Environmental Statement

Addendum 2020

Non-technical summary

CONSULTATION DRAFT – JUNE 2020





This document is a non-technical summary of an Environmental Statement Addendum for proposals for a taller stack at the Enviroparks waste resource recovery and energy production park on Fifth Avenue, Hirwaun Industrial Estate, Hirwaun, South Wales.

For further information about this project, please visit the website below or contact:

Enviroparks (Wales) Limited 1st Floor Tiverton Chambers Tiverton Place Lion Street Abergavenny Monmouthshire NP7 5PN Tel. 01873 853112

www.enviroparks.co.uk/en/enviroparks-planning-2020

Environmental Statement Addendum 2020 DRAFT NON-TECHNICAL SUMMARY

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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. During the EIA process, the likely effects of a development project on aspects of the environment are predicted. If any adverse environmental effects are expected, then measures to reduce or avoid these effects can be 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 in this case, Rhondda Cynon Taf County Borough Council (RTC).
- 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.
- 1.4 This document is the NTS for the proposed development for an amended chimney stack at the already consented development on land at Fifth Avenue at Hirwaun industrial Estate. The applicant is by Enviroparks (Wales) Limited (EWL). At the end of this document is a series of plans that show the planning application boundary and the proposed development.
- 1.5 The previously consented development at the site crossed the boundary between RCT and the Brecon Beacons National Park Authority (BBNPA) and so the planning application was submitted to both authorities. This revised application lies wholly within RCT and so this application is only submitted to this local planning authority.

ENVIROPARKS

- 1.6 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 UK and Welsh Governments to divert waste away from landfill sites by waste avoidance and recycling.
- 1.7 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.

- 1.8 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 that focus on 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 the largest producers of lead roofing materials worldwide.
- 1.9 EWL is also working with several specialist technology providers to deliver its aims. The combination of technologies bought 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.
- 1.10 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 gained planning permission in 2019 for changes to the second phase of the development. EWL is now applying for planning permission to make further changes in relation to the height and location of the main stack on the site.



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 sloe 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 on to Fifth Avenue and Ninth Avenue. The site has accesses from Fifth Avenue and Ninth Avenue, for the purposes of this planning application, the access is via Ninth Avenue on the eastern boundary.

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. Local land uses are also diverse, with a variety of factories, storage and waste reclamation on the industrial estate itself.
- 2.4 Since the 2019 ES addendum, a number of changes to the immediate surroundings have taken place, these are as follows:
 - Construction of phase 1 of the Enviroparks development consented in 2010 has now been completed at the site. This includes a large building, known as the Fuel Preparation Hall, in the south east part of the site, with a gatehouse, temporary construction laydown and parking areas and foul and surface water drainage works.
 - Construction of the internal site access roads, running from the site entrance on Ninth Avenue, westwards across the central area of the site and then southwards to Fifth Avenue at the south western corner of the 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 the following.

- Pen y Cymoedd wind farm
- An electricity substation connected to Pen y Cymoedd wind farm
- Diesel powered generation station operated by Green Frog Connect Limited
- Abergorki wind farm
- Open-cast coal mining at Tower Colliery
- A proposed adventure zip wire course at the former Tower Colliery site
- Wood pyrolysis unit on Hirwaun Industrial Estate
- Highways upgrades on the A465 Heads of the Valleys road
- Development consent for a new gas-fired power station on Hirwaun Industrial Estate.

THE SITE

- 2.6 The overall consented 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, the site was flat grassland with scrub vegetation. The site was used in connection with munitions production in the Second World War, and was later prepared for redevelopment by the former Welsh Development Agency.
- 2.7 The area covered by the current planning application sits within this consented boundary and covers an area of 1.58 hectares. Most of this is accounted for by the road access from Ninth Avenue. The proposed stack has a ground-level footprint of 20 square metres.

Section Three DESCRIPTION OF THE DEVELOPMENT

3.1 This section provides a description of EWL's proposals. The planning application relates solely to the relocation and raising in height of an already consented stack, but to provide context, the wider operation of the plant of which the stack forms a part is described first to help make sense of the environmental effects considered.

CONSENTED PROCESSES ON THE ENVIROPARKS SITE?

