RESPONSE TO FORMAL REQUEST FOR FURTHER INFORMATION

BUTTINGTON QUARRY ENERGY RECOVERY FACILITY
DNS Ref: 3214813

SEPTEMBER 2021

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BROAD ENERGY (WALES) LTD

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APPENDICES

1 INTRODUCTION

1.1 This statement has been prepared in response to the formal request for further information from Broad Energy (Wales) Ltd ("the Applicant") in relation to Buttington Quarry Energy Recovery Facility ("the Application") (DNS ref: 3214813). The request was issued by the Planning Inspectorate ("the Inspectorate") on 12 July 2021 under Regulation 15(2) of the Developments of National Significance (Wales) ("DNS") Regulations 2016 (as amended).

1.2 The Examination is currently in suspension until 18th October 2021. This was confirmed by the Inspectorate in its letter of 29th July 2021. In that letter, the Inspectorate also confirmed that the deadline for the Applicant to respond to the further information requested (in its 12 July 2021 letter) is 24 September 2021.

1.3 Barton Willmore LLP has been instructed by the Applicant to prepare a response to the Inspectorate and this statement has been prepared on behalf of the Applicant accordingly.

1.4 Since the application was submitted, the Welsh Government has published a number of updated waste strategy documents together with a moratorium on future large scale energy recovery facilities. The Inspector has previously sought the view of the Applicant on these matters, but as they form elements of the policy context to the proposed development, they are also addressed within this statement. The Applicant has also sought legal advice in relation to the moratorium which has concluded that the moratorium is unlawful and should be given no real weight in the planning balance due to legal errors apparent in its production. This is also addressed in this statement.

1.5 This statement deals specifically with the matters raised in the Inspectorate's letter, and the context to those matters. The application was accompanied by an Environmental Statement ("the ES") and a Waste Planning Statement (the "WPS") and accordingly does not unnecessarily repeat the detail provided in those statements. It does, however, provide appropriate cross-references to where relevant information to the response can be found in those statements.

1.6 For clarity and ease of reference, the information requested by the Inspector in the letter of 12 July 2021 is set out below:

- *A response to the objection of the National Trust (REP003) regarding the impact of the proposal on the RHPG and listed buildings at Powis Castle (see also the comments of Cadw). The applicant should cross-refer to the analysis of the impact from Viewpoint 24 in the LVIA and consider if supplementary viewpoints and information should be supplied as suggested by the National Trust.*
- *The Welsh Government has recently published its Programme for Government 2021-26 and Well-Being Statement (available on Gov.Wales). The Well-being Statement sets out the Welsh Government's latest well-being objectives, which are aligned to the well-being goals derived from the Well-Being of Future Generations Act; the Programme for Government sets out a series of actions through which the objectives will be met. The fifth well-being objective is to embed our response to the climate and nature emergency in everything we do. The associated action commitments indicate a drive to reduce and avoid waste including legislation to abolish the use of more commonly littered, single use plastics and the introduction of an extended producer responsibility scheme to incentivise waste reduction by businesses. The applicant is invited to comment on the proposal's consistency with these*

objectives/commitments and the direction of travel that they indicate.

- *Any response that the applicant wishes to make to the Local Impact Report (LIR) from Powys CC. For information, the Inspector wishes to discuss the following issues in the Hearing sessions: the regional need for Energy Recovery Facility (ERF) [5.1-5.11], the Landscape and Visual Impact (LVIA) of the proposal and the assessment of significance [5.39-5.51], impacts on nearby properties as a result of noise [5.100-5.109], geotechnical issues including slope stability [5.110-5.116] and the potential for the re-use of material within the site and as secondary aggregate [5.10, 5.115, 5.118]. These matters may be addressed in the Hearing Statements.*
- *Any response that the applicant wishes to make to the objections made by BIIG (and other objectors). Issues raised include matters to be addressed in the Hearings and the following: sustainability issues (including Carbon generation as a result of incineration), the applicant's consideration of alternative sites for an ERF, the effect of the ERF on air quality especially possible issues with temperature inversion, impacts on human health, highway safety issues, the effect on the local economy, the adverse impacts on local cultural heritage and BIIG comments on the waste planning statement.*

The Applicant's Responses to the formal request for further information

1.7 An initial response to the Inspectorate's letter of 12 July 2021 was submitted by the Applicant on 4 August 2021 (ECL Report Reference ECL.001.01.02/FIR). This addressed the following matters:

- *A response to the objection of the National Trust (REP003) regarding the impact of the proposal on the Registered Historic Park and Garden ("RHPG") and listed buildings at Powis Castle;*
- *Responses to the following areas of the LIR from Powys CC:*
  - the LVIA of the proposal and the assessment of significance [LIR Paragraphs 5.39-5.51],
  - impacts on nearby properties as a result of noise [LIR Paragraphs 5.100-5.109]; and
  - geotechnical issues including slope stability [LIR Paragraphs 5.110-5.116];
- *Responses to the following objections made by Buttington Incinerator Impact Group ("BIIG") (and other objectors):*
  - the effect of the ERF on air quality especially possible issues with temperature inversion;
  - impacts on human health;
  - highway safety issues,
  - the effect on the local economy, and
  - the adverse impacts on local cultural heritage.

1.8 This Statement should be read alongside the 4th August 2021 submission, and the Applicant's submissions to the Examination that preceded it. It seeks to address the following requests for further information made by the Inspector:

- *The Application's consistency with the well-being objectives and related commitments set out in the Programme for Government 2021-26*
- *Comments raised in Powys County Council's ("PCC") LIR in relation to:*
  - Need for the ERF;
  - Potential re-use of materials within the site as a secondary aggregate;

- Other matters not covered by the Applicant's 4th August 2021 submission.

- *Comments made by the BIIG in relation to:*
  - Need and the consideration of alternatives;
  - Carbon Impact; and
  - Policy Compliance.

The Structure of this Statement

1.9 This Statement has been structured to respond to the representations made to the application to date. However, given that the interested parties have raised the need for the facility as a key issue in their submissions, this Statement addresses this matter from the outset, along with the 'in principle' acceptability of the proposed development. All other matters raised are then considered in the context of need and the 'in principle' acceptability of the proposed development. The Statement has therefore been structured as follows:

- **Chapter 1: Introduction;**
- **Chapter 2: Planning Policy Context** – this chapter sets out the policy context against which the application must be determined;
- **Chapter 3: Waste Policy and the Need for the Proposed Development** – this chapter considers the need for the proposed development against the planning policy context established and the Welsh Government's policy on waste and its management (including the Strategic Assessment published in March 2021);
- **Chapter 4: Consistency with Government Objectives** – this chapter responds directly to the Inspector's request for detail on the consistency of the proposed development with the Welsh Government's well-being objectives and related commitments as set out in the Programme for Government 2021-26;
- **Chapter 5: Applicant's Comments on the Local Impact Report -** this chapter responds directly to the Local Impact Report prepared by PCC;
- **Chapter 6: Applicant's Response to the Buttington Incinerator Impact Group Response** - this chapter responds directly to the matters raised by the BIIG in its written submissions; and
- **Chapter 7: Conclusion**

1.10 Through a robust assessment of the planning policy context and relevant material considerations, this Statement demonstrates that the proposed development is in accordance with the statutory development plan and should be approved accordingly.

2 PLANNING POLICY CONTEXT

Introduction

2.1 In accordance with section 38(6) of the Planning and Compulsory Purchase Act 2004, planning applications should be determined in accordance with the Development Plan, unless material considerations indicate otherwise. Under Section 38(4) of the 2004 Act, the Development Plan in Wales comprises the following:

- The National Development Framework for Wales;
- The Strategic Development Plan (SDP) for any strategic planning area that includes all or part of that area; and
- The Local Development Plan (LDP) for that area.

2.2 The following section provides an overview of the planning policy relevant to the proposed development. As no SDP has been prepared for the PCC area, the following documents comprise the statutory development plan for the determination of this application:

- Future Wales; the National Plan to 2040 (February 2021)
- Powys Local Development Plan 2011 – 2026 (April 2018)

2.3 As Future Wales was adopted in February 2021, it represents the most up-to-date expression of national planning policy, and accordingly is considered to have primacy in the planning policy hierarchy. The primacy of Future Wales has been confirmed in recent DNS decisions for energy generating projects issued since the plan was introduced[1].

2.4 Future Wales states that "*as set out in legislation, applications for Developments of National Significance must be determined in accordance with Future Wales*".

2.5 The context provided by the statutory development plan is the primary consideration when determining the acceptability of the 'principle' of the proposed development. It is therefore entirely appropriate that any technical matters associated with the proposed development are considered in this context. The chapter sets out that position as context to the responses to the Inspector's requests for further information set out later in this statement.

The Statutory Development Plan

Future Wales: the National Plan 2040 (February 2021)

2.6 Future Wales is the Welsh Government's National Development Framework and is the highest tier of the Development Plan in Wales.

2.7 The purpose of Future Wales is to ensure the planning system at all levels is consistent with, and supports the delivery of, Welsh Government strategic aims and policies (including those in Planning Policy Wales, the Wales Infrastructure Investment Plan and Regional Economic Frameworks). It was prepared with regard to various Welsh Government policy and legislation, including:

- Well-being of Future Generations (Wales) Act 2015;

[1] Penderi Solar Farm – Developments of National Significance (planninginspectorate.gov.uk)

- Environment (Wales) Act 2016;
- Natural Resources Policy (2017); and
- Prosperity for All: A Low Carbon Wales (March 2019).

2.8 Future Wales provides the spatial direction for development in Wales and the policy framework for SDPs and LDPs at the regional and local level. These plans are required to conform to Future Wales and planning decisions at every level must be taken in accordance with the Development Plan. One of the key aims of the policies in Future Wales is to facilitate the decarbonisation of the economy and promote the principles of a circular economy.

2.9 Policy 17 of Future Wales sets out that the Welsh Government strongly supports the principle of renewable and low carbon energy development from all technologies and at all scales to meet future energy needs. Furthermore it states (our emphasis):

> *"In determining planning applications for renewable and low carbon energy development,* ***decision-makers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030*** *in order to combat the climate emergency…".*

2.10 The policy refers to '*renewable and low carbon energy from all technologies and at all scales*'. As a technology, Energy Recovery (or Energy from Waste) is defined as a low carbon / renewable energy technology in the Welsh Government's 'Energy Generation in Wales' reports published in 2019[2] and 2020[3]. Whilst the 2020 report does not include a specific section on Energy Recovery, the document states (on page 31) that '*We have not reported on some technologies this year as there has been little or no material change from 2018* [base date of the 2019 report]*. These include biomass electricity and CHP, energy from waste, landfill gas, nuclear, solar thermal, sewage gas and pumped hydropower storage'*[4]. This confirms that the exclusion of Energy Recovery from the report is not because it is not considered to be a low carbon or renewable technology – it is simply due to there being no change in the data for the technology between the preparation of the two reports. However, the data tables included on pages 6 and 28 of the report clearly identify Energy Recovery as a renewable generating technology. The position in the 2019 report is clearer with Energy Recovery having a technology specific section under the over-arching heading 'Low Carbon technologies'.

2.11 Policy 18 provides the criteria for assessing large scale proposals for renewable and low carbon energy and is required to be read together with Policy 17. It states:

> *"Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:*
>
> 1. *Outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty);*
> 2. *There are no unacceptable adverse visual impacts on nearby communities and individual dwellings;*

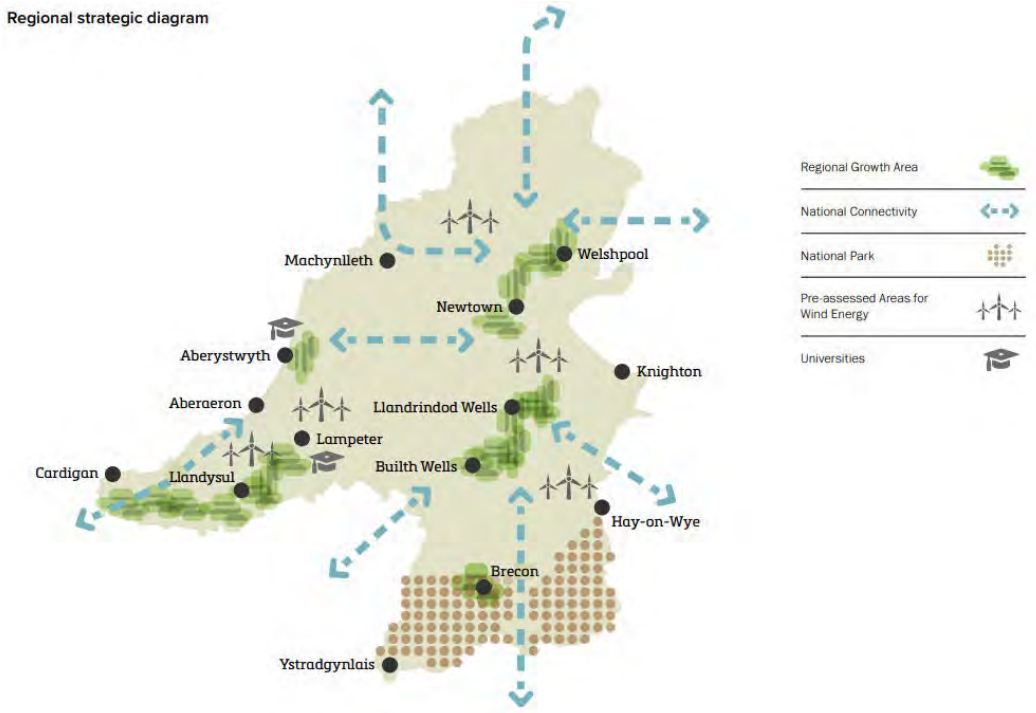
[2] https://gov.wales/sites/default/files/publications/2019-10/energy-generation-in-wales-2018.pdf
[3] https://gov.wales/sites/default/files/publications/2021-01/energy-generation-in-wales-2019.pdf
[4] As Parc Adfer only became operational in late December 2019, it was not included in the Energy Generation in Wales report published in 2020. It is anticipated that it would be included in the 2021 report if the Welsh Government publishes one.

3. *There are no adverse effects on the integrity of Internationally designated sites (including National Site Network sites and Ramsar sites) and the features for which they have been designated (unless there are no alternative solutions, Imperative Reasons of Overriding Public Interest (IROPI) and appropriate compensatory measures have been secured);*
4. *There are no unacceptable adverse impacts on national statutory designated sites for nature conservation (and the features for which they have been designated), protected habitats and species;*
5. *The proposal includes biodiversity enhancement measures to provide a net benefit for biodiversity;*
6. *There are no unacceptable adverse impacts on statutorily protected built heritage assets;*
7. *There are no unacceptable adverse impacts by way of shadow flicker, noise, reflected light, air quality or electromagnetic disturbance;*
8. *There are no unacceptable impacts on the operations of defence facilities and operations (including aviation and radar) or the Mid Wales Low Flying Tactical Training Area (TTA-7T);*
9. *There are no unacceptable adverse impacts on the transport network through the transportation of components or source fuels during its construction and/or ongoing operation;*
10. *The proposal includes consideration of the materials needed or generated by the development to ensure the sustainable use and management of resources;*
11. *There are acceptable provisions relating to the decommissioning of the development at the end of its lifetime, including the removal of infrastructure and effective restoration.*

The cumulative impacts of existing and consented renewable energy schemes should also be considered".

2.12 The supporting text to both policies states that Policy 17 demonstrates the Welsh Government's support in principle for all renewable and low carbon energy projects and technologies.

2.13 Powys is identified as lying within the Mid Wales region in Future Wales – a region with national connectivity to the rest of Wales and into England (as the diagram on page 129 of Future Wales demonstrates – see below). This connectivity is particularly apparent around the Welshpool / Newtown area with links to the north, south, east and west.



2.14 The proposed development can therefore be considered to be located in a sustainable location at the crossroads of the three economic regions of Wales, whilst also being well-connected to the adjacent areas along the Wales / England administrative border.

2.15 From an economic growth perspective, Future Wales confirms that the Welsh Government views the development of energy generation, storage and management as having a role in supporting the Mid Wales economy and, in doing so, provide local employment opportunities. As part of this, Bro Hafren (including Welshpool and Newtown) is identified as a Regional Growth Area in Future Wales.

2.16 In summary, therefore, Future Wales, provides clear support for the development of low carbon and renewable energy generation and the contribution it can make to both decarbonising and growing the national and regional economies.

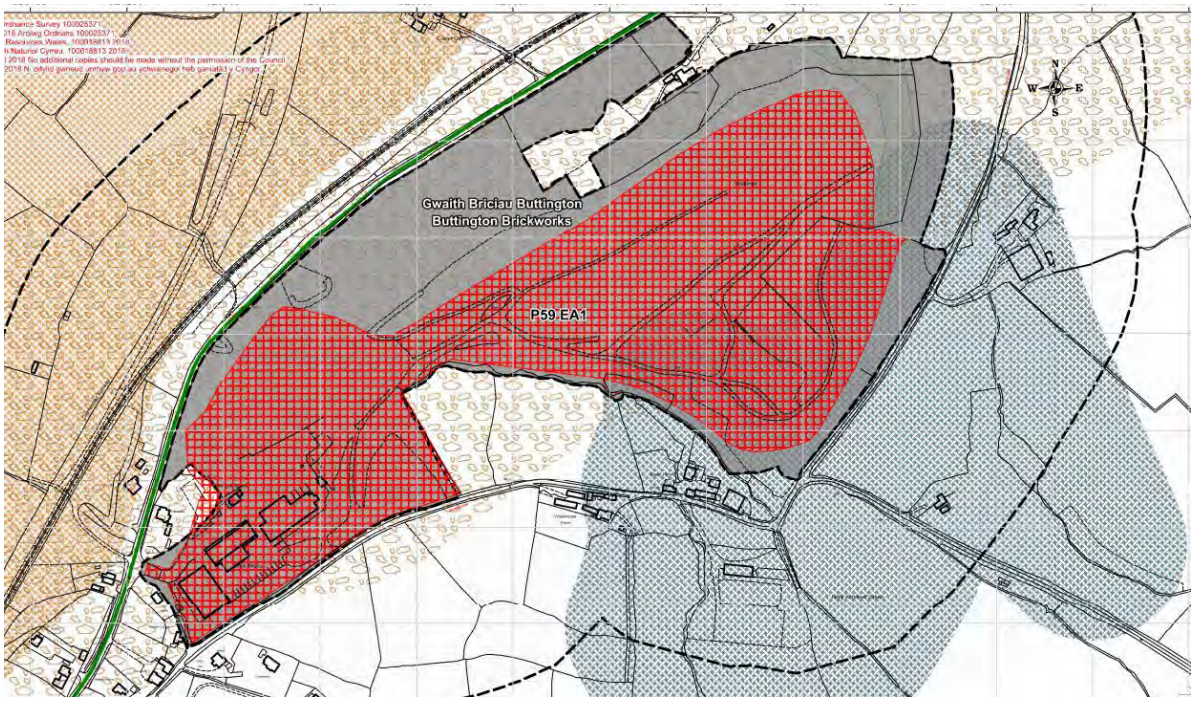
Powys Local Development Plan 2011 – 2026 (April 2018)

2.17 The Powys LDP was adopted prior to the publication of Future Wales. This is an important consideration in the planning balance as LDPs are required to be in conformity with Future Wales. DNS decisions taken since Future Wales was published have confirmed that it is given primacy as the most up-to-date expression of national policy.

2.18 As set out above, Future Wales provides in principle support to the development of new renewable and low carbon energy generation from all technologies and at all scales. The proposed development is equally supported by the adopted Powys LDP.

2.19 Under Strategic Policy SP2, the adopted LDP allocates 45 hectares of land for employment purposes under Policies E1 and E3 to meet the County's employment needs over the Plan period 2011-2026. The proposed development is located within an allocated employment site under Policy E1 which states that proposals for B1, B2 and B8 employment development will be permitted on the allocated employment sites. The policy also identifies which of the allocated sites would be suitable for waste use under Policy W1.

2.20 At Buttington Quarry, 6ha of land is allocated for employment development under Policy E1 and is identified as a site suitable for waste uses. The allocated site is shown (as the red hatched area) in the extract of the LDP Proposals Map below.



2.21 Policy E1 goes on to state that: "*Where appropriate other employment and ancillary uses will be permitted on allocated employment sites where the proposed development complements and enhances the site's role.*" Policy DM16 adds further clarity to Policy E1 by seeking to ensure that the identified sites are retained in employment generating uses.

2.22 For the sites (including the application site at Buttington Quarry) identified as being suitable for waste development, Policy W1 states:

> *Proposals for the management of waste which accord with the waste hierarchy will be supported on employment sites identified in Policies E1 and E4.*

2.23 It is noted that Policy W1 does include a criteria requiring proposal for energy recovery to demonstrate "*an identified need at the regional level*" (Criteria 3). However, the criteria within the policy only apply to "*Proposals for new waste management facilities in the open countryside*". As the application site falls within an identified employment site, it is important to recognise that it falls to be determined against the first part of Policy W1 only – the part which states that proposals for waste management facilities within identified employment sites will be supported.

2.24 The proposed development is in clear accordance with Policy W1 policy as it will move waste up the hierarchy from to disposal to recovery. The supporting text to Policy W1 confirms that the purpose of the policy is to "*facilitate an integrated and adequate network of waste management facilities in sustainable locations in line with national policy and guidance and in accordance with the waste hierarchy*".

2.25 The plan requires proposals for recycling, recovery and disposal of waste to be accompanied by a Waste Planning Assessment which demonstrates that a proposal accords with the waste hierarchy in accordance with TAN 21. The plan states that "*It is accepted that waste facilities at all levels of the waste hierarchy may be required and the aim of the policy is not to prevent*

disposal or recovery proposals from coming forwards but to ensure that they are justified in the proposed location". The plan recognises Powys' location within both the North Wales and the South East Wales region[5] and that this makes the management of waste particularly challenging. The rationale for Policy W1 is stated in the plan and it recognises that many waste management facilities are akin to general industrial or B2 uses, and therefore the policy "*directs new waste management uses to existing and suitable allocated B2 sites*" identified in policies E1 and E4.

2.26 The detailed criteria against which waste management proposals are considered is set out in Policy W2. These include the need for a Waste Planning Assessment to be submitted in support of an application and the following criteria:

- the proposal minimises the need to transport waste by road, taking into account the proximity principle;
- the highway network is suitable for use by heavy goods vehicles or can be improved to accommodate such vehicles;
- there would be no adverse impact on amenity, human health or the environment due to noise, dust, odour or air quality;
- there would be no adverse impact on surface water or groundwater;
- there would be no adverse impact on features of ecological or built heritage interest;
- there would be no adverse landscape impacts and any visual impact of the development is minimised through sensitive location and the use of landscaping; and
- provision is made for restoration and aftercare of the site upon its cessation.

2.27 It is considered that the ES submitted in support of the application demonstrates that the proposed development can meet all the relevant policy criteria. In summary, the ES concludes that the proposed development:

- will not have a significant impact on local air quality, human health or sensitive habitat sites, nor give rise to any significant odour impacts during construction, operation or decommissioning;
- will result in a negligible positive effect in terms of employment and supply chain;
- would have a temporary, minor adverse effect on the operation of the local highway network during construction and decommissioning (although the construction of the new site access junction would lead to highway safety and operational gains once it replaces the existing access junction);
- would have a negligible adverse effect only on the operation of the local highway network during operation;
- will not have an unacceptably adverse landscape and visual impact as the mitigation proposed (and that embedded in the design) will ensure that any impact will not be wholly dominant or intrusive visual effect, nor will it remove distinctive attributes of landscape character identified through LANDMAP;
- will deliver approximately 2.6 ha of new, high quality habitat along with a series of dedicated wildlife ponds and 4 ha of new native woodland planting which will ensure

[5] Within the LDP, this is a reference to the regions identified in TAN21 – regions which have been superseded by the definition in the Welsh Government's *Strategic Assessment for the future need for energy from waste capacity in Wales* (March 2021).

no net loss of habitats and an overall increase in habitat quality once established. The measures proposed will minimise the effects of the Development on ecological features of importance and ensure legal compliance in respect of protected species.

- is consistent with relevant biodiversity planning policy and is considered to contribute to the aims of the Environment (Wales) Act in maintaining and enhancing biodiversity and promoting the resilience of ecosystems. Local habitat connectivity will be maintained and there will be an overall increase in the quality of priority habitats;
- will not have any significant residual effects on the water environment and will result in a minor beneficial effect on site drainage (quality and quantity) compared to baseline conditions;
- will not have any significant impacts on built heritage or any potential below ground archaeological remains and there are no Designated Heritage Assets within the Development Site or the 5 km study area;
- will not have any impact on human health or the aquatic environment during the operational or construction phases (a detailed Construction Environmental Management Plan and Decommissioning Environmental Management Plan will be secured by condition);
- will not result in any significant cumulative impacts either as a result of the Development or as a result of the Development in combination with the identified shortlisted 'Other Developments' (in the ES).

