



**AMENDED
LANDSCAPE AND VISUAL
IMPACT ASSESSMENT
FOR PROPOSED
BIOMASS FUELLED POWER PLANT
AT
LANDS OFF BALLYVANNON ROAD
NEAR GLENAVY, Co ANTRIM**

PREPARED BY



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CONTENTS

1.0	LANDSCAPE & visual impact assessment.....	3
1.1	INTRODUCTION.....	3
1.2	STATEMENT OF AUTHORITY.....	4
1.3	METHODOLOGY.....	4
1.3.1	<i>Landscape Assessment Terminology.....</i>	4
1.3.2	<i>Visual Assessment Terminology.....</i>	6
1.3.3	<i>Theoretical Zone of Visual Influence (ZVI).....</i>	7
1.3.4	<i>Photographs & Photomontages.....</i>	9
1.4	A STATEMENT OF SOURCE MATERIAL.....	9
1.5	BASELINE LANDSCAPE SETTING.....	10
1.5.1	<i>Landscape Scale.....</i>	10
1.5.2	<i>Landscape Character.....</i>	10
1.5.3	<i>Planning Designations.....</i>	11
1.5.4	<i>Northern Ireland Landscape Assessment Series.....</i>	12
1.5.5	<i>Historic Parks and Gardens.....</i>	12
1.5.6	<i>The Ulster Way/Long Distance Footpaths and Amenity.....</i>	13
1.6	SUMMARY DESCRIPTION OF THE PROPOSED DEVELOPMENT.....	13
1.7	LANDSCAPE AND VISUAL ASSESSMENT.....	14
1.7.1	<i>Description of the Sources of Impact.....</i>	14
1.7.2	<i>Direct Landscape Character Impacts.....</i>	14
1.7.3	<i>Visual Impacts.....</i>	15
1.7.3.4	<i>Viewpoints and Photomontages.....</i>	16
1.7.3.5	<i>Residential Visual Impacts.....</i>	20
1.7.3.6	<i>Ulster Way/ Long Distance Paths and Amenity.....</i>	22
1.7.3.7	<i>Impacts on Planning Designations.....</i>	22
1.7.3.8	<i>Impacts on Historic Parks & Gardens.....</i>	22
1.7.3.9	<i>Cumulative Landscape and Visual Impacts.....</i>	23
1.8	CONSTRUCTION PHASE IMPACTS.....	24
1.9	DESIGN RECOMMENDATIONS AND MITIGATING MEASURES.....	24
1.9.1	<i>Mitigating Measures.....</i>	24
	<i>Landscape Mitigation Aims and Objectives.....</i>	24
	<i>Management and Maintenance.....</i>	25
	<i>Retention of Existing Trees.....</i>	25
1.9.2	<i>Design Recommendations.....</i>	26
1.10	CONCLUSION.....	26

APPENDIX 1: Landscape and Visual Figures

APPENDIX 2: Proposed Site Layout & Extended Site Section Drawing Nr 15562/A1/121

APPENDIX 3: Landscape Long Sections

APPENDIX 4: 25 Year Landscape Management Plan

APPENDIX 5: Tree Survey

1.0 LANDSCAPE & VISUAL IMPACT ASSESSMENT

1.1 Introduction

RPS Planning & Environment were commissioned by Rose Energy to produce a landscape and visual impact assessment for the proposed Rose Energy Biomass Fuelled Power Plant at Ballyvannon Road, Glenavy. This report assesses the potential landscape and visual impact of the proposed development on the landscape and visual resources of the area and in addition now addresses issues raised by Landscape Architects Branch and Planning Service. In particular this amended LVIA provides long sections showing the proposed landscape planting scheme and a Landscape Management Plan in relation to the development over a 25 year period as well as additional photomontages illustrating the screening effect of maturing vegetation. The landscape and visual impact assessment report seeks to:

(a) Establish the baseline conditions

Record and analyse the existing character, quality and sensitivity of the landscape and visual resource. This should include elements of the landscape such as:

- the landform;
- the land cover including the vegetation, the slopes, drainage, etc;
- the landscape character;
- current landscape designations and landscape planning policies;
- the site visibility (short, medium and long internal and external views).

(b) Analyse baseline conditions

Comment on the scale, character, condition and the importance of the baseline landscape, its sensitivity to change and the enhancement potential.

Complete a visual analysis (illustrated by photographic material) describing characteristics, which may be of relevance to the impact of the design and to the method of mitigation.

(c) Describe the development

(d) Identify the Impacts of the Development on the Landscape and Visual Resource

Identify the landscape and visual impacts of the development at different stages of its life cycle, including:

- Direct & indirect *landscape impacts* of the development on the landscape of the site and the surrounding area;
- *Visual impacts* including the extent of potential visibility, the view and viewers effected, the degree of visual intrusion the distance of views and resultant impacts upon the character and quality of views.

e) Assess the significance of impacts

Assess the significance of the landscape and visual impacts in terms of the sensitivity of the landscape and visual resource, including the nature and magnitude of the impact.

f) Propose mitigation

Detail measures proposed to mitigate significant residual detrimental landscape and visual impacts and assess their effectiveness.

g) Assess acceptability

Assess the ability of the landscape and visual resource to absorb the proposed development.

1.2 Statement of Authority

RPS Planning & Environment is a multidisciplinary environmental consultancy specialising in Landscape Design, Environmental Assessment, Environmental Auditing, Architectural Design, Acoustics, Air Quality, Ecology and Water Quality. We are one of Ireland's largest and most experienced environmental consultancies. The evaluation of landscape and visual impact is a key aspect of many environmental impact statements, planning studies and feasibility studies that RPS have completed in recent years, for example, numerous mineral developments, road schemes, flood alleviation, housing, recreation, tourism developments. RPS has completed numerous landscape and visual impact assessments for a wide range of relevant developments in UK and Ireland.

1.3 Methodology

The methods used in this assessment are derived from the 'Guidelines for Landscape and Visual Impact Assessment' by The Landscape Institute and Institute of Environmental Assessment 2002. The document recommends baseline studies to describe, classify and evaluate the existing landscape and visual resource focusing on its sensitivity and ability to accommodate change. The guidelines are not intended as a prescriptive set of rules but rather offer best practice methods and techniques of LVIA. The existing landscape and visual context of the study area was established through a process of desktop study, site survey work and photographic surveys. The proposal was then applied to the baseline conditions to allow the identification of potential impacts, prediction of their magnitude and assessment of their significance. Mitigation can then be identified to reduce as far as possible any potential landscape and visual impacts.

1.3.1 Landscape Assessment Terminology

The study area has been divided into landscape character areas. Each landscape character area has been assessed in terms of *value*, *quality* and *sensitivity to change* of the type proposed by this development. In this section the key criteria used for the landscape assessment are described.

(a) Landscape Assessment Definitions

Landscape Resource: The combination of elements that contribute to landscape context, character and value.

Landscape Value: The relative value or importance attached to a landscape that expresses national or local consensus because of intrinsic characteristics.

Landscape Character: The distinct and homogenous pattern that occurs in the landscape reflecting geology, landform, soils, vegetation and man's impact.

(b) Landscape Quality

For the purpose of this assessment, landscape quality is categorised as:

Exceptional Quality: Areas of especially high quality acknowledged through designation as AONB's or other landscape based sensitive area. Of landscape significance within the wider region or nationally.

High Quality: Areas that have a very strong positive character with valued and consistent distinctive features that give the landscape unity, richness and harmony. Of landscape significance within the district.

Medium Quality: Areas that exhibit positive character but which may have evidence of alteration/degradation or erosion of features resulting in a less distinctive landscape. May be of some local landscape significance with some positive recognisable structure.

Low Quality: Areas that are generally negative in character, degraded and in poor condition. No distinctive positive characteristics and with little or no structure. Scope for positive enhancement.

(c) Landscape Sensitivity

Landscape sensitivity to the type of development proposed is defined as follows:

High Sensitivity: High visual quality landscape with highly valued or unique characteristics susceptible to relatively small changes.

Medium Sensitivity: Medium visual quality landscape with moderately valued characteristics reasonably tolerant of changes.

Low Sensitivity: Low visual quality landscape with common characteristics capable of absorbing substantial change.

(d) Magnitude of Landscape Resource Change

Direct resource changes on the landscape character of the study area is brought about by the introduction of the proposal and its effects on the key landscape characteristics. The following categories and criteria have been used:

High magnitude: Total loss or alteration to key elements of the landscape character which result in fundamental and / or permanent long-term change.