3.2 All of the processes described in this section already have planning permission. The purpose of the Enviroparks development is to recover the energy from non-hazardous waste that remain after recyclable materials have been removed from the waste stream, and to use the waste that remains to supply low carbon electricity to customers on and off site. To this end, the Enviroparks 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)** this is waste sourced 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 the 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 appropriate 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 recyclables such as metals or unacceptable materials such as gas bottles, which will be taken to appropriate facilities off-site for recycling or safe disposal.
- 3.6 The remaining waste would be further processed by machine and tested to ensure it meets the fuel specification required by the gasifier.



Fuel preparation

3.7 Fuel for gasification would finally be shredded to less than 75mm in size and conveyed 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-licenced landfill site or as an aggregate in construction. The remaining material is 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 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 the proposed development, housed in a central **Gasification Hall**. It is the gasification process that the proposed stack would serve.

High energy user

3.9 The gas produced in the gasifiers will be used to drive a team 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 businesses, creating further jobs on the site.

CONSENTED BUILDINGS ON THE ENVIROPARKS SITE

3.10 For completeness this section describes all of the buildings on the Enviroparks site to present a complete picture of the development. Again, all of the buildings described in this section have planning permission.

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 The Fuel Storage Hall will occupy a part of the Fifth Avenue frontage. It will contain an internal crane system to move the fuel around. The building will accommodate the fuel storage element, the Turbine Hall and the southern part of the Gasification Hall, explained below.

Gasification Hall

3.13 The Gasification Hall will contain three gasification lines, each with a filter unit used to treat exhaust emissions prior to discharge via the stack. The building will occupy the central southern area of the Enviroparks site.

Stack

3.14 EWL has planning permission for a 45 metre high stack in a central location on the site. It would contain three flues – one for each gasifier – within a cylindrical external casing with an overall diameter of 4.5 metres. This is the element of the development that is proposed to change as part of this planning application and further details on this are provided below.

Turbine Hall

3.15 The steam turbine will 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

3.16 The service yard in the south-western corner of the Enviroparks site will 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, transformers and a standby generator. The yard would be screened from views from Fifth Avenue by a belt of trees and shrubs.

On-site high energy user building

3.17 An industrial unit is included in the consented development to make use of some of the renewable energy generated on the site.

Visitor centre and administration building

3.18 The Enviroparks development is intended to be a showcase development and a reference site to which waste authorities and contractors from the UK and beyond will be interested in visiting. 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.

Site access, circulation and parking

3.19 Road access to the site would be from Fifth and Ninth Avenues. These entrances, along with a connecting internal access road across the centre of the Enviroparks site, have been



constructed, along with areas of hardstanding to the north and west of the existing Fuel Preparation Building. Internally, the Enviroparks site has been arranged to assist the safe and efficient movement of lorries around the site, and to ensure safe separation of operational and visitor traffic. The main car park will be next to the visitor centre and administration building in the south-east corner of the site.

WHAT IS BEING PROPOSED NOW?

- 3.20 As already explained, the site design that already has planning permission includes a stack 45 metres high and 3.5 metres in diameter, standing in the middle of the site between the northern side of the Gasification Hall and the main internal spine road, which is already constructed. This is a confined space, close to a road inside the site that lorries would use.
- 3.21 The new proposal is for a stack 90 metres high and 3.95 metres in diameter, in a revised location on the Enviroparks site. The increase in stack height follows further computer modelling of the emissions from the plant and an assessment of how these emissions might affect ecologically sensitive areas. A taller stack results in better environmental performance.
- 3.22 To enable access for emissions monitoring, a continuous emissions monitoring systems (CEMS) gantry is proposed around the stack at a deck height of 18.5 metres above local ground level. Access to the CEMS gantry would be by a permanent steel frame ladder.
- 3.23 Due to the space restrictions at the consented stack location on the site, EWL decided to relocate the stack to a service yard on the eastern side of the proposed Gasification Hall. This location would provide more space in which to maintain the stack.
- 3.24 The stack would be finished in a smooth external metal cladding in a graded colour scheme. The stack would be connected to the Gasification Hall by means of connecting pipework, located below the CEMS gantry and not generally visible from outside the Enviroparks site.
- 3.25 Access to the stack for maintenance vehicles would be via an existing internal access road from Ninth Avenue and across a partly built service yard between the existing Fuel Preparation Building and the consented Gasification Hall.
- 3.26 The site would be secure with no public access to the stack.