2.28 In overall terms, the principle of the development of an Energy from Waste facility at Buttington Quarry is clearly in accordance with the adopted LDP. Given that Policy W1 identifies the Buttington Quarry employment site for waste development, it is considered that matters of need and alternative site availability do not require consideration as the site's suitability for waste management development is established by the LDP.

Wider Planning Policy Considerations

2.29 As has been outlined above, the proposed development benefits from 'in principle' support from the statutory development plan, both at the national and local levels. Alongside the statutory development plan, the provisions of Planning Policy Wales (PPW) and Technical Advice note 21: Waste (TAN21) are also relevant as material considerations in respect of the proposed development.

Planning Policy Wales – Edition 11 (February 2021)

2.30 PPW provides the key principles for the planning system in Wales, in terms of what development plans and decisions must achieve and how development should deliver the best possible outcomes. It is not part of the Development Plan, however, it is identified by Future Wales as having substantial weight as a material consideration in the planning process.

2.31 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental, and cultural well–being of Wales, as required by the Planning (Wales) Act 2015, the Well–being of Future Generations (Wales) Act 2015 and other key legislation.

2.32 PPW's key principles are:

- Growing our economy in a sustainable manner;

- Making best use of resources;
- Facilitating accessible and healthy environments;
- Creating & sustaining communities; and
- Maximising environmental protection and limiting environmental impact.

2.33 Paragraph 2.14 states that these principles enable the goals and five ways of working set out in the Well-being of Future Generations Act to be realised through land use planning. It also states that they act as a catalyst for the positive delivery of the planning system across Wales.

2.34 The concept of 'placemaking' is at the heart of PPW. Paragraph 2.15 refers to national placemaking outcomes which it states should be the starting point for plan makers and decision-takers. Figure 5 in PPW identifies each of these outcomes under the PPW key principles. The outcomes under 'Growing Our Economy in a Sustainable Manner' include "Generates its own renewable energy".

2.35 Section 5 of PPW is preceded by an overview of the ways in which places can contribute to each of the seven goals of the Well-being of Future Generations Act. The proposed development contributes to the following aspects of the seven goals:

- *"…increased economic activity across all sectors and at all scales. This is realised through the availability of employment land,* […] *and investment in renewable and low carbon energy sources."* (A Prosperous Wales);
- *"renewable energy generation"* (A Resilient Wales);
- *"achieved through the reduction in emissions and air pollution as a result of generating energy from non-carbon sources. Greater distribution of our economic wealth can also help alleviate poverty which is a key determinant of health."* (A Healthier Wales);
- *"achieved through promoting sufficient employment and enterprise opportunities for people to realise their potential and by recognising and building on the existing economic strengths of places to assist in delivering prosperity for all."* (A More Equal Wales);
- *"created by people who have access to fulfilling work…"* (A Wales of Cohesive Communities);
- *"supported by the provision of jobs and economic activity…"* (A Wales of Vibrant Culture and Thriving Welsh Language); and
- *"promoted by reducing our carbon footprint through …the promotion of renewable energy over carbon-emitting sources and resource choices through which multiple benefits can be realised."* (A Globally Responsible Wales).

2.36 PPW promotes economic development across Wales, and the powering and heating of businesses by low carbon energy sources. It seeks to ensure that the growth of output and employment in Wales as a whole is not constrained by a shortage of land for economic uses.

2.37 Paragraph 5.4.16 of PPW identifies the benefits that can be delivered through 'business clusters' – clusters of businesses from the same or similar industries, or with a common interest, who locate in close proximity for mutual benefit. This allows those businesses to benefit from shared facilities, infrastructure, local pools of skilled and qualified labour, and common supply chains.

As is demonstrated later in this statement, Buttington Quarry has the potential to develop a business cluster around the proposed ERF facility allowing the businesses on site to benefit from the energy and heat the plant produces. Potential 'cluster' uses could include a biofuel and / or fertiliser production facility (utilising carbon captured from the ERF), or agritech glasshouses and anaerobic digestion (utilising the surplus heat produced by the ERF).

2.38 With respect to business clusters, PPW (paragraph 5.4.18) states that that planning authorities should "*look favourably on any renewable and low carbon energy generation proposals designed to serve clusters, such as district heating systems and high efficiency energy recovery from waste, or the provision of an integrated network of waste recycling or collection*".

2.39 In the context of energy delivery, paragraph 5.9.1 of PPW11 states that: "*Local authorities should facilitate all forms of renewable and low carbon energy development*" and *"should seek to maximise the potential of renewable energy by linking the development plan with other local authority strategies, including Local Well-being plans and Economic/Regeneration strategies."*

2.40 PPW seeks to ensure that the principles of a circular economy are promoted, and identifies the planning system as playing an important role in sustainable waste management by:

> *"...providing a framework for decision making which recognises the social, economic and environmental benefits that can be realised from the management of waste as a resource to meet the needs of society and businesses, whilst at the same time:*
>
> - *minimising adverse environmental impacts and avoiding risks to human health;*
> - *protecting areas of designated landscape and nature conservation from inappropriate development; and*
> - *protecting the amenity of residents, of other land uses and users affected by existing or proposed waste management facilities.*

2.41 PPW confirms that the waste hierarchy provides the starting point for all types of waste management proposals. This is presented in PPW as follows:

Figure 11: Waste Hierarchy

2.42 Paragraph 5.13.10 states that *"Planning authorities must support the provision and suitable*

location of a wide ranging and diverse waste infrastructure which includes facilities for the recovery of mixed municipal waste and may include disposal facilities for any residual waste which cannot be dealt with higher up the waste hierarchy. The extent to which a proposal demonstrates a contribution to the waste management objectives, policy, targets and assessments contained in national waste policy will be a material planning consideration". PPW also confirms (paragraph 5.13.11) that "*the 'Nearest Appropriate Installation' concept and the principle of self-sufficiency will only be applicable in relation to wastes covered by Article 16 of the revised Waste Framework Directive and should guide the provision of an integrated and adequate network for the treatment of such wastes."*

2.43 In terms of the identification of suitable locations for sustainable waste management development, paragraph 5.13.12 of PPW confirms that these locations should be identified in development plans along with the criteria by which applications will be determined. The adopted Powys LDP identifies such locations under Policies E1 and W1.

2.44 In terms of wider Welsh Government policy on waste management, paragraph 5.13.4 of PPW confirms the status of '*Towards Zero Waste*' and associated sector plans (which includes the Collections, Infrastructure and Markets (CIM) Sector Plan), and states that *"Planning authorities should, in principle, be supportive of facilities which fit with the aspirations of these documents and in doing so reflect the priority order of the waste hierarchy as far as possible"*. These documents are considered in the next chapter of this statement.

Technical Advice Note 21: Waste (February 2014)

2.45 TAN 21 sets out the general planning principles for the development of for all types of waste management facilities, and states that in determining applications for waste facilities:

> *"planning authorities should take into account their potential contribution to the objectives, principles and strategic waste assessments set out in Towards Zero Waste and the relevant waste sector plans and the relevant development plan for the area. The extent to which a proposal demonstrates this contribution, in environmental, economic and social terms, will be a material planning consideration. The aim is to ensure that the right facilities are located in the right place to meet environmental, economic and social needs. At both a strategic and site level this means accepting that waste will need to be managed in all areas of Wales..."*

2.46 At paragraph 2.7.4, TAN 21 identified the vital role that the recovery of energy from mixed municipal waste in high efficiency facilities plays in the waste management system in Wales, identifying those facilities as "*the most sustainable outcome for mixed municipal waste*".

2.47 The benefits of energy recovery facilities are clearly recognised in TAN 21:

> *"There are clear environmental, economic and social benefits associated with managing waste as a resource and optimising efficiency of use of waste material. The expanding waste management sector can offer job and training opportunities and safeguard existing jobs as a result of cost savings associated with increased resource efficiency. The creation of new infrastructure and jobs can support and regenerate local communities through skills enhancement and increased local expenditure."*
>
> *"...high efficiency energy from waste facilities are encouraged. 'High Efficiency' facilities are defined as those facilities which exceed the R1 Formula limits. The Welsh Government aims for energy from waste facilities to be 'heat enabled' to allow the subsequent development of combined heat and power options."*

2.48 TAN21 sets out the key principles for the siting of waste management facilities. These include:

- *Establishing an integrated and adequate network of waste disposal installations and installations for the recovery of mixed municipal waste;*
- *waste falling with Article 16, should be disposed of or recovered in one of the nearest appropriate installations;*
- *Moving towards the aim of self-sufficiency in waste recovery and disposal*
- *waste management should be undertaken in locations which do not create a risk to water, air, soil, plants, or animals; do not cause a nuisance through noise or odour; and do not result in unacceptable adverse impacts on the countryside or places of special interest.*

2.49 In terms of the spatial distribution of energy recovery facilities, TAN21 refers to the principle of 'the nearest appropriate installation' which aligns with the Waste Framework Directive. However, it is significant to note that TAN21 confirms that:

> *"This does not carry with it the expectation that all areas should be self sufficient in terms of the network. Waste arising in one area may be better treated or disposed of in a neighbouring local authority area or region and the envisaged 'network' of infrastructure is likely to be spread over a wider area than a single local authority administrative boundary";*

and that:

> *"It should be noted that not all waste arising in Wales is managed in Wales, some is "exported" usually to other UK counties for treatment, recycling, recovery or disposal. Waste is also imported into Wales for management at Welsh facilities "It is not necessary for Wales to have within its borders a full suite of facilities necessary to comply with the requirements of the Waste Framework Directive, or to manage all of its own waste."*

2.50 TAN 21 defines three regions in Wales for the management of waste and requires that an annual monitoring report is produced by each region to monitor progress towards the established waste management targets. The three regions in TAN21 have been adjusted through the publication of in March 2021 of *Beyond Recycling: A strategy to make the circular economy in Wales a reality* and the *Strategic assessment for the future need for energy from waste capacity in Wales* – both of which are considered in detail in the next chapter of this statement.

2.51 It is also clear within TAN21 that many of the operational impacts of waste management facilities will be controlled through the environmental permitting process. Accordingly, planning permissions should not include conditions which duplicate control more appropriately imposed as part of the permit. For clarity, Appendix A includes a schedule of matters that will be controlled through the permitting process.

2.52 From a decision-making perspective, TAN 21 is clear that decisions "*should be taken in accord with the relevant development plan for the area and take into account national waste policy".* Decisions are also required to take account of the principles outlined in Planning Policy Wales, Chapter 2 and Annex C of the TAN itself, and any updated position derived from work undertaken in connection with annual monitoring reports. The TAN also confirms that the CIM Sector Plan represents the starting point for the determination of need for future capacity and applicants

are required to demonstrate that a proposal is within the capacity range identified in the CIM Sector Plan.

2.53 TAN 21 requires that planning applications for waste management facilities are accompanied by a Waste Planning Statement setting out:

- *A description of how the proposals will contribute to the relevant provisions of 'Towards Zero Waste' and the Collections, Infrastructure and Markets Sector Plan.*
- *A statement of compliance with policy related to need & location requirements.*
- *A calculation of existing and projected future demand.*
- *Identify the markets that will be served by the proposed development.*
- *A calculation to identify the current shortfall in treatment capacity.*
- *A description of the consultation undertaken by the applicant.*
- *A signed declaration that in making the application the applicant has paid due regard to the waste hierarchy*

2.54 All of the above matters were addressed in the Waste Planning Statement (WPS) prepared by Carter Jonas and submitted in support of the application. Importantly, the WPS identified a shortfall of 366,000 tpa in waste treatment capacity by 2025 (including facilities currently at planning stage).

2.55 Following submission of the application, the WPS was updated in response to a request from the Inspector to account for the publication by the Welsh Government of the "*Strategic assessment for the future need for energy from waste capacity in the three economic regions of Wales*" in March 2021. The updated WPS was submitted to the Examination as Appendix 1 to the "Buttington Energy Recovery Facility Response to Letter Ref: DNS/3214813" report (ECL Ref: ECL.001.01.02/RTL), dated 19th April 2021. In March 2021, alongside the Strategic Assessment, the Welsh Government published "*Beyond Recycling: A strategy to make the circular economy in Wales a reality*". The relevance of these documents to the proposed development and the need for the facility is discussed in the next chapter.

3 WASTE POLICY AND THE NEED FOR THE PROPOSED DEVELOPMENT

3.1 As identified in the introduction to this statement, both Powys County Council and the Buttington Incinerator Impact Group (BIIG) have commented on the need or otherwise for the proposed development. A consideration of the need for the proposed development is also important to appreciate the Application's consistency with the well-being objectives – a matter which has been raised by the Inspector.

3.2 As the preceding chapter has demonstrated, the statutory development plan provides clear 'in principle' support for the proposed development. In this light, the development plan established the suitability and appropriateness of the site for waste management development meaning that 'need' is not a consideration for this application. The proposals are also in accordance with PPW and TAN21. These later planning documents confirm that the Welsh Government's waste management strategies are a material consideration in the planning balance and in the establishment of need for new waste management facilities. PPW identifies the CIM Sector Plan as part of the waste management plan in Wales, and TAN 21 confirms that Towards Zero Waste and the Sector Plan together provide the overarching waste strategy for Wales. Accordingly, this chapter of the statement considers the implications of that waste strategy, including the Welsh Government's moratorium on large scale energy from waste plants introduced in March 2021, and the relative weight that should be afforded to the waste strategy in the planning balance.

3.3 Importantly, when considering the need for energy recovery facilities, it is critical to be cognisant of the statements made in TAN21 (see earlier paragraph 2.49 of this statement) that the waste management infrastructure network required extends beyond single local authority administrative boundaries and will involve cross-border movements (export and import) of waste for treatment, recycling, recovery or disposal. The proximity principle applies equally to all movements whether they are cross-border or otherwise. TAN21 is clear that such movements will still comply with the requirements of the Waste Framework Directive.

Welsh Government Waste Strategy

Towards Zero Waste - One Wales: One Planet

3.4 Towards Zero Waste was adopted in June 2010 and is the overarching waste strategy document for Wales. It reiterates, in line with Article 4 of the Waste Framework Directive, the waste hierarchy.

3.5 The Strategy sets a 2025 milestone as an intermediate step on the way towards 'zero waste' in 2050. 'Zero waste' is defined as *"an aspirational end point where all waste that is produced is reused or recycled as a resource, without the need for any landfill or energy recovery"*. Crucially, the 2025 milestone seeks to manage any waste that is produced and eliminate the use of landfill as far as possible.

3.6 It states that the waste management targets outlined in the Strategy can contribute to achieving:

- *Where waste is produced, we make the most of our valuable resources.*
- *The ecological footprint of waste in Wales is around 2 planets.*
- *More green jobs and a skilled workforce in a resource economy.*
- *70% of materials are recycled.*

- *Residual waste is phased out of landfill to high energy efficiency Energy from Waste plants.*

3.7 The target for recycling commercial and industrial waste set in the Strategy is 70% by 2024/25. In relation to municipal waste, the maximum target level of municipal waste sent to landfill is 5%, and the maximum target level of energy from waste is 30% for individual local authorities by 2024/25.

3.8 In 2019-20[6], approximately 37% of municipal waste generated in the Powys County Council area was sent to landfill, a figure which increases (to circa 39%) when the Mid & South West Wales region is considered as a whole. This compares with figure of 34% for the North Wales region, 38% for the South East Wales region and 35% across Wales as a whole. The Mid & South Wales region is therefore the poorest performing region in terms of the landfilling of municipal waste. Over the last 5 years, the proportion of municipal waste going to landfill in Powys has reduced by only 4% which suggests that the authority may not meet its 2024/25 target if current trends continue and if alternative methods of processing waste further up the waste hierarchy are not implemented.

Collections, Infrastructure and Markets Sector Plan

3.9 In July 2012, the Welsh Government published the Collections, Infrastructure and Markets (CIM) Sector Plan, which is part of the waste management plan for Wales, alongside 'Towards Zero Waste'. The Sector Plan states that efficient energy recovery facilities are preferable to continued landfilling in Wales until the 2050 goal of a zero waste society is reached.

3.10 The CIM Sector Plan acknowledged that there was a need to develop more residual waste treatment and recovery facility capacity, while future need cannot be predicted with any complete certainty due to the variety of factors that will affect future waste generation and future capacity. The capacity for energy recovery facilities in Wales set out in the CIM Sector Plan was updated in 2021 in the '*Strategic assessment for the future need for energy from waste capacity in Wales'* (which is considered later in this chapter).

Beyond Recycling: A strategy to make the circular economy in Wales a reality (March 2021)

3.11 In March 2021, the Welsh Government published its new strategy for the circular economy. The March 2021 strategy sets out eight headline actions to achieve the circular economy, including supporting businesses in Wales to reduce their carbon footprints, phasing out unnecessary single-use items, especially plastic, sending zero plastic to landfill, and progressively reducing the amount of waste sent to energy recovery.

3.12 The strategy confirms the zero waste target for 2050, which will mean that all waste that is produced is re-used or recycled as a resource, without the need for any landfill or energy recovery. With regard to energy from waste facilities, the strategy seeks to ensure that "*the capacity we have for generating energy from waste is in line with the capacity needed during our transition to a circular economy, with the long-term solution being to move away from incineration*" (page 26).

3.13 The publication of the strategy introduced the Welsh Government's intention to place a moratorium on any future large scale energy from waste developments. This was based on the view of the Welsh Government that the increase in recycling and reduction in waste achieved to

[6] https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste/annualwastemanagement-by-management-year

date in Wales means that new large scale energy from waste infrastructure would not be required. Notwithstanding the fact that this position is in conflict with the data presented in the March 2021 Strategic Assessment (see below), the moratorium was confirmed in a Written Ministerial Statement on 24th March 2021 which had immediate effect.

3.14 Following the publication of 'Beyond Recycling' and the strategic assessment, the Applicant has sought legal advice in relation to the moratorium. The Legal Position Statement received from Matthew Reed QC is included in Appendix B to this statement. Mr Reed opines that the Moratorium is unlawful, as there are a number of legal errors apparent in the production of the document, namely:

- a failure by Welsh Government to adequately consult on the Moratorium under the Waste (England and Wales) Regulations 2011 which has resulted in clear prejudice to the Applicant;
- a failure by Welsh Government to take into account (or misunderstanding of) national policy when deciding to issue the Moratorium, in particular the policy support for EfW in PPW11;
- a failure to correctly apply the policy position set out in TAN21, PPW11 and the CIM Sector Plan as the capacity analysis contained in the Strategic Assessment cannot reasonably justify a Wales-wide moratorium;
- a failure by Welsh Government to justify the restriction of large-scale EfW facilities, and a failure to provide reasons for allowing small scale facilities which has led to an irrational inconsistency in the application of the need case which suggests that need can be met by a number of small scale facilities but not a single large facility;
- a failure by Welsh Government to take into account the proximity principle in light of the fact that there is no energy recovery facility in the Mid and South Wales region; and
- a failure by Welsh Government to provide justification or evidence in the context of the moratorium that EfW facilities should not be viewed as renewable or low carbon energy proposals.

3.15 TAN 21 requires need to be shown and, if shown, subject to any other matters like effects on amenity etc, permission should be granted. The moratorium is clearly inconsistent with the evaluative approach set out in TAN21. Equally, the WG have failed to account for the potential of an appropriately located facility to also process waste produced by local authorities that are in close proximity to the Wales-England border. It is irrational to take an approach which effectively disapplies the proximity principle across administrative borders.

3.16 With respect to the justification for the moratorium, this is patently lacking from any of the documents published by the Welsh Government. The Legal Position Statement considers this in greater detail and includes reference to a Technical Memorandum prepared by Steve Filkin (of Filkin & Co. EHS Limited) which questions the technical information put forward in the Senedd as the basis for the moratorium. A copy of the Technical Memorandum prepared by Filkin & Co is included in Appendix C to this statement. The memorandum concludes that the assertion that EfW negatively impacts the environment, runs counter to climate change initiatives and impedes the evolution of more advanced recycling technology, represents a misunderstanding of the that EfW plays in a modern waste management system. The process is complementary to the development of a truly circular economy because it addresses the intractable problem of residual waste management in a constructive way and avoids its

deposition to land. The technology displaces the reliance upon landfill and provides a proven and safe method for dealing with these wastes in such a way that the best overall environmental outcome is achieved.

3.17 The Legal Position Statement concludes that if the moratorium is to be considered as part of the planning balance, it should not be given any real weight as the existence of manifest errors of law in the production of the document is material to the weight to be placed upon it. Furthermore, Mr Reed opines that in the event that the moratorium is given any weight in the planning balance (which it shouldn't), the Strategic Assessment is clear that large-scale facilities may exceptionally come forward and that the need analyses contained in the SA will be taken into account as part of the considerations as to whether such exceptional circumstances have been established.

Strategic assessment for the future need for energy from waste capacity in Wales (March 2021)

3.18 The Welsh Government published a strategic assessment for the future need for energy from waste capacity in the three economic regions of Wales. It is intended to provide *"information to be used by developers, Local Planning Authorities and the Planning Inspectorate Wales when considering need for new, or variations of, planning permissions for energy from waste facilities and energy facilities using waste as a fuel"*.

3.19 The assessment replaced the strategic assessment for the need for new energy from waste capacity provided in section 2.3.4 of the CIM Sector Plan. As such, and in line with TAN 21, the Strategic Assessment now represents the starting point for the determination of need for future capacity and, accordingly, applicants are required to demonstrate that a proposal is within the capacity range identified in the Strategic Assessment.

3.20 The assessment reiterates that waste policy is Wales is set out in *'Beyond Recycling' A strategy to make the circular economy in Wales a reality* (2021), *Towards Zero Waste* (2010), and the *Collections, Infrastructure and Markets (CIM) Sector Plan* (2012), with planning policy on waste being provided in PPW and TAN 21. It confirms that "*The extent to which a proposal demonstrates a contribution to the waste management objectives, policy, targets and assessments contained in national waste policy will be a material planning consideration*" (page 2). The assessment reiterates the position that the need for a facility will be judged against the capacity range identified for any given region in the CIM Sector Plan (as amended by the Strategic Assessment). It confirms that planning permission may be refused if the capacity of a proposal exceeds the upper range identified in the Sector Plan. The proposed development at Buttington has a capacity that is less than the lower range in the sector plan, as set out below.

3.21 The strategic assessment uses 2 scenarios to identify the need for new energy from waste capacity. Using the 2 scenarios, the assessment identifies the range of estimated capacity gaps for residual waste suitable for energy recovery by each region for 2034-35 to be as follows:

- North Wales: 0 thousand tonnes per annum of under/over-capacity to 55 thousand tonnes per annum of over-capacity.
- South East Wales: 55 to 155 thousand tonnes per annum of over-capacity.
- Mid & South West Wales: 170 to 220 thousand tonnes per annum of under-capacity.

3.22 In comparison, the assessment presented in the Waste Planning Statement submitted with the application identified shortfall of 366,000 tpa in waste treatment capacity by 2025 (including facilities currently at planning stage). Under-capacity was also identified in the Market Appraisal

report prepared by CMSL and submitted as Technical Appendix 3-1 to the ES. This appraisal considered 3 potential future scenarios, with the 'Policy Intervention' scenario representing the 'best case' whereby legislative and fiscal support is provided for sustained action on recycling and prevention of disposal. Even in this scenario, the analysis identified that there would be around 330,000t of Residual Waste potentially available in the (2-hour drivetime) Catchment Area over the period 2025-2035. This indicates that the under-capacity identified in the Strategic Assessment should be treated as a 'best case' scenario with the under-capacity at 2035 actually being greater that the assessment predicts.

3.23 In addition, and according to the Welsh Government's own statistics[7], the amount of waste sent to landfill for Welsh local authorities within the Buttington catchment of 2 hours travel time during 2020 was:

- Powys – 13,826 tonnes sent to landfill
- Wrexham – 456 tonnes sent to landfill
- Denbighshire – 537 tonnes sent to landfill
- Flintshire – 243 tonnes sent to landfill
- Ceredigion – 1,601 tonnes sent to landfill
- Conwy – 101 tonnes sent to landfill
- Gwynedd – 273 tonnes sent to landfill
- Isle of Anglesey – 465 tonnes sent to landfill

3.24 The above 2020 statistics demonstrate that a high proportion (circa 22%) of municipal waste generated in Powys is disposed of via landfill. This compares with the other Welsh local authorities listed who all send less than 5% of their total municipal waste to landfill.

