Appendix 3.2

Sol Environment Scoping Opinion Correspondence

Scoping Request

Leyton Place Ltd has been instructed by Aviva to prepare a fully compliant[1] Landscape and Visual Impact Assessment (LVIA) of the as built Biomass Facility, Barry.

This Scoping Request document sets out the proposed methodology to be adopted and scope of the assessment which is to be submitted in early 2021; and the required response from the Welsh Assembly Government (WAG) to facilitate the preparation of the LVIA.

As part of the assessment process, it has been agreed that the WAG will engage in the scoping process. The following text sets out the issues, provides information and states the feedback requested from the government.

A glossary of terms used in this document, and in the final LVIA is included to the rear. The European Landscape Convention, article 1 defines 'landscape' as *"an area perceived by people whose character is the result of the action and interaction of natural and/or human factors."* For the purposes of this assessment landscape will dealt with both the natural and man-made (townscape) areas.

1. Study Area

The Zone of Theoretical Visibility mapping (ZTV) [**Plan 1**] attached to this document illustrates the areas from which the Biomass Facility is potentially visible from, using available GIS data. The Study Area [**Plan 2**] is based on the ZTV and preliminary site visit. The Study Area covers that geographic area over which the development has an immediate influence and townscape which provides the context for understanding the development.

Request: For the Study Area to be agreed – any changes/disagreement to be provided by the WAG.

2. Viewpoint Locations

The Visual Envelop has been determined through the analysis in the field of the GIS computer software (MapInfo) and aerial photography derived DSM data which takes account of built form and vegetation and the potential for accessibility by the public to appreciate the views and visual change, shown on Plan 1. Areas from which there is theoretical visibility, but no access will be addressed in the LVIA.

Using this information, the Visual Envelop and representative viewpoints which will form the basis of the assessment have been identified and the locations are shown on **Plan 3**.

[1] Guidelines for Landscape and Visual Impact Assessment, third edition, 2013 (LI and IEMA). The assessment will be prepared by a Fellow of the Landscape Institute (FLI) and subject to peer review by a Chartered Member of the Landscape Institute (CMLI) prior to submission.

Accurate photographs, in accordance with the Landscape Institute's Technical Guidance Note 06/19, will be included in the LVIA. However, sample images are included in Appendix 1[2]. Photographs for the LVIA will be taken during the daytime and nighttime.

Request: For the Viewpoints to be agreed – any additional or alternative viewpoints to be provided by the WAG (locations and sample images).

3. Contents of the Landscape and Visual Impact Assessment

The Landscape and Visual Impact Assessment will be prepared as a Standalone report and will cover the following matters:

Introduction	Setting out the scope of the instruction, the matters agreed by this scoping process and the methodology adopted in the preparation of the LVIA. A short summary of previous analysis will be provided, but the LVIA will be prepared without regard to the conclusions reached in the previous analysis, so that it remains an independent assessment of the as built development.
Project Description	For the purposes of the LVIA the elements relevant to the assessment of visual and landscape effects views and the character of the development will be set out, this will not be a description of the entire project.
Townscape and Landscape Context	As this is an assessment of an 'as built' scheme an understanding of the 'baseline situation' is not appropriate, however there will be analysis of the townscape/landscape and visual character context within which the development is located.
Classification of Resources	This section will identify the relevant element and views and assign 'sensitivity' classification for each receptor. The classification will be supported by appropriate narrative.
Classification of Change	The changes which have occurred will be given a 'magnitude of change' classification, this will be supported by a narrative describing the effects and the reasoning for the assigned magnitude.
Assessing the Significance of Effect	A systematic assessment of the significance of effect (the function of the sensitivity of the resource and the magnitude of change experienced).
Mitigation	Identification of any further mitigation measures which should be incorporated, if appropriate and necessary.

[2] Where the number of pedestrians were high during the preliminary site visit images from Google Street view have been included to avoid potential interaction with the public during the National Lockdown.

Policy Compliance	Not a requirement of the published GLVIA guidance, the LVIA will consider the relevant landscape/visual planning policies and set out how the proposals comply, or otherwise, with the requirements.