Stack construction

3.27 The stack would stand on a reinforced concrete slab. Stack parts would be brought to the site by lorry in sections built off-site, and constructed with the assistance of a crane. Final stack assembly is likely to be completed within a month.

Stack decommissioning

3.28 The stack is intended to be a permanent structure. However, as and when the stack needs to be removed, it will be taken down by a crane. The stack will be made from high quality

materials that would be recycled.

SUMMARY OF INPUTS AND OUTPUTS

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3.29 Estimates of the inputs, residues and emissions from the Enviroparks plant as a whole are set out in table 3.1.

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

Inputs and outputs	Amount (per year unless specified)	
Waste inputs		
Refuse-derived fuel	150,000 tonnes	
Commercial and industrial waste	30,000 tonnes	
Materials to support the gasification		
process		
Lime	1,183 tonnes	
Urea	473 tonnes	
Activated carbon	47 tonnes	
Process Water	35,083 cubic metres	
Outputs		
Metals for recycling	6,346 tonnes	
Additional recyclates and other materials	61,654 tonnes	
removed during fuel preparation		
Effluent water	13,560 cubic metres	
Ash from gasification	20,341 tonnes	
Syngas from gasification	16.4 cubic metres per second	
Emissions to air from the proposed stack	80.7 cubic metres per second	
Electricity generated	86,724 megawatt hours per year	

Environmental mitigation and monitoring

- 3.30 The Enviroparks planning permissions granted in 2010 were the subject of comprehensive planning conditions and section 106 planning obligations. These have been discharged insofar as they are relevant to or triggered by the commencement of phase I of the development. Further conditions were applied to the 2019 permission.
- 3.31 The Applicant remains agreeable to all of the established planning conditions and section 106 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.



Community liaison

3.32 EWL established Enviroparks (Community Liaison) C.I.C Limited in 2010 to distribute the 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 monies 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 distribution of funds alongside two board members from EWL.



Section Four EVOLUTION OF THE STACK DESIGN

REVIEW OF THE STACK HEIGHT

- 4.1 Following the 2019 planning permission, further of the emissions from the gasification plant were undertaken, including the effects of the emissions on nearby protected wildlife sites including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI).
- 4.2 The outcome of the investigations suggested that an increase in the height of the stack would ensure that the emissions to the air were more dispersed and would protect the designated grasslands. Tt is calculated that an increase in height from 45m to 90m would be required.
- 4.3 It is recognised that a taller stack had the potential to create landscape and visual effects over a larger area. This is particularly important given the site's location on the edge of the Brecon Beacons National Park. A map showing the places where a 45 metre and a 90 metre stack would be visible from, known as the *Zone of Theoretical Visibility* (ZTV) was prepared. This ZTV map is at the back of this document. With higher land on most sides of the site in the wider landscape it was found that that the 90m stack was only incrementally more visible than the 45 metre stack that already has planning permission.
- 4.4 Options for the design of the stack and the building materials to be used have also been considered. Enviroparks is proposing a smooth metal cladding in a graded colour scheme, to help reduce the visual prominence of the stack in the wider landscape.
- 4.5 Another consideration was the aviation warning lights, should they be needed. It was decided that infra-red lights, which are invisible to the human eye would reduce the visual impact and help respect the international dark sky reserve status enjoyed by the National Park.

Environmental protection

4.6 All environmental safeguards contained within the 2010 and 2019 planning permissions including all planning conditions and section 106 agreements would be retained and applied to 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 HGV traffic from using local residential roads.