Medium magnitude: Partial or noticeable loss of elements of the landscape character and / or medium-term change.

Low magnitude: Minor alteration to elements of the landscape character and / or short-term/temporary change.

No Change: No change to landscape character.

(e) Significance of Landscape Impact

The level of significance of effect on landscape is a product of landscape sensitivity and the magnitude of change in landscape resource. Where landscape sensitivity has been predicted as high and the magnitude of change as high or medium (or when magnitude of change is high and sensitivity is high or medium) the resultant impact will be significant in terms of EIA Regulations. This is illustrated in Table 1.1.

Table 1.1 Significance of Landscape Impact

Magnitude of landscape resource change	Landscape Sensitivity		
	Low	Medium	High
No change	No change	No change	No change
Low	Slight	Slight / moderate	Moderate
Medium	Slight / moderate	Moderate	Moderate / Substantial
High	Moderate	Moderate / Substantial	Substantial

1.3.2 Visual Assessment Terminology

The following describes the key criteria used in the visual assessment.

(a) Visual Assessment Definitions

Visual Quality: Although the interpretation of viewers' experience can have preferential and subjective components, there is generally clear public agreement that the visual resources of certain landscapes have high visual quality. The visual quality of a landscape will reflect the physical state of the repair of individual features or elements.

Due to the subjective value of the evaluation there is no comprehensive official process for identifying visual quality. The visual quality of this evaluation has been carried out by one landscape architect and verified by another.

Visual Character: When a viewer experiences the visual environment, it is not observed as one aspect at a time, but rather as an integrated whole. The viewer's visual understanding of an area is based on the visual character of visible features and aspects and the relationships between them. The visual character is descriptive and not evaluative.

Visual Resources: The visual resources of the landscape are the stimuli upon which actual visual experience is based. They are a combination of visual character and visual quality.

(b) Viewer Sensitivity

Viewer sensitivity is a combination of the sensitivity of the human receptor (for example resident; commuter, tourist; walker; recreationist or worker) and viewpoint type, location or activity of viewer (for example house, workplace, leisure venue, local beauty spot, scenic viewpoint, commuter route, tourist route or walkers' route). Consideration must also be given to the importance of the view that may be determined with respect to its popularity, designation/protection or by the numbers of people affected. Sensitivity can be defined as follows:

High sensitivity: for example users of an outdoor recreation feature which focuses on the landscape; valued views enjoyed by the community; tourist visitors to scenic viewpoint.

Medium sensitivity: for example users of outdoor sport or recreation which does not offer or focus attention on landscape; tourist travellers.

Low sensitivity: for example regular commuters, people at place of work (excluding outdoor recreation).

(c) Visual Resource Change Magnitude

The magnitude of change in visual resource results from the scale of change in the view with respect to the loss or addition of features in the view and changes in the view composition. Important factors to be considered include; proportion of the view occupied by the proposed development; distance and duration of the view. The angle of view in relation to the main activity of the receptor is of relevance to tall thin structures such as chimney stacks in particular. Other vertical or built features in the landscape and the backdrop to the development will all influence resource change. Visual resource change magnitude can be defined as follows:

High magnitude: Where changes to the view significantly alter (negative or beneficial) the overall scene or cause some alteration to the view and/or for a significant length of time.

Medium magnitude: Where some changes occur (negative or beneficial) in the view, but not for a substantial part of the view and/or for a medium length of time.

Low magnitude: Where only a minor alteration to the view occurs (negative or beneficial) and/or not for a significant length of time.

No change: No discernible deterioration or improvement in the existing view.

(d) Significance of Visual Impact

Significance of visual impact can only be defined on a project by project basis. The principal criteria for determining significance are magnitude and sensitivity of the receptor. A higher level of significance is generally attached to large scale or substantial effects on sensitive receptors.

Where visual sensitivity has been predicted as high or medium, and the magnitude of change as high, (or where the magnitude of change has been predicted as high and the visual sensitivity has been predicted as high or medium) then the resultant impact will be significant in terms of EIA Regulations.

Table 1.2 illustrates significance of visual impact as a correlation between viewer sensitivity and visual resource change magnitude.

Table 1.2 Significance of Visual Impact

Visual resource change magnitude	Visual Sensitivity		
	Low	Medium	High
No change	No change	No change	No change
Low	Slight	Slight / moderate	Moderate
Medium	Slight / moderate	Moderate	Moderate / Substantial
High	Moderate	Moderate/Substantial	Substantial

Positive effects upon receptors may also result from a change to the view. These may be through the removal of negative features or visual detractors, or through the addition of well designed elements, which add to the landscape experience in a complementary, positive and stimulating manner.

1.3.3 Theoretical Zone of Visual Influence (ZVI)

The theoretical ZVI is the area within which views of the site and/or the development can be theoretically obtained. The extent of the ZVI is determined primarily by the topography of the area.

The ZVI is then refined by field studies to indicate where relevant forestry, woodlands, hedges or other local features obscure visibility from the main roads, local viewpoints/landmarks and/or significant settlements.

Using terrain-modelling techniques combined with the proposed developments specification, a computer generated digital map is created showing areas from where the proposed development would in theory be seen. A worst case scenario is taken in line with Landscape Institute guidelines.

The following ZVI has been produced for assessment:

- 10km ZVI for the proposed Rose Energy Biomass Fuelled Power Plant (see Appendix 1.0 Figure 1.1).

It should be noted that the theoretical ZVI takes no account of local features such as:

- Low hills (less than 10 metres [m] high);
- Roadside hedges and fences;
- Forestry and other planted areas; or

In practice the actual ZVI is considerably less in extent than the theoretical one, since individual tall thin structures such as chimney stacks are difficult to focus on at a distance, and small-scale topographic features and local hedges tend to restrict views. The proposed development may theoretically be visible beyond 10 km at some locations but the impact will significantly decrease with distance. Field survey beyond 10 km has established that no significant landscape or visual impacts will occur due to the proposed development.

Of relevance to the LVIA for the proposed chimney stack element of the Rose Energy Biomass Fuelled Power Plant is the extensive research that has been completed on the landscape and visual impacts of wind turbines. The proposed chimney stack shares similarities with wind turbines in that they are both generally tall and thin structures located in the landscape and generally visible over wide areas. Research has established that significant visual effects of wind turbines only occur within 5 km. At greater distances wind turbines will only be prominent in very clear visibility (Source: Scottish Executive (2002) Planning Advice Note 45, see the table below). This guidance is useful when considering the potential visual impacts of the new tall chimneystack element of the Rose Energy proposal.

Distance	Perception
Up to 2 km	Likely to be a prominent feature
2 - 5 km	Relatively prominent
5 – 15 km	Only prominent in clear visibility – seen as part of the wider landscape
15 – 30 km	Only seen in very clear visibility – a minor element in the landscape

Source: PAN 45 (revised 2002): Renewable Energy Technologies

1.3.4 Photographs & Photomontages

Nine representative viewpoints have been selected around the site as illustrated see Figure 1.2 (See Appendix 1.0). Nine photomontages have been prepared for each of the selected viewpoints (See Figure 1.3 Appendix 1.0). The purpose of this material is to help assess the proposed developments visual impact by giving an idea of what the built facility will look like. In addition photomontages have also been provided that illustrate the screening effect of the proposed landscape planting as it matures. These additional photomontages were prepared in response to a request from DOE (NI) Landscape Architects Branch.

Initially, viewpoints are chosen from which the proposal will be visible. The viewpoints are chosen to give a representative sample of views of the proposed development within the landscape from different distances and directions. Viewpoints frequented by members of the public such as public rights of way, car parks and popular viewpoints are usually chosen where possible, along with views from nearby settlements/sensitive receptors.

A wireframe of the development and surrounding terrain is generated from each viewpoint using standard commercial software packages and digital terrain data provided by Ordnance Survey. Photographs from each viewpoint location are then taken covering an arc of view matching that of the wireframe. The extent of the arc covered depends on what the photomontage is intended to show.

Photographs with an arc of view of 40-46° have been prepared, these are intended to represent a single view rather than a panorama view, and represent approximately the viewing angle of the human eye without any panning.

All photographs are taken with a slow speed film (c. 100 ASA), a camera aperture suitable for the nature of the view and a professional tripod for true horizontal alignment. A record is taken of the light conditions and visibility conditions, the camera height above ground, time of day, viewpoint coordinates recorded to the nearest 10 metres using GPS and the bearing of each photograph.

