

**5<sup>th</sup> February 2021**

Our Ref: CRM.0138.001

Your ref: DM/20/03267/WAS

Sent by email only to [chris.shields@durham.gov.uk](mailto:chris.shields@durham.gov.uk)

Dear Chris,

**PLANNING APPLICATION REFERENCE DM/20/03267/WAS PROPOSED ENERGY FACILITY AT HOWNSGILL INDUSTRIAL PARK**

This letter seeks to the Low Carbon Energy Teams consultee response to the above application.

The proposed development seeks to utilise a Refuse Derived Fuel to produce heat and electricity and as such should be determined against the National Planning Policy for Waste and Durham adopted Local Plan amongst others.

The NPPW provides policy to assist waste planning authorities in the determination of planning applications. Paragraph 7 sets out six key parts for consideration.

First, applicants only need to demonstrate market need for a proposed facility if it conflicts with the Local Plan of the area. In such a case, the waste planning authority should consider the extent to which operational facilities (i.e. not merely 'planned') can satisfy any identified need.

The Planning Statement submitted alongside the planning application has demonstrated that the proposed development does not conflict with the policies of the adopted development plan and as such a market need for the proposal is not required.

In any event, a market need for such a proposal has been identified by the recently adopted Durham Local Plan which is reviewed within the Environmental Statement submitted in support of the planning application.

In the context of transportation of waste, the Local Plan recognises that a large proportion of Commercial and Industrial Waste is exported to out of County, it is understood that in some cases the material is exported as far as Europe, and as such the proposal will significantly reduce the distance this material currently travels and as such contributes towards the delivery of policy 61 (c) of the County Durham Plan.

Second, proposals for waste management facilities should demonstrate that they do not 'cut across' and undermine local plan objectives with regard to the movement of waste up the waste hierarchy. The Waste Hierarchy places emphasis on preventing waste from arising and preparing waste for reuse.

Residual wastes are those which cannot be re-used or recycled leaving the only options for management as recovery or disposal (via landfill or outdated methods of mass burn).



The Local Plan recognises that there is a capacity shortfall in the management of non-hazardous residual waste and shows that the County currently, and will continue to be, reliant on landfill for the management of this waste which conflicts with all levels of government waste management policy.

The proposed facility offers County with the opportunity to move the management of this waste stream away from disposal to landfill to recovery in accordance with all tiers of waste policy.

The proposed scheme is for a Combined Heat and Power Plant (CHP) and has heat offtake as a central component of the proposal. The provision of heat is already written into the heads of terms for facilities which include NHS Propco (for the delivery of the new Health Facility on Derwent View) which states that:

*“Heat and Power Source*

*The Tenant will engage with the Landlord in good faith (but without obligation) to explore terms for the possible supply of heat and power to the new facility from the Landlord’s nearby heat and power plant”.*

Project Genesis Ltd also has an Agreement in Principle with Karbon Homes for their proposed 60 unit older persons development on the Derwent View site.

Similar agreements are being made with surrounding users such as examples being Greencore, Symingtons, JT Dove, Go-Ahead Group and Absolute Civil Engineering Ltd.

A legal agreement (and associated connections) cannot be produced until the scheme has gained planning consent. This approach is the similar to most of the emerging CHP plants across the UK.

The Planning Statement in paragraph 3.13.6 confirms that the connection infrastructure will be subject to further planning applications. This is because both the provider and receiver of heat must have the necessary technology in place before the connection routes can be applied for.

A provision district heating network map is appended to this letter.

It is therefore highlighted that the proposed development is a true CHP plant which aims to provide both heat and electric to benefit the surrounding neighbourhood.

Third, waste planning authorities are asked to consider the likely impact on the local environment and on amenity against the criteria set out in Appendix B of the National Planning Policy for Waste. The Environmental Statement submitted alongside the planning application has assessed the proposed development in the context of the site and its surroundings.

The Air Quality Assessment has followed standard best practice and uses individual site circumstances and conditions to understand the potential impact of the proposal. The Air Quality report has concluded that the proposed development will not have a significant detrimental impact and this assessment has been agreed by the Environment Agency.

The emergency generator will be required to meet a power rating of approximately 300 kVA and has the flexibility to be either diesel or natural gas powered. A summary of the emergency generator emissions in comparison to the facility’s main stack are shown in the table below. The range in NOx emissions

represents the range in emissions between a diesel generator and a gas generator. For particulate matter, emissions from a gas generator are negligible so the emissions shown are for a typical diesel generator. The data in the table shows that during operation, the generator emissions will be at least 4-5 times lower than the emissions from the main stack. When the very infrequent and short-term use of the emergency generator is considered (utilised once a year for start-up and will be tested for approximately 15 minutes weekly for maintenance purposes), it can be seen that the main stack will contribute well over 99% of total annual emissions of NOx and particulate matter. The contribution of the emissions from the emergency generator is therefore not significant in the context of the total site emissions.

