



# Enviroparks Hirwaun

environmental statement  
non-technical summary

October 2008





## **Environmental Statement** **NON-TECHNICAL SUMMARY**

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**This document is a non-technical summary of the Environmental Statement for a proposed Enviroparks development on Fifth Avenue, Hirwaun Industrial Estate, Hirwaun, South Wales. It was prepared by Savills and Envisage for Enviroparks (Hirwaun) Limited. For further information about this project, please look at the main Environmental Statement or contact:**

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## 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.

**1.2** The EIA process 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 a resource recovery and energy park proposed on land at Fifth Avenue in the Hirwaun Industrial Estate by Enviroparks (Hirwaun) Limited. The planning application site is shown in figure 1.1. 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 authorities.

### ENVIROPARKS

**1.4** Most of the waste materials collected from homes and businesses is currently disposed of in landfill sites. Targets have been set by the European Union, the UK and Welsh Assembly Governments to divert waste away from landfill sites by waste avoidance and recycling.

**1.5** In response, Enviroparks (Hirwaun) Limited (EHL) is proposing to develop waste recycling, energy recovery and associated commercial operations in an integrated manner on the same site or 'park'. EHL's approach is to recycle diverse waste streams using a combination of advanced technologies to maximise waste recycling and energy generation with minimum residual waste and environmental impact. By bringing these processes together on a single site, transport requirements are minimised and individual processes can handle the by-products from other operations on the site, all in controlled environmental conditions. This approach is capable of facilitating a 97.5% diversion of waste from landfill, and would be the most advanced recycling operation in the UK.



**1.6** EHL's proposals have been assessed by a team of specialist consultants. The team's work has included site investigations, monitoring of process technologies and consultations with a range of interested community and technical organisations.

## **Section Two** **SITE DESCRIPTION**

### **LOCATION**

**2.1** As illustrated on figure 2.1, the planning application site lies within the 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 Valley road via the A4061 Rhigos Road, which leads onto Fifth Avenue. The site has existing road accesses from Fifth Avenue to the south and Ninth Avenue to the east. These are currently sealed to deter unauthorised access.

### **LOCAL SETTLEMENTS**

**2.2** The nearest large settlements 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 dwellings 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. Established land uses in the locality are also diverse, with a variety of manufacturing, storage and waste reclamation activities taking place on the industrial estate itself, and with 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 stands a large industrial complex operated by Eden Industries. On the southern side of Fifth Avenue to the south-east of the site there is a waste wood processing and storage yard. The area to the north and west of the planning application site is more rural in character, comprising woodlands and well-defined fields used for pasture.



**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.

## THE SITE

**2.5** The boundaries of the planning application site are clearly defined on the ground, comprising Fifth Avenue to the south, Ninth Avenue to the east, a woodland screen below the reservoir embankment to the north, and wooded hedgerows on the western side. A stream on the western side of the site flows into the River Camnant nearby.

**2.6** The planning application site is roughly square in shape and approximately 8.5 hectares in area. In general the land comprises 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. The site has a well-defined network of drainage ditches in a regular herringbone pattern. It is understood that the site was prepared for development by the former Welsh Development Agency approximately a decade ago. During the Second World War the site was used in association with a factory that made brass shell and bullet cases for munitions.

## Section Three DESCRIPTION OF THE DEVELOPMENT

**3.1** This chapter provides a detailed description of EHL's proposals. It explains both the physical nature of what EHL proposes to build and the operations that will take place once it has been built.

## THE SCHEME IN OVERVIEW

**3.2** The proposed site layout, including the main buildings and features described in this section, is shown in figure 3.1. Indicative visualisations of how the completed scheme will appear, provided here solely for information to provide context, by four images in figure 3.2. The central objective of the proposed development is to operate a series of advanced resource management processes in one place so that, together, they can recover as much material and energy as is currently possible under closely-controlled environmental conditions. Thus, whereas many waste processing technologies such as incineration combust a large proportion of recyclable material and leave a substantial volume of ash or other material that is typically disposed of to landfill, the Enviroparks concept employs a series of alternative technologies that extract the full recyclable value from the waste stream,



and which are capable of leaving only 2.5% of the original material for final disposal to landfill.

**3.3** The proposed development would do this by:

- sorting the waste materials that arrives 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 remaining or 'residual' wastes and recover energy.