Request: Confirmation or otherwise as to the contents of the LVIA

4. 'Scoped Out Matters'

As noted above the LVIA will not include an assessment of the Baseline Situation pre consent/construction.

The development, Visual Envelope and Study Area do not encompass the Dyffryn Basin and Ridge Slopes Special Landscape Area. There is no requirement to assess landscape or visual effects on this landscape as it lies outside of the area over which the scheme has an influence.

Furthermore, the LVIA will not be considering cumulative effects with any future development irrespective of:

- Unimplemented planning consents
- Valid planning applications, yet to be determined
- Allocations

It is incumbent on any such projects to have considered cumulative effects with the as built Biomass Facility.

Request: Confirmation or otherwise as to scope of the issues to be omitted from the LVIA

5. Assessing Effects

Throughout the assessment a rigorous and transparent process will be adopted to provide a degree of objectivity to subjective issues and concepts. The judgements reached will be underpinned by an experienced landscape planning consultant with extensive development experience. Conclusions will be made as to where the sensitivity of 'receptors' or the magnitude of changes lies on a spectrum from low to high. To assist the reader the grading on the spectrum will make reference to:

A. Lowest end of the spectrum
B. Low/mid-spectrum
C. Mid-spectrum
D. Mid-spectrum/high end
E. Highest end of the spectrum

This 'threshold-free' approach is adopted because the definitions of thresholds may either be limited to using the threshold to define itself, e.g. a High sensitivity relates to a high value and high quality and medium sensitivity is medium value and medium quality etc, which in turn

needs definition as to what is high and how this is differentiated from medium; or the criteria are described in absolute terms such as change being large scale, with effects over a wide geographic area and total loss of contributory components when in fact there may be a large scale change but only experienced locally with a moderate change to components. Professional, and substantiated, judgements need to be made as to the subtleties and variation in the combination of factors. The text below provides a framework as to how the issues will be considered but is not limited to the factors described.

The narrative which will support the conclusion drawn will be provided to explain the rationale of the assessor.

Landscape Value

At the lower end of the spectrum may be low valued/undesignated landscapes, with no distinctive or sensitive features, with the potential to accommodate appropriately design development, where adverse effects can be mitigated for. At the higher end of the spectrum are those highly valued/designated landscapes recognised in policy which may contain landscape features that cannot accommodate development and where mitigation measures are unable to avoid, compensate or offset the undue consequences which would arise.

Sensitivity of visual receptors

At the lower end of spectrum may be those people engaged in an activity which is not focussed on the landscape or context of the person/people, views are infrequent, the representative or specific viewpoints are not associated with a valued landscape or asset. At the higher end of the spectrum people are engaged in an activity whereby the focus of the visual experience is directly linked to the landscape context, the views are associated with a valued landscape or important assets/landmarks, the number or people and frequency of the visual experience is high.

Magnitude of Landscape Change

At the lower end of the spectrum the degree of change may be small, and the loss of landscape features only a small proportion of the total extent which the resource represents and contributes to the character, the changes are entirely consistent with the context, the geographic extent over which the effects occur may be localised. At the higher end of the spectrum the change may be over an extensive area with a high proportion of landscape elements which contribute the character of the area being lost, the change may be at odds and incongruent with the context within which it occurs.

Magnitude of Visual Change

At the lower end of the spectrum the visual change will be small scale with no notable loss or addition to the view, the change is consistent with the baseline context and will not give rise a contrast in elements, form, colour and line, views are likely to be fleeting, glimpsed, or viewed infrequently. At the higher end of the spectrum the changes will be large scale, with losses of key elements in the view and/or additional features which may be incongruent in the composition. There is likely to be contrast in scale, form, line and colour and the changes will affect a large proportion of the view, be fully visible and the duration of the view will be prolonged and frequent.