Section Five RELEVANT POLICY

CONTEXT

- 5.1 A major concern of many of the planning and environmental policies reviewed is the need to contain global climate change by reducing the emission of greenhouse gases, particularly carbon dioxide (CO₂), 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 CO₂ back into the atmosphere. These greenhouse gases are accumulating in the upper atmosphere, reducing the planet's ability to reflect solar radiation back into space and causing increases in average global air temperature.
- 5.2 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.
- 5.3 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.
- 5.4 A wide range of relevant policies, strategies and guidance are summarised in chapter five of the Environmental Statement Addendum. The following policy documents have been considered:

International:

Paris Agreement 2015

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

Welsh law and policy:

- Planning (Wales) Act 2015
- Environment Wales Act 2016 and Natural Resources Policy 2017
- Well-being of Future Generations Wales Act 2015

- The Waste (England and Wales) Regulations 2011
- The Waste (England and Wales) (Amendment) Regulations 2012
- Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017
- 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) and Industrial and Commercial Sector Plan (2013)
- Energy Generation in Wales (2018)
- Prosperity for All: A Low Carbon Wales (2019)

National planning policy

- Planning Policy Wales edition 10, December 2018
- TAN 21: Waste (2014)
- TAN 5: Nature Conservation and planning (2009)
- TAN 11: Noise
- TAN 12: Design

Development plan policy

• Rhondda Cynon Taf County Borough Council Local Development Plan up to 2021



Section Six THE SCOPE OF THE ENVIRONMENTAL STUDIES

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING

- 6.1 The scope of the environmental studies reported in the ES Addendum has taken into account the following considerations.
 - i). the scope of the original ES and ES addendum
 - ii). the nature of the revised development proposals
 - iii). Changes in the locality
 - iv). Changes in law and policy
- 6.2 Based on these considerations the scope of the ES addendum for the proposed taller stack is as follows.

Main issues

- The landscape and visual effects of the proposals, including the effects on the Brecon Beacons National Park and on the amenity of residents closest to Hirwaun Industrial Estate.
- Air quality and emissions, including the emissions dispersion from a taller relocated stack and the potential for nutrient nitrogen deposition on statutorily protected grassland and other wildlife habitats.
- *Ecology and biodiversity* the effects of the nutrient nitrogen deposition on the integrity of grassland and other habitats, including the Blaen Cynon Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC).

Other issues

- Effects of a taller stack on the setting of cultural heritage assets
- 6.3 Other environmental topics are not considered further ('scoped out') of the current assessment because a taller stack would have no significant change to the environmental effects of the development as consented. These topics include transport and traffic, noise and vibration, ground conditions, hydrology and flood risk and socio-economic effects. The effects on human health and climate change have likewise been scoped out because the effects of a taller and repositioned stack are assessed to be non-existent or at worst negligible.



CONSULTATION AND COMMUNITY ENGAGEMENT

Pre-application consultation requirements

- 6.4 Before this type of planning application can be submitted, consultation is required with the local community (including neighbouring property owners and occupiers), town and community councils and specialist consultees such as the government body Natural Resources Wales. During the pre-application consultation process, comments are provided to EWL as the applicant.
- 6.5 Enviroparks undertook the required pre-application consultation in June and July 2020. Responses to the consultation process have been considered and are summarised in the *Pre-Application Consultation Report* accompanying the planning application.

Submitted planning application consultation

6.6 In accordance with the EIA Regulations and normal planning procedures, once the planning application for the stack has been submitted, RCT will organise another round of consultation. During this second consultation period, comments on EWL's planning application should be made in writing to RCT.



AIR QUALITY

7.1 An assessment has been undertaken to consider the effect that the proposed changes to the development will have on local air quality. The assessment focuses on 'worst-case' emissions from the proposed stack. Higher levels of environmental performance are expected in reality. In addition, consideration has been given to the likely emissions from the Enviroparks plant as a whole, including odour and dust and the emissions from traffic generation.

Dust

- 7.2 During construction work in the Enviroparks site, including the proposed stack, dust emissions would be controlled through the use of an 'Environmental Management Plan' agreed with RCT. Although the potential for dust emissions does exist, comprehensive management and full consideration for the site neighbours should ensure that the impact from dust emissions during construction remains a **low negative risk**.
- 7.3 There is no risk of dust arising in connection with the construction or operation of the proposed stack. Once the site as a whole is operational, there is little potential for the creation of dust emissions as materials handling would be undertaken internally. Therefore, the potential impact from dust emissions once the site is operational continues to be assessed as **negligible**.