**3.4** These five processes are as follows:

- a 'Biomax' separator process that produces oil similar to a biodiesel from organic materials such as waste food, and other food industry products.
- anaerobic digestion, in which biomass waste is placed in sealed tanks and warmed and stirred in the absence of oxygen. This process removes most of the smells and unhealthy 'pathogens' from the waste and provides a useful energy source in the form of methane gas.
- pyrolysis, in which solid organic wastes are converted to a useful fuel gas under high temperatures and in the absence of oxygen.
- a plasma gasifier process in which materials are converted to simple gases and an inert, glass-like residual solid material that can be used as an aggregate in construction.
- the liquid and gas-based fuels produced through these processes would then be used to run engines that would generate heat and electricity. These would be located in the proposed 'engine house'. Some of this recovered energy will then be used by a 'high energy user' – a manufacturing employer with high energy needs, occupying an industrial unit proposed in the northern part of the Enviroparks site.

**3.5** The proposed Enviroparks development at Hirwaun is intended to be the first in a series of such projects across the UK. EHL wants to use this site as a showcase for its resource management approach, to which end the various processes described will be accommodated in buildings of bespoke architectural design in a landscaped setting. Buildings on the site have been designed to achieve environmental standards classified as 'excellent' under the Building Research Establishment Environmental Assessment Method (BREEAM).

**3.6** The proposed development includes a visitor centre designed to accommodate visiting parties from organisations such as schools and colleges. The site design will allow these visitors and other interested parties to be given an educational tour of the facility, enabling them to see the various recovery and recycling processes at close quarters.



## SITE ACCESS, CIRCULATION AND PARKING

**3.7** Access to the site would be from Fifth and Ninth Avenues. Internally, the site has been arranged to allow the safe and efficient movement of lorries 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.

**3.8** The development would incorporate covered bicycle parking and shower / changing facilities for cyclists. There is an existing bus stop nearby the site at Rhigos Road. The visitor centre and administration building would incorporate provision for disabled access.

## SITE LAYOUT AND LANDSCAPE

**3.9** The buildings and structures described above would be laid out in a manner reflecting a range of planning and design considerations. These are explained in detail in the *Design and Access Statement* that accompanies EHL's planning application. Beyond operational efficiency, these considerations include a desire to present a coherent and attractive elevational appearance in external views of the site – particularly from Fifth and Ninth Avenues and from the Penderyn reservoir embankment on the northern site boundary. As far as possible, the design intention is to present a development that would not look out of place in a business park.

**3.10** To this end, the buildings have been designed a high standard with structures of a more industrial appearance, such as the anaerobic digester tanks and the plasma gasifier, located towards the centre of the site so that they would be substantially screened by other buildings in external views. Building materials and colours have been selected to fit the development into the local landscape in elevated views from the reservoir embankment and the slopes of Moel Penderyn to the north, and from Hirwaun Common (the slopes of Llethr Las, Twyn Canwyllyr and Pistyll y Graig) to the south. Extensive landscape works and planting are proposed around the edges of the site and within the car park.

## SUMMARY OF INPUTS AND OUTPUTS

**3.11** The annual waste throughput of the site is unlikely to exceed 250,000 tonnes. Electricity exported to the local electricity distribution network from the site is predicted to be in the region of 160,000 megawatt-hours (MW/h) of electricity per year based on maximum throughput as described above. This is sufficient electricity to power approximately 40,000 homes (reference: energywatch.org.uk)

**3.12** Recyclable materials or 'recyclates' recovered on the site will include metals, plastics, and aggregates including glass.



**3.13** The Enviroparks process is designed to optimise both the quality and quantity of these recovered recyclates.

**3.14** It is estimated that the overall development, including the high-energy user, will generate approximately 200 full-time jobs or their equivalent.

## CONSTRUCTION AND OPERATION OF THE PARK

**3.15** The site will be developed in two phases. The first phase would see the construction to operations of the principal site activities. Phase 2 would see the development of the plasma gasifier facility, and the high energy occupier.

**3.16** The effective operation of the site will require a skilled workforce. Skills that can be found or developed locally. The site will have 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.