The resulting photographs within a panorama are merged and the resulting image is then brought into the software programme. The photograph acts as a backdrop to the terrain and proposal wireframe. The settings in the software are then adjusted to ensure that the photograph and wireframe agree, as, for example, the photograph may need to be cropped if it covers a larger angle of view than the wireframe.

When the photograph and wireframe agree, the proposal is rendered and the wireframe switched off. The resulting photomontage is then exported as a bitmap. It is sometimes necessary to edit this photomontage, as the wireframe terrain can differ slightly from that pictured in the photograph (due to deficiencies in digital terrain data detail) causing the proposal to appear slightly above or below the ground.

The finalised photomontage may then be aligned with its corresponding wireframe for presentation. The last step in the process is to calculate at what distance the image should be viewed from so as to ensure the proposal is representative of what the eye would see. This is vital to prevent any misinterpretation of the resulting photomontage.

The nine viewpoints included in this assessment have been selected to reflect typical views obtained of the site, using the parameters of distance and direction of view.

1.4 A Statement of Source Material

DOE NI, Draft Belfast Metropolitan Area Plan 2015 (Lisburn), HMSO;
DOE NI, EHS Northern Ireland Landscape Character Assessment; Lisburn 99/20;

The Landscape Institute and Institute of Environmental Assessment, Guidelines for Landscape and Visual Assessment, 2002;
Scottish Executive (2002) Planning Advice Note 45 (Revised 2002) Renewable Energy Technologies.

1.5 Baseline Landscape Setting

1.5.1 Landscape Scale

The proposal is located adjacent to the existing Ulster Farm By Products facility and its associated buildings and chimneystacks and is located on gently undulating lands that slope westwards towards Lough Neagh. The existing Ulster Farm By Products facility is a long established rural industrial feature within the study area. As such the Ulster Farm plant has been part of the existing landscape baseline for a considerable length of time albeit well screened. The proposed site is located within a largely rural area, the main activity being pasture for beef cattle. This rural area is serviced by the local village of Glenavy located 2 km east of the proposed site, and the town of Crumlin 4 km to the north. The solid rock beneath the site is dark grey basalt of the tertiary upper basalt formation. Most of the solid rock is overlaid by river deposits of silty clay with sand and some gravel. The study area is located on the east shore of Lough Neagh and consequently has visitor attractions associated with the lough. Sandy Bay 1½ km south west of the site on the shores of Lough Neagh is a local secluded tourist attraction. Although it has remained largely undeveloped, Sandy Bay does have some facilities including a water ski club and a local boat repair shop. Ram's Island (3km west) in Lough Neagh holds a Round Tower as well as other historic features and is promoted locally for visitors by boat trip. Langford Lodge Aviation Museum is located approximately 5km northwest on the shores of the Lough. Lough Neagh itself is widely used for sailing and water sports with access to the Lough at numerous locations along its shoreline.

The Glenavy River flows west to Lough Neagh immediately north of the proposed site in a small but steep sided river valley that contains visually significant woodland and individual trees.

The surrounding agricultural landscape contains strong hedgerows with mature trees that provide a sense of enclosure significantly restricting views and it is only from drumlin tops or closer to the Lough shore where longer distance views out are available.

The current facility at Ulster Farm By Products is a component of the existing rural landscape with glimpse views available of its buildings and particularly its chimneystacks from various locations in the surrounding landscape. The existing buildings at Ulster Farm are well screened by topography and trees and blend well with the adjacent countryside.

1.5.2 Landscape Character

The study area can be described by use of one distinctive character area as follows:

Lough Neagh Fringe Agricultural Landscape

Lough Neagh Fringe Agricultural Landscape: The landscape that fringes the eastern side of Lough Neagh slopes gently to the west and predominantly has an undulating drumlin topography. The shores of Lough Neagh are protected by various environmental designations (RAMSAR, Special Protection Area, ASSI) due to the habitats and wildlife associated with the shores. The shores of Lough Neagh are attractive with well maintained agricultural landscapes gently sloping to the Lough. Hedgerows are strong with frequent mature trees. Field systems are frequently small in size that combined with the strong hedgerows and undulating topography provide a strong sense of enclosure at many locations. However, where roads or larger fields are aligned with the slope to the Lough then longer distance views across this landscape to Lough Neagh are available. The tops of rounded drumlins are frequently occupied by farmhouses. Rural houses are conspicuous in this landscape and of an urban

character. This landscape on the fringe of Lough Neagh contributes importantly to the wider landscape setting for Lough Neagh as a whole when viewed from within the Lough, from the higher ground to the east (Belfast Hills) and from the western shores (County Tyrone).

The Lough Neagh Fringe Agricultural Landscape has an attractive landscape quality and has been designated as “Area of High Scenic Value” by the draft Belfast Metropolitan Plan 2015 (see Section 1.5.3 below).

Overall the Lough Neagh Fringe Agricultural Landscape has a high sensitivity to change.

1.5.3 Planning Designations

Explanation of Designations

This section reviews relevant landscape designations in Northern Ireland. A brief explanation of these has been given below:

Area of Outstanding Natural Beauty - these are designated either under the Amenity Lands Act (Northern Ireland) 1965 or the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985. These cover huge areas of land, embracing a range of landscape types including limestone cliffs, sweeping moorlands and important geological landforms. They also include farmland, forest, lakes, coastline and settlement. They are generally subject to planning conditions. The proposed site does not lie within an area designated as an AONB.

The Antrim Hills and Glens AONB is located at its nearest approximately 40km north west of the proposed site.

Draft Belfast Metropolitan Area Plan 2015

The proposed site lies within the Lisburn City Council boundary and, therefore, the Draft Belfast Metropolitan Area Plan 2015 is the relevant planning document that is discussed below to establish if there are any landscape designations relevant to the assessment.

The proposed site is located within lands designated as Areas of High Scenic Value and a Countryside Policy Area.

Areas of High Scenic Value

BMAP outlines the diverse nature of the landscapes in the Metropolitan area stating that “Areas of High Scenic Value (AOHSV) are designated to protect the setting of the Metropolitan Urban Area and other areas of particular landscape merit.”

BMAP outlines the AOHSVs within the area and includes Portmore Lough, detailed in Map No.1/001 titled “Lisburn Countryside” in the Plan.

Policy COU 6/06 Areas of High Scenic Value states the following:

- Planning permission will not be granted to development proposals that would adversely affect the quality, character and features of interests in Areas of High Scenic Value. Proposals for mineral working and waste disposal will not be acceptable.
- A Landscape Analysis must accompany development proposals in these areas to indicate the likely effects of the proposal on the landscape.

Draft BMAP states that “within AOHSV all proposals will be assessed against prevailing regional policies for development in the Green Belt”. In addition the Department will consider how proposals will conserve and enhance the landscape of the AOHSV.

Local Landscape Policy Areas and Historic Parks and Gardens

The proposed site is not located in close proximity to a Local Landscape Policy Area or a Historic Park, Garden and Demesne. The nearest Local Landscape Policy Area is located at Glenavy approximately 2km east. The nearest Historic Park and Garden marked on the development plans is Kilwarlin Moravian Church located 18km southeast of the propose site. The Register of Historic Parks and Gardens is discussed further in section 1.5.5 below.

1.5.4 Northern Ireland Landscape Assessment Series

The study area lies within the Belfast District covered by a research document produced by EHS referred to as “Environmental Resources Management 1999. Northern Ireland Landscape Character Assessment, Environment and Heritage Service Research and Development Series, Nr 99/20”. The documents were prepared by Environmental Resources Management (ERM) under a research contract commissioned by EHS and supported by Regional Planning Division and Planning Service. The documents aim to provide a broad overview of landscape character, diversity and forces for change including advice on how to address the effects of new development in the landscape. The documents are seen as a “Common Point of Reference” for statutory agencies. The EHS NILA document states that the proposed site adjacent to the “East Lough Neagh Points” landscape character area.

East Lough Neagh Points

The EHS NILA states the key characteristics of East Lough Neagh Points landscape character are as follows: rolling relatively small scale farmland; linear development along straight roads; overgrown dense hedgerows; large scale farms on shore closer to Lough Neagh; marshy areas on shoreline; and sand and gravel extraction on Lough shore.