3.25 The assessment confirms that the capacity gap figures identified reflect the current status of operational capacity of energy recovery plants in Wales. These operational facilities include Parc Adfer in Deeside, and at Trident Park in Cardiff. In terms of operational facilities, however, the Strategic Assessment has a significant limitation – this is confirmed on page 4 as follows:

> *"…the figures should not be taken as actual operational capacity, as in many cases it will be less than the capacity consented in the permit, sometimes considerably so."*

3.26 This implication of this limitation is that the over/under-capacity figures can only be viewed as a 'best case scenario' with the actual numbers potentially being considerably higher. To demonstrate this point, the Applicant has secured details from the NRW Public register[8] for the two operational EfW plants – Parc Adfer and Trident Park. This data demonstrates the following:

- Parc Adfer – 37% of waste processed is imported from England (c.74,000 tpa); and
- Trident Park – 6% of waste processed is imported from England (c.21,000 tpa).

3.27 In light of the acknowledgement in the Strategic Assessment that '*the figures should not be taken as actual operational capacity'* we understand that the assessment assumes that no waste is imported to these facilities from outside Wales. It is therefore considered that significant

[7] https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste/wastemanagement-by-rolling12monthperiod
[8] https://publicregister.naturalresources.wales/

reliability and weight can therefore be attached to the under-capacity identified in the Mid & South West Wales within the Strategic Assessment, given that it excludes the approximate 95,000 tonnes per annum of waste that is imported to the two operational facilities from England. The market analysis and capacity assessment presented in the WPS and the ES demonstrate that the figures in the strategic assessment should be viewed as a 'best case' scenario. Furthermore, it is noted that the strategic assessment does not factor business or population growth into its calculations – a variable that will increase the overall amount of waste produced. The regional analysis of Future Wales indicates that some regions have had - and are expected to continue to have - significant growth.

3.28 Whilst it is acknowledged that in overall terms, Wales has a capacity range of 40 thousand tonnes per annum of over-capacity to 165 thousand tonnes per annum of under-capacity, the proximity principle dictates that the under-capacity identified in Mid and South West Wales must be addressed through an appropriately sited facility. The proposed development is positioned in a central location at the junction of the three economic regions meaning it is ideally located to deliver the additional capacity required, particularly for Mid & South West Wales (the only region in Wales without any operational EfW capacity). The Strategic Assessment clearly recognises the importance of the regional approach by identifying capacity according to regions.

3.29 The Strategic Assessment refers to the moratorium issued by the Written Ministerial Statement on 24th March 2021 on any future large scale energy from waste developments. For the purposes of the moratorium 'large scale' is defined as plants of 10MW or greater.

3.30 The reason for the threshold is not clear in the assessment itself nor in any other documentation published by the Welsh Government and as such there does not appear to be any justification or rationale for the 10MW threshold. The applicant has sought further clarification from the Welsh Government on the moratorium and the Strategic Assessment and a full record of the exchange of email correspondence is included at Appendix D to this statement. The key headlines are as follows:

- The economic regions for waste management have been updated to reflect the Economic Action Plan areas as follows:
  - **South East Wales** - Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taf, Torfaen & Vale of Glamorgan;
  - **North Wales** - Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey & Wrexham
  - **South West and Mid Wales** - Powys, Carmarthenshire, Ceredigion, Neath Port Talbot, Pembrokeshire & Swansea
- Fifteen out of the twenty two Local Authorities in Wales have entered into long-term contracts for the management of the residual municipal wastes they collect. The contracts do not include Powys, Ceredigion or Wrexham (all are within a 2 hour drivetime of the proposed development) and are as follows:
  - **Prosiect Gwyrdd (Trident Park) -** Caerphilly, Cardiff, Monmouthshire, Newport and Vale of Glamorgan.
  - **North West (NW) Residual Waste Treatment Partnership (Parc Adfer)** - Flintshire, Denbighshire, Conwy, Gwynedd and Anglesey Councils
  - **Tomorrow's Valley Partnership** - Blaenau Gwent, Torfaen, Rhondda Cynon Taff, Merthyr Tydfil, Torfaen

- The moratorium is a material planning consideration;
- The available operating capacity identified in the Strategic Assessment is for two facilities – the energy from waste plants at Parc Adfer in Deeside, and at Trident Park in Cardiff;
- There is no formal decision document available (and nor was one made available prior to the publication of the documents due to the lack of a robust consultation process) which sets out the detailed reasoning for the moratorium, and why a moratorium was put into place rather than any other measures; and
- the model showing how the projections were derived from each of the baseline data sources was developed for the Welsh Government by Local Partnership and is a proprietary model that cannot be made available to the Applicant.

3.31 Notwithstanding the moratorium, the Strategic Assessment confirms that the capacity ranges identified for any given region:

> *"…will be a material consideration* ***in the wholly exceptional circumstances*** *where large scale energy from waste proposals of 10MW or greater have, or may, come forward."* [Our emphasis]

3.32 In this light, it is considered that even with the moratorium in place, the provisions still remain for large scale development proposals to come forward. However, the status of the moratorium, the legality of its preparation and issue, and the corresponding weight that can be attached to it in decision-making is questionable and open to challenge.

3.33 Returning to the matter of exceptional circumstances raised above, and in the event that any weight is given to the moratorium, it is considered that such circumstances do exist in the case of the proposed development for the following reasons:

- The strategic assessment clearly defines a need for the facility in the region in which it is located;
- The level of need identified, even at its lower range, exceeds the capacity of the proposed development;
- The proposed facility will recover circa 13MW of low carbon electricity to be provided to the grid from waste that would otherwise be disposed of in landfill;
- The proposed development offers the opportunity to provide heat to off-takers in the form of new employment generating development on the allocated employment area;
- The proposed development could act as a catalyst for development of the employment land creating a business cluster
- The proposed development is appropriately located to deal with waste generated on both sides of the Wales – England border this making an important contribution on a greater than national or regional scale to the objective to direct waste away from landfill;
- If the WG's zero waste ambitions up to 2050 are not realised, the proposal will address any shortfall and, importantly, prevent a substantial amount of waste going to landfill or being transported out of the region, contrary to the proximity principle;
- The Applicant is willing to agree to planning conditions (to be agreed with PCC) to

limit the operational life of the ERF subject to the availability of residual waste to ensure that the proposed development does not undermine the WG's objective to achieve zero waste;

- The proposed development will comply with the proximity principle contained in the Waste Framework Directive as part of an integrated and adequate framework of waste disposal installations to enable waste to be disposed of, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health; and
- In comparison to landfilling the waste, the proposed development will result in a CO2 equivalent impact saving of c.31,900 tonnes per annum.

3.34 In light of the above, it is considered that clear exceptional circumstances do exist to justify the proposed development in line with the Strategic Assessment.

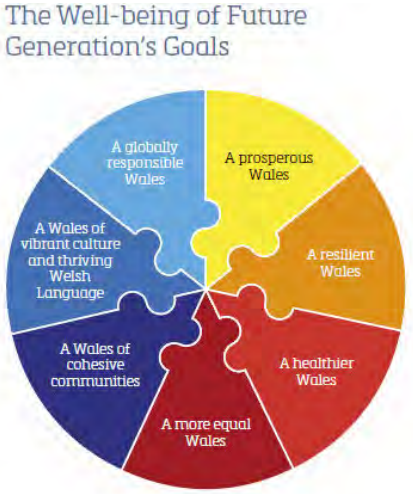
4 CONSISTENCY WITH GOVERNMENT OBJECTIVES

4.1 This section sets out the Applicant's response to the following request by the Inspector:

> *The Welsh Government has recently published its Programme for Government 2021-26 and Well-Being Statement (available on Gov.Wales). The Well-being Statement sets out the Welsh Government's latest well-being objectives, which are aligned to the well-being goals derived from the Well-Being of Future Generations Act; the Programme for Government sets out a series of actions through which the objectives will be met. The fifth well-being objective is to Embed our response to the climate and nature emergency in everything we do. The associated action commitments indicate a drive to reduce and avoid waste including legislation to abolish the use of more commonly littered, single use plastics and the introduction of an extended producer responsibility scheme to incentivise waste reduction by businesses. The applicant is invited to comment on the proposal's consistency with these objectives/commitments and the direction of travel that they indicate.*

The Well-being of Future Generations (Wales) Act 2015

4.2 The Act is relevant to all public bodies in Wales and the Welsh Government and imposes a duty to secure sustainable development by improving the economic, social, environmental and cultural well-being of Wales to achieve the 7 "*well-being goals*". The Well-being Act makes it clear that public bodies must work to achieve all of the goals, not just one or two. The Act is only applicable, however, to public bodies in Wales.



4.3 One of the well-being goals set in the Act is for a globally responsible Wales. Statutory guidance on the Act (Shared Purpose: Shared Future 1: Core Guidance) explains that action on climate change benefits both people and communities in Wales, whilst also contributing to the wider global effort to tackle the causes of climate change and reduce its effects.

4.4 Key matters highlighted in the guidance for bodies to focus attention are decarbonisation (including use of clean energy) and sustainable consumption and production.

4.5 Chapter 2 of this statement, together with Table 1 in the WPS, demonstrated how the proposed development can contribute to each of the well-being goals.

Welsh Government Well-being Statement

4.6 As a public body in Wales, the Welsh Government has a statutory duty to identify well-being objectives under the Well-being Act, to meet the seven well-being goals. The Well-being Statement sets out how the Welsh Government identified their ten well-being objectives in line with their statutory duty under the Well-being of Future Generations (Wales) Act 2015 ("the Well-being Act"), to meet the seven well-being goals.

4.7 The fifth well-being objective, as highlighted by the Inspector, is for Wales to *"Embed our response to the climate and nature emergency in everything we do"*. In addition to the fifth well-being objective, it is considered that the proposed development will also contribute to the fourth well-being objective: *"Build a stronger, greener economy as we make maximum progress towards decarbonisation".*

Welsh Government Programme for Government 2021-26

4.8 The Programme for Government 2021-26 was published in June 2021 and sets commitments that will help the Welsh Government deliver on the well-being objectives. The programme provides further detail on each of the identified Well-being Objectives.

4.9 The fifth Well-being Objective is as follows:

Embed our response to the climate and nature emergency in everything we do

We have the vision and ambition to address the climate and nature emergency. We will deliver a green transformation which starts in our local communities, with a focus on local green spaces, locally-grown sustainable food, locally-generated renewable energy and avoiding waste. We will make sure that nature and the climate are on the agenda of every public service and private sector business, and we will integrate positive action for nature into more of our economic activity.

We will:

- Legislate to abolish the use of more commonly littered, single use plastics.
- Introduce an extended producer responsibility scheme to incentivise waste reduction by businesses.
- Create a National Forest to extend from the North of Wales to the South.
- Harness the economic, cultural, and recreational potential of the National Forest as part of progress towards a sustainable timber industry.
- Create a new system of farm support that will maximise the protective power of nature through farming.
- Develop a Wales Community Food Strategy.
- Introduce legislation to deal with the legacy of centuries of mining and ensure coal tip safety; strengthening local authority powers to protect the public and the environment.
- Introduce a Clean Air Act for Wales, consistent with World Health Organisation guidance and extend the provision of air quality monitoring.
- Designate a new National Park to cover the Clwydian Range and Dee Valley.
- Support 80 re-use and repair hubs in town centres.
- Uphold our policy of opposing the extraction of fossil fuels in Wales, both on land and in Welsh waters, using the powers available to us.
- Expand arrangements to create or significantly enhance green spaces.

4.10 The relevant commitments from this objective highlighted by the Inspector are:

- *Legislate to abolish the use of more commonly littered, single use plastics; and*

- *Introduce an extended producer responsibility scheme to incentivise waste reduction by businesses.*

4.11 The Applicant considers that the following commitment under the fifth well-being objective is also important in the context of this Application:

- *Uphold our policy of opposing the extraction of fossil fuels in Wales, both on land and in Welsh waters, using the powers available to us.*

4.12 It is considered that the proposed development will also contribute to the fourth well-being objective: *"Build a stronger, greener economy as we make maximum progress towards decarbonisation"* which is as follows:

Build a stronger, greener economy as we make maximum progress towards decarbonisation

Devolution gives us the opportunity to re-build our economy and develop a modern and productive infrastructure which acts as an engine for inclusive and sustainable growth. We will create an economy which works for everyone, grounded in our values of progressive change – going forward together in the spirit of cooperation, not competition. New digital, economic and transport infrastructures will re-build and re-energise our communities.

We will:

- Launch a new 10-year Wales Infrastructure Investment Plan for a zero-carbon economy.
- Deliver the Digital Strategy for Wales and upgrade our digital and communications infrastructure.
- Create a modern legislative basis for transport in Wales.
- Lift the ban on local authorities setting up new municipal bus companies.
- Legislate to modernise the taxi and private vehicle sector and address the problems of cross-bordering.
- Implement our new Wales Transport Strategy.
- Build on the success of our concessionary travel scheme for older people and look at how fair fares can encourage integrated travel.
- Work towards our new target of 45% of journeys by sustainable modes by 2040, setting more stretching goals where possible.
- Take forward the Burns Commission report for Newport.
- Develop a new major routes fund to improve the attractiveness and biodiversity of areas alongside major transport routes in Wales.

4.13 The proposed development will meet an existing under-provision of energy recovery within the Mid and South West Wales economic region. An under-provision that, even in the best case, has been assessed at being around 170 to 220 thousand tonnes per annum.

Applicant's Response and Consistency with Well-being Objectives

4.14 The Programme for Government was published by the newly elected Welsh Government following the June 2021 election. As such, it represents the commitments (which the First Minister acknowledges, in the Foreword to the Programme, are 'ambitious and radical') that the Welsh Government are making for the next 5 years, it does not represent currently enacted government policy. In this light, any consideration of the proposed development's alignment with the Programme must be taken within the context provided by the current policy identified in the preceding Chapters of this report.

4.15 The Well-being statement has been prepared in line with the Welsh Government's statutory duty under the Well-being of Future Generations (Wales) Act 2015 ("the Well-being Act"), to meet the seven well-being goals. The planning and waste policy assessment in Chapters 2 and 3 has demonstrated that the proposed development is in accordance with the policies of both Future Wales and PPW – both of which have been prepared in the context of the well-being of Future Generations Act.

4.16 Paragraph 2.33 of this statement identified that the proposed development would contribute to a range of aspects of the seven well-being goals. It will:

- Secure circa £130m of investment in the Mid-Wales region in a low carbon energy source being developed on allocated employment land; deliver employment opportunities that will be available to local people across a range of technical and support roles during construction (circa 300 FTE positions) and operation (circa 30 FTE positions); and act as a catalyst for future development on the employment allocation to make best use of the energy (heat and power) generated. **(Well-being Goals: A 'Prosperous Wales' and 'A More Equal Wales')**
- provide over 12MW of low carbon energy making a significant contribution to the reduction of GHG emissions by diverting waste away from landfill; delivering the part restoration of the quarry, retaining the adjacent geological SSSI, and providing landscape and biodiversity enhancements including extensive native broadleaf woodland, wetland habitats and open mosaic habitat. It will also be capable of supplying heat in the future should a suitable off-take be secured (potentially new businesses developed on the laydown areas) **(Well-being Goals: 'A Resilient Wales' and 'A Healthier Wales')**
- provide local people with an opportunity to access fulfilling work and protecting the Welsh Language. **(Well-being Goals: A Wales of Cohesive Communities' and 'A Wales of Vibrant Culture and Thriving Welsh Language')**
- contribute to the Welsh Government targets for sustainable waste management, reduction of carbon emissions and generation of renewable energy. Buttington ERF provides a long-term, sustainable opportunity to use waste as valuable resource to create energy and contribute to the goals of delivering development that is resilient to climate change, decarbonising society and developing a circular economy for the benefit of both the built and natural environments. **(Well-being Goal: 'A Globally Responsible Wales')**

4.17 Given the contribution the proposed development will make to the seven well-being goals, it is considered that it is in line with the Programme for Government which has been prepared to deliver against the same well-being goals. For this reason, the proposed development is considered to be compliant with the specific aspects of the Programme for government identified by the Inspector.

4.18 As identified in Chapter 3 of this Statement, the Strategic Assessment identified an under-capacity of energy recovery facilities in Wales of between 170 to 220 thousand tonnes per annum by 2035. This is however considered to be an under-estimation of the true level of under-capacity. In any event, the proposed development has a capacity (of 167,000tpa) which is below the lower under-capacity range identified in the strategic assessment. The position of the application site means that it is appropriately located to service this capacity in line with the proximity principle.

4.19 Energy recovery is widely acknowledged as a preferable waste management solution to landfill - this is reflected in its position above landfill on the waste hierarchy. It is also widely accepted that the UK should be aiming to phase out landfill as we transition to a circular economy, for environmental and ecological reasons, as well as effective land management. The Welsh Government's commitment to a zero waste economy is evident in both adopted waste policy and the well-being objectives. This will ultimately deliver a society in Wales that does not require landfill or incineration. As the evidence assembled in Chapter 3 has demonstrated, however, we have not reached that position yet and still have a considerable amount of progress to make over the next 25-30 years to realise the Welsh Government's ambition. Wales is, as is acknowledged in 'Beyond Recycling' in a period of transition to a circular economy. Whilst the

transition takes place, it is imperative that the capacity for energy recovery is in line with the waste being produced to minimise emissions generated throughout that period.

4.20 The proposed ban on single-use, hard to recycle and commonly littered plastics was also proposed by the 2016-21 administration of the Welsh Government in a statement made on 18th March 2020[9]. Whilst the legislation has yet to come into force, this does demonstrate that the commitment was present in the previous administration – the administration which prepared Beyond Recycling, the Strategic Assessment, PPW11 and Future Wales. Accordingly, it is logical to assume that compliance with those documents equates to compliance with the commitments on waste management held by the previous administration – commitments which included a restriction on single use plastics.

4.21 The facility at Buttington is expected to contract RDF waste (Refuse Derived Fuel). This is residual waste that has been 'pre-treated' in a MRF (Materials Recovery Facility) in order to maximise recovery of materials that can be recycled. Should the Welsh Government succeed in legislating to abolish the use of more commonly littered, single use plastics, then this will reduce the volume of material available for both energy recovery and landfill. Additionally, as the plastic (inorganic) content in residual waste decreases (with increased ability to recycle these materials) and becomes increasingly biogenic (organic), the GHG emissions from energy recovery will decrease, thereby improving their contribution to decarbonisation. Whilst much organic waste is processed separately, there will remain an underlying need for residual waste treatment, as outlined in the Strategic Assessment.

4.22 Provision of the facility will not in any way affect the Welsh Government's legislative provisions on single use plastics as this would be brought in at a national (Wales) level. The direct impact of any such legislative change would be a resultant increase in recycling rates as single use plastic is replaced with recyclable plastic and other materials. If anything, a potential ban on single use plastics therefore represents a commercial risk to the applicant, rather than a disincentivisation to recycle. Should the restriction be introduced through legislation, then this will result in a reduction in the volume of waste available for energy recovery, and the volume of waste being processed at the proposed facility. This risk applies equally to any Welsh Government incentivisation to businesses to reduce their waste. At the current stage, however, no reliable evidence base is available to forecast the impact of the anticipated ban on future waste volumes or any business incentives that may be introduced.

4.23 The proposed development will also make a substantial contribution to the fourth well-being objective: *"Build a stronger, greener economy as we make maximum progress towards decarbonisation*". The Applicant has commissioned a WRATE analysis to assess the environmental impacts of the ERF facility over its lifetime. The WRATE life cycle software assesses the environmental impacts from kerbside collection to advanced waste treatment facilities and ultimate disposal (see www.wrate.co.uk for more details). The assessment has been undertaken based on hypothetical technical operating conditions for the proposed facility (using data provided by the proposed future operators Hitachi Zosen Inova AG) with a proposed project year of 2021. A copy of the assessment report is included at Appendix E to this statement.

4.24 The findings of the WRATE assessment show that the proposed development will result in a saving of c.31,900 tonnes of CO_2 equivalent impact per annum compared to landfilling the waste.

[9] Single use plastics to be banned in Wales | GOV.WALES

This benefit is primarily derived from a combination of the energy recovery, recycling (of metals from the process residue) and avoided methane (that is generated by the landfill alternative). It is equivalent to taking 11,350 average petrol cars off the road in emissions terms. The carbon benefit of the electricity generated and exported from the facility is also sensitive to the marginal energy mix (i.e. what is considered displaced), this will change over time. The approach taken includes the embedded carbon in constructing the facility, operating / maintaining the plant and managing / transporting the outputs, including all related emissions.

4.25 In response to the Inspector's question, it is considered that the proposal is entirely consistent with the fourth and fifth well-being objectives as it will:

- provide a sustainable solution for the management of waste whilst generating low carbon electricity;
- help achieve the Welsh Government's ambitions for decarbonisation;
- contribute to employment and economic growth in Powys and the Mid-Wales Economic Area;
- allow waste to be diverted from landfill by addressing the under-capacity identified in the Strategic Assessment
- provide opportunities for off-site utilisation of heat generated through the process;
- align with the waste hierarchy by diverting up to 167,000 tonnes of waste from landfill per annum;
- ensure that waste generated within the catchment area will be managed through the closest appropriate facility.

4.26 The Application is consistent with the commitments set out in the Programme for Government to abolish the use of more commonly littered, single use plastics, and to incentivise waste reduction by businesses. The Application and commitments together contribute to reduce waste disposal to landfill, in line with the waste hierarchy of Prevention, Re-use, Recycling, Recovery, Disposal as set out in the Waste Framework Directive.

4.27 The Applicant welcomes the actions set out in the Programme for Government to reduce waste, and use of unrecyclable plastic, but as demonstrated above, there is a current need for facilities to recover energy from waste as there is still waste being sent to landfill. The proposal does not encourage Wales to increase or maintain its current level of waste generation but provides a solution to processing waste that cannot be re-used or recycled, in line with the waste hierarchy, as Wales transitions towards its zero waste objectives.

5 APPLICANT'S COMMENTS ON THE LOCAL IMPACT REPORT

5.1 This section sets out the Applicant's response to the following request by the Inspector:

Any response that the applicant wishes to make to the Local Impact Report (LIR) from Powys CC. for information, the Inspector wishes to discuss the following issues in the Hearing sessions: the regional need for Energy Recovery Facility (ERF) [5.1-5.11], the Landscape and Visual Impact (LVIA) of the proposal and the assessment of significance [5.39-5.51], impacts on nearby properties as a result of noise [5.100-5.109], geotechnical issues including slope stability [5.110-5.116] and the potential for the re-use of material within the site and as secondary aggregate [5.10, 5.115, 5.118]. These matters may be addressed in the Hearing Statements.

5.2 The Applicant has already responded in part to comments raised in the LIR as part of its August 2021 response to the Planning Inspectorate formal request for further information. Matters already addressed in the Applicant's previous response to the Planning Inspectorate are:

- the LVIA of the proposal and the assessment of significance [LIR Paragraphs 5.39-5.51];
- impacts on nearby properties as a result of noise [LIR Paragraphs 5.100-5.109]; and
- geotechnical issues including slope stability [LIR Paragraphs 5.110-5.116].

5.3 Other matters raised in the LIR, that are addressed in this response are:

- the regional need for the ERF [5.1-5.11]
- points made in the LIR with regard to the potential for the re-use of material within the site and as secondary aggregate [5.10, 5.115, 5.118].

5.4 It is anticipated that the issues raised by Powys CC will be discussed in detail at the Hearing Sessions. The responses in this Statement provide the Applicant's initial response to the remaining matters raised in the LIR, and the Applicant reserves the right to provide further information in response to the LIR as part of the hearing sessions.

5.5 In its LIR, PCC has confirmed that the purpose of Policy W1 of the adopted LDP is to "*facilitate an integrated and adequate network of waste management facilities in sustainable locations in line with national policy and guidance and in accordance with the waste hierarchy*". Whilst this is correct, it is considered that PCC has utilised the wrong data source to assess the need for an ERF within the region.

5.6 At paragraphs 5.4, 5.7 and 5.11 of the LIR, the application site is identified as being located within the 'North Wales Waste Region'. This is incorrect, however, as the administrative area of Powys is located within the Mid & South West Wales Region in accordance with the Economic Action Plan Areas. This has been confirmed in email correspondence with the Welsh Government's Planning Division (see Appendix D). As a direct result, the LIR only considers the need for the facility in the context of the North Wales region and specifically for Powys as a catchment area in isolation. The LIR also assumes that the capacity at Parc Adfer will be utilised entirely for waste derived in Wales – the data secured by the applicant has shown this is not the case with 37% (circa 70,000 tonnes) of the waste processed there (2020 data) coming from England.

5.7 As has been highlighted earlier in this report, Powys falls within the Mid & South West Wales Region where an under-provision of energy recovery has been identified at around 170 to 220

thousand tonnes per annum. As has also been highlighted in earlier chapters, this capacity is considered to represent a conservative position given the limitations of the Strategic Assessment in its consideration of cross-border waste movements and a lack of an allowance for population and economic growth.