**3.17** EHL wishes to maintain a high quality professional relationship with the local community representatives, local authority officers and government regulators. It is proposed that an independent community liaison group will be established as soon as possible after planning permission has been granted, to allow local residents access to impartial advice regarding EHL and its operations. EHL proposes that this liaison group would be chaired by a local nominated representative, along with a nominated secretary. The other three members could include a local doctor, an engineer with experience in waste management and emissions and an environmental specialist. EHL would provide whatever information is reasonably requested in respect of its permissions and operations.



## Section Four SITE SELECTION AND SCHEME DEFINITION

### INTRODUCTION

**4.1** This chapter summarises the process followed by EHL to identify a suitable site for a proposed Enviropark and to define the content of the proposed development. The chapter begins with an explanation of the general operational requirements and the planning and environmental principles and criteria relevant to the locational decision, and then explains the various process and technical options considered by EHL.

### GENERAL REQUIREMENTS

**4.2** The starting point for the site selection exercise was for EHL to define its essential operational requirements. As chapter four of EHL's environmental statement explains, these requirements took into account:

**Land availability** - a site reasonable regular in shape and at least seven hectares in area was identified as the minimum area of land required to serve EHL's operational requirements.

**Waste streams** - EHL wanted to be certain that appropriate waste supplies or 'feedstocks' were likely to become available in suitable amounts.

**Transport connections** – direct links to the main road network.

**Grid connection** – to take the electricity generated on the site.

**Water supply and drainage** - and a connection to a local sewerage network.

**Planning and environmental status** - EHL's preference is for a site formally allocated in the local development plan for industrial use, energy production or waste recycling use, and that is not subject to constraining environmental designations or prone to flood risk.

**Community benefit** - EHL is a company founded and based in South Wales, and wants to ensure that the economic, reputational and educational benefits envisaged for its Enviroparks development can be shared with the host community.

**Planning policy** – compliance with national policies such as the Welsh Assembly Government's *Technical Advice Note (Wales) 21: Waste*; the South East Wales Regional Waste Group's draft regional waste plan, and the local development plans produced by local councils.



## SITE SELECTION

**4.3** EHL considered its operational requirements against a review of the sites identified in the South East Wales Regional Waste Plan consultation draft to draw up a shortlist of potential sites for its first Enviroparks development. EHL's site selection process then followed the following stages.

- Stage 1: overview of available sites;
- Stage 2: shortlist of sites within Rhondda Cynon Taf County Borough Council's area;
- Stage 3: the provisional choice of a site;
- Stage 4: site verification.

**4.4** EHL assessed the site from the following perspectives, in consultation with the Welsh Assembly Government, local authorities and organisations such as the Environment Agency Wales, having regard to the following considerations:

- i). operational suitability;
- ii). effective use of physical resources;
- iii). land use planning;
- iv). environmental considerations;
- v). design and mitigation;
- vi). cost, deliverability and risk.

## THE FINAL CHOICE OF SITE

**4.5** EHL's assessment confirmed the suitability of the Fifth Avenue site as the optimum location for an Enviroparks development for the following reasons.

- **Land availability** – with an area of almost 8.5 hectares, the site is large enough to accommodate all of EHL's requirements, including the high energy user, with room for landscape works and planting around the edge of the site.
- **Accessibility** – the site has direct access on to Fifth and Ninth Avenues, is close (1.7 km) to the junction between the A465(T) Heads of the Valleys road and the A4059 / A4061 north-south route, and is connected to this junction by roads designed for industrial traffic from the Hirwaun industrial estate.
- **Proximity** – the site is conveniently located with respect to the waste markets it is intended to serve.
- **Development plan policy** – as the following section explains, the site is allocated for industrial use in the adopted development plans of both RCT and BBNPA. The draft regional waste plan regards sites of this nature as suitable locations for waste management facilities within buildings.



- **Environmental constraints** – there are no designations seeking to protect the site for its natural, historical, cultural or landscape value.
- **Site characteristics** – the site was levelled and prepared for development by the Welsh Development Agency during the 1990s. Being open, level and reasonably well drained, it is physically well suited to EHL's requirements.
- **Site setting** – EHL intends that, through a combination of architecture and landscape architecture, its proposals will present the impression of a business park in external views. The tree and hedge lines on the northern western boundaries will assist EHL in its efforts to achieve a high quality environment and to integrate the development into the surrounding landscape. The high reservoir embankment to the north of the site and the prominent industrial buildings occupied by Eden Logistics to the east will contain view of EHL's development.
- **Neighbouring land uses** – the site is on an established industrial estate. The containment of most processes in controlled environments within buildings is intended to protect the amenity of isolated residential properties and hotels in the general vicinity.
- **Utilities connections** – the Fifth Avenue site affords all of EHL's required water, drainage and electricity connections, including a convenient link to the local electricity distribution network for the export of power generated on the site.
- **Local economic benefit** – a development in the Hirwaun area would provide alternative employment for, amongst others, local people made redundant following the closure of the Tower colliery.