Significance of Landscape Effects

At the lower end of the spectrum the resource affected may be of limited value and sensitivity and degree of change may be be small and the loss of landscape features only a limited proportion of the total extent that the landscape/asset represents and contributes to the character; the changes are entirely consistent with the baseline situation, the geographic extent over which the effects occur is possibly localised. At the higher end of the spectrum the change may affect the landscape resources of the highest level of value and sensitivity and be experienced over an extensive area with a high proportion of landscape elements which contribute the character of the area lost/altered, the change maybe at odds and incongruent within the context in which it occurs.

Significance of Visual effects

At the lower end of the spectrum the visual change may affect the lower order of visually sensitive receptors, the changes experienced will be small scale with no notable loss of addition to the view, the change is consistent with the baseline and will not give rise to contrast in elements, form, colour and line, views are likely to be fleeting, glimpsed, or viewed infrequently. At the higher end of the spectrum the changes will affect the higher order of visual receptors and the change will be large scale, with losses of key elements in the view and/or additional features which may be incongruent in the composition. There is likely to be contrast in scale, form, line and colour and the changes will be distinctive and prominent.

Threshold of Significance

It is important to acknowledge that GLVIA, paragraph 3.33, recognises that it is not essential to establish a series of thresholds of different levels of significance. The simple point is to make clear judgements as to whether the effects are significant or not significant. Notably the word 'harm' is not contained in the GLVIA, any judgements on 'harm' are planning judgements and would be addressed in the appropriate forum. For this assessment, those effects at points D and E on the spectrum will be 'Significant'.

Request: Confirmation as to the terms, classification definitions and thresholds. Any disagreement to be supported by an explanation of the area of disagreement.