5.8 The planning and waste policy context clearly identifies a need for a network of waste management infrastructure which caters for a wider catchment than simply its host authority area. In this respect, it is considered that criterion 6 of Policy DM13 (referred to as DM16 in the LIR) (local need) is not applicable to the proposed development. As a DNS, the application falls to be determined against Future Wales and the adopted LDP – both of which provide support for the principle of the development in this location. The adopted LDP:

- allocates the site for employment development under Policy E1; and
- identifies the site as a suitable location for waste development in line with Policy W1.

5.9 In light of the above, it is considered that the conclusions drawn by PCC on the need for the facility are fundamentally flawed. The impact of the proposal from a need perspective is unquestionably positive as it will address a regional capacity gap in a sustainable location at the crossroads of three waste regions and the border with England. This is particularly relevant in light of the high levels of waste in Powys still being sent to landfill (and in locations remote from the County).

5.10 PCC has also queried the carbon benefits of the proposed development at paragraph 5.14 of the LIR. As the WRATE assessment has demonstrated, the proposed development will result in a saving of c.31,900 tonnes of CO_2 equivalent impact per annum compared to landfilling (equivalent to taking 11,350 average petrol cars off the road per annum).

5.11 At paragraph 5.17, the LIR refers to criterion 14 of Policy DM13 (although the LIR refers to it incorrectly as DM14) in relation to the need for the technical feasibility and financial viability of community /district heating networks wherever a development proposal's heat demand density exceeds 3MW/km^2. It is considered that this policy criterion relates to developments with a heat demand rather than a heat supply and as such is not applicable in this case.

5.12 The LIR also comments on the availability of the land within the employment allocation once the development is operational. The Applicant has secured a lease for the operational area of the plant but has no control over the future of the allocated employment area post-construction. The Applicant can confirm that the area will be restored post-construction and as such will be available for development in line with the LDP. In terms of the future development at the site, this could include:

- A carbon capture system can be incorporated into the ERF development area once operational with the CO_2 captured available for use in a number of applications, for example, enhanced oil recovery, manufacture of bio fuels, building materials, fertiliser production, refinery hydrogen production.
- The surplus heat generated could be used by future developments on the laydown areas, for example, agritech greenhouse, data centres, an Anaerobic Digestion plant, kiln drying of timber;
- There is also potential for an Incinerator Bottom Ash (IBA) and Air Pollution Control Residues (APCRs) Reprocessing facility to be developed building on the quarrying heritage of the site.

5.13 The Applicant has no control over the future delivery of uses on the adjacent land but will ensure the laydown areas are available for development once the ERF is operational.

5.14 PCC's comments with respect to the export of around 162,200m^3 of site won material is noted (LIR paragraphs 5.10, 5.115, 5.118). The Applicant is considering options for the material and will provide further submissions on this matter at a later stage in the Examination. One potential option being explored is the use of the material to create a flat development platform at the nearby Sale Farm to allow for the development of agritech glasshouses which would utilise the heat produced by the ERF.

5.15 As part of the LIR, PCC has provided a set of draft planning conditions along with making suggestions that other conditions could be considered in relation to the operational life of the proposed development and site decommissioning. The Applicant recognises the zero waste ambitions of the Welsh Government, but we are 29 years away from the 2050 target, and during the intervening period, it is critical that we maximise our ability to continue on the current trajectory. It is accepted that energy recovery plants built now may have a limited operational life so the Applicant is exploring ways in which the operational life of the plant could be limited by condition to cease operation subject to the zero waste target being achieved. The Applicant is currently engaged with PCC on these matters and will seek to agree a set of draft conditions with PCC for submission to the Examination. At the current stage, these draft conditions are expected to include:

- A commitment to CCS installation by 2030, ensuring the facility is carbon neutral or negative; and
- Stepped limits on the operations of the facility, which will be linked to the level of residual waste produced within the catchment area. These limits will include a reduction in the capacity of the facility based on residual waste volumes available.

6 APPLICANT'S RESPONSE TO BUTTINGTON INCINERATOR IMPACT GROUP

6.1 This section sets out the Applicant's response to the following request by the Inspector:

Any response that the applicant wishes to make to the objections made by BIIG (and other objectors). Issues raised include matters to be addressed in the Hearings and the following: sustainability issues (including Carbon generation as a result of incineration), the applicant's consideration of alternative sites for an ERF, the effect of the ERF on air quality especially possible issues with temperature inversion, impacts on human health, highway safety issues, the effect on the local economy, the adverse impacts on local cultural heritage and BIIG comments on the waste planning statement.

6.2 The Buttington Incinerator Impact Group (BIIG) submitted a comprehensive response to the Planning Inspectorate's consultation as part of its Examination of the Application. The Applicant has already responded in part to BIIG's objections as part of its August 2021 response to the Planning Inspectorate formal request for further information. Matters already addressed in the Applicant's previous response to the Planning Inspectorate are:

- the effect of the ERF on air quality especially possible issues with temperature inversion;
- impacts on human health;
- highway safety issues,
- the effect on the local economy, and
- the adverse impacts on local cultural heritage.

6.3 Other matters raised by BIIG, that are addressed in this response are:

- Needs and alternatives
- Carbon generation
- Policy compliance

6.4 It is anticipated that the issues raised by BIIG will be discussed in detail at the Hearing Sessions. The responses in this Statement provide the Applicant's initial response to the remaining matters raised by BIIG, and the Applicant reserves the right to provide further information in response to BIIG as part of the hearing sessions.

6.5 Earlier chapters of this statement presented a detailed analysis of the need for the facility and the appropriateness of its location. This analysis has not been repeated in this chapter, but the response to BIIG's comments presented here should be read in conjunction with the analysis presented elsewhere, particularly in Chapters 2 and 3.

Need & Alternatives

6.6 The response by BIIG in relation to the need for the Application makes reference to 'Beyond Recycling' and the strategic assessment for the future need for energy from waste (EfW) capacity in the economic regions of Wales, both of which were published in March 2021, and make reference to the moratorium on any future large scale energy from waste developments.

6.7 Chapter 3 of this statement provides a detailed account of the current position with respect to the need for the proposed development. It is considered that the development will meet an under-provision in the Mid and South West Wales Economic Area and as such is entirely justified. Furthermore, the development is proposed on an allocated site within the adopted LDP that is identified as a suitable location for waste development. In light of this, the assessment of need and alternative sites is not required in planning policy terms.

6.8 Notwithstanding this, a full assessment of all potential waste sites identified in the adopted LDP has been undertaken. The results are presented as Technical Appendix 3.2 to the ES. It is considered that the assessment was entirely proportionate and robust. It identified that the application site was the only suitable and viable option for an energy recovery facility.

Carbon Generation

6.9 The Applicant has commissioned a WRATE analysis to assess the environmental impacts of the ERF facility over its lifetime. The WRATE life cycle software assesses the environmental impacts from kerbside collection to advanced waste treatment facilities and ultimate disposal (see www.wrate.co.uk for more details). The assessment has been undertaken based on hypothetical technical operating conditions for the proposed facility (using data provided by the proposed future operators Hitachi Zosen Inova AG) with a proposed project year of 2021. A copy of the assessment report is included at Appendix E to this statement.

6.10 The findings of the WRATE assessment show that the proposed development will result in a saving of c.31,900 tonnes of CO_2 equivalent impact per annum compared to landfilling the waste. This benefit is primarily derived from a combination of the energy recovery, recycling (of metals from the process residue) and avoided methane (that is generated by the landfill alternative). It is equivalent to taking 11,350 average petrol cars off the road in emissions terms. The carbon benefit of the electricity generated and exported from the facility is also sensitive to the marginal energy mix (i.e. what is considered displaced), this will change over time. The approach taken includes the embedded carbon in constructing the facility, operating / maintaining the plant and managing / transporting the outputs, including all related emissions.

Policy compliance

6.11 An assessment of the proposed development against the statutory development plan and other policy considerations was provided in Chapters 2 and 3 of this Statement. This assessment demonstrated that the proposals are in accordance with Future Wales, the adopted LDP, PPW and TAN21 and also comply with the Welsh Government's policy and strategy on waste.

7 CONCLUSION

7.1 This statement has been prepared in response to the formal request for further information from Broad Energy (Wales) Ltd in relation to the application for the Buttington Quarry Energy Recovery Facility (DNS ref: 3214813). The request was issued by the Inspectorate (on 12 July 2021 under Regulation 15(2) of the Developments of National Significance (Wales) Regulations 2016 (as amended).

7.2 The Statement has been prepared by Barton Willmore LLP on behalf of Broad Energy (Wales) Ltd.

7.3 The statement has responded to the Inspector's request for further information by providing a detailed analysis of the following key matters:

- The planning policy context provided by the statutory development plan;
- The policy context provided by PPW and the associated TAN 21;
- The Welsh Government's waste strategy and waste management plans;
- the regional need for additional facilities established by the Welsh Government's strategic assessment of the future capacity for energy from waste facilities (and the inherent limitations of those figures); and
- the moratorium on large scale energy from waste facilities in Wales, its legality, and the weight that should be attached to it in the planning balance.

7.4 The policy assessment has demonstrated that the principle of the development of an Energy Recovery facility at Buttington Quarry is clearly in accordance with the statutory development plan, both at the national and local levels. Alongside this, the provisions of Planning Policy Wales (PPW) and Technical Advice note 21: Waste (TAN21) also support the development proposed. The site will provide low carbon energy in accordance with Future Wales on a site identified in the adopted LDP as employment land suitable for waste development. It will also contribute to the seven well-being goals of the Well-being of Future Generations (Wales) Act 2015. In summary, the proposed development:

- will secure circa £130m of investment in the Mid-Wales region in a low carbon energy source being developed on allocated employment land;
- will deliver employment opportunities that will be available to local people across a range of technical and support roles during construction (circa 300 FTE positions) and operation (circa 30 FTE positions);
- will provide circa 13MW of low carbon energy making a significant contribution to the reduction of GHG emissions by diverting waste away from landfill and deliver the part restoration of the quarry,
- will act as a catalyst for future development on the employment allocation creating a business cluster to make best use of the energy (heat and power) generated;
- will contribute to the Welsh Government targets for sustainable waste management, reduction of carbon emissions and generation of renewable energy;
- will not have a significant impact on local air quality, human health or sensitive habitat sites, nor give rise to any significant odour impacts during construction, operation or decommissioning;
- will not have any significant adverse effects on the local highway network;

- will not have an unacceptably adverse landscape and visual impact;
- will retain the adjacent geological SSSI and provide landscape and biodiversity enhancements including extensive native broadleaf woodland, wetland habitats and open mosaic habitat.
- is consistent with relevant biodiversity planning policy and is considered to contribute to the aims of the Environment (Wales) Act in maintaining and enhancing biodiversity and promoting the resilience of ecosystems;
- will not have any significant adverse effects on the water environment;
- will not have any significant impacts on built heritage or any potential below ground archaeological remains; and
- will not result in any significant cumulative impacts either alone or in combination with other development.

7.5 The Application is also consistent with the commitments set out in the Programme for Government to abolish the use of more commonly littered, single use plastics, and to incentivise waste reduction by businesses. The Application and commitments together contribute to reduce waste disposal to landfill, in line with the waste hierarchy of Prevention, Re-use, Recycling, Recovery, Disposal as set out in the Waste Framework Directive. The proposal does not encourage Wales to increase or maintain its current level of waste generation but provides a solution to processing waste that cannot be re-used or recycled, in line with the waste hierarchy, as Wales transitions towards its zero waste objectives.

7.6 The proposed development is clearly compliant with the statutory development plan and the Welsh Government's waste strategy. On the matter of the moratorium, the legal position statement included at Appendix B concluded that the moratorium is unlawful and should be given no real weight in the planning balance due to legal errors apparent in its production. However, the Welsh Government's Strategic Assessment is clear that large-scale facilities may come forward in exceptional circumstances, and that the need identified in the Strategic Assessment constitutes such a circumstance. Notwithstanding the legal position on the moratorium, even if it is given some weight in the planning balance, it is considered that the following constitute exceptional circumstances which justify the approval of the proposed development:

- The strategic assessment clearly defines a need for the facility in the region in which it is located (a region which does not have an energy recovery facility at present and currently landfills over 20% of its municipal waste);
- The level of need identified, even at its lower range, exceeds the capacity of the proposed development;
- The proposed facility will recover circa 13MW of low carbon electricity to be provided to the grid from waste that would otherwise be disposed of in landfill;
- The proposed development is appropriately located to deal with waste generated on both sides of the Wales – England border this making an important contribution on a greater than national or regional scale to the objective to direct waste away from landfill;
- If the WG's zero waste ambitions up to 2050 are not realised, the proposal will address any shortfall and, importantly, prevent a substantial amount of waste going to landfill or being transported out of the region, contrary to the proximity principle;

- The Applicant is willing to agree to planning conditions (to be agreed with PCC) to limit the operational life of the ERF subject to the availability of residual waste to ensure that the proposed development does not undermine the WG's objective to achieve zero waste; and
- The proposed development will comply with the proximity principle contained in the Waste Framework Directive as part of an integrated and adequate framework of waste disposal installations to enable waste to be disposed of, in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health;
- In comparison to landfilling the waste, the proposed development will result in a CO2 equivalent impact saving of c.31,900 tonnes per annum (the equivalent of taking 11,350 average petrol cars off the road in emissions terms).

7.7 The proposed development at Buttington Quarry will deliver a long-term, sustainable waste management solution that will use waste as valuable resource to create energy and contribute to the goals of delivering development that is resilient to climate change, decarbonising society and developing a circular economy for the benefit of both the built and natural environments. It is entirely in accordance with the statutory development plan and planning permission should be granted accordingly.

Appendix A

Summary of Issues Raised in the LIR that would be Covered by the Environmental Permit

Issues Raised in the LIR that would be Covered by the Environmental Permit

Relevant extracts from Planning Policy Wales Edition 11

"Planning authorities, other relevant local authority departments and Natural Resources Wales (NRW) must work closely together to ensure that conditions attached to planning permissions and those attached to Environmental Permits are complementary and do not duplicate one another." (PPW11, Paragraph 5.13.3)

"NRW has a statutory role in relation to the management and regulation of waste and the collection of waste production and management data. It has a key role in providing expert advice to planning authorities as part of development plan preparation and as a consultee on certain planning applications. This role is important in assisting planning authorities in evaluating complex waste information and making technical judgments, where necessary." (PPW11, Paragraph 5.13.6)

LIR Paragraph Number	Issue Arising	How Covered by Environmental Permit
5.65	Acceptability of assessment and conclusions with regard to impact on SSSI and Ancient Woodland	The Air Dispersion Modelling Assessment of Releases from the Energy Recovery Facility at Buttington Quarry (ECL.001.01.02/ADM) submitted as ES Technical Appendix 6-1 will be submitted as part of the Environmental Permit application to be submitted to NRW. NRW will only grant a permit if the impact is considered acceptable.
5.86	Impacts of the development on the water environment	Drainage details will also be submitted as part of the Environmental Permit application. NRW will have to be satisfied that the application poses no risk to controlled waters prior to granting a permit. On permit issue, conditions will be set which will specify any point source emissions to water, what may be contained in those emissions and any emission limits. There are no process related emissions to water. The Environmental Permit will also specify that ground water testing must be undertaken every 5 years, and surface water testing will be undertaken as specified in the permit. NOTE: Drainage will also be subject to a separate SUDS application.
5.88 – 5.89	Ground Contamination	An application site condition report will be submitted with the Environmental Permit application. This will describe the condition of the land at permit issue. The report will contain all information necessary to determine the site of the soil and groundwater contamination in order to make a quantified comparison upon cessation of activities and permit surrender. Groundwater (every 5 years) and soil (every 10 years) monitoring will be undertaken.
5.94	Emissions from the ERF contaminating the food chain	A Human Health Risk assessment will be submitted with the permit application which conders the deposition of aerial emissions on land, and uptake through the food chain. This will be assessed by NRW during Environmental Permit application. NRW will only grant a permit if the impact is considered acceptable.
5.97	Odour	The Environmental Permit will contain a condition that requires emissions from the activities to be free from odour at levels likely to cause pollution outside the site or the permit will specify noise levels which are not to be exceeded at the site boundary or at specified locations.
5.105 - 5.108	Noise	The Environmental Permit will contain a condition that requires emissions from the activities will be free from noise and vibration at levels likely to cause pollution outside the site.

Appendix B

Legal Position statement by Matthew Reed QC

IN THE MATTER OF THE WELSH WRITTEN MINISTERIAL STATEMENT DECLARING A MORATORIUM ON LARGE SCALEENERGY FROM WASTE FACILITIES

AND IN THE MATTER OF BUTTINGTON QUARRY

LEGAL POSITION STATEMENT ON THE WELSH GOVERNMENT MORATORIUM ON LARGE SCALE ENERGY FROM WASTE FACILITIES

1. This Position Statement deals with the following matters:

   1.1. The weight to be placed upon Moratorium.

   1.2. Whether exceptional circumstances exist in the present case, if the Moratorium is to be given weight.

The Background

2. Broad Energy (Wales) Limited ("BEWL") has made a planning application ("the Application") for the construction of an energy from waste ("EfW") facility ("the Project") at Buttington Quarry ("the Site"), near Welshpool, close to the border with England.

3. The Application is accompanied by a Waste Planning Statement ("the WPS") produced by Carter Jonas which addresses, amongst other matters, the need for the facility. The WPS was updated in order to take into account the matters dealt with below and was submitted to the Examination as Appendix 1 to the "*Buttington Energy Recovery Facility Response to Letter Ref: DNS/3214813*" report (ECL Ref: ECL.001.01.02/RTL), dated 19th April 2021 ("the Updated WPS").

4. The Project is designed to receive 167,000 tonnes of residual municipal commercial and industrial waste per annum.

5. BEWL is currently in discussions with Powys County Council ("PCC") and is seeking to agree a number of conditions to be attached to the planning permission, if it is granted.

6. A number of policy documents have set out the Welsh Government's ("WG") consistent interest in reducing the amount of waste produced in Wales and driving waste up the waste hierarchy.

7. In 2010, the WG published *Towards Zero Waste* ("TZW"). The document set out two milestones; at 2025, "towards zero waste" (zero waste is defined as an aspirational end point where all waste that is produced is reused or recycled as a resource, without the need for any landfill or energy recovery). "Towards zero waste" means that waste will be significantly reduced "through actions on sustainable consumption and production and will manage any waste that is produced in a way that makes the most of our valuable resources. This will mean that we will maximise recycling and minimise the amount of residual waste produced, and eliminate landfill as far as possible"[1]. The second is, by 2050, achieving zero waste; this means "we will reduce the impact of waste in Wales to within our environmental limits (which we define as 'one Wales: one planet' levels of waste, roughly 65% less waste than we produce now), aiming to phase out residual waste through actions on waste prevention and sustainable consumption and production so that the only waste that is produced is reused or recycled as a resource (thus meeting the aspirations of the 'zero waste' philosophy)". Part of the means of achieving the 2025 target is by way of waste prevention which seeks to reduce waste arisings across all sectors by around 1.5%.

8. A stepped diagram showing some of these aims is included in the document. This indicates[2] that, by 2025, the intention is that "residual waste is phased out of landfill to high energy efficiency Energy from Waste plants". It also states that, by 2050, "100% recycling, no residual waste, no Energy from Waste".

9. An important aim of TZW is to reduce the amount of landfill. TZW notes that ½ of the 1.4 billion tonnes of carbon dioxide-equivalent emissions from waste come from landfill sites.

10. TZW indicates that the waste prevention targets will be delivered through the Sector Plans ("SPs")[3].

11. The TZW referred to a number of principles deriving from European law relating to waste and noted the need to comply with the proximity principle contained in the Waste Framework Directive ("the Directive"); the Directive's proximity principle requires the establishment of an integrated and adequate framework of waste disposal installations to enable waste to be disposed of, in one of the nearest appropriate installations, by

[1] pg. 45
[2] pg. 46
[3] pg 65

means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health[4]. TZW states that the proximity principle must be applied in Wales when decisions are taken on the siting of appropriate waste facilities[5].

12. It is to be noted that in the TZW Progress Report (2015) energy from waste is defined as follows[6]:

technologies include anaerobic digestion, direct combustion (incineration with energy recovery), use of secondary recovered or refuse derived fuel (an output from mechanical and biological treatment processes), pyrolysis and gasification (including plasma gasification). Any given technology is more beneficial if heat and electricity can be recovered. The Waste Framework Directive considers that where waste is used principally as a fuel or other means to generate electricity it is a recovery activity provided it complies with certain criteria, which includes exceeding an energy efficiency threshold.

13. In July 2012, the WG published the *Collections, Infrastructure and Markets Sector Plan, Towards Zero Waste* ("the CIM Sector Plan"). The CIM Sector Plan is stated to be part of the "waste management plan" ("the WMP") for Wales alongside the TZW, regional waste plans and local development plans. The WMP is produced under the Waste (England and Wales) Regulations 2011 ("the 2011 Regulations").

14. The introductory section of the document indicates that its purpose is to set out the steps to achieve Wales' sustainable development goal. It states, in part, as follows:

Until we reach our 2050 goal of a zero waste society we will need to continue collecting some wastes that cannot be effectively recycled. For these wastes, efficient energy recovery that produces heat and electricity in properly controlled and regulated facilities is preferable to continued landfilling. Here, we recognise there is a difficult balance to be struck to ensure we have sufficient capacity to deal with our waste arisings in the short term without impeding the achievement of our long-term goals. Our proposed measures to increase recycling and limit other forms of disposal or recovery such as landfill or energy fromwaste, will ensure that we achieve this.

15. The Plan makes an assessment of the recovery capacity which will be required by 2024-2025. It states[7]:

There is a need across Wales to develop more residual waste treatment and recovery facility capacity. The future needs for residual mixed waste treatment and recovery cannot be predicted with any complete certainty due to the variety of factors that will affect future tonnages and a variety of factors that affect actual existing capacity. A range of best estimate capacity requirements for each region and Wales as a whole for 2024-25 is summarized as:

[4] Pg. 20.
[5] Pg 21.
[6] Pg. 81.
[7] Pg. 83.

North Wales: *203 to 468 thousand tonnes per annum.*
South East Wales: *411 to 861 thousand tonnes per annum.*
South West Wales: *34 to 327 thousand tonnes per annum.*
Wales total: *648 to 1,656 thousand tonnes per annum*

16. The following observations were made on these estimates:

The aim is to establish enough facilities to ensure an integrated and adequate network (which must also take account of spatial needs) whilst aiming at the same time to avoid over provision (which then has the potential to undermine the waste hierarchy).

It must be noted that this section and the data therein contain a number of estimates, caveats and assumptions. It represents the best data available to the Welsh Government at the present time. Great care will need to be exercised in the use of the information provided herein; it is likely when making decisions on residual waste facilities that this data will need to be supplemented by other data, including more regional and locally derived data and other relevant considerations, as appropriate.

The information also represents a snapshot in time. The position will change significantly as new facilities come on line and existing ones close. Therefore careful monitoring will be necessary to ensure that under/over provision is not made (and therefore the forecasted needed capacity ranges may change).

The Welsh Government will need to publish periodic updates of this information and analysis to reflect changes in waste production quantities, recycling rates, new planning permissions, new environmental permits, closures of existing facilities and any other relevant changes (including commercial decisions from waste facility operators).

17. The positive role of EfW in dealing with waste is set out in the CIM Sector Plan[8]:

d. Energy recovery for "difficult" wastes
The Welsh Government will encourage the development of appropriate energy from waste routes for separated combustible wastes that are difficult to recycle where this is the best environmental option as determined by life cycle thinking. Guidance on allowable deviations from the waste hierarchy has been published by the Welsh Government.

18. And again[9]:

Evidence gathered by the Welsh Government indicates that the treatment method most likely to deliver best the sustainable development outcomes identified in One Wales, One Planet and in 'Towards Zero Waste' for residual waste is the "Use as a fuel of the residual municipal waste left after recycling in energy recovery plants with high energy efficiency".

Treatment of residual waste in high efficiency energy from waste facilities yield significant reductions in greenhouse gas emissions as compared to other treatment options that include an element of landfilling, as verified by life cycle assessment studies.

19. This is reiterated in the following section[10]:

The Welsh Government recognises that in the medium term (until all products are designed in way that can be recycled and the markets are available to recycle all of them) there will be waste arisings in

[8] Pg. 213.
[9] Pg. 218.
[10] Pg. 224.

Wales which cannot be recycled easily or cost effectively. These residual wastes need to be collected appropriately and treated in a sustainable way in Wales as far as possible, in accordance with the waste hierarchy which places priority to "other recovery" over disposal.

Studies undertaken by the Welsh Government and the Wales Regional Waste Groups determined that high efficiency energy from waste options are the optimal management route for these wastes that cannot be prevented or recycled.

In order to ensure that the recovery of residual waste activities in Wales deliver the key sustainable development outcomes identified in 'Towards Zero Waste', that they deliver the objectives identified in Section 3.6.3 above, and that the gaps in provision identified in Section 2 are addressed, effort needs to be focussed on the following actions in respect of collecting residual waste, infrastructure to recover it and markets to use the outputs from the recovery process.