## PROCESS OPTIONS

**4.6** EHL's focus is on efficient resource recovery and reuse. In pursuit of these objectives, the company undertook a review of many technologies used both in the UK, the EU and beyond. In isolation, none of these technologies was found to be wholly applicable to the company's objectives. The solution appeared to be the careful selection of appropriate technologies and their careful integration into an Enviroparks-type development.

**4.7** The technologies reviewed by EHL fell into three distinct categories.

- i). material separation;
- ii). bio-energy recovery;
- iii). other energy recovery.

**4.8** Both in its technological specification and in the identification of a suitable site for the Enviroparks development, EHL has pursued a structured process of research and review, informed by relevant policy and consultations with relevant authorities and expertise.



## Section Five PLANNING POLICY

### CONTEXT

**5.1** The need to contain global climate change by reducing the emission of greenhouse gases and promoting renewable sources of energy, and the need to reduce and recycle waste, are concerns addressed by policies, strategies and agreements at the local, national and international levels. Other concerns such as economic and social development, and protecting the local environment and new development, are also important recurring themes in policy terms.

**5.2** It is within this context that the Enviroparks concept has evolved, and the proposed scheme aims to promote sustainable development and respond to the challenges of climate change and waste reduction, whilst providing a positive contribution to social and economic needs in the Hirwaun area.

**5.3** A comprehensive range of policies, strategies and guidance is considered in a *Planning Policy Statement* that accompanies EHL's planning application, and key policies are also reviewed within chapter five of the *Environmental Statement*. The following policy documents have been considered:

#### International

- United Nations Framework Convention on Climate Change
- Kyoto Protocol on Climate Change
- Framework Directive on Waste
- Landfill Directive
- European Climate Change Programme
- EU Emissions Trading Scheme
- EU directive on the promotion of electricity from renewable energy sources in the internal electricity market

#### UK-wide policy

- The UK Government Sustainable Development Strategy (2005)
- UK Climate Change Programme (2006)
- DTI Energy White Paper (2003)
- DTI Energy Review (2006)
- Energy White Paper (2007)
- UK Biomass Strategy (2007)
- UK Renewable Energy Strategy (2008)



## Policy in Wales

- Planning Policy Wales
- Wales Spatial Plan
- Technical Advice Notes
- Ministerial Interim Planning Policy Statements
- Renewable Energy Route Map for Wales (2008)
- 'Wise about Waste': the National Waste Strategy for Wales (2002)
- Environment Strategy for Wales (2006)
- Wales Sustainable Development Action Plan (2004-7)
- Microgeneration Action Plan for Wales (2007)
- Guidance for Sustainable Design in the National Parks of Wales (2008)
- 'A Winning Wales': National Economic Development Strategy (2002)
- Wales Transport Strategy 'One Wales – Connecting The Nation' (2008)
- 'Working together for Wales': Policy Statement for the National Parks and National Park Authorities in Wales (2007)

## Regional (SE Wales)

- South East Wales Development Strategy (2005)
- 'Turning Heads' – A Strategy For The Heads Of The Valleys To 2020 (2006)
- South East Wales Regional Waste Plan (2004)

## Local

- The Mid Glamorgan (Rhondda Cynon Taff County Borough) Replacement Structure Plan 1991-2006 (adopted January 1999);
- Rhondda Cynon Taf (Cynon Valley) Local Plan (adopted January 2004).
- Brecon Beacons NPA Local Plan (adopted May 1999);
- Brecon Beacons NPA UDP (approved for development control purposes but not formally adopted)
- Supplementary Planning Guidance
- 'Managing Change Together' Draft Brecon Beacons
- National Park Management Plan 2009-2014
- 'A Better Life' – Our Community Plan 2004-2014