Landscape Description

The EHS NILA states that this landscape character consists of Lough Neagh Clays overlain by rolling agricultural landscape with two contrasting farmlands with small scale farms on higher ground and large scale farms on flatter ground north of Glenavy River. Linear shelterbelts subdivide fields with oak and willow said to be dominant. There is a linear pattern to settlement along country roads. The nature conservation designations at Lough Neagh are highlighted including ASSI for fen/marsh, SPA and RAMSAR for birds. The shores of Lough Neagh are stated to be “extremely sensitive” justifying the classification as “Area of Scenic Quality” by the EHS NILA.

1.5.5 Historic Parks and Gardens

EHS has identified a number of historic parks, gardens and demesnes that it considers represents a significant historic and landscape resource across Northern Ireland in its Register of Historic Parks and Gardens. Any development that is likely to have an adverse impact on the planned layout, including views in and out of quality or character of these areas will normally be refused planning permission.

There are a number of registered sites within both Lisburn City Council and Antrim Council areas of potential relevance to the proposal.

Lisburn

The nearest Historic Park and Garden is Kilwarlin Moravian Church located 18km southeast of the propose site.

There is one supplementary site at Portmore (4km south) that once consisted of a 2000 acre deerpark with 17th century house but no longer exists.

Antrim

The nearest registered site within Antrim boundaries is Ram's Island that is located 3km west of the proposed site in Lough Neagh. The island is known to have had a garden in the late 18th century when it was referred to as Ennis Garden. In the 19th century (under O'Neill ownership) the island had an orchard, garden and summer house when it became part of Shane's Castle Estate. Around this time it was planted with trees to create a romantic and decorative retreat for expeditions. The gardens remain today but are in a state of disrepair as is the old landing jetty although local interest groups have constructed a new jetty and plan to restore other aspects of the island as a tourist attraction. The River Bann & Lough Neagh Association (RBLN) through its Ram's Island Heritage Project currently promote biodiversity and conservation improvements on the island and are seeking funding for further improvements on the island.

1.5.6 The Ulster Way/Long Distance Footpaths and Amenity

The Ulster Way is a nationally recognised long distance footpath that was designated under the Access to the Countryside (NI) Order 1983. The Ulster Way is protected and maintained by the relevant District Council through which it passes, and is promoted as a national walking route by the Northern Ireland Tourist Board.

The Ulster Way extends at its nearest to the proposed site from the Lagan River along footpaths that cross the Belfast Hills at Colin Glen, Cave Hill Country Park and National Trust owned lands at Black and Divis Mountains.

Of greater relevance for the proposed site is the long distance cycle network that circumnavigates Lough Neagh for 113 miles extending (in part) from Crumlin to Portmore Lough and passes along the sites eastern and southern boundaries at Ballyvannon Road and Ingrams Road. The cycle network is promoted by Sustrans as well as the local Council's that have boundaries with the Lough (e.g Craigavon, Lisburn and Antrim). The cycle trail is called "The Loughshore Trail" and is known as Route 94 of the National Cycle Trail.

Local day trips by boat are available to Ram's Island during summer months (July and August) with sailings from Crumlin Marina. There are footpath trails around the island. Lough Neagh is widely used for water-based activities with the main focus of activity around Sandy Bay, Kinnego Marina, Crumlin Marina and Antrim Loughshore Park on the eastern side of the Lough.

1.6 Summary Description of the Proposed Development

A description of the salient points are stated here for the purpose of assessing landscape and visual effect.

The overall site area for the proposed development is 5 ha. In addition the construction stage of the development will require an area of land equivalent to 2.4 ha for contractor compound and associated works facilities. The compound site will be stripped and soil retained on site in stockpiles. Approximately 80 steel containers/portacabins will be located in the compound area for the duration of construction works. The compound area will be returned to grassland after completion of works. The construction period is likely to be 2.5 years with a 3 months earthworks phase.

At the operational stage the key visual components of the proposed facility is the 42 m high boiler house and the 80m high chimneystack that will be 2.3m in diameter at the top. A material holding building (23.75m high) and a material intake building (14.5m high) make up the remainder of the tall structures on the site. Lower components of the facility include cooling towers, sprinklers and pump house, ash silo, equipment room and a metering station. An existing access will be amended onto Ballyvannon Road that leads to a site office initially and then a weighbridge with a weighbridge office. The site administration office will be approximately 4m high while the weighbridge office will

be approximately 4.5m high. Larger vehicles delivering material to the site during operation will access the site from the new access from Ballyvannon Road via the weighbridge to a marshalling area in front of the material intake building leaving directly after offloading. Other vehicles (service vehicles) will have access around the full site perimeter at various times. A total of 25 car parking spaces will be located adjacent to the site office. All facilities are aligned in a linear fashion perpendicular to Ballyvannon Road across the contours of the local topography. An attenuation pond will be constructed on the sites western boundary adjacent to Glenavy River. Extensive landscape planting will be provided around the site boundaries.

A feature of this type of facility is that a plume (moisture/steam) will be visible during certain weather conditions above the chimneystack. It has been estimated that such weather conditions may occur approximately 60% of the year. The height of the visible plume will vary according to prevailing weather conditions but it may reach an overall height of 25m. Such plumes through their movement in an otherwise static landscape have the ability to draw attention to the location of the facility (chimneystack) when it would be otherwise overlooked. This is particularly relevant for longer distance views. The potential overall height of the proposed stack with plume is 105m in height.

Please refer to the planning application drawings for more detail on the appearance and layout of the proposed site facilities. For clarification as illustrated in the supporting design drawings for the new plant there will be no significant exterior glazing that would result in potential glare issues. Coated aluminium will be used for exterior surfaces that do not have a highly reflective finish restricting potential for any glare issues particularly with reference to the setting sun in the west.

1.7 Landscape and Visual Assessment

1.7.1 Description of the Sources of Impact

The proposed development consists of a range of buildings of various heights as outlined above the tallest being a 80m high chimneystack with associated new ground level buildings and fences and a new site access off Ballyvannon Road. For clarification the landscape and visual impact assessment that follows has included the potential plume at the proposed 80mstack and an overall height of 105m including the plume has been used as a worse case scenario. The principal sources of impact of such a development include:

- disturbance from construction;
- imposition of new features in a rural landscape;
- movement in a static landscape.

1.7.2 Direct Landscape Character Impacts

The proposed facility is directly located within the Lough Neagh Fringe Agricultural Landscape Character Area. This landscape character area has been identified as having a high sensitivity to change.

The proposed facility is located on lands that slope down westwards to Lough Neagh. The scale of the proposed facility with its tall buildings and chimneystack will result in a prominence over the immediate surrounding landscape character within a radius of approximately 1km. In part the new facilities will be read with the existing Ulster Farm By Products plant particularly with regards to the landscape to the northeast and east a fact that will benefit the proposals. However, from the immediately adjacent sensitive southern and western landscape, off Ingrams Road, this beneficial effect is less obvious and the new facility will be read as a new feature in its own right.

With greater distance from the proposed facility (>1km) to the north, south and east the undulating and enclosed landscape absorbs the proposal resulting in extremely limited influence over the rural landscape character in these areas.

The proposal will be partially visible from within the Lough Neagh and Ram's Island landscape where it will appear as a new industrial feature in an otherwise rural landscape albeit at a distance of >2km and screened by existing mature trees.

The proposed ground level facilities will have less influence over the surrounding landscape and earth mounds and planting proposed on site will blend such low level aspects of the proposal with the adjacent countryside.

This landscape character area has a high sensitivity.

The predicted magnitude of landscape resource change is high.

The predicted significance of landscape impact (within 1km) will be substantial negative.

The predicted significance of landscape impact beyond 1km will be moderate negative.

1.7.3 Visual Impacts

1.7.3.1 Zone of Visual Influence (ZVI)

The ZVI for the proposed facility is illustrated in Figure 1.1 – Appendix 1.0. The ZVI illustrated is theoretical and the existing minor undulations in topography, buildings, vegetation etc can significantly alter the extent of view at a local level. The ZVI illustrated is therefore a worse case scenario.

Due to the location of the proposed facility near the eastern shores of Lough Neagh combined with the overall height of the tall structures proposed, extensive views of the proposal will be available from the west across Lough Neagh to the eastern shores.

Visibility to the landscape to the east as it rises to the Belfast Hills is broke by intervening hills.

The undulating nature of the landscape to the south breaks up visibility from this direction while to the north the presence of a flat landscape result in potential extensive views as far as the low ridge at Ballynadrentagh.

The actual visual impacts from within the ZVI for the proposed development are detailed below.