20. The Plan sets out how high efficiency EfW facilities will be delivered[11].

21. The document sets out a number of steps to assist with reuse, recycling and recovery[12]. Regarding recovery, the actions include, in part:

-Provide support for the local authority procurement of capacity to treat residual municipal waste in Wales, and for the development of capacity to treat residual waste from other sectors.

-Support the development of appropriate energy recovery options for the optimal recovery of energy from residual waste in Wales, including the development of markets for heat output and processed combustion as well as electricity.

22. The application of the proximity principle in the delivery of EfW facilities is also set out in the Sector Plan[13].

23. The WG published Technical Advice Note 21 ("TAN21") on waste in 2014. This made clear the role of EfW facilities[14]:

The recovery of energy from mixed municipal waste in high efficiency facilities is considered by Welsh Government to be a vital component of the waste management system in Wales. Such facilities are currently considered to represent the most sustainable outcome for mixed municipal waste.

24. The document indicated the need for the nearest appropriate installations for waste facilities required by article 16 of the WFD[15]; again, national policy sets out the need to comply with the proximity principle.

25. On the issue of the need for recovery facilities, the document states as follows:

[11] Pg. 225.
[12] Pg. 12.
[13] Pg. 233.
[14] Para. 2.7.4.
[15] Para. 2.99.

4.8 Although it is difficult to predict with complete certainty the future needs for residual mixed waste treatment, recovery and for the disposal of waste due to the variety of factors that affect future tonnages and actual existing capacity, the Collections, Infrastructure and Markets Sector Plan sets out the continued need for increased recovery of residual mixed waste which are incapable of being recycled, in the short to medium term but recognises that waste disposal needs will reduce. Therefore, across Wales a need exists to develop more residual waste treatment and recovery facilities and to ensure that sufficient disposal capacity is maintained at a level appropriate to support the overall aims of Towards Zero Waste and Collections, Infrastructure and Markets Sector Plan.

4.9 There are likely to be social, economic and environmental benefits in favour of proposals which seek to address an identified need. The presence of facilities outside of Wales or a region defined in the Collections, Infrastructure and Markets Sector Plan should not be used as a reason to refuse an application which can be shown to be required to satisfy an identified need in the area in which it is being proposed.

4.10 Whilst the Collections, Infrastructure and Markets Sector Plan seeks to encourage the provision of sufficient capacity of recovery infrastructure, this has to be complementary to the overall aim of driving the treatment of all waste further up the waste hierarchy. It models a set of forecast scenarios for mixed municipal waste quantities for 2024/25 and 2049/5025 and presents these at a regional level. When determining applications planning authorities should give consideration to the circumstances prevailing at any given time, however, the upper threshold of the capacity ranges identified in the Collections, Infrastructure and Markets Sector Plan (or any subsequent update) is likely to represent the point at which the extent of provision in a region can be considered to be sufficient.

…

4.16 Applicants should clearly justify why a proposal is necessary and where it cannot be clearly demonstrated that there is a need for the proposal it may be appropriate to consider refusing planning permission. This is likely to be the case where the level of provision exceeds the upper range identified in the Collections, Infrastructure and Markets Plan for any given region.

26. In 2015, the WG published *Towards Zero Waste: Progress Report*. The Report indicates that progress has been made against a number of the targets contained in TZW.

27. In 2019, the WG published the consultation draft of its National Development Framework ("the NDF"). Following consultation and evidence gathering, the NDF was published in February 2021 under the title *Future Wales: the National Plan 2040* ("FW"). FW has development plan status and is described as the highest tier of the development plan hierarchy in Wales. It provides a national development framework setting the direction for development in Wales to 2040. It is described as a spatial plan[16]. It includes a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of communities. The document recognises waste heat (such as energy from waste plants) as an effective, efficient fuel source for heat networks[17].

[16] Pg. 1.
[17] Pg. 93.

28. Policy 17 deals with renewable and low carbon energy and associated infrastructure. It states, in part[18]:

The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs.

29. Policy 18 deals with nationally significant developments and states, in part:

Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:

30. There then follow a series of criteria which relate to the proposal not affecting various material matters.

31. In 2020, the WG published an updated version of *Energy Generation in Wales* ("EGW"). The document states that it sets out the current energy generation capacity in Wales and analyses how it has changed over time[19]. It assesses various technologies, including those under the general heading of "Low Carbon". Energy from waste is not included in that list. However, importantly, the document states the reason for this[20]:

We have not reported on some technologies this year as there has been little or no material change from 2018. These include biomass electricity and CHP, energy from waste, landfill gas, nuclear, solar thermal, sewage gas and pumped hydropower storage.

32. In February 2021, the WG published edition 11 of Planning Policy Wales ("PPW11"). The WG's approach to waste management facilities is set out in the following terms:

5.13.4 The Welsh Government's policy for waste management is contained in Towards Zero Waste and associated sector plans. Planning authorities should, in principle, be supportive of facilities which fit with the aspirations of these documents and in doing so reflect the priority order of the waste hierarchy (see Figure 11) as far as possible.

33. Figure 11 depicts the waste hierarchy and, under the heading "other recovery", includes "incineration with energy recovery"[21].

34. PPW11 reiterates the importance of the proximity principle in waste management decision-making:

5.13.10 Planning authorities must support the provision and suitable location of a wide ranging and diverse waste infrastructure which includes facilities for the recovery of mixed municipal waste and may include disposal facilities for any residual waste which cannot be dealt with higher up the waste hierarchy. The extent to which a proposal demonstrates a contribution to the waste management objectives, policy,

[18] Pg. 95.
[19] Pg. 13 and following.
[20] Pg. 31.
[21] Pg. 104.

targets and assessments contained in national waste policy will be a material planning consideration.

5.13.11 The 'Nearest Appropriate Installation' concept and the principle of self-sufficiency will only be applicable in relation to wastes covered by Article 16 of the revised Waste Framework Directive and should guide the provision of an integrated and adequate network for the treatment of such wastes. The network should include all necessary supporting facilities such as waste transfer stations and processing facilities.

35. PPW11 also reiterates the regional approach to the delivery of waste management[22].

36. In the context of energy delivery, PPW11 states in relation to low carbon energy development[23]:

Local authorities should facilitate all forms of renewable and low carbon energy development and should seek cross-department co-operation to achieve this. In doing so, planning authorities should seek to ensure their area's full potential for renewable and low carbon energy generation is maximised and renewable energy targets are achieved. Planning authorities should seek to maximise the potential of renewable energy by linking the development plan with other local authority strategies, including Local Well-being plans and Economic/Regeneration strategies.

37. PPW11 refers to the WG Practice Guidance, *Planning for Renewable and Low Carbon Energy – A Toolkit for Planners* ("TfP") for guidance on how to develop an evidence base for such facilities[24]. The TfP was published in 2015 and includes EfW facilities as either renewable or low carbon in nature[25].

38. On 2 March 2021, the WG published *Beyond Recycling, a strategy to make the circular economy in Wales a reality* ("the BR"). The BR reiterates the goal set out in TZW that Wales will become zero waste by 2050[26].

39. The BR identifies that goal but then states:

Given the urgency of the challenges facing us and the imperative to act, this Strategy has been updated since the consultation to further define our pathway. By 2050, Wales will be a country which instinctively thinks and plans to use as few resources as possible, keeps those resources in use for as long as possible and then finds new uses for these resources at the end of their first useful life. Consumption will increasingly happen within biological cycles, where food and products using biologically-based materials, like wood, are designed and used to feed back into the system and where technical cycles involving manufactured materials such as metal, glass and plastic will recover and restore products through re-use, repair and re-manufacture.

40. The strategy contained in the BR is stated to have derived from the learning from the

[22] Para. 5.13.9.
[23] Para. 5.9.1.
[24] Pg. 93.
[25] Pg. 23.
[26] Pg. 3.

previous strategy and feedback from consultations (which is referred to further below) as well as analysis and evidence underpinning the WG's work[27].

41. As part of the aim of achieving higher recycling rates, the document indicates that three quarters of residual commercial and industrial waste is easily recyclable and that "we therefore need to capture this material and stop sending recyclable waste to landfill or energy from waste plants and recycle it instead"[28].

42. The BR includes a section, "Investing in Infrastructure", which notes in part[29]:

As repair, re-use and recycling continue to expand, we want to ensure the capacity we have for generating energy from waste is in line with the capacity needed during our transition to a circular economy, with the long-term solution being to move away from incineration. We also want to see our towns across Wales demonstrate circular approaches by having repair and re-use hubs as well as other important infrastructure including refill points, zero waste shops and resilient green infrastructure.

43. Under the heading, "Government levers", the BR indicates the powers which the WG has used to achieve various environmental aims. It then states[30]:

We want to optimise the use of government levers to support and drive progress along our pathway to a circular economy. In doing so we want to derive the maximum benefit to Wales, not just environmentally but economically and socially so that it is not only helping to address the climate emergency and the decline in biodiversity but is also at the heart of a green recovery.

To support the delivery of the Strategy we will work to align our levers and make the best use of our powers. In terms of legislation, this will mean bringing forward legislation to deliver key schemes. In relation to funding, we want to invest in the infrastructure that will support our transition to a circular economy whilst continuing to support the delivery of innovative, scalable projects which prevent waste and recognise surplus materials as a resource. We also want to further use our fiscal powers to spend in a way that supports a more resilient circular economy.

In essence, this means that we want to make sure the resources we use as a Government and as a public sector support our move towards a circular economy. In doing so, we want to not just drive good practice, but for that good practice to become the norm so that in considering value for money it reflects whole lifetime costs and the benefits derived, the materials used, their carbon impact and the supply chains involved. We want the procurement of re-used, remanufactured and high recycled content and sustainably sourced items to be the default, 'business as usual' approach.

44. The BR then states what it needs to do, including the following[31]:

Place a moratorium on any future large scale energy from waste developments, as the increase in recycling and reduction in waste already seen means that we will not need any new large scale energy from waste infrastructure to deal with the residual waste generated in Wales. We will also work with the UK Government to explore whether the introduction of an incineration tax would be desirable as a means to support progress along the transition to a circular economy.

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[27] Pg. 13.
[28] Pg. 22.
[29] Pg. 26.
[30] Pg. 32.
[31] Pg. 32.

45. The BR was originally produced as a consultation document in December 2019 ("the CBR"). The CBR contained a section headed "Government Levers". It made a number of observations but did not suggest that there would be a moratorium on any form of EfW facilities[32]. Rather, it stated only in relation to such facilities, "We will legislate to ensure that separated key recyclables are banned from energy recovery or landfill"[33]. It also referred to exploring an incineration tax to increase recycling[34]. Both references implied the continuation of EfW facilities, not a ban on their provision.

46. On 11 September 2020, the WG published a document setting out a summary of the responses to the CBR ("the CBRS"). The CBRS indicated that some responses had argued that the strategy should be to ban or phase out incineration[35] and that incineration was incompatible with a circular economy[36]. The WG expressed no view on these responses.

47. On 24 March 2021, the WG published two documents. The first was a written statement ("WS") which indicated that the WG was putting in place an immediate moratorium on EfW facilities of more than 10 MW ("the Moratorium"):

The actions form a key part of Wales' drive towards becoming a zero-waste, carbon net-zero nation by 2050, or earlier.

These include increased funding to roll out of electric collection vehicles and circular economy projects across Wales, an immediate moratorium on new large scale energy from waste and upcoming game-changing reforms on plastic.

This month will also see electric vehicles being rolled out for recycling and waste collection services in Newport, Cardiff and Ponys.

As well as being good for the environment, the vehicles generate lower running costs and less noise, with the Welsh Government allocating an extra £3m to expand the programme.

The Welsh Government is also building on the success of its support to innovative projects across Wales through its Circular Economy Fund – which is already –supporting 180 innovative projects in all parts of Wales.

The additional support being made available will bring the funding to more than £80m.

Last year, Wales achieved its highest ever recycling rate, at over 65% - and has set out ambitions to become the world leader. As a result the need to burn waste, or send it to landfill, will reduce and the Welsh Government is putting in place an immediate moratorium on new large scale energy from waste

[32] Pgs 18 – 19.
[33] Pg. 19.
[34] Pg. 19.
[35] Pgs 26 – 27.
[36] Pg. 24.

plants. The new moratorium will cover new energy from waste plants with capacity of 10MW or more, and will come into effect immediately.

The moratorium will also mean small-scale plants, of less than 10MW, will only be allowed if applicants can show there is a need for such facilities in the regions in which they are planned. Small plants would also need to supply heat, and – where possible – be carbon-capture and storage enabled, or ready.

Action is also being taken to tackle plastic pollution, with two upcoming consultations covering game-changing reforms for plastic packaging and a new Deposit Return Scheme for drinks containers. These measures are being developed jointly with the other Governments within the UK and will see less waste generated, more items re-used and recycled, and less litter. They will also incentivise better design and an increase in the use of recycled materials in packaging.

Lesley Griffiths, the Minister for Environment, Energy and Rural Affairs, said:

We are proud that we are well on our way to making Wales a zero waste and carbon net-zero nation.

We are already a global leader when it comes to recycling, but today's announcements show how we are taking action to go further and accelerate Wales's move to a Circular Economy.

This means not just recycling well, but taking bold action to get the most value out of the materials and avoid waste arising in the first place.

From electric collection vehicles on our streets to the Circular Economy Fund supporting re-use shops and repair cafés in our communities, people across Wales will see important changes from these actions in their communities.

The moratorium on large-scale energy from waste and the upcoming consultations on plastic packaging and deposit return are a clear statement of our intent. Collectively they show how we are taking action to make the circular economy a reality in Wales by keeping resources in use and avoid all waste

These actions aren't only tackling the climate emergency and a biodiversity crisis, but are also crucially building resilience in our economy and our communities as we look to recover from the pandemic.

48. The WS was accompanied by a document entitled *Strategic assessment for the future need for energy from waste capacity in the three economic regions of Wales* ("the SA"). The SA stated that it replaced the strategic assessment for the need for new energy from waste capacity provided in the CIM Sector Plan at section 2.3.4[37]. The SA also stated that it was part of the WMP alongside PPW11, the CIM Sector Plan, BR and TZW[38].

49. The SA indicated that there is a need to update the tables contained in s. 2.3.4 of the CIM Sector Plan. This, it stated, has arisen from the changes contained in the BR, including an increased recycling trajectory of around 80% in the mid-2030s. The waste prevention targets to 2050 contained in TZW and the CIM Sector Plan remain the same. There are also two EfW plants operating in Wales, one in Deeside (in North Wales) and

[37] Pg. 2.
[38] Pg. 2.

one in Cardiff (Trident Park) which are stated to have capacity to manage other residual wastes generated by businesses and the public sector that are not collected by local authorities[39].

50. The document then cites the Moratorium, in the following terms:

Importantly, Beyond Recycling contains an action for Welsh Ministers to put in place a moratorium on any future large scale energy from waste developments, as the increase in recycling and reduction in waste already seen means that we will not need any new large scale energy from waste infrastructure to deal with the residual waste generated in Wales.

The moratorium was put into immediate effect in a Ministerial Written Statement issued on 24 March 2021. This moratorium means the Welsh Government does not consider there to be a need for any new large scale energy from waste plants of 10MW or greater. Small scale energy from waste plants of less than 10MW will only be allowable if the applicant can demonstrate need for such a facility for the non- recyclable wastes produced in the region. Any new small scale facilities must also supply heat, and where feasible, be carbon capture and storage enabled or ready. This would therefore mean a small scale plant would not be allowable if waste is to be imported from outside of the proposed region (unless in close proximity to a region), in order to also avoid locking in transport emissions and associated pollution.

51. The SA states that the updated assessments should be used by applicants when making the case for and assessing the need for a new small-scale facility (less than 10 MW) and a "material consideration in the wholly exceptional circumstances where large scale energy from waste proposals of 10 MW or greater have, or may, come forward"[40].

52. The document states that a waste flow model has been developed ("the WFM") for the three economic regions. It states that the scenarios employed include the 70% recycling target in 2025 and the BR commitment that recycling levels will need to increase beyond 2025. Scenario 1 ("Scenario 1") is stated to be based on the annual waste arising prevention targets contained within Annex 1 of TZW. For Scenario 2, waste reduction is stated to be set to zero.

53. Scenario 1 shows that for the Mid & South West region (which has been stated[41] to include Powys within which the Project is situated) there is a residual capacity of 300,000 tonnes per annum in 2019 – 2020, falling to 170,000 tonnes by 2034 – 2035[42]. There are surpluses in the North and South East Regions by 2035 totalling 210,000 tonnes per annum.

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[39] Pg. 5.
[40] Pg. 6.
[41] *Email from Joanne Smith, Planning Policy Branch, Welsh Government dated 15 April 2021, confirming that the current regions reflect the Economic Action Plan areas.*
[42] Table 2, pg. 7.

54. Under scenario 2, the Mid & South West region has a capacity shortfall in 2034 – 35 of 220,000 tonnes (from 300,000 tonnes in 2019 – 20). The aggregate surplus of the North and South East in 2034 – 35 is 55 tonnes[43].

55. The SA reiterates the point made in TAN21 that the justification for a proposal will be where the level of provision falls below the upper range identified in the SA for any given region[44].

56. A number of queries were raised with the WG on the SA and the Moratorium by Ms Sarah Burley, technical director of ECL, an expert consultant acting on the Project. Ms Burley asked if the Moratorium applied only to planning applications submitted after 24 March 2021. Ms Joanne Smith, in the Planning Policy Branch of the WG, answered that is a material consideration in "all relevant cases".

57. Ms Burley also asked how the Moratorium sat alongside policies 17 and 18 of FW. Ms Smith answered: "The moratorium applies to new large scale energy from waste plants of 10MW or greater. The list from page 13 onwards in the document 'Energy Generation in Wales' [i.e. EGW], at the link below, outlines the thinking on the scope of policies 17 and 18".

58. In answer to a question from Ms Burley as to the availability of a decision document setting out the detailed reasoning for Moratorium, Ms Smith answered[45]: "Towards Zero Waste 2010, Beyond Recycling (the Circular Economy Strategy) 2021 and Planning Policy Wales 2021 provide the policy context, and the 24 March Written Statement andStrategic Assessments explain the specific rationale for the moratorium".

59. The Updated WPS for the Project notes that the facility will make a significant contribution to meeting the need identified in the SA for the Mid and South West Wales region.

60. It is not wholly clear why the Moratorium was introduced so soon after the production of PPW11. However, the chronology appears to be as follows.

61. A petition was submitted to the WG by Councillor Amanda Jenner (reference P-05-

[43] Table 4, pg. 8.
[44] Pg. 10.
[45] Email, 24 May 2021.

1040) which comprised 938 signatures ("the Petition"). The petition sought a moratorium on all waste incinerators (irrespective of their size) because of the consultation responses arising from BR.

62. A research brief ("the Research Brief") was produced for the Petitions Committee meeting of 17 November 2020. This summarised the position around the role of EfW plants in managing waste. It noted that there have been numerous calls for a moratorium on incinerators in the Senedd over the last 2 years (5 occasions are listed). The Research Brief states that the WG's response has followed that which was provided to the Petition on 23 October 2020 by a letter of Julie James, the (then) Minister for Housing and Local Government ("the MHLG").

63. That response indicated that the provision of EfW facilities is a transitionary step and stated as follows:

Examination of DNS applications is undertaken by a Planning Inspector on behalf of the Welsh Ministers. The Planning Inspectorate operate to ensure a fair process for all parties. Decisions on such applications are made by the Welsh Ministers and there is a statutory requirement to have regard to the development plan, as well as other considerations material to the application. This includes current and extant policy, such as Planning Policy Wales (Edition 10) which sets out the waste policy and supports the decarbonisation pathway established in the Environment Act 2016.

It is vital we take responsibility for the disposal of the waste we generate which cannot be recycled. For this reason, the Welsh Government has invested in the infrastructure to extract electricity and heat from this material and dispose of it safely to the highest environmental standards and in line with the waste hierarchy. This not only ensures the maximum benefit can be extracted from this waste, but also prevents it from becoming a problem elsewhere.

The incineration of waste for heat and power is, however, a transitionary step. The Beyond Recycling consultation on a new circular economy strategy was clear the long-term solution is to keep resources in use for longer and reduce all waste. In the interim there is a need to deal effectively with non-recyclable waste in a way which prevents it from either polluting the environment or sees the problem being exported.

64. A response to that letter was written by Councillor Jenner on 9 November 2020. This made a number of points:

64.1. There is growing international scientific concern around incinerators and their environmental impact;

64.2. Incinerators produce high levels of greenhouse gases

64.3. Landfill need not be worse than incineration, depending on what is landfilled.

64.4. A study by Zero Waste Scotland in October 2020 found that EfW incinerators can no longer be considered a low carbon technology.

64.5. The provision of heat with EfW facilities rarely happens.

64.6. The merits of R1 classification facilities are rebutted by a scientific article.

64.7. With regard to the transitionary approach of the WG:

- As recycling rates increase, there will be more capacity going to existing incinerators.
- To be commercially viable, facilities need to operate at full or close to full capacity.
- EfW facilities will source waste from England and beyond.
- The production of particulate matter from EfW facilities is dangerous.
- The commitment to additional facilities will lead to over-capacity.

65. A note has been produced by Steve Filkin (of Filkin & Co. EHS Limited) to address these various points. This note is appended to Barton Willmore's Planning Statement.

66. At the meeting of the November Petitions Committee, it was decided by the Committee that it should write to the Minister for (in part): "full reasoning as to why the Minister feels the moratorium on the development of new incinerators would not be appropriate at this time".

67. A response was provided by Lesley Griffiths, Minister for Environment, Energy and Rural Affairs ("the MEERA") by a letter dated 21 January 2021. This stated that:

As outlined in the Minister for Housing and Local Government's letter to you of 23 October, our aim is for Wales to become a zero waste nation and to move to a circular economy. The incineration of waste is a transitory step, with high efficiency energy from waste facilities, which can provide energy and heat from what would otherwise waste material, being an important way of dealing with the waste which cannot be recycled, in line with the waste hierarchy.

Planning for waste infrastructure is an ongoing process with regional monitoring of progress towards the provision of a network of installations which implement the waste hierarchy and apply the 'proximity principle' as laid down in UK law. The proximity principle requires the energy recovery of mixed municipal waste to take place in one of the nearest appropriate installations. Decisions on individual projects will therefore be informed by the latest level of need identified through the regional monitoring. Recycling targets, however, apply to waste produced in Wales, so any waste imported into Wales would not count towards the statutory minimum targets.

68. Councillor Jenner responded, stating that the MEERA had not provided any reasoning as to why the WG would not put in place a moratorium on waste incinerators.

69. There is no other record to justify the WG's change of position from that set out in the responses above to the introduction of the Moratorium except that contained in the WS and BR.

70. The development plan for the Site is the Powys Local Development Plan ("the LDP"), adopted in 2018. As this position statement is dealing only with the Moratorium, no substantial comment is made on the LDP. Buttington Quarry is identified as suitable for waste uses; policy W1 allow for waste management proposals which are within employment sites identified in the plan. In the open countryside (which the Quarry is not within), proposals for management which meet an "identified need at the regional level" will in principle be allowed. It is notable, however, that the "region" considered in the LDP in 2018 is the South-East and North region. This no longer applies to the need calculations identified in the SA which puts Powys in the Mid and South-West region.

Analysis

(a) The Weight to be placed upon the Moratorium.

71. No real weight should be placed upon the Moratorium.

72. There are a number of legal errors apparent in the production of the document. While the Moratorium has not been formally challenged in the Courts, and a decision is presumed to be valid until it is quashed, it is trite law that the weight to be placed upon any particular policy document is a matter of judgment for the decision-maker. The existence of manifest errors of law in the production of the document is material to the weight to be placed upon it. In any event, even if the issues that have been specified below cannot be taken into account as errors of law, the failings which they display go to the substantive merit of the decision-making process and should, in any event, be taken into account when deciding the weight to be placed upon the policy stance adopted by the WG.

73. The defects may be categorised as follows:

73.1. Failure in the consultation processes.

73.2. Failure to take into account national policy when deciding to issue the Moratorium or misunderstanding such national policy.

73.3. A lack of justification for restricting large-scale EfW facilities.

73.4. Lack of rational justification for restricting large-scale EfW facilities but allowing small scale facilities and/or no proper reasons for that decision.

73.5. Failure to take into account the proximity principle.

73.6. Failure to take into account the policy support for EfW in PPW11 and FW when issuing the Moratorium or taking into account an immaterial consideration by deciding that EfW facilities are not low carbon proposals.

74. *(aa) Consultation.*

75. Before considering the Moratorium, it is necessary to assess the point at which the Moratorium was effective. That is either at the time of the production of the BR or the SA. TheBR was the first time that the intention to put the Moratorium in place was set out; it was carried into effect by the SA (although it is stated to be by way of the written ministerial statement accompanying the SA). As a result, the consultation processes associated with the BR and the SA need to be considered.