Odour

- 7.4 The potential for emissions of odour from the site during construction is **negligible.** There is no odour risk associated with the proposed increase in the discharge stack height.
- 7.5 For the Enviroparks site as a whole, proposed odour control methods including containment, suppression, the use of potentially odorous air from the fuel storage area as combustion air for the gasifiers, and good management and housekeeping measures, aim to provide a high level of control of potentially odorous emissions. The site will operate in accordance with an Odour Management Plan, agreed with RCT.

Stack emissions

- 7.6 The stack emissions are the exhaust gases from the gasification process that would be vented to the atmosphere from the consented or proposed stack. Computer modelling is used to understand how the emissions will disperse in the air after release. This is called dispersion modelling and uses the worst case results. It also takes into account emissions from other local developments and general background air quality, which is affected by emissions from homes and road vehicles.
- 7.7 The modelling of emissions for the taller stack predicts no breaches of air quality standards

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and significantly better emissions dispersion from the taller stack in comparison with the 45 metre high stack that already has planning permission.

- 7.8 Additionally, a Human Health Impact Assessment indicates that the risk to health of the local population due to exposure to emissions from the process is very low.
- 7.9 With the better dispersion of emissions, air pollution remaining within Environmental Quality Standards and with a low potential for health risks, it can be concluded that the taller stack would have a **positive overall effect** on the impact from the Enviroparks facility compared to the 45 metre stack.
- 7.10 The taller stack offers is a notable improvement in the potential impact of the proposed development in comparison with that of the consented scheme, with most assessments now concluding a **low negative** potential impact from the Enviroparks scheme as a whole, when compared to the 'no-build' baseline, although with some contributors to air pollution equating to a **medium negative** potential impact on the current local air quality. The consented scheme was assessed as having a medium negative potential impact on the local air quality in the 2019 scheme.
- 7.11 An assessment of the likely greenhouse gas emissions from the construction and operation of the proposed facility against an alternative of landfilling the waste for a 30-year period, results in a **high positive impact** from the Enviroparks operation overall,.

LANDSCAPE AND VISUAL EFFECT

- 7.12 An assessment of the potential landscape and visual effects that might arise as a result of implementing the Proposed Development (a taller stack in a new location) was completed as part of the addendum.
- 7.13 A 5km radius Study Area, within which all the representative viewpoint locations are located was adopted for detailed assessment purposes. The approach complies with the approach recommended in best practice guidance.
- 7.14 As explained earlier in this document, a Zone of Theoretical Visibility (ZTV) plan was used to establish the theoretical visibility of the Proposed Development. The ZTV plan is reproduced at the back of this document and compares how widely visible the 45 metre and 90 metres stacks would be.
- 7.15 The combination of the ZTV plan, visits to viewpoints and the preparation of 'photomontages'
 photos from viewpoints with the proposed 90 metre stack added to the picture enables the landscape and visual effects of the proposed stack to be understood.
- 7.16 Sensitive viewpoints identified with the help of natural Resources Wales' LANDMAP database of landscape character include the 'Penderyn Visual and Sensory Aspect Area' and the 'Brecon Beacons National Park, Cultural Landscape Aspect Area'.

- 7.17 The differences in landscape and visual effects between the Proposed Development and the consented 2019 scheme have been assessed. No significant changes to landscape elements or landscape character would occur. The increase in the size of the stack would typically be most noticeable from close range locations. However, at no location would the Proposed Development result in significant adverse effects upon visual amenity where previously there were no significant effects as a result of the permitted scheme.
- 7.18 The landscape and visual assessment identifies the potential for significant effects upon visual amenity for users of Open Access land near Moel Penderyn and road users passing the Site on Fifth Avenue.
- 7.19 No significant impact on any views of the revised stack from residential properties within settlements or as outlying dwellings is predicted.
- 7.20 The Proposed Development would have a similar night-time impact compared with the consented scheme, noting if aviation safety lighting on the stack is required it would be infrared and not visible to the human eye.
- 7.21 In conclusion, whilst the Proposed Development would result in some increases in magnitude and effects compared with the consented scheme, it is assessed that the revised stack could be accommodated in the landscape with only localised Significant landscape and visual effects.