1.7.3.2 Views from Class A Roads

The nearest Class A roads where views of the proposal are potentially available are the A26 and the A30.

The A26 road extends from Nutts Corner to Moira via Glenavy being located east of the proposed site and at its nearest 2km. The A26 crosses a rural landscape that undulates through and over drumlins from where extremely limited views towards the proposals are available. Strong roadside hedgerows and trees significantly restrict views (particularly in summer months). A brief glimpse is available at Crew Park (Lake View House) where elevated views across the site towards Lough Neagh are available where gaps in roadside hedgerows occur. This view is available from the A26 at a distance of approximately 4km southeast of the proposed site. The chimneystack and potential plume will be visible above surrounding trees while the boiler house will be partially visible. It will not be possible to view the proposals from any other section of the A26.

The viewer sensitivity is medium. The magnitude of visual resource change is low. The significance of visual impact for the single view from the A26 at Crew Park is slight/moderate negative.

The A30 road extends from Lisburn to Glenavy being located east of the proposed site at its nearest approximately 2km. The A30 crosses urban development in Lisburn before crossing a rural landscape from where extremely limited views towards the proposals are available. A brief glimpse is available through trees in the Lurganteneil to Ballypitmave area (when travelling west only) but at such distances (6km) it will not be possible to discern any noticeable difference in the visual resource. Due to intervening topography and trees it will not be possible to view the proposed facility from the majority of the A30. The viewer sensitivity is medium. The magnitude of visual resource change is no change. The significance of visual impact for the short section of the A30 with a view is no change.

1.7.3.3 Class B roads

The nearest Class B roads within the study area are B12, B38, B104 and B156.

The B12 extends along a north-south axis between Lurgan and Crumlin (via Glenavy) at its nearest 500m east of the proposed site. South of the proposed site the B12 crosses an undulating drumlin topography with strong roadside hedgerows that combine to prevent views towards the proposals. At Elm Hill the road has risen to a higher level and at relative close proximity the proposals will be visible through roadside hedgerows and gaps in the hedgerow to the junction with Ballyvannon Road. At Ballyvannon Road and along Edenturcher Road direct views of the chimneystack with any potential plume and the boiler house will be available above existing trees. It will not be possible to view the proposals from the remainder of the B12.

The viewer sensitivity is medium. For the short section of the B12 where a view is available the magnitude of visual resource change is high. The significance of visual impact for the short section of the B12 with a view is moderate/substantial.

The B38 runs from Hannahstown/Belfast to Glenavy at its nearest approximately 2km east of the proposed site. The road travels down the dip slopes of the Belfast Hills that provide elevated views across Glenavy to Lough Neagh. A number of locations along this road (where hills and ridges are crossed) offer views towards the proposals from where the chimneystack and any potential plume only will be visible. Most of the views are however are available at long distance (6-10km) and it will be difficult to discern much detail at such distances.

The viewer sensitivity is medium. The magnitude of visual resource change is low. The significance of visual impact for the sections of the B38 that have view is slight/moderate.

The B104 extends westwards from Lisburn towards Lower Ballinderry. The road is generally lowlying throughout following the Ballinderry River and there are no locations along this road that provide a view towards the proposed scheme.

The significance of visual impact for the B104 is no change.

The B156 extends south from the B12 at its junction with Ballyvannon Road along the eastern shore of Lough Neagh. For most of its length strong hedgerows (particularly within 3km of the proposed site) line the B156. A direct view towards the proposals will be available from its junction with the B12 until approximately 500m south of Ingrams Road. The scale of the proposal at such close distance with direct views will result in the proposals being prominent in the view.

The viewer sensitivity is medium. The magnitude of visual resource change is high. The significance of visual impact is moderate/substantial.

1.7.3.4 Viewpoints and Photomontages

Please refer to Figure 1.2 for viewpoint locations and Figure 1.3 for photomontages in Appendix 1.0.

Viewpoint 1: North from Ingram's Road

Viewer sensitivity: This road is used by local commuters and is part of the National Cycle Network that circles Lough Neagh. The viewer sensitivity is high.

Existing visual resource: this view is available within 200m south of the proposed site from Ingram's Road. The view is available through roadside hedgerows across open pasture to a dense tree lined hedgerow. The existing stacks associated with Ulster Farm By Products are partially visible to the right of the view. There is a sense of enclosure and a rural character to the view.

Predicted view: the proposals are highly visible and prominent in the view. The new chimney appears above the existing trees as does the boiler house. The roof of the material holding building is partially visible through trees. The lower material intake building and other ground level facilities are not visible due to screening from the existing trees. The proposal appears as a significant industrial feature in the local rural landscape. The screening effect overall will be enhanced outside winter months by improved tree cover. The proposal will still however, occupy a high proportion of the visible view.

Magnitude of change: the magnitude of change in visual will be high.

Significance of Visual Impact: the predicted significance of visual impact will be substantial.

Viewpoint 2: West from Lurgan Road

Viewer sensitivity: The view is available predominantly by local commuters. The viewer sensitivity is medium.

Existing visual resource: This view is available from the roadside at Lurgan Road approximately 750m east from the proposed site. The view consists of roadside hedgerow and grazed lands backed by dense woodland. The existing stacks at the Ulster Farm By Products site are clearly visible. Scattered housing along Ballyvannon Road is partially visible through trees.

Predicted view: the proposal will be partially visible to the rear of existing trees. The upper most portion of the chimney and any potential plume will be visible above existing trees. The proposed boiler house is also partially visible through existing trees. No other parts of the proposal will be visible from this viewpoint. The screening effect of the trees will be greater outside winter months and only the tip of the chimney (as well as the plume in certain weather conditions) will be visible. The proposed chimney will be read with the existing stacks.

Magnitude of change: the magnitude of change in visual resource is low.

Significance of Visual Impact: the predicted significance of visual impact will be slight/moderate.

Viewpoint 3: West from Ballyvannon Road

Viewer sensitivity: This road is used predominantly by local commuters but also by cyclists using the National Cycle Network. The viewer sensitivity is medium.

Existing visual resource: this view is available at a distance of approximately 500m east of the proposed site. The roadside housing and telephone poles along Ballyvannon Road are visible as well as the existing entrance to Ulster Farm By Products. Individual mature trees break up the skyline. The view has a slight urban character.

Predicted view: The proposed chimney (as well as any potential plume) and boiler house will be visible within this view. The roof of the material holding building will be partial visible. The view is partially screened by tall trees. The boiler house appears as a prominent feature on the skyline to the rear of trees and hedgerows. The proposal occupies a medium portion of the visible view.

Magnitude of change: the magnitude of change in visual resource is medium.

Significance of Visual Impact: the predicted significance of visual impact will be moderate.

Viewpoint 4: Southwest from Lurgan Road

Viewer sensitivity: This view is available to local commuters. The viewer sensitivity is medium.

Existing visual resource: this view is available from the Lurgan Road immediately north of Leap Bridge. The view is at a distance of approximately 1km from the proposed site. Existing mature woodland along the upper slopes of Glenavy River from a strong backdrop to the pastureland in the foreground. The upper portion of a stack at the Ulster Farm By Products site is visible while other stacks are partially visible to the rear of woodland.

Predicted view: the chimney only is partially visible from this viewpoint. In certain weather conditions the plume from the chimney will appear above the trees. The roof of the boiler house is partially visible through trees but not prominent. No ground level aspects of the proposal are visible. The proposal occupies a small portion of the visible view.

Magnitude of change: the magnitude of change in visual resource is low.

Significance of Visual Impact: the predicted significance of visual impact will be slight/moderate.

Viewpoint 5: East from Ingram's Road

Viewer sensitivity: This road is used by local commuters and is part of the National Cycle Network route that circles Lough Neagh. The viewer sensitivity is high.

Existing visual resource: this view is available from Ingram's Road west of the proposed site. The roadside hedgerow along this section of the road is strong but where gaps appear at field gates for example a view is available across open pasture fields towards Ballyvannon Road. Mature tree lined hedgerows partially screen views out to the surroundings (particularly in summer months) but residential development on Ballyvannon Road is visible to the right of the view.

Predicted view: the proposed chimney and any potential plume and the boiler house will be visible above the tree lined hedgerow. It will not be possible to view lower buildings nor ground level activities due to the screening effect of the hedgerows. In summer months the visibility of the chimney and boiler house will be slightly reduced. The proposal appears as an industrial feature above the local rural landscape. The proposal occupies a medium portion of the visible view but is prominent.

Magnitude of change: the magnitude of change in visual will be high.