### 5.4 The following conclusions were drawn from this policy review.

- There is strong and consistent encouragement for the advanced approach proposed by EHL for resource recovery and renewable energy use, and the Enviroparks proposal would be a notably sustainable form of development.
- The proposals comply with the guiding principles of waste development, including the waste hierarchy, the proximity principle, regional self-sufficiency and the Best Practicable Environmental Option (BPEO) approach,



- Policies indicate that, where recycling processes can be contained in buildings, they can appropriately be located on industrial sites such as the Hirwaun Industrial Estate. The Regional Waste Plan explicitly includes the Industrial Estate within an 'area of search' for such sites.
- The application site is allocated for industrial use in the local plans produced by both RCTCBC and BBNPA. The site was prepared for development by the Welsh Development Agency at the end of the 1990s, and the Welsh Assembly Government has encouraged EHL to consider locating the first Enviroparks development in this location.
- The development would not compromise the ability of the wider area to fulfil the purposes of national park designation.
- The proposals would not conflict with the extensive range of development plan policy seeking to protect the environmental and promote local amenity.
- The economic and social case for the proposals is profound. EHL is a local company that wishes to develop this first Enviroparks development as a flagship and exemplar for future such projects elsewhere in the UK. The project would create substantial new employment in a locality that recently suffered the closure of the Tower colliery, and which has struggled historically to attract inward investment.

## **Section Six** **SCOPING AND CONSULTATION**

### **ENVIRONMENTAL IMPACT ASSESSMENT SCOPING**

**6.1** Scoping is an important part of the EIA process which is used to identify the environmental issues that need to be assessed and to ascribe an appropriate level of importance to each issue so that the EIA work is properly focussed.

**6.2** In advance of this planning application, a scoping report was submitted to both RCTCBC and BBNPA in May 2008 with a request for a formal scoping opinion. It gave an outline of the environmental issues that would be examined in the EIA. Each of the environmental issue sections included information on the baseline conditions, the potential effects that could arise and the potential mitigation that could be provided. To ensure that a comprehensive assessment was achieved, comments were invited on the intended scope of the EIA.

**6.3** Prior to submitting the EIA scoping report, meetings were held with officers of BBNPA and RCTCBC to review the main matters that needed to be considered in the planning



submission and agree the methods for undertaking these studies. RCT officers with responsibilities for planning, development control, landscape, highways, drainage and pollution control were consulted.

**6.4** The Environment Agency Wales also reviewed the EIA scoping report and offered comments concerning various matters including nature conservation, the protection of water course and flood risk.

**6.5** Additional consultation has been undertaken regarding specific elements of the EIA with the following bodies:

- Dwr Cymru Welsh Water;
- Countryside Council for Wales (CCW);
- the Local Record Centre;
- CADW;
- the Glamorgan Gwent Archaeological Trusts.

## CONSULTATION AND COMMUNITY ENGAGEMENT

**6.6** EHL held a public exhibition at Hirwaun Village Hall on 23 and 24 September 2008 and Rhigos Community Centre on 30 September 2008. Invitations to attend the exhibition were sent to a wide range of stakeholders, including elected members and community representatives, council officers and representatives of government agencies and economic development bodies. The exhibition was advertised by press notices and posters. The exhibition was staffed by senior representatives of EHL and its consultant team at all times. The exhibition itself comprised illustrated display panels, a large screen television showing resource recovery process diagrams and 'fly-by' digital film of the proposals, and leaflets.

**6.7** Feedback from the exhibition that influenced the proposals as now submitted included the routing of lorries away from Halt Road, and to ensure adequate dispersion of emissions to the air. At the same time, the exhibition underscored the local desire for new employment opportunities and regeneration, with some visitors to the exhibition requesting job application forms.

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



## **Section Seven** **ENVIRONMENTAL EFFECTS**

### **COMMUNITY EFFECTS**

**7.1** EHL undertook a review of the social and economic status of the Hirwaun area, using local and Welsh Assembly Government information. This information suggested that, although the Welsh economy generally experienced growth and increasing prosperity during the last fifteen years, the upper valleys did not entirely overcome the legacy of the decline in mining and manufacturing.

**7.2** Within this context, potential social and economic effects of the Enviroparks proposals have been assessed. Overall, these are considered to be beneficial and substantial. Foremost are the direct and indirect economic effects of the 200 permanent jobs created in the project.