76. The BR is stated in the SA to be part of the WMP for Wales under the Waste (England and Wales) Regulations 2011 ("the 2011 Regulations"). The SA states that the information the SA includes is to replace part of the CIM Sector Plan. The Sector Plan is also part of the WMP, as the SA confirms. Consequently, the consultation framework of the 2011 Regulations are engaged for both BR and the SA.

77. Consultation of the general public in respect of either a WMP or its modification is required under the 2011 Regulations unless (under regulation 11(1)):

77.1. The plan is designed for the sole purpose of serving national defence or taken in case of civil emergencies. This is inapplicable to the present situation.

77.2. A public participation procedure is carried out under either Part 3 of the Environmental Assessment of Plans and Programmes Regulations 2004 or Part 3 of the Environment Assessment of Plans and Programmes (Wales) Regulations 2004; there is no evidence that a consultation on the SA was carried out under these regulations; or

77.3. The plan contains "only" provision relating to paragraphs 8 – 11 of Schedule

1 of the 2011 Regulations.

78. Paragraphs 8 – 11 of Schedule 1 to the 2011 Regulations relate to a series of measures, as follows:

8. Policies in relation to separate collection of waste
Measures to promote high quality recycling including the setting up of separate collections of waste, subject to regulation 13.

9.— Policies in relation to bio-waste
As appropriate, measures, in accordance with the objectives in paragraphs 2 and 3—
(a) to encourage the recycling, including composting and digestion, of bio-waste in a way that fulfils a high level of environment protection and results in output which meets relevant high-quality standards;
(b) to encourage home composting; and
(c) to promote the use of materials produced from bio-waste.

10.— Policies in relation to re-use
Measures to be taken to promote preparing for re-use activities, in particular—
(a) measures to encourage the establishment and support of preparing for re-use and repair networks;
(b) measures to facilitate, where compatible with proper waste management, the access of preparing for re-use and repair networks to waste held by collection schemes or facilities that can be prepared for re-use but is not destined for preparing for re-use by those schemes or facilities;
(c) the use of economic instruments;
(d) the use of procurement criteria;
(e) the setting of quantitative objectives.

11.— Preparing for re-use and recycling targets and landfill reduction targets
Measures to be taken to ensure that—
(a) the preparing for re-use and the recycling of municipal waste is a minimum of—
(i) in relation to a national waste management plan relating to Wales—
(aa) 55% by weight by 2025;
(bb) 60% by weight by 2030;
(ii) in relation to any national waste management plan, 65% by weight by 2035;
and
(b) the amount of municipal waste landfilled is reduced to 10% or less of the total amount of municipal waste generated (by weight) by 2035.

79. The adoption of a moratorium on large-scale energy from waste facilities would not fall under any of these paragraphs. In particular:

79.1. It could not be regarded as a step promoting recycling.

79.2. It could not be regarded as encouraging the recycling of biowaste.

79.3. It could not be regarded as promoting preparing for re-use activities.

79.4. It could not be regarded as a measure taken to ensure that preparing for re-use and the recycling of municipal waste is at a number of minimum levels.

80. Further, and even if any of the matters raised in paragraphs 8 – 11 of the Regulations are engaged, the adoption of a moratorium on EfW facilities will necessarily fall within

parts of paragraph 6 of Schedule 1 so that the Moratorium is not "only" dealing with matters specified in paragraphs 8 – 11.

81. In particular, the Moratorium will fall under the following:

As appropriate and taking into account the geographical level and geographical area to which the plan relates, provisions relating to

…

(c) an assessment of the need for closure of existing waste installations, and for additional waste installation infrastructure in accordance with the objective in paragraph 4;

…

(f) sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary;

(g) general waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.

…

(i) appropriate qualitative or quantitative indicators and targets, including on the quantity of generated waste and its treatment and on municipal waste that is disposed of or subject to energy recovery.

82. As a result, the 2011 Regulations are engaged.

83. Under the relevant parts of the Regulations, the WG was required, "as soon as reasonably practicable after preparing proposals for a national waste management plan or for the modification of such a plan", "to take such steps to bring the proposals to the attention of the persons" who in the WG's opinion are likely to be affected by the plan or have an interest in it (Schedule 1, para. 14(1)(b)). Such persons are to be given such time as will enable them to give an "effective opportunity" to express their opinion on the proposals (Schedule 1, paragraph 14(2). Before a decision on the plan is made, the WG was required to take into account any opinion expressed by those consulted (regulation 15(1)).

84. There was no consultation upon the Moratorium whether as it was set out in the SA or the BR. The Moratorium was issued within 1 month of the BR and with no consultation. The Moratorium was not consulted upon as part of the production of the BR – it was issued in the final BR but the CBR itself did not propose the Moratorium. In fact, as is dealt with above[46], the CBR indicated the continued need for EfW facilities. The Moratorium was not proposed in the CBR to enable consultees to have an "effective" opportunity to comment on the proposals. The CBRS did mention some stakeholders' suggestions that incineration should be banned, but there was nothing in that document

[46] Para. 44.

to indicate the WG endorsed that view at that stage.

85. As a result, the proposals in BR to impose a Moratorium and the SA's expression of the Moratorium engaged the 2011 Regulations consultation requirements, and they were not complied with.

86. The issue which next arises is whether this has caused substantial prejudice to BEWL. There was plainly such prejudice in this case.

87. The further legal errors which are dealt with below highlight the lack of substantive merit in imposing the Moratorium, in particular, a lack of a justification for a Wales-wide hold on further large-scale EfW facility applications when the need and capacity information is properly taken into account, the inconsistency between the Moratorium and the remaining parts of the WMP which supported EfW facilities and the failure to align the Moratorium with the proximity principle.

88. The problem with the lack of any consultation is that there is no clear basis for understanding precisely why the Moratorium has been put in place and BEWL has (alongside others) been denied the opportunity of responding to the proposal. As is dealt with below, the WG have sought to justify the Moratorium on the basis of a lack of "need", but this does not stand up to objective scrutiny. All of the issues identified at paragraph 87 above could have been raised with the WG. Had the various points been properly understood and/or taken into account by the WG, the Moratorium could not rationally have been adopted.

89. The specific justification for the Moratorium is stated to be based upon need. It is not suggested by the WG that the arguments put forward by Councillor Jenner[47] formed any basis for the WG's position. In any event these are addressed in the expert report prepared by Simon Filkin (of Filkin & Co. EHS Limited). Should the WG's decision be based upon these arguments, there is plainly a defect in the WG's reasons for the Moratorium and answers to those arguments which were necessarily material and should have been taken into account.

90. ***(bb) Failure to apply the need information contained in the SA or an irrational reading of the SA need information and/or national policy.***

91. BEWL have been told by the WG that there is no specific separate document setting out the reasons for the decision (see above at paragraph 50). The reasoning is stated to be

[47] Paragraph 64

found in TZW, the BR and "Planning policy" (again, see para. 50).

92. The essence of the reasoning in the BR is that there is no need for a new large-scale EfW facilities because of the increase in recycling and reduction in waste. It is not possible to identify anything in TZW which would justify a moratorium. Nor is there anything within TAN21 (to the extent that this is WG's reference to planning policy in its response) to do so.

93. The SA itself was a document which updated part of the CIM Sector Plan, dealing with the capacity for EfW plants. The SA indicates that it applied the guidance contained in TAN21 with regard to establishing the need for a proposal.

94. The SA identifies need by region and in relation to Wales as a whole. If the proper analysis was to look at Wales as a whole, then there would be no need for further EfW – the capacity at 2034-5 balances with need.

95. However, a national approach to determining need is unjustified by any policy document and inconsistent with policy. Rightly, the SA states that the TAN21 need analysis is tied to a region[48]; this is clearly the case[49].

96. Moreover, the need identifiable against a region is to be judged against the upper limit of the capacity assessment, as per the Sector Plan (see above at para. 54) .

97. On a regional basis, the SA states there remains a very significant need for EfW at 2034-5 for the Mid and South-West Wales region within which the Project is situated of some 220,000 tonnes for the Mid & South West region.

98. The Mid and South Wales area includes Powys under the Economic Action Plan and represents the up-to-date position on the appropriate regions for analysis. The SA makes clear that the approach it is adopting is based upon a different regional analysis to that which applied previously under TAN21.

99. It is to be noted that there is no EfW facility in the Mid and South Wales region. All this waste will either go outside the region for treatment, contrary to the proximity principle (as expressed by the regional requirement in TAN21) or will go to landfill. It is also to be noted that the planned capacity in Wales has declined from that contained in the CIM. In 2012, it was noted that a gasification plant had received permission[50]. This is no longer contained within the identified levels of planned capacity. Further, there has been no dramatic reduction in the level of need which was identified in the

[48] See pg. 10.
[49] See the SA itself, at page 10; TAN21 at para. 4.16 and PPW11 at para. 5.13.9.
[50] Pg. 67.

Sector plan and as at the publication of the Strategic Assessment.

100. In addition, as the statement of Barton Willmore makes clear, the need calculation in the SA is defective or problematic by not taking into account population and business growth - the correction of these factors is likely to increase the capacity gap.

101. Correctly applying the policy position set out in TAN21, PPW11 and the CIM Sector Plan, the capacity analysis contained in the SA cannot reasonably justify a Wales-wide moratorium. TAN21 requires need to be shown and, if shown, subject to any other matters like effects on amenity etc, permission should be granted. TAN21 is also part of the WMP and the imposition of the Moratorium is patently inconsistent with the test contained in TAN21: it is not possible to reconcile TAN21's evaluative approach by reference to regional need with the Moratorium's prescriptive position.

102. The WG's reasoning for the Moratorium in BR is inconsistent with the remaining parts of the WMP as expressed by TAN21. The only possible basis for reaching a conclusion that there was no need for-large scale EfWs was by considering need on a national basis, inconsistently with TAN21.

103. Consequently, the WG has failed to properly apply the guidance contained in TAN21 and PPW11 and/or misunderstood that guidance and has failed to take into account a material consideration when deciding to issue the Moratorium, namely the central role of regional analysis for calculating the quantitative need for EfW facilities.

104. ***(cc) Failure to take into account the proximity principle or irrational conclusion on that issue.***

105. Allied to the issue of the need to take into account the capacity gap on a regional basis, the WG has, in issuing the Moratorium, failed to take into account the proximity principle.

106. The regionally-based capacity analysis set out in the SA and the CIM Sector Plan and the requirement in TAN21 that need should be established on a regional basis are each reflective of the proximity principle. This is made clear in PPW11[51].

107. If (which is the only basis for identifying a need, albeit contrary to policy – see (bb) above) the WG's conclusion on need has been based upon Wales as a whole, the WG has failed to take into account the proximity principle when deciding to impose the Moratorium. The WG cannot have taken into account the proximity principle by looking at need on this basis. Alternatively, it is not rationally possible to conclude that

[51] Para. 5.13.9.

the existence of facilities in one part of the country (wherever it is located) to meet a shortfall in another part of the country is consistent with the proximity principle – but that is the position taken by the WG.

108. Equally, the WG have failed to take into account the potential for an appropriately located facility to also process waste produced by local authorities that are in close proximity to the Wales-England border. It is irrational to take an approach which effectively disapplies the proximity principle across administrative borders.

109. ***(dd) Lack of rational justification for restricting large scale EfW facilities and/or no proper reasons for that decision.***

110. Irrespective of the lack of justification for any moratorium on EfW facilities in general terms, the documents relied upon do not justify why large-scale EfWs are to be prevented but small-scale facilities are not; nor is there any other purported justification for this approach.

111. The rationale for the Moratorium is based upon a lack of need. However, if (as is indicated above) the need case is based upon the capacity analyses contained in the SA, this would justify a single-large scale EfW facility or several smallerones. There is no basis within the SA (or any other document) for reaching the conclusion that a large-scale facility moratorium is required when the SA need calculation justifies a large-scale facility – in short, in the absence of any other reasons, the decision appears arbitrary.

112. There are no reasons given in the BR as to why small-scale facilities may come forward but large-scale facilities may not. There is some reasoning in the SA as follows:

> *This moratorium means the Welsh Government does not consider there to be a need for any new large scale energy from waste plants of 10MW or greater. Small scale energy from waste plants of less than 10MW will only be allowable if the applicant can demonstrate need for such a facility for the non-recyclable wastes produced in the region.*

113. Thus, the reasoning appears to be that small-scale facilities can come forward if a need for them can be shown in the region in question. Yet, even though there may be sufficient capacity to justify a need for a large-scale facility in the same region – as is the case for the Mid & South West region – the Moratorium prevents such a scheme coming forward.

114. This reasoning indicates an irrational inconsistency in the application of the need case – need may be used for a number of small-scale facilities, but the same need cannot be used to justify a large-scale facility. It also indicates an inconsistency in the application of the capacity/need data contained in the SA. Small-scale facilities are judged against

a regional need but a lack of need for large-scale facilities could only have been justified on the basis of a national need calculation.

115. ***(ee) Failure to take into account the policy support for EfW in PPW11 and the FW when issuing the Moratorium or taking into account an immaterial consideration by deciding that EfW facilities are not low carbon proposals.***

116. PPW11 and FW are supportive of low carbon proposals. PPW11 is supportive in general terms of EfW facilities – there is no suggestion that they cannot come forward. As a low carbon energy facility (which is clear from the TfP) there is clear support for EfW facilities.

117. The WG has indicated in its response to the questions from Ms Burley that it does not consider EfW facilities to be low carbon in nature (following the EGW). For the reasons indicated above[52], this is mistaken – the EGW omitted reference to EfW facilities; it was not exhaustively setting out what amounted to a low carbon facility.

118. For the above reasons, the Moratorium should be given no real weight.

Whether Exceptional Circumstances Exist if the Moratorium is to be given weight

119. The Moratorium has been set out in the SA in part. This makes clear that large-scale facilities may exceptionally come forward and that the need analyses contained in the SA will be taken into account as part of the considerations as to whether such exceptional circumstances have been established. It is to be noted that the introduction of an "exceptional circumstances" test puts the level of restriction on such facilities equivalent to development in the Green Belt[53], without any justification and without any consultation.

120. If the Moratorium itself is to be given no real weight, the need for exceptional circumstances does not arise. Should, however, they become relevant, the approach to be taken towards need must be undertaken the correct basis.

121. As has been dealt with above, there is clearly a regional need for the Project under either scenario considered in the SA. There are no other Mid & South West facilities proposed. It is beyond doubt that there is a need up to 2034 in the Mid & South West region.

122. As to the period after 2034, there are clearly questions over whether the WG's objective of achieving zero waste by 2050 is realisable; indeed, at the present time there are no further capacity projections between 2035 and 2050.

[52] Para. 31.
[53] See PPW11, para. 3.74.

123. However, BEWL is willing, if necessary, for planning conditions to be imposed to govern the operational life of the Project to ensure that it does not undermine the WG's objective to achieve zero waste. BEWL is currently in discussions with PCC to agree the appropriate content and wording of such conditions.

124. With the introduction of such conditions, the Proposal would align with the obvious need for EfW facilities which exists at the present time and up to 2035 but would also allow for the delivery of WG's aims to 2050.

125. Moreover, if the WG's ambitions up to 2050 are not realised, the proposal will address the shortfall and, importantly, prevent a substantial amount of waste going to landfill or being transported out of the region, contrary to the proximity principle.

126. On this basis, if necessary, there is clearly an exceptional case for the Project.

Conclusions

127. The Moratorium is unlawful or, alternatively, should be given no real weight.

128. If the Moratorium is to be given weight, there are exceptional circumstances in this case to justify the scheme.

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23 September 2021

Appendix C

Technical Memorandum (Filkin & Co) 24th September 2021

Filkin & Co EHS Limited

PROJECT NAME: Proposed Buttington Energy Recovery Facility

Technical memorandum

The local councillor Amanda Jenner had written to the Minister expressing a number of concerns and questioning the role of the proposed development in the general context of the twin Welsh government aims of net zero carbon and zero waste circular economy by 2050. The letter included several specific points together with more general observations relating to the need for development.

This technical memorandum is a response to the issues identified and discussed in the letter to the Minister and seeks to provide clarification of the intent and rationale of the proposal. The information is also intended to provide reference points for related technical matters during the hearing process should this be required.

Councillor Jenner's Letter to the Minister

The points raised are summarised in broad terms below. In a number of cases the issues are closely related and this memorandum seeks to address these in general terms rather than taking each specific point in turn.

Generally the thrust of Cllr Jenner's concerns suggest that it is important that Wales should carefully assess its diminishing need for future waste incineration capacity and compare this with the capacity that is already available. It may well be that any shortfalls in capacity are short-term only. It would be wrong in these circumstances to make a commitment to additional incinerators, which could result in considerable over capacity in relation to Wales' needs in the medium and long term.

Councillor Jenner identifies specific issues including:

- International scientific concern around incinerators and their environmental impact;
- Doubts over incinerator developers referring to incineration as 'green' and 'low carbon'.
- Incinerator developers argue that incineration is better than landfill;
- Concerns that Energy from Waste EfW incinerators will soon be the most damaging form of electricity production in terms of greenhouse gases;
- Developers claim that EfW facilities will be ready to provide heat. In practice this very rarely happens simply because there are no suitable customers available, sufficiently close at hand for this to be financially viable;.
- Incinerator developers also argue that the more modern R1 classification incinerators are not environmentally problematic;
- A recent study commissioned by the Welsh Government and carried out by WRAP Cymru found that 74.5% of residual Commercial and Industrial waste sent to incineration in Wales could potentially have been recycled;
- Wales achieves high recycling rates and has a target of 70% by 2025. Due to the efforts to become a circular economy (including elimination of waste at source, reuse and recycling increase), waste going to incineration and landfill will reduce over the next 30 years, which will release more and more capacity to existing incinerators;
- There is a concern that in order for incineration to remain commercially viable, we will see more non-recyclable waste incinerated. Because of this, very careful consideration needs to be given to how much incinerator capacity is required in Wales over the next 30 years. In reality, the operation of already operating incinerators cannot be gradually phased out as the requirement for them diminishes. To be commercially viable, they need to operate at full or close to full capacity;
- The new breed of incinerators being privately funded facilities free to contract waste from anywhere in the UK. This highlights another concern, that there are private waste incinerators

in the pipeline that plan to bring in waste from outside of Wales, in order to ensure they can run at capacity so they are commercially viable. There is a worry that any new incinerators in Wales would increasingly source waste from England and beyond to fill their capacity shortfall. This would be bad for Wales and it would also be bad for England because it would disincentivise recycling and encourage excessive transportation, contrary to the principle of proximity; and

- Concerns that whether waste imported into Wales from England which is subsequently not recycled will increase the amount of total waste not recycled in Wales and impact our strive to meet recycling targets?

Environmental impact of energy from waste (EfW) facilities

Whilst it is acknowledged that there were historic issues associated with incinerators primarily concerned with polluting emissions and effects on air quality, these are largely outdated concerns. Modern energy from waste facilities are specifically designed to address the abatement of pollutants from releases to air and also the burn-out of the solid char to produce non-hazardous furnace ash (known as incinerator bottom ash (IBA). The result is that the latest plants successfully and reliably meet the stringent emission limits that are prescribed in the operating permissions. Modern EfW facilities are an essential part of the mix of waste management methods necessary to deal with residual components of both the municipal and general commercial/industrial waste streams. These residual wastes are those that remain once the general waste stream has been processed at specialist material recovery facilities (MRF) to remove target materials for recycling.

The process can be considered to have various characteristics including substantial volume reduction of the wastes, elimination of any hazardous constituents, recovery of available energy content and production of a fully oxidised bottom ash that is suitable for use as an aggregate.

The processes for recycling bottom ash are well established and it has been shown that it can meet the end of waste criteria. This together with the corresponding quality protocols, this means it can be used in both bound e.g. cement and unbound forms e.g. bulk fill.

The gases resulting from the combustion are treated with sophisticated modern air pollution control devices. These use a combination of temperature modulation to minimise dioxin/furan production and gas cleaning systems designed to remove pollutants e.g. volatile metals such as mercury with other systems to reduce pollutants by selective chemical transformation e.g. nitrogen oxide controls.

The contribution to climate impacts arising from waste combustion are associated with the oxidation of carbon-bearing materials produced from fossil sources. Inevitably this results in the formation of carbon dioxide (CO_2). In fact, the process is specifically designed to fully oxidise the carbon present in the waste almost all of which will be transformed to carbon dioxide. The EfW sector produces 1% of the total carbon dioxide emissions that are released by the UK as a whole. In Wales, 39 million tonnes of CO_2 equivalent was calculated for 2018, of this 1.5 million tonnes of this was attributable to the waste sector (3.8% contribution). This contribution does not distinguish between waste activities, however, given that there are significantly more landfill sites in Wales than EfW plants, it is assumed that these emissions primarily arise from landfill sites.

The incineration process

The role of energy recovery in a modern society is well established. Since the 1970s waste management strategies have been informed by the reference to the waste hierarchy and the development of regulatory approaches that require operators to deploy best available techniques. These techniques are described for reference in specialist documents available for all operators to consult. The plant design takes account of these requirements and best available techniques will be deployed.

The result of these developments is that incineration has become an optimised combustion process that has benefitted from many decades of refinement. For example, the combustion chambers are designed using computational fluid dynamics to ensure effective mixing with air, sufficient turbulence, residence time and temperature control to ensure full gas burn-out.

All modern plant are under computerised process control with specially developed SCADA* systems to assist in operational control. The burnt-out flue gases are dispersed to atmosphere via sophisticated gas cleaning systems to ensure that there is negligible release of gaseous pollutants. As the releases are from a single point source it is amenable to close process control. This contrasts for example with landfill where the loss of landfill gas to the atmosphere is diffuse and leads to fugitive losses even where there is active gas extraction.

The plant are able to burn both fuels manufactured from wastes known as RDF (refuse derived fuel) and SRF (Secondary recovered fuel) in the form of pellets. Loose residual wastes can also be processed. The high-energy content of these materials makes them ideal for combustion and recovery of the energy in the form of heat.

This means that the energy recovery process delivers the dual benefit of both dealing with the waste whilst simultaneously recovering the energy content so that it can be put to constructive use.

*Supervisory control and data acquisition.

Needs analysis

During the development of the application, the applicant has made an assessment of the need for additional residual waste treatment capacity. This study examined the nature and characteristics of the waste arisings in relation to the available infrastructure available to process both residual waste materials and recyclates within the catchment area. The findings were consistent with the wider picture for the United Kingdom. Overall, there is a significant capacity gap for the safe treatment of residual wastes throughout the UK. This gap has been in existence for many years and has led to the development of an extensive export trade to continental Europe. This has resulted in an average of several million tonnes annually being exported since the practice became routine around 2010.

The UK has insufficient capacity to process its residual wastes and consequently large tonnages have been exported to EU countries most notably the Netherlands and Germany for incineration. More than 2.5 million tonnes were exported in 2019 for example. These exports have enabled UK waste producers to divert their residual waste from landfill and into energy recovery at European plants, at competitive prices, until the UK catches up and develops more domestic waste-fuelled power generation capacity of its own, including opportunities for CHP where they may exist. Residual waste export also makes

use of current surplus European EfW capacity in countries which have found themselves in that position. This results from how they have historically funded and developed their infrastructure capacity which has differed significantly to the UK.

The reality of the situation is that the market corrections have not led to a rebalancing of the capacity for residual waste treatment and a capacity gap remains. This may be further exacerbated by population growth and increases in housing stock through investment in house building. It should be noted that house building is associated with increases in waste outputs.

Despite the enshrinement in law of the waste hierarchy it has failed to make a significant impression upon the practical day-to-day realities of everyday waste management. Whilst positive progress toward recovery of materials for recycling has undoubtedly been made, the quantities of residual waste remain substantial.

The Waste Hierarchy

The five-step waste hierarchy was developed to provide a priority order with which to determine the most appropriate waste management technique. Waste management techniques should be selected based on the waste hierarchy, with the landfill of wastes as the last resort. Recycling of wastes by reprocessing into new products has been shown by life cycle analysis to be most materially efficient and conserve resources. However, where recycling is not technically feasible or economically viable wastes should be disposed of in a manner that generates energy. Modern ERF plant has been specifically designed to meet this need and deliver an environmentally preferential option.

Residual waste

Energy recovery by incineration is intended to process residual wastes. These are outputs of MRF processing. The processing of wastes in MRFs is aimed at recovering target materials with economic value. This means that for those remaining wastes where it is not technically feasible or simply not economically viable to develop further systems for the recovery of these materials from the waste stream.

Despite many innovations including advanced optical technology that can recover ever increasing quantities of valuable components from mixed waste streams there is some that remains. This means that consequently all the residual materials that remain are genuinely residual. The question concerning the approach to dealing with these materials is addressed by reference to the waste hierarchy. Where no recycling options are available, the next-best approach for the disposal of this material is energy recovery.