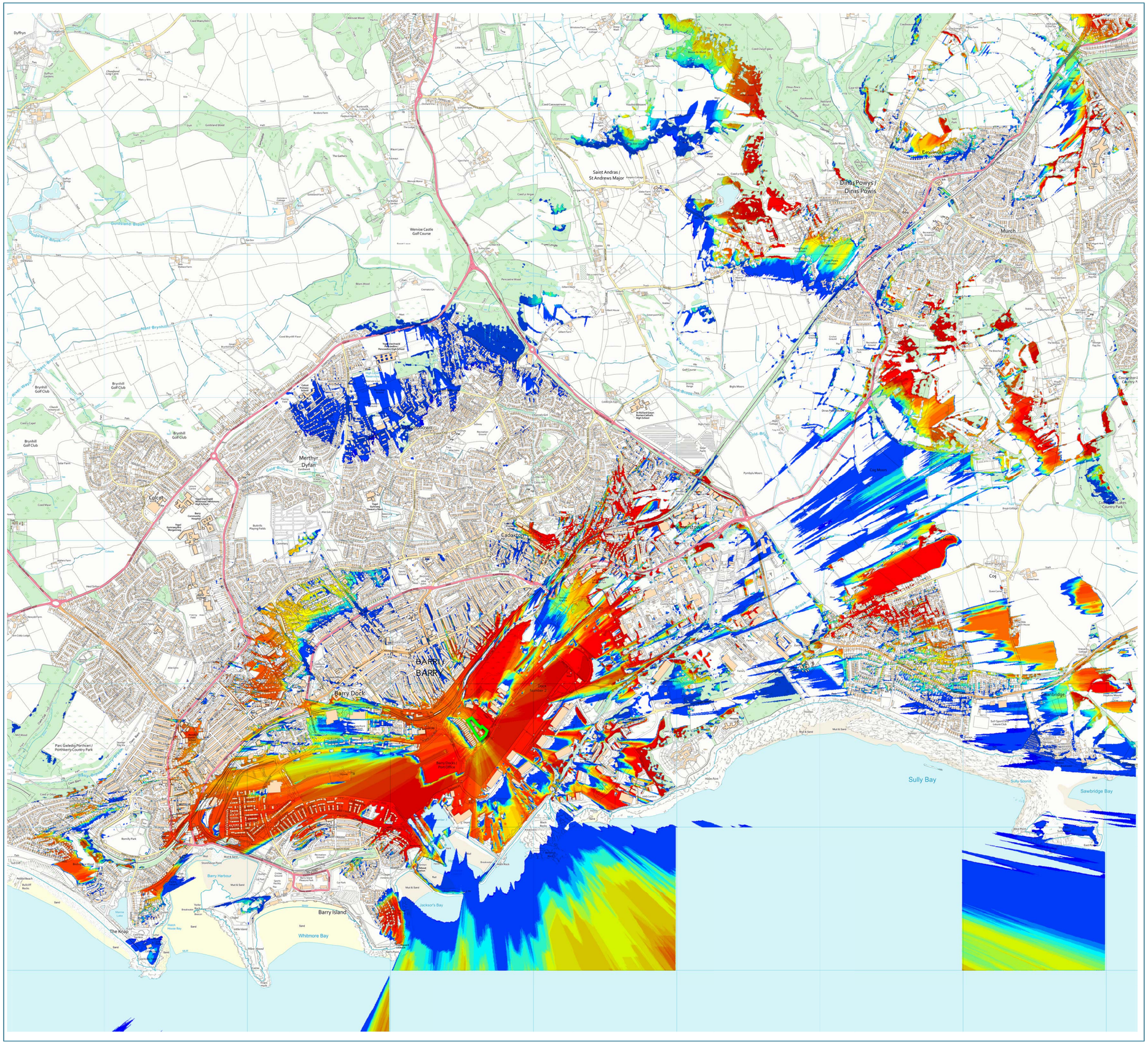
Glossary

Character	A distinct, recognisable, and consistent pattern of elements, features and qualities in the landscape that makes one landscape different from another, rather than better or worse.
Characteristics / elements	Features and qualities which make a particular contribution to distinctive character.
Characterisation	The process of identifying areas of similar character, classifying, and mapping them and describing their character.
Effects	These are the effects that result from the impacts (changes) of the proposed development. Direct effects are directly attributable to the proposed development, Indirect effects result indirectly from the proposed project but are as a result of the direct impacts, often occurring away from the Site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance of in time from the source of the impacts.
Element	Individual component parts of the landscape such as field boundaries, woodlands, patches of similar vegetation, outbuildings, structures, and rock outcrops.
Feature	Particularly prominent or eye-catching elements e.g., wooded hilltop or chapel, or a particular aspect of this project.
Impacts	The changes occurring as a result of the proposed development, the causation of effects.
Natural England National Joint Character Areas	Natural England have undertaken an assessment of the landscape England and divided it into 159 JCAs.
Land Cover	Combinations of natural and man-made elements including vegetation that cover the land surface.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Character Areas	These are single unique areas which are the discrete geographical areas if a particular landscape type.
Landscape effects	Effects on the landscape as a resource in its own right.

Landscape quality (condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Landscape Value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Sense of Place	The unique experience that arises as a result of being in or walking through a particular locality, generally as a response to the specific characteristics and quality of the area.
Sensitivity (of Landscape)	The inherent sensitivity of the landscape itself, irrespective of the type of change that may occur. In this project, it is divided into cultural, ecological, and visual sensitivity. A term applied to specific receptors, combining judgments of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Significance	A measure of the importance or gravity of the environmental effect defined by significance criteria specific to the environmental topic.
Susceptibility	The ability of a defined landscape and visual receptor to accommodate the specific proposed development without undue negative consequences.
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people living, working, recreating, visiting, or travelling through an area.
Visual effects	Effects on specific views and on the general visual amenity experienced by people.
Visual Envelop	An area validated by fieldwork from which the Proposals are visible from, typically informed by the ZTV (see below).

Visual receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal
Visualisation	A computer simulation, photomontage or other technique illustrating the predicted appearance of a development.
Zone of Theoretical Visibility (ZTV)	A map showing areas of land within which a development is theoretically visible.