ECOLOGY

- 7.22 Several areas of land are protected for their wildlife and nature conservation value in the neighbourhood around Hirwaun Industrial Estate. These include the Blaen Cynon Special Area of Conservation ('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 SSSI is located 1.1 km 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.
- 7.23 The proposed stack would be within the development boundary of the consented scheme. No adverse effects are predicted on wildlife and habitats around the edges of the Enviroparks site. A Wildlife Management Plan for the site has already been put in place.
- 7.24 Protected wildlife records in the area within a two kilometres of the Enviroparks site include nationally scarce insects, spiders, butterflies, birds, toads, frogs, common lizards, bats, pine martins and bluebells.
- 7.25 Construction of the proposed stack would not affect these protected wildlife species.
- 7.26 The modelling work undertaken for the air quality assessment has been used to assess the likely effect upon the integrity of protected habitats from the operation of the plant with a 90



metre high stack. Effects modelled included the deposition through the air of nutrient nitrogen. This can enrich the soil and change the balance of the plant life it supports – also affecting animals such as some butterflies that are adapted to the plants associated with traditional upland grasslands with low soil quality.

- 7.27 The modelling work has determined that there will be no significant effect on the Blaen Cynon SAC from the operation of the plant. Likewise, the air pollutant levels at Cwm Cadlan SAC and Coedydd Ned a Mellte SSSI would not affect their wildlife value.
- 7.28 Given the outcomes of the modelling work, if the stack height was increased to 90 metres, the existing habitat protection and mitigation measures identified in the 2010 and 2019 planning permissions will be adequate to address ecological effects of the proposed development. 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.

OTHER ENVIRONMENTAL EFFECTS

7.29 The environmental work undertaken to support the planning applications for the 2010 and 2019 scheme considered a range of other environmental topics. These topics were relevant to the previous planning applications but are not considered likely to experience significant environmental effects from the new stack proposals, and so they have not been considered in detail for this planning application. The likely effects are summarised for these topics below.

Community effects

7.30 The construction and operation of a taller stack would not have any adverse social and economic effects. Approval of the taller stack will enable the Enviroparks development to go ahead, bringing local employment and training benefits.

Transport

7.31 The taller stack would generate a small number of additional lorry movements at the construction stage to bring sections of the stack to the site. These additional lorry movements are not significant in terms of their environmental impacts. The stack would generate no road traffic in normal use, with occasional visits by car or van for emissions monitoring and maintenance.

Noise and vibration

7.32 The consented stack was not identified as a significant noise source and this would be the case with the taller stack.



Ground conditions, drainage and flood risk

7.33 The revised stack design has no implications for ground conditions, drainage or flood risk.

Archaeology and cultural heritage

Archaeology

7.34 The proposed stack would stand within the consented planning application boundary of the Enviroparks development and raises no archaeological issues.

Cultural heritage

- 7.35 With the increase in height of the stack, there will be a change to the zone of theoretical visibility (ZTV), as explained above and in detail in chapter 8 of the ES Addendum 2020.
- 7.35 The ZTV illustrates that whilst there is an increase in the area where the stack would be visible. The increase in stack height would typically be most noticeable from close range locations. Remembering that the Enviroparks site is on a large industrial estate and next to an artificial reservoir, assets of historic interest such as listed buildings, scheduled monuments and conservation areas are comparatively remote from the application site and with little or no intervisibility. No significant adverse effects on cultural heritage have been identified.

Section Eight CONCLUSION

CONCLUSION

- 8.1 This document is a draft of the non-technical summary of an Environmental Statement Addendum that will accompany a planning application by EWL for a taller stack in a revised location at the Enviroparks site at Fifth Avenue on Hirwaun Industrial Estate.
- 8.2 The Addendum considers the effects of a taller stack on air quality, ecology and landscape, and also looks at secondary issues such as the potential effects on the area's cultural heritage.
- 8.3 Based upon detailed modelling, the assessment has found that emissions from a 90 metre high stack would have less effect on air quality and protected wildlife sites than the 45 metre stack that already has planning permission. Visually the taller stack would be a more prominent feature in the local landscape, but only incrementally more so due to the screening effects of landform, trees and buildings in the local surroundings.
- 8.4 No significant adverse effects have been identified on the setting of historic buildings, monuments and areas. A taller stack would have no implications for noise generation, groundwater protection, flood risk or road traffic levels.
- 8.5 Protective environmental measures in the 2010 and 2019 planning permissions for the Enviroparks site would all remain in place should the taller stack be granted planning permission.