Significance of Visual Impact: the predicted significance of visual impact will be substantial.

Viewpoint 6: East from Local Road at Lough shore

Viewer sensitivity: This private access road is used predominantly by local commuters. The viewer sensitivity is medium.

Existing visual resource: this view is available from a roadside through hedgerows and strong tree lined field boundaries towards the proposed site. A single wooden pole is visible but otherwise the view has a rural character. This view is typical of low-lying views from the Lough shore back inland towards Glenavy.

Predicted view: the proposed chimney and boiler house are visible above the trees along the field boundaries. The upper part of the chimney with any potential plume and part of the elevation of the boiler house are screened by trees. This screening effect will be greater in summer months when the trees have full leaf coverage. However, with slight movement of the viewer to the right the chimney will be more visible. The proposal appears as an industrial feature above the local rural landscape.

Magnitude of change: the magnitude of change in visual resource is high.

Significance of Visual Impact: the predicted significance of visual impact will be moderate/substantial.

Viewpoint 7: West from Ballyvannon Road

Viewer sensitivity: This road is used by local commuters and is part of the National Cycle Network route that circles Lough Neagh. This view is also adjacent to an existing house on Ballyvannon Road. The viewer sensitivity is high.

Existing visual resource: this view is available from Ballyvannon Road east of the proposed site. The roadside hedgerow along this section of the road is strong with several properties but where gaps appear such as adjacent to 21 Ballyvannon Road for example a view is available across open pasture fields towards Lough Neagh that is visible through and between the trees. Mature tree lined hedgerows partially screen views out to the surroundings (particularly in summer months).

Predicted view: the proposed chimney with any potential plume, boiler house and reception area will be prominent from this viewpoint between trees in hedgerows. It will not be possible to view ground level activities due to the screening effect of the hedgerows. The proposed development removes the view towards Lough Neagh for a portion of the visible view. The proposal appears as an industrial feature above the local rural landscape. The proposal occupies a high portion of the visible view.

Magnitude of change: the magnitude of change in visual will be high.

Significance of Visual Impact: the predicted significance of visual impact will be substantial.

Viewpoint 8: East from Ram's Island

Viewer sensitivity: This view is available across Lough Neagh from Ram's Island and is typical of views from Lough Neagh. People sailing or using the Lough for other water based activities or visitors or tourists visiting Ram's Island will have this view at a distance of approximately 3km west of the proposed site. The viewer sensitivity is high.

Existing visual resource: this view is available from Ram's Island due west of the proposed site. There are uninterrupted views across open water to the eastern shore of Lough Neagh available from this viewpoint. Occasional development is visible along the shoreline but overall the shoreline appears rural in character with trees and hedgerows limited views to pasture. To the rear of the view Divis Mountain is the highest feature and the Belfast Hills extent across the skyline.

Predicted view: the proposed chimney and boiler house will be visible above the tree lined hedgerow at a distance of approximately 3km. It will not be possible to view lower buildings nor ground level activities due to the screening effect of the hedgerows. The proposed chimney with any potential plume does not break the skyline and along with the boiler house will be read against the backdrop of the landform to the rear. Due to the distance of the view the proposal will not be prominent in the view.

Magnitude of change: the magnitude of change in visual will be low.

Significance of Visual Impact: the predicted significance of visual impact will be moderate.

Viewpoint 9: South from Aghnadarragh road

Viewer sensitivity: This road is used by local commuters and residents only. The viewer sensitivity is medium.

Existing visual resource: this view is available from Aghnadarragh Road north of the proposed site. The roadside hedgerow along this section of the road is strong but several gaps are found where a view is available across open pasture fields towards Ballyvannon Road and the existing Ulster Farm By Products plant. The upper portion of the existing chimney stacks at the Ulster Farm site are partially visible above trees in the centre of this view. Mature tree lined hedgerows largely screen views out to the surroundings but Lough Neagh is partially visible to the extreme right of the view.

Predicted view: the proposed chimney with any potential plume and the boiler house will be partially visible above the tree lined hedgerow in the centre of the view. It will not be possible to view lower buildings nor ground level activities due to the screening effect of the hedgerows. In summer months the visibility of the chimney and boiler house will be slightly reduced. The proposal appears as an industrial feature above the local rural landscape. The proposal is not prominent in the view and will be read with the existing chimney stacks at Ulster Farm.

Magnitude of change: the magnitude of change in visual will be low.

Significance of Visual Impact: the predicted significance of visual impact will be slight/moderate.

1.7.3.5 Residential Visual Impacts

Properties on Ingram's Road (2, 2a and 2b and a new build)

There are three properties on Ingram's Road (numbers 2, 2a and 2b) and a new build that are immediately west of Ballyvannon Road and will have rear views across fields to the proposed development. As illustrated in Viewpoint 1 the proposed facility will be very prominent in views from the rear of all four properties. The viewer sensitivity is medium. The magnitude of change in visual resource is high. The predicted significance of visual impact for four properties on Ingram's Road will be moderate/substantial.

Properties on Ingram's Road/Shore Road (4, 6 and 26, 26a and 28)

There are two properties on Ingram's Road (numbers 4 and 6) and four properties on shore Road (26, 26a and 28) that are located near the Lough shore and will have rear and side views across fields towards the proposed development. As illustrated in Viewpoint 6 the proposed facility will be partially visible above and through strong hedgerow and trees. The viewer sensitivity is medium. The magnitude of change in visual resource is medium. The predicted significance of visual impact for properties on Ingram's Road/Shore Road near the Lough shoreline will be moderate.

Properties on Ballyvannon Road (16, 18, 20 and 22 and two new builds)

There are four properties south of the junction of Ingram's Road and Ballyvannon Road (numbers 16, 18, 20 and 22) and two new builds north of the junction. All six properties have an elevated front view across Ballyvannon Road through roadside vegetation towards the proposed facility. The upper portions of the boiler house and the chimneystack will be visible from all six properties. The viewer sensitivity is medium. The magnitude of change in visual resource is high. The predicted significance of visual impact for numbers 16, 18, 20 and 22 and two new builds on Ballyvannon Road will be moderate/substantial.

Properties on Ballyvannon Road (21 and 25)

There are two properties north of the junction of Ingram's Road and Ballyvannon Road (numbers 21 and 25). Both properties have elevated rear views across fields towards the proposed facility. The proposal will be fully visible and prominent in the view. The viewer sensitivity is medium. The magnitude of change in visual resource is high. The predicted significance of visual impact for numbers 21 and 25 Ballyvannon Road will be moderate/substantial.

Properties on Ballyvannon Road (28, 30, 32 and 34)

There are four properties located east of the existing entrance to Ulster Farm By Products facility on Ballyvannon Road (numbers 28, 30, 32 and 34). All properties have a front view across Ballyvannon Road that does not consist of the proposal but will see traffic accessing the proposed site. There will be an oblique rear view from all four properties towards the proposed facility. The viewer sensitivity is medium. The magnitude of change in visual resource is medium. The predicted significance of visual impact for numbers 22, 30, 32 and 34 Ballyvannon Road will be moderate.

Properties on Lurgan Road (92, 96, and 96)

There are three properties located east of Lurgan Road just north of its junction with Ballyvannon Road (numbers 92, 96 and 96a). All three properties have a front view across Lurgan Road towards the proposal. As illustrated in Viewpoint 2 the upper portions of the chimneystack will be partially visible through trees from all three properties. The trees will provide better screening in summer months. The existing stacks at Ulster Farm By Products are visible from all three properties. The viewer sensitivity is medium. The magnitude of change in visual resource is low. The predicted significance of visual impact for numbers 92, 96 and 96a Lurgan Road will be slight/moderate.

Properties on Lurgan Road (102, 106, 110, 116 and 118)

Properties south of the junction of Ballyvannon Road along Lurgan Road have a front view across the road through existing roadside hedgerows towards the proposed facility. Partial views will be available through vegetation in months without leaves on the hedges and trees. The viewer sensitivity is low. The magnitude of change in visual resource is low. The predicted significance of visual impact for numbers 102, 106, 110, 116 and 118 Lurgan Road will be slight.

Properties on Lurgan Road (99 and 101)

There are two properties located north of Glenavy River that have glimpse views through woodland towards the proposed facility. The existing Ulster Farm By Products facility is a component of the existing visual resource. The proposals will be partially visible although the trees will provide better screening in summer months. The viewer sensitivity is medium. The magnitude of change in visual resource is low. The predicted significance of visual impact for numbers 99 and 101 Lurgan Road will be slight/moderate.