**7.3** Further beneficial effects are predicted as a result of further measures such as vocational training initiatives in conjunction with local employers and colleges, local labour agreements to encourage employment of local people and businesses, and the use of local purchasing initiatives, where possible, to capture the maximum benefits of the scheme to local construction firms and product manufacturers.

**7.4** In summary 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 enhanced with complementary measures such as local employment and skills initiatives outlined.

**7.5** In the current period of economic recession, the comparatively weak economy of Rhondda Cynon Taf might to suffer more acutely than other parts of South Wales and projects capable of generating new employment, such as the Enviroparks development, would thus be of significant benefit.

### **TRANSPORT AND ACCESS**

**7.6** The potential effects of transport and access for the site have been assessed in light of the current availability of transport options in the area. Where possible, the worst case scenario has been applied in order to provide a robust assessment. Data from 2008 have been factored up to 2010 and 2025 levels, in order to demonstrate the impact of the development in future years.

**7.7** Computer modelling work has demonstrated that the road network capacity is suitable and sufficient for the additions of traffic that the development would make. There will



be negligible impact on driver or pedestrian delay, and the quantity of development traffic at any one time is too low to result in a significant impact on road safety.

**7.8** An assessment was made as to the impact from traffic noise and this was deemed to have a neutral effect. An assessment of the contribution to air quality pollutants from the increased traffic movements was also undertaken and these were considered to have a negligible effect.

## AIR QUALITY

**7.9** An assessment of the main releases to atmosphere from the development 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, including a modelling exercise to assess the overall pollutant concentrations that 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 contribution to air quality pollutants from the increased traffic movements was also undertaken and these were considered to have a negligible effect on local air quality.

**7.12** Consideration has been given to issues of nuisance from the site in the form of dust or odour. There is a temporary low negative impact potential for emissions of dust during the construction of the site, and a short term, medium negative impact potential for odour risk. This level of impact is only likely to occur during abnormal conditions such as the failure of the normal mitigation measures, which will be subject to preventative maintenance systems to minimise such risk.

## NOISE AND VIBRATION

**7.13** The potential for noise nuisance from the site construction, operations and associated transport movements has been assessed. A selection of potentially sensitive receptors was identified and a noise monitoring exercise identified the current background noise at these locations. Information regarding the likely noise levels from the proposed development was incorporated into the model and enabled the prediction of the likely noise levels during day time and night time activities at each of the chosen monitoring points.

**7.14** Modelling demonstrated that the short-term effects of site construction operations could result in effects of major to neutral significance at the closest monitoring points, dependent upon the works being undertaken at the time and the area in which they occur.



**7.15** Daytime operations at the site were predicted to result in a neutral impact and night time operations were predicted to have a neutral to slight impact. Noise associated with the proposed traffic flows of the development would have neutral effects on the existing traffic noise levels of the area.

**7.16** In summary, it is considered that the proposed development will not result in significant noise effects on the surrounding community.

## 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. During construction, the site will need to be stripped and excavated prior to any building work and the land will be vulnerable to any potential pollution at this time. A Site Management Plan would be implemented to control potential effects and best practice measures such as containment and bunding will be employed. The residual effect of the construction phase on the land quality of the area is of low negative impact.

**7.18** Once construction is complete the site will have a comprehensive system of solid floors and surfaced roadways, preventing the ingress of any pollution to the ground. As such, the operation of the site will result in a negligible or low positive impact, and this will be maintained through an on-going system of review of the condition of the site surfaces and drainage.

**7.19** The flood risk assessment concluded that the site has a low flood risk potential, and the proposed management of the water run-off from the site will result in a medium positive impact on the downstream receptors of surface and ground waters from the site. Effluent from the site would be pre-treated prior to discharge to the sewer. The overall impact of the Enviroparks site on the sewage treatment system is considered to range from a low positive impact to a low negative impact (depending on the requirements of Dwr Cymru Welsh Water).

**7.20** The only proposed releases to surface or ground water from the site are of rainwater run-off from the landscaped area, the overflow of clean run-off from the sustainable drainage system, or the discharge of domestic and treated process effluent to sewer. These have been demonstrated to have reduced or minimal effects on the potential for flooding or deterioration of water quality. The overall effect of the proposed development on the water quality and flood risk in the area is considered to be low.

## ECOLOGY

**7.21** In the neighbourhood of the planning application site are several areas of land protected for nature conservation processes. These include the Blaen Cynon Special Area of Conservation (or 'SAC'), which encompasses 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 encompasses Coedydd Nedd a Mellte SSSI and



Dyffrynoedd Nedd a Mellte a Moel Penderyn SSSIa is located 1.1km 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.

