do not change the design of the northern section of the Enviroparks site. Accordingly, neither the Provisional Wildlife Protection Area nor the Temporary Wildlife Protection Area would be affected by the current proposals. Suitable protection measures

have been agreed with BBNPA and these will be implemented prior to the commencement of construction.

7.34 There will be no significant effect on the integrity of the SAC from the operation of the plant. The air pollutant levels at Cwm Cadlan SAC and Coedydd Ned a Mellte SSSI will not affect their integrity. Existing mitigation measures will be adequate with respect to on and off-site requirements as detailed in the previous planning conditions from both local planning authorities. These include a financial contribution of £205,031 that EWL has made to the conservation group Butterfly Conservation for the management of local grassland habitats. There are not considered to be any revised construction impacts from the proposed development.

## HISTORIC ENVIRONMENT

7.35 An assessment of the likely effects of the development on features of archaeological or cultural importance has been undertaken. The lack of any likely archaeological or historical features on or around the site, and the distance of the proposed development from any significant features of interest, indicate that the potential effects of the proposed development on the cultural heritage of the Hirwaun or Brecon Beacons area would be negligible.

7.36 No listed buildings or Scheduled Monuments, historic parks and gardens, registered battlefields or Conservation Areas would be directly affected by the proposed scheme.

## Section Eight CONCLUSION

8.1 Planning permission was granted in 2010 and since then the permissions have been implemented through the construction of the first phase of the development. EWL wishes to proceed with the second phase of the development. However, since the original scheme design was prepared in 2008, advances in waste recovery technologies and a much-changed policy and commercial landscape for waste recovery and renewable energy generation led to a review of the original master plan for the Enviroparks site. The current Enviroparks proposals reflect the outcome of a review process, with a clear focus on gasification.

8.2 The 2008 Environmental Statement explained the process by which EWL formulated its proposals for an Enviroparks development, identified a site at Hirwaun Industrial Estate and subsequently refined its proposals in the light of detailed environmental studies of the site and its surroundings, guided by consultations with the local community, local authorities and statutory agencies. Important refinements to the scheme have taken place during this process, improving the design of the scheme. Revised planning applications have been prepared seeking permission for the current Enviroparks proposals. The Environmental Statement Addendum is submitted alongside the planning applications to provide an updated assessment of the likely significant environmental effects of the proposals.

8.3 The scheme therefore incorporates a wide range of *inherent* mitigation which is effectively 'built into' the proposal. If planning permission is granted for the current proposals, it will be subject to planning conditions that ensure development takes place in accordance with the plans proposed.

8.4 The overall conclusion of the 2008 Environmental Statement and 2017 Environmental Statement Addendum is that there would be few significant adverse environmental effects resulting from implementation of the current proposals that cannot be mitigated. On balance, the long term effect of the proposed Enviroparks development at the Hirwaun Industrial Estate is therefore considered to be **positive**, when these residual effects are balanced against the environmental benefits of the scheme, including improved waste management and resource recovery and the consequential reduction in reliance on landfill, the generation of energy from a renewable source and the substantial investment that the proposals would represent in the local economy, with employment and expenditure benefits.

8.5 Given that the 2010 proposals are partly implemented, the Applicant was concerned to ensure that established environmental mitigation and safeguards are, where appropriate, carried over to the revised scheme. The mitigation measures identified in the ES addendum thus seek to work within the protective framework established by the planning conditions and s.106 planning obligations attaching to the existing planning permissions.

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