Properties on Lurgan Road (Elm Hill)

This 2-storey farmhouse sits on top of a rounded drumlin with rear views across fields towards the proposed facility. Roadside vegetation and properties on Ballyvannon Road prevent direct views of ground level activities but the chimneystack and boiler house will be prominent in the view through trees. The viewer sensitivity is medium. The magnitude of change in visual resource is high. The predicted significance of visual impact for Elm Hill farmhouse on Lurgan Road will be moderate/substantial.

1.7.3.6 Ulster Way/ Long Distance Paths and Amenity

The proposed Rose Energy facility will in theory be visible within views west from the Ulster Way as it crosses Divis and Black Mountains. However, the view is at a considerable distance of >15km and at such long distances it will not be possible to discern any details of the proposal and it will read as part of the wider landscape along the Lough shore. No significant visual impacts are predicted for views west from the Ulster Way.

There is a long distance cycle route around Lough Neagh that is located along the proposed sites south and eastern boundary at Ingram's Road and Ballyvannon Road. As illustrated in Viewpoints 1 and 3 the proposal will be very prominent from both these roads and as a result high levels of change in visual resource are predicted for cyclists using the long distance route. However, with distance away from the site (off Ingram's Road and Ballyvannon Road) the proposals will not be prominent and barely visible for the remainder of the cycle route. The viewer sensitivity is high. The predicted significance of visual impact for cyclists along Ingram's Road and Ballyvannon Road is substantial negative.

The visual impact on Ram's Island has been discussed in section 1.7.3.8 below.

The nearest eastern shore amenity areas (car parks, picnic areas and jetties) used primarily for water based activities have been visited as part of this assessment and it will not be possible to view the proposals from such locations. It will be possible to view the proposals from the wider Lough Neagh open water. From the Lough the chimney with any potential plume will be the most visible component of the proposal. The upper portions of the boiler house will be visible from some locations but existing trees will screen/break views from many locations (see viewpoint 8 Appendix 1.0). The views from across the Lough will be at long distances (3km to 17km) from where it will be difficult to discern the proposals as illustrated in photomontage viewpoint 8 Appendix 1.0. Overall the proposal will not be prominent from Lough Neagh being barely visible. The viewer sensitivity is high. The predicted magnitude of visual impact is low. The significance of visual impact for views from Lough Neagh will be moderate.

1.7.3.7 Impacts on Planning Designations

The proposed facility is located within an area designated as Portmore Lough Area of High Scenic Value (AoHSV) in the draft BMAP 2015. There will be a direct effect on this designation. The area designated, as AoHSV is extensive and extends along the Lough shore to the area south of Portmore Lough as far as 5km south of the proposed development. As described in section 1.5.1 and 1.5.2 above the landscape character along the eastern shore line of Lough Neagh consists of small fields with strong overgrown hedgerows and trees that significantly restrict views through this designated area. Further, from within this designated area it is only at the immediate shoreline that the majority of views towards the Lough are found. One exception is Ingram's Road adjacent to the proposal where the road is aligned towards the Lough and also elevated to allow extensive views across the Lough to Ram's Island and beyond. It is in this immediate context within approximately 1km from the proposed facility that the influence of the proposal on the AoHSV will be highest. The proposal will appear as an industrial building set within a rural Lough fringe area and will be prominent resulting in a high magnitude of resource change. Due to the designation as AoHSV the sensitivity of this area is high. The predicted significance of visual impact on the Portmore Lough AoHSV is substantial negative.

1.7.3.8 Impacts on Historic Parks & Gardens

A review of the EHS Register of Historic Parks and Gardens has established that the nearest registered site is located 3km west from the proposed site at Ram's Island. The island is heavily wooded and the proposal will only be visible from the island's eastern shoreline. There is limited access to the eastern shore line as the existing pathways meander through the woodland rather than the shore that is overgrown with vegetation. The historic design concept for the island was as an 18th

century retreat that is introspective rather than a location to view the wider landscape. The island is visited by limited numbers of individuals at present on an infrequent basis (predominantly in summer months). The proposal has no direct impact on the registered Historic Park and Garden at Ram's Island. Due to the distance of the proposal from Ram's Island and limited opportunity for views back towards the facility from the island the magnitude of resource change will be low. The proposal will be visible from this island but will appear above trees and with the backdrop of the Belfast Hills and therefore will not break the skyline reducing its prominence. The predicted significance of visual impact on Ram's Island Historic Park and Garden site is moderate negative.

1.7.3.9 Cumulative Landscape and Visual Impacts

The Guidelines for Landscape and Visual Impact Assessment (LI/IEMA 2002) define cumulative landscape and visual impacts as those that result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments that occurred in the past, present or foreseeable future. The nearest similar facility in appearance to the proposal is the Ulster Farm By Products facility also on Ballyvannon Road Glenavy.

The methodology adopted by this CLVIA has followed the steps outlined in the GLVIA 2002). Cumulative effects on visual amenity can consist of combined visibility and sequential effects. Combined visibility occurs where the observer is able to see two or more similar developments from one viewpoint without moving their head. Sequential effects on visibility occur when the observer has to move to another viewpoint to see other developments such as in the form of a journey through the landscape along a road, footpath or cycle route for example.

This CLVIA has concentrated on the identification of 'significant' effects in accordance with EIA regulations and not the identification of 'all' potential effects no matter how small. It is important to note that this CLVIA is not concerned with the cumulative effects that any other proposals may have on each other rather only when combined with the Rose Energy proposal.

When potential cumulative landscape impacts are considered the close proximity of the existing Ulster Farm By Products plant to the proposed Rose Energy plant means that the two facilities read as one single plant from the wider landscape in particular when viewed from the north and east. The existing Ulster Farm plant has been a feature of the landscape west of Glenavy for many years and sits in a hollow next to the Glenavy River well screened by low hills and woodland. From the wider landscape beyond 1-2km both plants will read as one with very limited increased or cumulative landscape impacts as illustrated in photomontage viewpoints 8 and 9. The new plant will only be read as a partially separate feature in very close proximity on the Ballyvannon Road and Ingrams Road area (within a 1km area to the south). The landscape impacts for the proposed Rose Energy plant alone within this 1km area (predominantly to the south) have been predicted as substantial negative as described in section 1.7.2 above. The addition of the existing Ulster Farm plant to the Rose Energy plant within this 1km area will not create significant landscape impact as the existing plant is not a prominent feature of this southern part of the landscape and will further be located behind the proposed Rose Energy plant.

When potential cumulative visual impacts are assessed the existing Ulster Farm plant is well located within its surroundings and only the chimneystacks indicate that there is a rural based industrial facility off Ballyvannon Road from the majority of views. The Ulster Farm plant is not a very prominent feature in the wider landscape being well screened by low hills and woodland on its western, northern and eastern boundaries. The addition of the Ulster Farm plant to the Rose Energy plant will only add very slight visual cumulative impacts but not sufficient to increase those predicted in sections 1.7.3.1 to 1.7.3.8 above.

Vehicle drivers and cyclists travelling along Lurgan Road, Ballyvannon Road and Ingrams Road will have potential to view both plants both as individual visual features and together as one feature. This journey gives potential sequential cumulative visual impacts. From Lurgan Road and parts of

Ballyvannon Road the two plants together as one feature. The potential visual impact for these roads has been set out in section 1.7.3.3 and 1.7.3.6 (cycle route) as substantial negative. The fact that the existing Ulster Farm plant is well screened and will also be located behind the Rose Energy plant when viewed from the Ingrams Road will result in no additional visual impacts as a result of sequential cumulative visual impacts.

1.8 Construction Phase Impacts

During the construction phase potential impacts include:

- site preparation works and operations;
- site infrastructure and access;
- vehicular and plant movements; and
- dust emissions.

During construction of the various components of the Rose Energy facility and compound development the existing landscape cover will be removed between a fenced off area. Construction activity will include earth stockpiles and construction vehicles both of which will be prominent features in the immediate landscape. The removal of topsoil within the compound will result in a prominent but temporary alteration to the landscape. The constructed fence line will also be a new feature in this landscape. Tall cranes will be required to assist in the erection of the new facility. The construction of the new tall buildings within the fenced off compound will also involve construction activities including the movement of vehicles and erection of temporary scaffolding. There will be a large portacabin area for workers as well as a car park for up to 150 vehicles. Construction activities will last for 2.5 years. The construction activities will widen the visible footprint and influence of the proposal above that resulting at the operation stage albeit of a temporary nature.