It is acknowledged that there are potentially recyclable materials in residual waste, however the proportion that remains is minimal. In any case, those materials that remain including familiar everyday plastics such as film and other polymers that have no commercial value. This is because there is no demand for them in the market and little appetite to recover them for reprocessing. Contaminated paper, cardboard and textiles also make up a portion of the residual waste. Together with the plastic content these materials render it combustible and give it the high energy content. Furthermore, the activity can be considered to be recovery in the sense that it where energy is generated it can replace or supplement existing energy generation needs.

The role incineration plays in a modern integrated waste management system is as a complementary technique that deals with this residual waste. Whilst there are refinements to MRF technology there will always be a percentage of reject material that is not fit-for-purpose as an input to any current recycling processes. This comprises the portion of the commercial and municipal waste stream that is unsuitable for recycling, viz:

- Unsuitable material not amenable to recycling;
- Adulterated and/or contaminated; and/or
- Mixed and incorporated such that it cannot be technically separated.

This approach is consistent with the hierarchy. Where recycling is not the environmentally preferred option, nor technically feasible or economically viable, wastes should be disposed of in a manner that generates energy.

Incineration vs. Landfill

The case for incineration of waste is an issue centring on the need to address the management of the residual wastes. The recovery of materials suitable for re-use, recycling or other purposes is the primary element of waste management strategy that supports a circular economy. The removal of the wastes from society, substantial volume reduction together with the recovery of the energy value of the materials presents an optimal approach for those wastes where reuse/recycling is not feasible. In addition, the combustion of certain components of the waste stream destroys their hazardous properties and renders them fit for release back into the environment.

Incineration technology has been developed and refined over many decades and is successfully deployed throughout the world. The combustion process has been refined by operational experience and sophisticated computational modelling. The progress made over the years has led to the latest generation EFW plant being highly efficient in terms of both residual waste destruction and also the recovery of the energy released from controlled combustion.

The waste hierarchy places incineration with energy recovery above landfill. Landfill is considered the option of last resort. Landfill is placed at the bottom of the hierarchy for several reasons. Key to these are the results of the anaerobic conditions that quickly arise within the waste mass. The absence of air leads to the production of landfill gas composed mostly of methane and carbon dioxide plus other trace pollutants such as hydrogen sulphide and ammonia from the biodegradation of the wastes. In addition to the formation of landfill gas, the decomposition of the waste mass also produces leachate from the release of moisture from within the waste and also as a result of rainfall accumulation before the waste deposits are capped. Leachates are highly polluting and must be contained and managed on-site.

Typically, the land which is infilled is unsuitable for economic development in the medium term and in effect is condemned for most uses until such time as the waste mass has stabilised and may be suitable for meaningful after-use. This can take many decades. Furthermore, the capture of methane, which a considerably more potent GHG than CO_2 from landfill sites is not straightforward. The gas composition varies considerably, and it takes time for the decomposition to stabilise inevitably leading to significant fugitive emissions from landfill despite the success of post-deposit gas extraction schemes. This results in many smaller sites simply flaring the gas, rather thus using to run gas engines with generators suitable for export to the grid.

For these reasons energy recovery of active wastes is considered a better environmental option than landfill and is consequently placed above it in the hierarchy.

Note concerning the Zero Waste Scotland Report
This report was recently corrected. A note to the revised version stated "*there is a change to the results show in carbon impact of incineration and landfill. This means that the carbon impact of incineration is 27% lower than landfill, compared to the 15% in the October study* ". The revision also acknowledged that the impact of both options also depends on the waste composition..

Impact on recycling

MSW recycling rates in England have stalled at around 45%. Wales has been considerably more successful with rates as high as 65%. This data is reliable and well understood. This contrasts with commercial and industrial wastes where the data quality remains poor. Studies in 2005 by SLR consulting concluded that 77% of commercial and general industrial waste could be recovered. Despite many years of public and business education, policy initiatives and regulatory interventions these wastes have not been recovered with anything like the same degree of success. A recent study commissioned by the Welsh government and published by WRAP Cymru in 2020 found that 74.5% of residual commercial and industrial waste sent to incineration in Wales could potentially have been recycled. This illustrates the intractable nature of the problem of dealing with waste streams in general and in particular residual wastes.

These reports provide a theoretical basis for the availability of recyclable materials in the waste stream. However, the practical, technical and economic realities of the recovery of materials is not so clear-cut. Even under the most optimistic alternative future scenarios there will always be some residual waste that will not be suited to any form of material recovery. The net result is that there are considerable tonnages of material still requiring some form of environmentally acceptable disposal. For all such materials the optimal option is therefore energy recovery in an efficient modern facility equipped with state-of-the-art facility will provide the best overall environmental outcome.

It should be noted, that large amounts of plastics are not burned at modern energy recovery facilities because the plastic is mostly removed during processing at the MRF. Only those plastics that are unsuitable for recycling remain in the residual waste portion. Plastic is a generic term for a range of organic polymers that are commonplace in the modern world. Many plastics are combined or made into forms that are not readily recyclable. There are well developed markets for scrap plastics with certain forms e.g. polypropylene usually commanding particularly stable high prices.

The residual waste receipts to the energy recovery facility will comprise materials that have already been processed for the purposes of removing recyclates.

Greenhouse gas emissions

The greenhouse gas releases from the combustion of mixed waste materials are primarily in the form of CO_2 simply because of the proportion of embedded carbon in the waste. The primary role of the incinerator is to provide a technical solution to the disposal of residual waste.

The net-zero strategy is focused on the progressive elimination of emissions of CO_2 from fossil sources, and where that is not feasible to use alternative approaches such as carbon capture/storage and offsetting. These are available to address the climate change impacts which cannot be avoided. The need to move toward renewable energy is expressed in the Welsh Govt. target of 70% renewable energy generation by 2030. The recovery of energy from the non-recyclable portion of the waste stream is partially renewable and therefore can make a meaningful contribution to this target.

Not all of the carbonaceous material that is burned is comprised of carbon derived from fossil sources. It should be noted that the carbon from non-fossil sources, principally paper and cardboard is derived from renewable sources and should more correctly be described as biogenic carbon. These carbon sources are a constituent of the short carbon cycle.

The scope to capture carbon from the process is clear because the emissions arise from a point source. This means that it is feasible to engineer systems that are able to isolate carbon dioxide from the flue gas stream. This is clearly much more technically challenging where emissions of carbon dioxide are diffuse e.g. landfill.

The Welsh Assembly Government target of 45% reduction in carbon budget by 2030. With a related zero-waste goal for the nation by 2050 with the transition to a circular economy. This aim is set out in the Beyond Recycling strategy. These actions and initiatives will drive up further recovery of valuable materials. However, there will still be a remaining waste stream that is not suited to re-enter the wider circular economy. These wastes will need to be dealt with and energy recovery presents the safest and most effective way. As the material is partially renewable this can contribute to these carbon reduction goals.

Energy recovery – electricity and heat

The energy content is recovered from the calorific value of the waste materials in the form of both electricity and heat. The role of the ERF is to complement the changes that are needed to bring about a truly circular economy. This is because is provide a proven technique for the safe and complete disposal of the residual non-recyclable waste whilst efficiently recovering the heat energy. This heat is used to boil water and raise steam at high pressure (superheated steam) which is fed through an optimised turbine that drives a generator. The electricity produced by the generator is used locally and also distributed to the grid. Additionally, the steam that has passed through the turbine can be recovered to produce hot water that can be used for local space heating.

Given the projected operational lifespan of the facility and the need to address climate change, the option to integrate a heat take-off is proposed. Economic development in the area including as part of the levelling up agenda mean that as the energy sources are decarbonised they will need to be provided on a national as well as local basis. The availability of reliable heat for a suitable use will make the location a potentially attractive option for any specific activity that needs a low-cost heat source. For example, mushroom growing.

It is considered that this may become viable at some point in future. As Wales and the UK more generally makes the transition to a carbon neutrality, the use of heat from the facility in the locality could

provide a meaningful contribution to energy needs by displacing the need for heat sources from conventional fossil-based sources such as gas.

Energy conversion efficiency

The R1 formula was devised to provide a consistent framework for the determination of whether or not facilities incinerating wastes can be considered to be a recovery activity rather than disposal for the purposes of defining their relative position on the steps of the waste hierarchy. In this context, recovery is defined as operations that result in the waste serving a useful purpose by replacing other materials that would otherwise have been used to fulfil a particular function etc.

This takes into account the configuration of the plant and calculates the efficiency with which the plant converts waste to energy. This is intended to encourage the design and operation of energy efficient waste incinerators. The energy efficiency formula is based on a number of criteria including key elements. These include for example, the energy generated by the waste combustion must exceed the energy consumed by the process itself. The majority of the energy generated must be recovered as electricity or heat. If the calculation exceeds the threshold the facility can be considered to have R1 status i.e. recovery incineration. This clarifies the role of waste incineration with efficient energy recovery as a better environmental outcome than the equivalent landfill.

The proposed plant design has been based on the efficiency criteria of the R1 formula. On the basis of the anticipated calorific value of the residual wastes the plant would have a derived energy efficiency rating that exceeds the stipulated threshold. The Buttington ERF has been based on a design intent that would achieve 0.667. This efficiency is based on the planned moving grate design/performance, with no heat export considered. This would be enhanced should the opportunity to export heat become available.

The current formula threshold for classifying a plant as a recovery operation rather than a disposal operation in alignment with the waste hierarchy is currently 0.65, therefore the Buttington ERF at 0.667 exceeds this and therefore will be classed as a recovery option.

Conclusion

The issues raised by Cllr Jenner are all considered valid points and raise critical questions concerning the role that EfW plays in a modern waste management system. It is a valuable opportunity to address these concerns and provide updated information that reflects the practical reality of EfW and explain the facts from the often repeated and outdated misinformation that commonly enters the discussion.

Recent updates amending the Regulations made under changes to the Circular Economy Package 2020 (The Waste (circular economy) (Amendment) regulations 2020 are intended to ensure that separately collected waste for reuse or recycling is neither landfilled nor incinerated. Except where wastes arising from subsequent treatment is incinerated and this is the best environmental outcome based on application of the waste hierarchy. These will underpin the focus on the recovery of valuable materials from the waste stream.

The wide perception that EfW negatively impacts the environment, run counter to climate change initiatives and impede the evolution of more advanced recycling technology etc. is to misunderstand the role that EfW plays in a modern waste management system. The process is complementary to the development of a truly circular economy because it addresses the intractable problem of residual waste management in a constructive way and avoids their deposition to land. Whilst waste composition may gradually evolve over time; however, these are not forecast to impact the need for disposal of residual waste until at least 2030. In addition, the facility will provide capacity to treat residual waste produced in neighbouring counties of England.

The technology displaces the reliance upon landfill and provides a proven and safe method for dealing with these wastes in such a way that the best overall environmental outcome is achieved.

Steven J Filkin MSc, Waste Management Credentials

Steve founded Filkin & Co EHS Limited, based in Wem, Shropshire in 2012 following a career focused on waste and environmental management. He has over 30 years' experience and has spent many years working with thermal treatment technology both managing operations and contributing to the development of applications for large scale energy from waste facilities. Steve has worked in a number of large EfW developments including projects including Aberdeen, Kirklees, Allington and on the Isle of Man.

Steve also has an extensive range of experience in general environmental management in both the UK and internationally. He has lived in North Shropshire for the past 14 years.

Appendix D

Copies of email correspondence with Welsh Government Planning Division

Ben Lewis

Subject: FW: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

From: Joanne.Smith@[redacted]
Sent: 08 June 2021 11:31
To: Sarah Burley <[redacted]
Cc: Planning.Directorate@gov.wales
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Sarah

Thanks for your email, I'm sorry it wasn't picked up until my return from leave.

I understand that you were hoping for further detail on the model showing how the projections were derived from each of the baseline data sources, and I have made enquiries to see if there is any further information that can be shared.

Unfortunately, I am advised that the model developed for us by Local Partnership is a proprietary model and is not available to be shared. The methodology which we have already shared with you, as well as the information already contained in the strategic waste assessment, is all that we are able to publish. I can confirm that NRW only used published I&C survey 2018 data to quality assure the I&C baseline data and how it was being used in the model to derive the future projections.

I realise this will not be sufficient to meet your request but I hope you understand why I have to respond in this way.

Regards
Jo

From: Sarah Burley [redacted]
Sent: 24 May 2021 17:51
To: Smith, Joanne (ESNR-Planning) <[redacted]
Cc: Planning Directorate Mailbox <Planning.Directorate@gov.wales>; Dudley-Jones, Gareth (ESNR-Planning) <[redacted]
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Jo,

In terms of the method and the data for the Strategic Assessment, I appreciate that you kindly sent the methodology over on the 15th, however I was hoping that there would be a more detailed report available. The method states that Natural Resources Wales assisted in quality assuring the projections, which included agreeing the baseline data and assumptions made in developing the projections, and reviewing the approach methodology and calculations. This was the more detailed information that I was looking for. Would you be able to send me that information???

Kind regards,

Sarah

Sarah Burley

Technical Director.

Tel [redacted]
Mob: [redacted]
Email: s[redacted]
Website: www.ecl.world

From: Joanne.Smith@[redacted]
Sent: 24 May 2021 16:49
To: Sarah Burley[redacted]
Cc: [redacted]
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Sarah

Thanks for your email. Here is a response to the questions:

- In terms of the Strategic Assessment, is there any more detailed information available? For example, in Tables 2-5, where did the data for the current levels of waste come from and on how have the future projections been estimated? The text mentions “using the most up to data available” but there is no reference for this?

  The methodology was sent to you in the email of 15 April. The sources of waste data are referenced in the Strategic Assessment.

- Can you provide a list of all the facilities considered as part of the available operating capacity as mentioned in Table 5, as again there is no detail provided in the Strategic Assessment.

  The available operating capacity identified in the Strategic Assessment is for two facilities – the energy from waste plants at Parc Adfer in Deeside, and at Trident Park in Cardiff.

- Is there a decision document available which sets out the detailed reasoning for the moratorium, and why a moratorium was put into place rather than any other measures?

  Towards Zero Waste 2010, Beyond Recycling (the Circular Economy Strategy) 2021 and Planning Policy Wales 2021 provide the policy context, and the 24 March Written Statement and Strategic Assessments explain the specific rationale for the moratorium.

- Can you also let me know if there was any public consultation undertaken with regard to either the Strategic Assessment or the moratorium?

There was extensive public consultation for the development of Towards Zero Waste and Beyond Recycling. The summary of the consultation analysis for Beyond Recycling is published here: https://gov.wales/circular-economy-strategy

I hope this helps. I am now on leave until 2nd June, therefore, if you have any follow up questions as well as emailing myself and the mail box, please can you copy in my colleague Gareth Dudley-Jones who will be able to help.

regards
Jo

From: Sarah Burley [redacted]
Sent: 24 May 2021 09:05
To: Smith, Joanne (ESNR-Planning) [redacted]
Cc: Planning Directorate Mailbox [redacted]
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Jo

Thanks for the response below, I have a few further questions which I would be grateful for some additional clarification.

- In terms of the Strategic Assessment, is there any more detailed information available? For example, in Tables 2-5, where did the data for the current levels of waste come from and on how have the future projections been estimated? The text mentions "using the most up to data available" but there is no reference for this?
- Can you provide a list of all the facilities considered as part of the available operating capacity as mentioned in Table 5, as again there is no detail provided in the Strategic Assessment.
- Is there a decision document available which sets out the detailed reasoning for the moratorium, and why a moratorium was put into place rather than any other measures?
- Can you also let me know if there was any public consultation undertaken with regard to either the Strategic Assessment or the moratorium?

I would be grateful for a swift response on these matters.

Kind regards,

Sarah

Sarah Burley
Technical Director.

Tel: [redacted]
Mob: [redacted]
Email: [redacted]
Website: www.ecl.world

From: Joanne.Smith@[redacted]
Sent: 04 May 2021 12:45
To: Sarah Burley [redacted]
Cc: [redacted]
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Sarah

Thank you for your email, and apologies for the delay in responding.

I hope the following helps to address your questions, to at least some extent.

- As far as I know the threshold is that used in the DNS regulations and I have no further information which I can add to that.

- The moratorium announcement is a statement of policy from WG and will be a material consideration in all relevant cases.

- I think the inclusion of 'where feasible' is an acceptance of the position which we find ourselves in with carbon capture and storage. It applies to all plants generating energy from waste and reflects decarbonisation and waste policy aims and objectives.

- The moratorium applies to new large scale energy from waste plants of 10MW or greater. The list from page 13 onwards in the document 'Energy Generation in Wales' last updated in 2021, at the link below, outlines the thinking on the scope of policies 17 and 18.

https://gov.wales/sites/default/files/publications/2021-01/energy-generation-in-wales-2019.pdf

I hope this information is of assistance. I recognise that these are general responses but please do come back to me if you would like me to seek further clarification on the technical matters raised.

Regards
Jo

From: Sarah Burley [redacted]
Sent: 27 April 2021 16:23
To: Smith, Joanne (ESNR-Planning) [redacted]
Cc: Planning Directorate Mailbox <[redacted]s>
Subject: RE: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Jo,

Thanks for the information you have provided on the methodology for the Strategic Assessment. We have a number of further queries on both the Ministerial Statement and wider planning policy. I would be grateful if you could provide some further clarification on the following:

- The Ministerial Statement states that "*The moratorium on new large scale energy from waste plants will cover those of 10MW"* Is that 10mw net or gross?
- Does the moratorium only apply to planning applications submitted after the 24th March 2021.
- "Any new small scale facilities must also supply heat, and where feasible, be carbon capture and storage enabled or ready." – would this also apply to plants that are CHP ready/carbon capture ready? Carbon capture technology is very much in its infancy in the UK and it is currently understood that the various environmental agencies (NRW/EA/SEPA) have very little guidance on how such facilities would be permitted. Carbon capture currently would be limited to research and development type facilities.
- How does the moratorium sit alongside Policies 17 and 18 of the National Development Framework – Future Wales: The National Plan 2040, published 24 February 2021. These policies confirm Welsh Government support for proposals for renewable and low carbon energy which qualify as Developments of National Significance and which meet the policy criteria. For reference: Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure - The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs. And Policy 18 – Renewable and Low Carbon Energy Developments of National Significance Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and provided that they meet the listed criteria.

Please do not hestiate to contact me if you wissh to discuss these queries in further detail.

Kind regards,

Sarah

Sarah Burley
Technical Director.

Tel: [redacted]
Mob: [redacted]
Email: [redacted]
Website: www.ecl.world

From: Joanne.Smith@[redacted]
Sent: 15 April 2021 11:24
To: Sarah Burley[redacted]
Cc: [redacted]
Subject: FW: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Dear Sarah

Many apologies for the delay in replying, especially given that you have deadlines to respond on this. I needed to check some details with colleagues who were on leave during the Easter break which explains the delay.

I attach an explanation of the methodology which contains the links to the data sources you have highlighted. In addition, I acknowledge there is a typo in the strategic waste assessment in terms of the waste prevention targets, which are indeed in Appendix 2 of Towards Zero Waste rather than in Annex 1 as stipulated. This will be corrected.

In terms of the composition of the economic regions and partnerships I can confirm your understanding of the partnership regions for procurement purposes to be correct.

The economic regions are slightly different to the ones previously used for the regional waste planning purposes in TAN 21 Waste. NRW have advised that there is an error in section 2.8 of their I&C report which lists the TAN 21 regions. I can confirm that the I&C survey used the latest economic regions and NRW will amend this incorrect reference to the TAN 21 regions in that report as a matter of urgency. The economic regions reflect those in place under the auspices of the Economic Action Plan areas and are as follows:

SE Wales
Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taf, Torfaen & Vale of Glamorgan

North Wales
Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey & Wrexham

SW and Mid Wales
Powys, Carmarthenshire, Ceredigion, Neath Port Talbot, Pembrokeshire & Swansea

I trust this information is of assistance. I apologise again for the delay in responding.

Yours sincerely

Jo

Joanne Smith

Planning Policy Branch/Cangen Polisi Cynllunio
Planning Directorate/ Y Gyfarwyddiaeth Gynllunio
Welsh Government/ Llywodraeth Cymru
Cathays Park, Cardiff/ Parc Cathays, Caerdydd
CF10 3NQ
Tel/Ffon: [redacted]
email/ ebost: [redacted]

From: Lewis, Paul M J (ESNR-Planning) <P[redacted] **On Behalf Of** Planning Directorate Mailbox
Sent: 12 April 2021 08:29
To: Smith, Joanne (ESNR-Planning) [redacted]
Subject: FW: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Hi Jo.

Please see the chasing email below. I attach the original for your convenience.

Regards,

Paul.

From: Sarah Burley <s[redacted]
Sent: 12 April 2021 06:49
To: Planning Directorate Mailbox <[redacted]>
Cc: dns. wales <dns.wales@planninginspectorate.gov.uk>
Subject: Re: DNS/3214813 - Buttington Quarry EfW - FAO Jo Smith

Good morning

I was just wondering if you had had a chance to consider my email below. We are required to respond to PINS by the 19th April therefore I would appreciate a response at your earliest convenience.

I would also be grateful if you could acknowledge receipt of this email.

Kind regards,

Sarah

Sarah Burley
Technical Director.

Tel: [redacted]
Mob: [redacted]
Website: www.ecl.world

On 6 Apr 2021, at 13:21, Sarah Burley [redacted] wrote:

Dear Sir/Madam,

I've been given your details by Rob Sparey at the Planning Inspectorate. I represent a developer who has recently submitted a DNS application for an Energy from Waste Facility. We have been asked by the Planning Inspectorate to consider how the recent moratorium on Energy from Waste Facilities, and specifically the data contained in the Welsh Government's Strategic Assessment for the Future need for Energy From Waste Capacity in Wales impacts our waste planning statement.

However, from our initial review of the Strategic Assessment, we have a number of queries which we would be grateful for clarification on in order to be able to fully respond to the Inspectorate. We feel it is important to ensure that we are looking at the same data, and are making the same assumptions.

Currently we do not have a sufficient understanding of the methodology and assumptions behind the figures quoted in the Strategic Assessment. For ease, we have extracted those areas that are unclear to us and I would be grateful if you could provide some clarification on the following points.

- Strategic Assessment refers to 'economic regions' – Is the following coverage correct, if not please could the table below be corrected.

North Wales	Conwy, Denbighshire, Flintshire, Gwynedd, Isle of Anglesey, Powys (Montgomeryshire) & Wrexham
Mid & South Wales	Bridgend, Carmarthenshire, Ceredigion, Neath Port Talbot, Pembrokeshire & Swansea
South East Wales	Blaenau Gwent, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Powys (Brecon & Radnorshire), Rhondda Cynon Taf, Torfaen & Vale of Glamorgan

- Strategic Assessment states – "Since 2012, fifteen out of the twenty two Local Authorities in Wales have entered into long-term contracts for the management of the residual municipal wastes they collect". Is the following correct, if not please edit

Prosiect Gwyrdd, (Trident Park)	Caerphilly, Cardiff, Monmouthshire, Newport and Vale of Glamorgan.
North West (NW) Residual Waste Treatment Partnership (Parc Adfer)	Flintshire, Denbighshire, Conwy, Gwynedd and Anglesey Councils
Tomorrow's Valley Partnership	Blaenau Gwent, Torfaen, Rhondda Cynon Taff, Merthyr Tydfil, Torfaen

- Strategic Assessment refers to waste data sources. Are the following links correct, if not please edit

New data for Local Authority collected waste (2019/20)	https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste
Industrial and commercial waste (2018)	https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/industrial-commercial-waste-survey/?lang=en
Constructionand demolition waste (2012)	https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/construction-demolition-waste-survey/?lang=en

Waste Flow Model

We understand that the 'Waste Flow Model' referred to in the strategic assessment includes:- the application of the TZW waste reduction and recycling targets to the waste arisings (obtained from data sources listed above). It seems also to apply 'Eunomia capture rates' and Eunomia 'methodology applied to the latest industrial and commercial waste data'. Is this correct?

Table 1:

- Please confirm baseline data sources (i.e. those listed in table above) - NB the Stats Wales LAMW figures are not yet available for the 3 economic regions only the individual authorities.
- We are familiar with TWZ (2010) waste reduction targets for the various waste streams but cannot locate 'Annex 1' (only Appendix 2 'The Impact of the Proposed Waste Prevention Targets for Specific Waste Streams')
- We are familiar with the WG Targets for recycling, but please also provide detail on the 'Eunomia capture rates' - or does what is stated in Table 1 mean that the percentage targets have been defined based on Eunomia advice on capture rates?

I trust the above is clear, however, please do not hesitate to contact me if you require any further information.

Kind regards,

Sarah

Sarah Burley
Technical Director.