**7.22** Thirteen different habitats were recorded on the application site. Of these, three are listed as broad habitats on the UK Biodiversity Action Plan (BAP) and the Local Biodiversity Action Plans - neutral grassland; rivers and streams; and woodland.

**7.23** Protected species records from within a two kilometres 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 UK and local BAP-listed butterflies, a small population of slow worms and breeding birds, and provided foraging areas for bats.

**7.24** With appropriate mitigation the ecological effects resulting from the proposed development will primarily be negligible to minor adverse effects at a site to county level. The inclusion of habitats within the proposed landscape area around the development would result in predominately minor beneficial effects at a local level.

## ARCHAEOLOGY AND CULTURAL HERITAGE

**7.25** An assessment of the likely impact of the development on features of archaeological or cultural importance has been undertaken. The assessment found an absence of any likely archaeological or historical features on or around the site. The relative remoteness of the proposed development from any significant features of interest indicates that the potential impact of the proposed development on the cultural heritage of the Hirwaun or Brecon Beacons area would be negligible.

**7.26** It is considered that no listed buildings, scheduled ancient monuments, historic parks and gardens, registered battlefields or conservation areas would be directly affected by the proposed scheme.



## Section Eight CONCLUSION

**8.1** The Environmental Statement has explained the process by which EHL 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.

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

**8.3** Further, *additional* mitigation is also proposed, the key measures are shown in the table overleaf. This is more detailed, and therefore individual planning conditions and legal agreement clauses will need to be formulated to ensure implementation of these mitigation measures.

**8.4** The overall conclusion of the Environmental Statement is that there would be few significant adverse environmental effects resulting from implementation of this scheme 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 its contributions to enhanced 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** As well as being important to the local environment in their own right, the comprehensive containment and control of resource recovery processes proposed in the Enviroparks development is inherent in EHL's aspiration for the development to be a showcase and an exemplar for future projects elsewhere.

\* \* \*

### Key additional mitigation measures proposed

<i>Mitigation measure</i>	<i>Environmental issues</i>	<i>Implementing agent(s)</i>	<i>Legal instrument</i>	<i>Compliance target(s)</i>	<i>Implementation timescale</i>
Construction and Environmental Management Plan (CEMP)	Transport, noise, air quality, community effects, ecology, water quality	Developer, building contractors	Planning condition	Minimal number of complaints, avoidance of statutory nuisance, no adverse health effects, compliance with waste legislation	Before and during construction
Health and Safety Plan	Community effects	Developer, building contractors	Health and safety legislation	To prevent adverse health effects	During construction and operation
Use of a Site Management Plan to control site operations	Transport, noise, air quality, community effects, ecology, water quality.	Developer, Operator	Planning condition	Minimal number of complaints, avoidance of statutory nuisance, no adverse health effects, compliance with waste legislation	During construction
Development of specific vocational training initiatives, Local labour agreements, and Local purchasing initiatives	Community effects	Developer, Operator, local planning authority	Not legally enforced	Maximisation of social and economic benefits to the Hirwaun and RCT area resulting from the scheme	During construction and operation

<i>Mitigation measure</i>	<i>Environmental issues</i>	<i>Implementing agent(s)</i>	<i>Legal instrument</i>	<i>Compliance target(s)</i>	<i>Implementation timescale</i>
Transport Plan to encourage alternative methods of travel	Transport	Developer, Operator, local planning authority	Planning condition	Maximise use of modes of transport other than the private car for employees	During operation
Implementation of a certified environmental management system.	Transport, noise, air quality, community effects, ecology, water quality	Developer, Operator	Planning condition	Minimisation of detrimental environmental impact on the surrounding area	During operation
Odour Management Plan	Air quality	Developer, Operator	Planning condition	Minimisation of odour impact on the surrounding area	During operation
Mitigation Plan with respect to the presence of slow worm within the application site.	Ecology	Developer, building contractors	Planning condition	to ensure that there is no death or harm to individual slow worms during the construction phase	Before and during construction
Develop a Construction Ecological Management Plan	Ecology	Developer, building contractors	Planning condition	To minimise risk to ecology during development.	During construction (once full details and timescales for works are known)