The construction activities for the proposed facility and the compound will result in a high magnitude of landscape resource change at this sensitive location in the immediate vicinity of the site. The predicted significance of landscape impact at the construction stage is substantial negative.

With regards to visual impacts on local receptors during the construction stage properties on Ingram's Road and Ballyvannon Road will have direct views of the activities and substantial visual impacts will occur.

For local receptors on Lurgan Road and Edenturcher Road at its junction with Lurgan Road the most noticeable change will be from increased construction traffic and limited movements of large materials/components for the new facility. Existing trees and topography will screen all of the lower ground level construction activities. Overall, the predicted significance of visual impact for properties along Lurgan Road and Edenturcher Road will be moderate negative and the impacts will be temporary in nature.

1.9 Design Recommendations and Mitigating Measures

1.9.1 Mitigating Measures

EIA Regulations require an assessment of measures envisaged to prevent, reduce and where possible offset any significant adverse effects. Mitigation measures are those taken to help reduce the impacts arising from any visually intrusive or insensitive elements within the existing landscape setting.

Landscape Mitigation Aims and Objectives

To physically and visually integrate the proposed scheme and associated features into the surrounding landscape.

To provide screening to minimise visual intrusion and to reduce any significant negative aspects regarding the visual impact of the proposals on sensitive receptors.

General Objectives

- Reduction of visual impact on views from properties on Ingram's Road and Ballyvannon Road.
- Provision of woodland planting to reduce visibility within Portmore Lough AoHSV.
- Retention and protection of the existing trees as far as possible.
- Creation of a quality woodland landscape setting for the new development to allow it to blend with its surroundings.

Woodland Framework Planting

A native woodland planting framework will be created around the Rose Energy to assist with reduction in visual impact and create an attractive environment within the site. Species will reflect those found in adjacent woodland and hedgerows. Planting belts along the proposed sites southern and western boundaries will include semi-mature trees and earth mounds to help reduce the scale of the proposal and to introduce it to the surrounding rural landscape. Following presentations and consultations with the Ministerial Advisory Group (MAGS) who suggested that there was a need for greater expression of the existing woodland setting of the proposed development a long section has been prepared and attached in Appendix 2 – Drawing Nr 15562/A1/121.

Details of all planting specifications and locations are provided in Drawing Nr. 0280.5.01 Landscape Masterplan that accompanies the planning application for the Rose Energy facility and in Appendix 4. Further, at the request of Planning Service and following consultation with MAGS (see above) three long sections have been prepared that illustrate the growth of the landscape planting as set out in the Landscape Masterplan over 5 Year intervals for 25 Years. The long sections are illustrated on Drawing Number 0280.1.01 and attached in Appendix 3. In addition a series of photomontages illustrating how the maturing trees in the proposed landscape masterplan will appear over 5 and 15 years have been prepared at the request of Planning Service and are included in the planning application.

Management and Maintenance

Maintenance of the landscape works will be an integral part of the on-going site management. This will include a defects liability period during which any defective plant material is to be replaced. Litter picking and weed control shall be carefully monitored during the early growing seasons of the landscape maintenance contract. Contractors will comply with all health and safety standards, in particular with regard to maintenance works during the operational phase of the scheme. At the request of Planning Service and DOE (NI) Landscape Architects Branch a 25 Year Landscape Management Plan has been prepared to ensure that the mitigation achieves its design purpose over 25 years. The 25 Year Landscape Management plan is attached in Appendix 4.

Retention of Existing Trees

Where it is possible to retain woodland and trees they will be fenced off prior to construction in accordance with BS5837 2005 'Trees in Relation To Construction'. All existing individual trees and hedgerows to be retained will also be protected. A Tree Survey of the proposed site has been completed. There is one substantial Oak tree that will be lost but the remaining trees on the site boundaries will be retained. The Tree Survey is attached in Appendix 5.

Further, some general measures recommended in Section 1.9.2 will have some affect in reducing the impacts.

1.9.2 Design Recommendations

The visual impact of the proposal is caused by the appearance of a new vertical industrial structure in a rural loughside landscape, and the ancillary works associated with such a development.

The design evolution of the proposed project has been undertaken to enable incorporation of the following design recommendations:

- sensitive use of local materials for constructed elements (buildings, fences etc);
- careful integration of constructed elements with existing elements such as, access tracks and temporary construction areas etc;
- careful grading and reinstatement proposals, indicating screening measures to obtrusive built elements;
- appropriate materials and colour of security fencing and ground level buildings;
- appropriate colour of chimney; and
- high quality of finish to access roads, gates, fences and general site housekeeping designed to complement local styles and materials.

All excavated organic material should be stored carefully for reinstatement work within the site.

It is recommended that the chimney be painted in a neutral (light grey), matt colour so as to minimise the visual intrusion on the landscape.

Good site design, use of an environmental management plan during the construction phase and incorporation of mitigation measures identified above will assist in mitigating the impact of ancillary works.

1.10 Conclusion

RPS Planning & Environment were commissioned by Rose Energy to produce a landscape and visual impact assessment for the proposed facility off Ballyvannon Road, Glenavy.

The proposed facility consists of a range of industrial buildings that vary in height from 42m (boiler house) to 14.5m (material intake building). The tallest structure on site will be an 80m high chimneystack with a potential plume of up to 25m in certain weather conditions (possibly 60% of the year). A new site access onto Ballyvannon Road will be created.

The proposal is directly located within the Lough Neagh Fringe Agricultural Landscape Character Area. This landscape character area has been identified as having a high sensitivity to change. The scale of the proposed facility with its tall buildings and chimneystack will result in a prominence over the immediate surrounding landscape character within a radius of approximately 1km. With greater distance from the proposed facility (>1km) to the north, south and east the undulating and enclosed landscape absorbs the proposal resulting extremely limited influence on the rural landscape character. The predicted magnitude of landscape resource change is high. Overall the predicted significance of landscape impact (within 1km) will be substantial negative.

When views from Class A roads are considered no significant visual impacts will occur for the A26 and A30.

When views from B class roads are considered no significant visual impacts will occur for the B12, B38, B104 and B156.

A total of nine viewpoints have been assessed and photomontages prepared to illustrate the visibility of the new facility from each viewpoint. Significant visual impacts occur for four of the nine viewpoints namely viewpoints 1 (Ingram's Road), 5 (Ingram's Road), 6 (Lough Shore) and 7 (Ballyvannon Road). All four viewpoints are located within relatively close proximity to the proposed facility and the photomontages serve to exhibit how trees, topography and built up areas significantly restrict views of the new facility with increased distance from the proposed site.

With regards to impacts on designated landscapes the assessment has established that the proposals are located directly within a designated landscape designated as Portmore Lough Area of High Scenic Value. Within approximately 1km from the proposed facility the influence of the proposal on the AoHSV will be highest. The proposal will appear as an industrial building set within a rural Lough fringe area and will be prominent resulting high magnitude of resource change. Due to the designation as AoHSV the sensitivity of this area is high. The predicted significance of visual impact on the Portmore Lough AoHSV is substantial negative.

No significant visual impacts are predicted for views west from the Ulster Way.

There is a long distance cycle route around Lough Neagh that is located along the proposed sites south and eastern boundary at Ingram's Road and Ballyvannon Road. The predicted significance of visual impact for cyclists travelling along Ingram's Road and Ballyvannon Road is substantial negative.

No significant visual impacts are predicted for recreational or leisure users of Lough Neagh or Ram's Island.

An assessment of visual impact for residential properties in the surroundings has been completed. Significant visual impacts have been predicted for properties on Ingram's Road, Elm Hill farmhouse and Ballyvannon Road.

A range of mitigation measures have been proposed including a landscape planting plan consisting of a native woodland framework as well as retention and protection of existing trees and hedgerows. A 25 Year Landscape and Management Plan has been prepared to ensure the design objectives of the landscape mitigation are achieved over a 25 year period.

APPENDIX 1 – Landscape Figures

Figure 1.1 – ZVI

Figure 1.2 – Viewpoint Location

Figure 1.3 - Photomontages (SEE STAND ALONE DOCUMENT)

APPENDIX 2 – Proposed Site Layout & Extended Site Section Drawing Nr 15562/A1/121

APPENDIX 3 – Landscape Long Sections

APPENDIX 4 – 25 Year Landscape Management Plan

APPENDIX 5 – Tree Survey