Plan 1 – Zone of Theoretical Visibility


Application Site Boundary
Key for relative visibility
High potential visibility
Low potential visibility
No visibility
Note:
Relative visibility is based on the percentage of development potentially visible. eg areas coloured blue potentially see <20% of development, and areas coloured red potentially see >80% of development.
Source:
The Zone of Theoretical Visibility (ZTV) illustrates the extent to which the development as a whole (modelled at a range of heights up to 43m) is potentially visible from the surrounding area (1.6m high receptor).
The plan has been prepared using GIS computer software (MapInfo) and Aerial Photography Derived DSM data, and as such takes into account built form and vegetation.
N
0
1km
Project Details
Barry Biomass Facility
Title
Plan 1. ZTV Analysis
Scale
as shown
Drawing Ref
THL2045/P01
Date
January 2021
Checked
AP
LEYTON PLACE
LANDSCAPE PLANNING
Lilac Cottage, Gloucester Road, Hartpury, GLOS GL19 3BT
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Plan 2 – Study Area

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Project Details	Barry Biomass Facility
Title	**Plan 2. Study Area**
Scale	as shown
Drawing Ref	THL2045/P02
Date	January 2021
Checked	AP

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Plan 3 -Visual Envelope and Viewpoints

Project Details	Barry Biomass Facility
Title	**Plan 3. Visual Envelope and Viewpoints**
Scale	as shown
Drawing Ref	THL2045/P03
Date	January 2021
Checked	AP

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Appendix 1 – Sample Images of Viewpoints

Viewpoint 1: Dock View Road junction with Cyril Street

Viewpoint 2: Dock View Road junction with Lower Pyke Street

Viewpoint 3: From Dock View Road junction with George Street (Seaview Labour Club)

Viewpoint 4: Dock Road at Junction with St Marys Road

Viewpoint 5: View from Council Office Car Park

Viewpoint 6: View from David Davies Road

Viewpoint 7: View from David Davies Road

Viewpoint 8: View from Atlantic Road, junction with Atlantic Cres.

Viewpoint 9: Dock View Road, Junction with Burlington Street

Viewpoint 10: View from Ffordd Y Mileniwm © Google earth

Viewpoint 11: View from new open space off Charles Darwin Way

Viewpoint 12: View from Dyfrig Street

1 AIR QUALITY

Key Issues

1.1 The Barry Biomass facility does not fall within an Air Quality Management Area (AQMA) although Vale of Glamorgan Council have designated an AQMA at Windsor Road, Cogan, Penarth. This AQMA is designated for exceedances of nitrogen dioxide (NO_2) and is therefore considered within the scope of the air quality impact assessments.

1.2 It is anticipated that existing pollutant concentrations in the vicinity and within the immediate surrounding area of the biomass plant are below air quality objectives.

1.3 The scope of the air quality impact assessment does not include the assessment of delivery vehicle emissions on the basis that vehicle deliveries equate to approximately 10 vehicles per day and are deemed insignificant in comparison to the regional traffic flows in the vicinity of the plant.

1.4 An assessment of the operational emissions from the installation will be used to quantify impacts on pollutant concentrations at sensitive receptors neighbouring the access routes.

Potential Impacts

1.5 The scope of the assessment will cover the following potential impacts:

- Stack emissions of pollutants from plant associated with the operation of the installation upon human receptors and sensitive ecological sites; and
- Generation of dust from the operation of the development and the potential to cause a nuisance.

Methodology

1.6 Assessment of the process emissions will include the full suite of pollutants as defined by the Industrial Emission Directive Chapter IV *'Incineration and Co-incineration of waste'* and will include as a minimum the following pollutants:

- Dust / particulate matter;
- Nitrogen Oxides (NO and NO_2);
- Carbon Monoxide;
- Acid gases (Sulphur Dioxide, Hydrogen Chloride and Hydrogen Fluoride);
- Volatile Organic Carbon (VOC's);
- Metals (Group 1 metals, cadmium & thallium, mercury); and

- Dioxin and Furan.

1.7 Relevant to this type of facility and associated permitting and shall utilise the suite of reports that have been previously used in support of the Part A(1) EPR permit application submitted to the NRW.

1.8 The air quality assessment will examine impacts from the process at nearby sensitive human receptor locations, such as residential areas. Air quality impacts will also be identified at all sensitive ecological sites within 10km where relevant.

2 NOISE

Key Issues

2.1 Baseline and operational noise assessments have been undertaken at the site that assess the impacts associated with the operation of the Biomass plant over the prevailing noise environment.