Planning application drawings

and

Zone of Theoretical Visibility plan









	ALL DIMENSIONS TO BE CHECKED ON SITE. DO NOT SCALE THIS DRAWING. ALL DISCREPANCIES TO BE REPORTED IMMEDIATELY. © COPYRIGHT	
	KEY:	
	(1) VISITORS CENTRE (791sqm GEA)	
	(2) EXISTING GATEHOUSE (103sqm GEA)	
4	(4) HV SUBSTATION (220sqm GEA)	
	5 BIOMAX AREA (2742sqm GEA)	
	6 PROPOSED B2 HIGH ENERGY USE UNIT 10,240sqm (INC OFFICE	
	(7) WATER TREATMENT PLANT (8) FUEL STORAGE HALL (2110sam GEA)	
	(9) TURBINE HALL (380sqm GEA)	
	(10) GASIFICATION HALL (6270sqm GEA)	
	<u>KEY</u>	
	RED LINE AREA = 0.39acres / 1,584 sqm	
	LAND WITHIN APPLICANT'S CONTROL	
	TOTAL SITE AREA = 21.1 acres / 85,511 sqm	
	GRASS	
	SHRUBS & HEDGES	
	PROPOSED LANDSCAPE BUFFER TO BBNP	
	GRASSCRETE	
	EXISTING BUILDINGS	
	STONE GABION BASE	
	EXISTING BUILDINGS	
	PROPOSED BUILDINGS	
	TARMAC ROAD SURFACE	
	BRUSHED CONCRETE SURFACE	
	LIGHT GREY BLOCK PAVING TO ROADS	
	BLOCK PAVING TO PARKING	
	BLOCK PAVING TO PEDESTRIAN AREAS	
	GANGWAY	
	CYCLE SHELTER (10 CYCLE SPACES)	
	POST & RAIL FENCE	
	2.4m HIGH SECURITY FENCE	
	GATE	
	IMPORTANT NOTES: ALL LANDSCAPING SHOWN INDICATIVE	
	LAYOUT OF SUDS PONDS SHOWN INDICATIVE ONLY. REFER	
	TO DETAILED SUDS DESIGNER DRAWINGS.	
	P10Stack location changed03/04/20MTP9Vents reinstated on Gasification Hall15/09/17D.IS	
	P8 Amendments to Gasification Hall and 14/00/17 DIS	
	Pro Amenuments to Gastrication Hall and 14/09/17 DJS emergency flare stack added	
	P7 Additional notes added 24/02/17 DJS P6 Various amendments following client 22/02/17 DJS	
	meeting dated 09/02/17 P5_Site Areas updated 17/01/17_D.IS	
	P4 Revision clouds removed for clarity 13/01/17 DJS	
	P3 Motocycle parking and path amended 12/01/17 DJS following client comments	
	P2 Various amendments following clients 11/01/17 DJS comments dated 04/01/17 & undated	
	FBW site model dated 10/01/17 P1 Issue for Planning 10/12/16 MT	
	No. Revision Description Date By	
	Ee.	
	enviroparks reuse, recycle recover	
	TY CEFN , RECTOR ROAD	
03/04/2020 10	J: 35 CANTON, CARDIFF CF5 1QL TEL 029 20 344 966	
	FAX : 029 20 344 942 ept@eptpartnership.com www.eptpartnership.com	
	PROJECT	
	Enviroparks - Hirwaun Ind. Est	
	Stack relocation / height increase	
	Proposed Overall Site Plan	
	Drawn : MT Date : 08/12/16 Checked : MT	
	Scale : Original sheet size :	
	1:500 A0	
	 Planning Tender Design Development Pre-Construction 	
	 Planning Tender Design Development Pre-Construction Construction 	
	 Planning Tender Design Development Pre-Construction Construction Record 	
	 Planning Tender Design Development Pre-Construction Construction Record Drawing No Revision 	

METRES

SECTION A-A

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