Tel: [redacted]
Mob: [redacted]
Email: [redacted]
Website: www.ecl.world

<image001.jpg>

Sganiwyd y neges hon am bob feirws hysbys wrth iddi adael Llywodraeth Cymru. Mae Llywodraeth Cymru yn cymryd o ddifrif yr angen i ddiogelu eich data. Os cysylltwch â Llywodraeth Cymru, mae ein hysbysiad preifatrwydd yn esbonio sut rydym yn defnyddio eich gwybodaeth a sut rydym yn diogelu eich preifatrwydd. Rydym yn croesawu gohebiaeth yn Gymraeg. Byddwn yn anfon ateb yn Gymraeg i ohebiaeth a dderbynnir yn Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi. On leaving the Welsh Government this email was scanned for all known viruses. The Welsh Government takes the protection of your data seriously. If you contact the Welsh Government then our

Strategic assessment for the future need for energy from waste capacity in the three economic regions of Wales – Methodology

Methodoloy

Forecast projections for 2024/25 and 2034/35 of the quantities of residual waste produced in Wales suitable for energy recovery have been derived for Wales as a whole and for the three economic regions for two future scenarios. The projections were derived using the latest available data as follows:

- Local Authority collected municipal and household waste – derived from WasteDataFlow and published on Stats Wales[1];
- industrial and commercial (I&C) waste – derived from the 2018 I&C Waste survey commissioned by Natural Resources Wales (NRW)[2]; and
- construction and demolition (C&D) waste – derived from the 2012 C&D waste survey commissioned by NRW[3].

The detail of the scenarios applied are provided in the Strategic Assessment[4].

The quantities of non-recycled waste suitable for energy recovery were derived for each of the main waste streams. Calculations were made based on the likely recycling rates achievable for each separate waste material to meet overall recycling rates, and the suitability of the non-recycled fraction to go for energy recovery.

The composition of I&C waste is more complex than the waste collected by Local Authorities, necessitating more detailed analysis. Waste types were collated at the Substance Orientation Classification (SOC) sub-sub-group level into categories as listed below. Materials in the data identified as non-wastes were excluded from the data. Categories of I&C waste used in the waste flow model were as follows:

[1] https://statswales.gov.wales/Catalogue/Environment-and-Countryside/Waste-Management/Local-Authority-Municipal-Waste
[2] https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/industrial-commercial-waste-survey/?lang=en
[3] https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/construction-demolition-waste-survey/?lang=en
[4] https://gov.wales/strategic-assessment-future-need-energy-waste-capacity-wales

Residual
Ferrous Metal
Food Waste
Garden Waste
Glass
Non-Ferrous Metal
Other Reuse/Recycling
Paper and card
Plastic
Textiles
WEEE
Wood
Liquids
Hazardous waste

For clarity and as an example, the SOC sub-sub-group fractions that are ascribed to “Residual” are as follows:

Other Healthcare wastes
Sanitary waste
Acid
Alkaline
Animal Infectious Health Care wastes
Bulky waste
Chemical Reaction Residues
Common Sludges (excluding dredging spoils)
Genetic Engineering wastes
Halogenated Spent Solvents
Human Infectious Health Care wastes
Minor Mixed Chemical wastes
Mixed Construction wastes

Mixed Residual (including Food waste)
Mixed Residual (no Food waste)
Non-Halogenated Spent Solvents
Oils/Water Emulsions Sludges
Other Chemical Deposits and Residues
Other Chemical Preparation wastes
Other Saline
Other Solvents
Paints, Varnish, Inks & Adhesive wastes
Sludges Containing Hydrocarbons
Sludges from Industrial Processes & Effluent Treatment
Sorting Residues
Spent Chemical Catalysts
Spent Filtration and Absorbent Materials
Unused Medicines
Used Motor Oils

The fates of these waste streams are set out according to the waste management operation the waste is sent to and these were grouped in to waste treatment types as follows:

EfW other
AD other
Chemical treatment
Composting
land app
landfill
MRF
Other recycling
RDF
RDF Prep MBT

Reuse

The I&C waste tonnages are collated by categories and processes and by the region in order to allow the tonnage flows through each facility to be calculated. An example of the data is shown below.

Table 1 Example of data collation North Wales commercial waste 2018

	Tonnage 17/18	AD other	Chemical treatment	Composting	EfW other	land app	landfill	MRF	Other recycling	RDF	RDF Prep MBT	Reuse	Reuse N
Residual	91,527	0.7%	0.0%	-	22.7%	0.4%	43.5%	31.7%	0.2%	0.7%	0.0%	-	0.1%
Ferrous Metal	12,439	-	-	-	-	-	0.0%	12.2%	87.4%	-	-	0.3%	0.0%
Food Waste	15,452	60.6 %	-	4.0%	4.9%	0.1%	16.2%	-	7.2%	0.1%	-	1.8%	5.2%
Garden Waste	6,746	7.4%	-	92.5%	0.1%	-	-	-	-	-	-	-	-
Glass	12,987	-	-	-	-	-	-	6.6%	93.4%	-	-	-	0.0%
Non-Ferrous Metal	792	-	-	-	-	-	-	0.0%	100.0%	-	-	-	-
Other Reuse/Recycling	102,739	-	-	-	3.5%	1.3%	13.7%	40.2%	31.4%	0.0%	-	3.3%	6.6%
Paper and card	87,650	-	-	0.0%	1.6%	0.3%	0.4%	10.1%	82.8%	-	0.0%	0.1%	4.6%
Plastic	22,855	-	-	-	1.7%	-	1.3%	6.8%	89.9%	-	-	0.1%	0.2%
Textiles	158	-	-	-	-	-	-	0.0%	26.7%	-	-	-	73.3%
WEEE	1,717	-	-	-	0.1%	-	17.7%	4.3%	62.6%	-	-	-	15.4%
Wood	3,904	-	-	-	11.2%	-	-	9.7%	53.6%	0.9%	-	0.8%	23.7%
Nonhaz liquids	8,378	0.0%	0.0%	-	0.1%	0.8%	1.0%	11.1%	27.6%	0.3%	58.2%	-	0.8%
Haz waste	18,951	-	6.3%	-	28.9%	0.2%	14.1%	2.8%	32.8%	3.9%	0.8%	0.3%	9.9%

Total	346,884	3.0%	0.3%	2.0%	9.1%	0.4%	15.8%	19.9%	43.2%	0.4%	1.5%	0.8%	3.6%

To predict the increase in recycling of these waste fractions to match the trajectory of achieving up to 80% recycling, the residual fractions are adjusted so that material from EfW and landfill moves to "other Recycling" reflecting the projected increase in recycling. The amount transferred is calculated as the differential between the recycling rate achieved and the target value (70% in 2024/25 and 80% in 2034/35). This process is conducted for each region (North, South East and Mid & South West) and for the I&C wastes separately.

In addition, in line with progress in moving up the waste hierarchy, the projections account for waste currently destined in the assessment to go to landfill being sent to EfW instead. However, some waste types are not suitable for EfW and the proportion of the waste diverted from landfill was assessed by its suitability for combustion. This was done by allocating the residual waste categories to either combustible or non-combustible as a proxy for its suitability for EfW treatment. The allocation of waste streams is shown below.

SOC sub-sub-group	Suitability for EfW
Other Healthcare wastes	combustible
Sanitary waste	combustible
Acid	non-combustible
Alkaline	non-combustible
Animal Infectious Health Care wastes	combustible
Bulky waste	combustible
Chemical Reaction Residues	non-combustible
Common Sludges (excluding dredging spoils)	non-combustible
Genetic Engineering wastes	combustible
Halogenated Spent Solvents	combustible
Human Infectious Health Care wastes	combustible
Minor Mixed Chemical wastes	non-combustible
Mixed Construction wastes	combustible
Mixed Residual (including Food waste)	combustible

Mixed Residual (no Food waste)	combustible
Non-Halogenated Spent Solvents	combustible
Oils/Water Emulsions Sludges	combustible
Other Chemical Deposits and Residues	non-combustible
Other Chemical Preparation wastes	combustible
Other Saline	non-combustible
Other Solvents	combustible
Paints, Varnish, Inks & Adhesive wastes	combustible
Sludges Containing Hydrocarbons	non-combustible
Sludges from Industrial Processes & Effluent Treatment	non-combustible
Sorting Residues	combustible
Spent Chemical Catalysts	non-combustible
Spent Filtration and Absorbent Materials	combustible
Unused Medicines	combustible
Used Motor Oils	combustible

Quality assurance

Natural Resources Wales assisted in quality assuring the projections. This included agreeing the baseline data and assumptions made in developing the projections and reviewing the approach, methodology and calculations. The methodology uses an approach that has been developed over the last decade and which has been applied on many occasions across the UK.

Appendix E

WRATE Assessment Report

Proposed Buttington Energy Recovery Facility

Climate Change Assessment – WRATE Analysis

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With thanks to Frith Resource Management Limited for assistance with the WRATE analysis

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Contents

Executive Summary

Filkin & Co EHS Limited ("Filkin") with support from Frith Resource Management Limited ("Frith") were requested to perform a WRATE[1] life-cycle assessment (LCA), including user-defined processes to represent the Buttington Energy from Waste (EfW) development, using moving grate technology. The WRATE modelling is being undertaken to identify carbon impacts. The WRATE model has applied the BEIS long run marginals for Greenhouse Gas calculations methodology[2] (a Carbon intensity 258gCO_2eq/kwh). The 2021 energy mix for England was applied as the baseline fuel mix. The WRATE LCA has been performed by a trained consultant, using WRATE version 4.0.1.0[3].

A comparator against landfill of the feedstock (waste) material was also included and the key results are shown in Table 1.

Table 1 –WRATE assessment outputs illustrating the results of the modelling exercise

	Buttington EfW Scenario impacts	Landfill comparator	Total Savings versus Landfill
WRATE model results	14,830,273 kg CO_2 eq,	46,733,017 kg CO_2 eq impact	31,902,744 kg CO_2 eq per annum

The model used data provided by Filkin, Environmental Compliance Limited ("ECL") and Hitachi Zosen Inova AG ("Hitachi"). Where gaps existed in data the model was completed using the defaults available within WRATE for the Chineham Medium Energy from Waste plant v.3 Process [ID 12300] as a peer reviewed proxy technology. The project year was set as 2021.

The findings show a CO_2 equivalent saving of the Buttington EfW operation of c.31,900 tonnes of CO_2 equivalent impact per annum compared to landfilling the waste. This benefit is primarily derived from a combination of the energy recovery, recycling (of metals from the process residue) and avoided methane (that is generated by the landfill alternative). It is equivalent to taking 11,350 average petrol cars[4] off the road, in emissions terms.

The carbon benefit of the electricity generated and exported from the facility is also sensitive to the marginal energy mix (i.e. what is considered displaced), this will change over time. The approach taken includes the embedded carbon in constructing the facility, operating / maintaining the plant and managing / transporting the outputs, including all related emissions.

[1] The bespoke Life Cycle Assessment tool developed by the Environment Agency for determining the impact of waste management processes. WRATE is an acronym for Waste & Resources Assessment Tool for the Environment and is updated on a regular basis by Golder Associates

[2] Electricity emissions factors to 2100, kgCO2e/kWh, BEIS, 2019 – 2021 carbon intensity from the 2021 long run marginal applied

[3] The latest version of the model at the time of undertaking the work, as provided by Golder Associates

[4] Emission from an average petrol car: carbonfootprint.com - Carbon Footprint Calculator

1 Introduction

Everything we buy, produce, use and throw away has an impact on the environment. Increasing focus on environmental issues, especially climate change, has led to many initiatives that aim to decrease the environmental impact of how we live. Understanding and effectively communicating the environmental impact of planned developments has centred in strategic waste management planning and infrastructure, planning applications and accompanying environmental statements with the use of carbon footprints.

This assessment has been prepared for Broad Environmental by Filkin & Co EHS Limited with support from Frith Resource Management Limited using WRATE life cycle assessment software. The calculation has been completed based on hypothetical technical operating conditions for the proposed facility. Data provision has been provided by Filkin & Co EHS Limited ("Filkin"), Environmental Compliance Limited ("ECL") and Hitachi Zosen Inova AG ("Hitachi").

WRATE is used to assess the environmental impacts of waste management activities during their whole life. It allows users to track the environmental impacts from kerbside collection to advanced waste treatment facilities and ultimate disposal (see www.wrate.co.uk for more details).

2 The WRATE Modelling Parameters

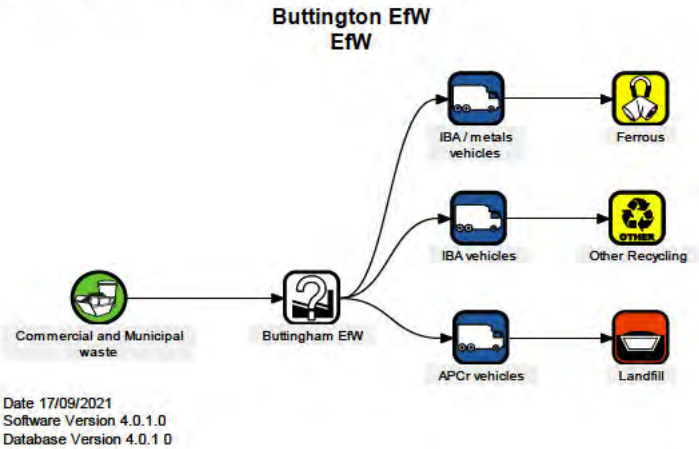
The project year modelled in WRATE is 2021; for the default methodology standard electricity mixes for England in 2021 were applied for the baseline fuel mix, however the BEIS recommended long run marginal for 2021 was applied[5] [6].

2.1 The Buttington EfW Development

The carbon footprint has been based on estimated data as explained in Table 2.

The project is intended to reflect the life cycle impacts of the Energy from Waste facility, to accept 150,000 tpa (for a facility with a maximum capacity of 167,000 tpa) of municipal and commercial waste through a moving grate facility. The WRATE scenario map of the proposal can be seen in Figure 1 below.

Figure 1 Buttington EfW project WRATE scenario schematic



[5] Electricity emissions factors to 2100, kgCO2e/kWh, BEIS, 2019. In 2021 carbon intensity of 258gCO_2eq/kwh

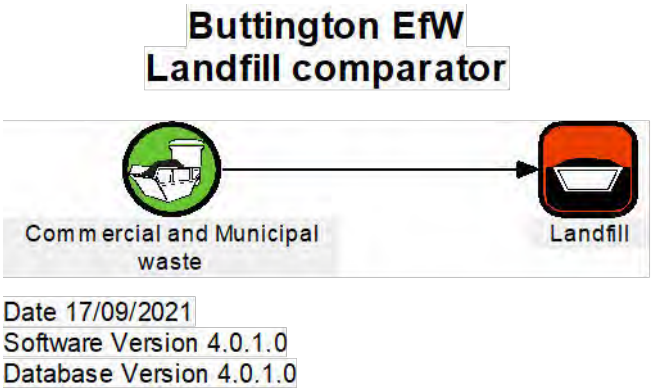
[6] The overall efficiency of the UK's natural gas-fired CCGTs in 2019 was 48.8% (gross CV basis) which corresponds to 54% on a net CV basis (The Digest of United Kingdom Energy Statistics, BEIS) so this value was selected.

All assumptions made in the development of this model are included in the following sections. The outputs of incineration residue, referenced as Bottom Ash (IBA) in the model, and metals are transported a nominal 50km and recycled. The Air Pollution Control residues (APCr) are also transported a nominal 50km and then landfilled. Onward waste transport is modelled using the WRATE *Intermodal Road Transport v2 (12026)* process.

2.2 The Baseline Comparator Scenario

A baseline scenario was developed for the same waste stream, illustrated in Figure 2, using a landfill (HDPE liner and clay cap, process ID 12151) as a comparator.

Figure 2 Baseline WRATE scenario schematic



2.3 Assumptions and Processes in the Buttington EfW Scenario

2.3.1 Waste Feedstock

A waste feedstock with a calorific value design point of 10MJ / kg, described as a combination of commercial waste and Municipal Solid Waste (MSW). The closest waste stream to this in WRATE, based on actual waste composition analysis conducted in England, is the 'co-collected trade waste' which is a mix of commercial and household waste. These are anticipated to be the two main sources of waste and therefore can be considered reflective. It also has a calorific value of 10.11 MJ / kg. This is close to the optimum design value and has been adjusted slightly to make it match the CV, by reducing the 'other paper' fraction by 1.53% and adding the same amount to the 'unspecified non combustibles' fraction[7]. This results in a net CV of 10.0006MJ/kg. The waste composition is included in Appendix B.

2.3.2 Waste Pre-treatment

There is assumed to be no Waste Pre-Treatment facility because the waste provided to the Energy from Waste plant arises in suitable form for treatment.

2.3.3 User-Defined Buttington Energy from Waste Facility

The default WRATE process *Chineham -Medium Energy from Waste (ID: 12300)* was used as the basis for the proposal as a peer reviewed process available in WRATE. Using this as a template, a user-defined WRATE process *Buttington EfW (ID: 11362)* was developed. A number of changes were made to reflect the larger capacity of the facility, whilst other changes reflected absolute information provided in the process mass and energy information. The changes are listed in Table 2 overleaf. The

[7] This is a conservative assumption, as it removed biomass from the feedstock, so as not to advantage the carbon balance of the EfW facility. Furthermore, increasing the non combustibles fraction would not disadvantage the landfill comparator.

process emissions and construction factors are scaled by the allocation rules in WRATE to reflect the size of the facility.

Table 2 User-defined Buttington EfW Modifications from WRATE Chineham Process

Parameter	Chineham EfW (12300)	Buttington EfW (11362)	Reasoning
Energy Recovered (MJ)	Feedstock net CV x0.201	Feedstock net CV x 0.2331947	To match the expected net energy output (12.4MW), as provided by Filkin & Co EHS ltd.
Construction Material Inputs, Maintenance Material Inputs, Maintenance Material Outputs, Operational Fuel Inputs, Operational Material Inputs, Energy Inputs, Emissions factors	All	Maintained as previous except where stated below	Scaled by allocation rules and incoming waste properties (where relevant).
Operational Material & Water Inputs	As Chineham (and scaled to the size of the facility) except as noted.	APC and other process inputs amended bespoke to Buttington: 47.4t Activated carbon 276.5t Ammonia (Anhydrous) 2899.3t Lime (Hydrated)	As specified by Filkin & Co. EHS Ltd and applying options in WRATE
Process Energy Production – Electricity (MJ)	Feedstock net CV x0.201	Feedstock net CV x 0.2331947	Net process energy production (minus parasitic load), derived from the gross and net energy provided by Filkin & Co EHS ltd.
Process Waste Output (Bottom Ash), metals & APC residues	The Bottom Ash, ferrous and non-ferrous metals are derived from the allocation rules for Incinerators in WRATE.	Same as Chineham.	These apply a calculation of ash content and a % separation of the input metals within the feedstock, as part of standard WRATE allocation rules and based on mass balance.

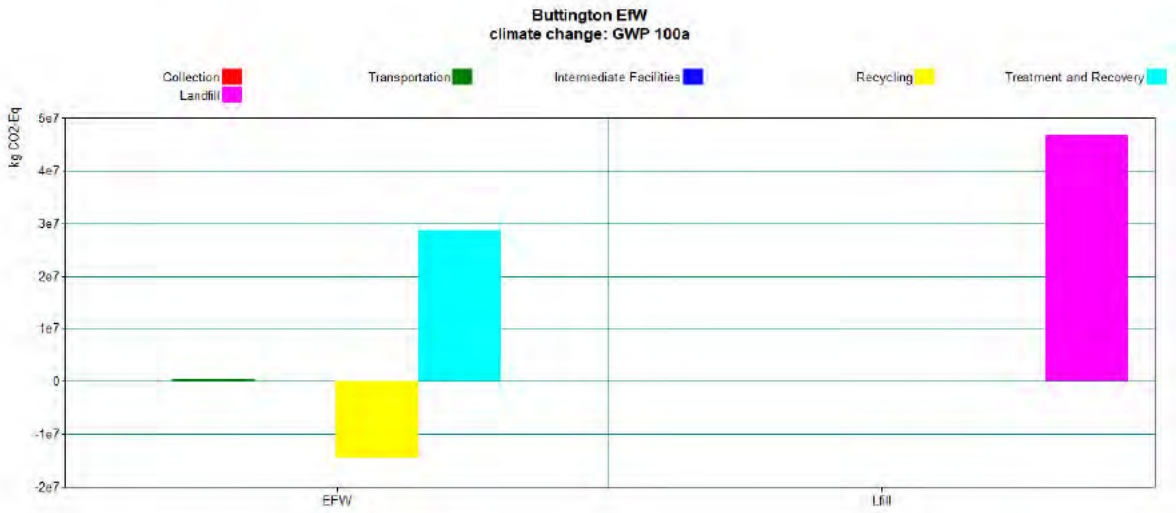
3 Results

The WRATE results show that the facility is modelled to achieve a saving of at least 31,900 tonnes of CO_2 equivalent per annum compared with the landfill option. The results are illustrated in Table 3 and in the carbon balance in Figure 3 below.

Table 3 Comparison of Landfill and Buttington EfW WRATE results

	Buttington EfW Scenario impacts	Landfill comparator	Total Savings versus Landfill
WRATE model results	14,830,273 kg CO_2 eq,	46,733,017 kg CO_2 eq impact	31,902,744 kg CO_2 eq per annum

Figure 3 Breakdown of carbon performance



Additional environmental impacts from the WRATE modelling are contained in Appendix C.

The results are sensitive to the marginal energy mix and the BEIS long run marginals, with a grid intensity of 258gCO_2/kwh was applied, see also Appendix A.

Processing municipal waste contains a mix of both biogenic carbon (e.g. 'renewable') and non-biogenic carbon (e.g. 'fossil'), and as the UK energy mix decarbonises this impacts on the carbon benefits of waste treatment processes. The model will also be sensitive to the amount of biogenic and non-biogenic waste in the material feedstock as waste composition changes over time.

Appendices

Appendix A Fuel & Energy Mix

	Baseline Fuel Mix [%]	Generating efficiencies [%]	Marginal Fuel Mix [%]
Total	100		100
Coal	7.569225372	33.9233377	0
Oil	0.56710229	26.4874544	0
Gas	3.348076748	41.19192217	0
Gas CCGT	46.50343509	54	69.2959
Nuclear	22.21128248	35.70891607	0
Waste	0	19.37880885	0
Thermal other	0.682360569	22.63928347	0
Renewables thermal	6.642799239	27.47254147	0
Solar PV	0	15.51724138	0
Wind	8.469890843	25	30.7041
Tidal	1.394823663	82	0
Wave	0	82	0
Hydro	1.371240732	82	0
Geothermal	0	82	0
Renewable other	1.239762979	82	0

Appendix B Waste Composition

Waste Fraction	%	Quantity [tonnes]
Newspapers	5.55	8325
Magazines	2.21	3315
Recyclable paper	6.74	10110
Other paper	5.13	7695
Card packaging	15.3	22950
Other card	2.82	4230
Bags	1.89	2835
Packaging film	3.92	5880
Other film plastic	0.58	870
Drinks bottles	0.87	1305
Other bottles	1.31	1965
Other packaging	2.47	3705
Other dense plastic	3.34	5010
Artificial textiles	1.01	1515
Natural textiles	1.01	1515
Disposable nappies	1.59	2385
Unspecified wood	3.81	5715
Shoes	0.23	345
Carpet/underlay	1.81	2715
Furniture	0.09	135
Other combustibles	1.7	2550
Unspecified non-combustibles	1.53	2295
Bricks, blocks, plaster	1.88	2820
Other non-combustibles	2.26	3390
Packaging	4.64	6960
Non-packaging glass	1.29	1935
Garden waste	2.02	3030
Food waste	15.66	23490
Other organics	0.88	1320
Steel food and drink cans	1.56	2340
Other ferrous metal	1.73	2595
Aluminium drinks cans	0.33	495
Other non-ferrous metal	0.41	615
Unspecified fine material	1.79	2685
Large electronic goods (excl. CRT TVs and monitors)	0.06	90
CRT TVs and monitors	0.06	90
Other WEEE	0.39	585
Batteries	0.01	15
Clinical waste	0.03	45
Paint/varnish	0.09	135
Total	**100**	**150000**

Appendix C Full set of Environmental Impacts

Full set of WRATE results

Impact Assessments	Unit	EFW	Lfill
climate change: GWP 100a	kg CO2-Eq	14,830,273	46,733,017
acidification potential: average European	kg SO2-Eq	15,895	15,811
eutrophication potential: generic	kg PO4-Eq	14,642	11,268
freshwater aquatic ecotoxicity: FAETP infinite	kg 1,4-DCB-Eq	-4,145,538	-6,315
human toxicity: HTP infinite	kg 1,4-DCB-Eq	-46,228,623	-234,950
resources: depletion of abiotic resources	kg antimony-Eq	-306,402	-45,933