2.2 All assessments have been undertaken with reference to the BS standard BS 4142: 2014+A1:2019 (Method for rating industrial noise affecting mixed residential and industrial areas) and also make reference to an absolute internal or external noise limit at nearby noise sensitive buildings (e.g. *'Community Noise'*, prepared for the World Health Organisation, BS 8233, Sound insulation and noise reduction for buildings - Code of practice, speech or sleep interference criteria, etc.).

2.3 This chapter of the ES will assess the potential for noise effects from the various sources of the operational facility against the most appropriate available national standards and guidelines. Consideration will be given to any relevant local authority guidance, standards or policies to demonstrate the acceptability of the development.

Potential Impacts

2.4 Potential impacts from operation of the biomass facility will be addressed and will consider:

- Sound arising from the as-built biomass facility at nearby residential receptors during normal operations during both daytime and night-time operational periods.
- Start up and Shutdown (so-called '*Other Than Normal Operating Conditions'*).

Approach & Methodology

2.5 The existing baseline (pre-development) noise levels have been established and will be compared with the operational noise effects of the biomass plant. Extensive measurement of baseline conditions has been undertaken and used to generate a detailed acoustic models and to develop detailed noise management plan.

2.6 The noise management plan establishes the site-specific noise control engineering measures that are required to ensure the impacts of the facility are acceptable and will not adversely impact the environment and nearby receptor positions. The details of this plan and associated control measures will be included in the assessment text.

2.7 Legislation and guidance documents to be used in the assessment include:

- BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound;
- The Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014); and,

- The Professional Practice Guidance on Planning and Noise (ProPG 2017) published by the Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH).

2.8 The noise assessments consider the potential for noise disturbance from the proposed commercial activities at noise sensitive receptors in the vicinity of the Site. The noise assessment will particularly consider the time of day when the potential for disturbance will be at its greatest.

2.9 All of the mitigation measures considered necessary to control any impacts at the nearby residential receptors have been fully considered within the assessment and will be undertaken in accordance with the guidance provided within BS 4142.

3 CARBON AND GREENHOUSE GAS IMPACT

Carbon Impact Assessments

3.1 The scope of the assessment will cover the following potential impacts:

- Carbon Impact of incoming material; and
- Carbon/GHG impact of the plant during operation

Carbon Impact of Incoming Material

3.2 The Carbon Impact of incoming material, shredded waste wood in the case of the Barry Biomass Energy Plant shall be established through the completion of a WRATE (Waste and Resources Assessment Tool for the Environment) Assessment.

3.3 The assessment shall be competed in accordance with Environment Agency and DEFRA requirements using accredited software which draws on relevant standards including ISO14041; ISO14042 and ISO14048.

3.4 WRATE shall be used to calculate the potential impacts arising from all processes in the waste management system including the collection, transportation, transfer, treatment, disposal and recycling of materials. The model shall account for the construction and operation of infrastructure and vehicles and offsets this burden against the avoided burdens associated with materials and energy recovery.

3.5 Background data shall be provided by built-in databases, namely:

- The energy-mix database, which contains information related to the electricity generation mix, energy generation efficiency, losses during electricity transport and marginal electricity production; and
- The waste composition database, which contains the information relating to the type and quantity of waste, including a pre-defined elemental waste composition for each waste fraction, a default waste composition and calorific value and moisture content

Carbon Impact of Plant during operation

3.6 Lifecycle assessments of the plants Greenhouse Gas (GHG) emission shall be conducted in accordance with the methodologies of ISO 14064 (Part 1 – 3).

3.7 A CFP Study shall be conducted to establish the operational boundary of the plant and ensure a holistic and quantified assessment is completed. The CFP shall be used to establish the operational boundary of the plant (where appropriate discounted items included within the WRATE Assessment to avoid double-counting).

Data shall be collated, analysed and verified by a third-party to ensure transparency and shall be presented and reported in accordance with the requirements of the GHG Corporate Reporting Standard to demonstrate ongoing compliance and facilitate future target setting.