Source	Nitrogen Oxides (NOx)			Particulate Matter		
	Operational Emissions (g/s)	Annual Emissions (kg/yr)	% Annual Emissions	Operational Emissions (g/s)	Annual Emissions (kg/yr)	% Annual Emissions
EfW Main Stack	1.14	33,316	99.96-99.99	0.047	1354	99.96
Emergency Generator	0.09-0.27	4.4-12.5	0.01-0.04	0.01	0.52	0.04

The Environment Agency only consider emissions from diesel generators as having potential for significant effects where they operate for more than 50 hours per year. As the generators will operate below this threshold, then significant effects are not expected. In addition, the nearest sensitive receptors to the Hownsgill site are a considerable distance from the site and as such the emissions from the generator, considering their infrequent and short-lived occurrence are not likely to lead to or contribute toward significant impacts.

Fourth, Waste Planning Authorities should ensure that waste management facilities are well-designed so that they contribute to the character and quality of the area in which they are located.

The proposed design of the buildings, which would accommodate waste fuel and the processing operations, reflects the small-scale nature of the technology adopted for the development. The proposed development is designed to fit into the wider industrial context of the local area.

Fifth, Waste Planning Authorities should concern themselves with the planning aspects of proposals and not with the control of processes which are a matter for pollution control authorities. Waste Planning Authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced.

The emissions from the proposed plant will be monitored and controlled through the Environmental Permitting regime.

The sixth part concerns the restoration of landfills and is therefore not relevant to this proposal.



## **Climate Change Emergency and Carbon Reduction**

Powering our net zero future' December 2020 is the most recent Energy White Paper, this document recognises the importance of low-carbon electricity generation to secure a transition to a net zero carbon future while retaining the essential reliability, resilience and affordability of energy as the bedrock of a modern, productive economy which drives almost every facet of our home and working lives.

It is widely accepted that EfW is the lowest carbon solution for managing residual waste, by diverting material from landfill (avoiding methane emissions) and generating useable electricity and heat. The Environmental Statement refers to the carbon savings of diverting material from landfill to EfW, referencing the widely cited figure from a study by the Green Investment Bank that for every tonne of waste diverted from landfill to EfW 200g of CO<sub>2</sub> is saved. On this basis, diverting the 60,000 t/pa of identified waste material currently going to landfill to this facility would equate to a net reduction of 12,000 tonnes of CO<sub>2</sub> per annum.

In terms of the carbon factor of the electricity generated by the facility, operating in power-only mode (i.e with no heat recovery) would indeed produce electricity with a higher carbon factor than that of the National Grid average. This is unsurprising given the level of installed renewable and nuclear energy capacity on the electricity system, and the fact that the non-renewable element predominantly comprises the combustion of conditioned natural gas in highly efficient facilities. However, as above, a like for like comparison does not take account of the full picture.

To quantify the potential benefit in carbon terms of the energy generated at the proposed facility, an absolute measurement of CO<sub>2</sub> emissions performance of the facility is required. With this figure, a direct comparison of the carbon emissions specifically from the energy generated from waste, and the emissions from the marginal energy source it replaces, can be made. For this type of exercise, the energy displaced is generally set in relation to electricity from efficient combined cycle gas turbine (CCGT) plant, which is considered to emit 400 grams of CO<sub>2</sub> equivalent per kilowatt hour (kWh) of electricity generated. Any figure achieved below the level of 400g would equate to a positive carbon benefit for every kWh of energy that is generated.

We have undertaken these calculations for an almost identical facility which utilises the same technology, has the same efficiencies, has a very similar annual throughput and a broadly similar feedstock, i.e. RDF from MSW. To achieve a level below 400g CO<sub>2</sub>/kWh, a heat efficiency of around 13.5% was required. In this case, it is the applicant's intention to recover and export as much heat as possible from the combustion process. A scenario for all of the heat output being successfully exported to off-site users (minus a 5% allowance for heat losses in supply) would equate to a level of -67g CO<sub>2</sub>/kWh. In effect, this means that for every kWh of energy that the facility produces there is a net CO<sub>2</sub> reduction of 467g, as more carbon intensive forms of energy generation are displaced. If we assume a conservative figure of 35,000 MWh of energy is produced by the facility per annum, this equates to a net reduction of circa 26,000 tonnes of CO<sub>2</sub> per annum.

It is therefore highlighted that the proposed facility offers a low carbon solution to treating the Counties C&I waste.



## Planning Policy

The National Planning Policy Framework sets out the National Planning Policy for England and introduces a presumption in favour of sustainable development. Sustainable development must take into account the environmental, economic, and social aspects of development.

The Proposed Development would provide a number of environmental, economic and social benefits:

**Environmental** - The facility would process non-recyclable materials to generate heat and power. The development as a whole will use up to 60,000 tonnes per annum of non-hazardous residual waste materials, and in doing so, divert this away from landfill.

**Economic** - The relatively high cost of waste disposal in the UK has made export an increasingly attractive option. Even with the additional costs of processing, the export of refuse derived fuel is price-competitive and less expensive than landfilling. With very few Energy Recovery Facilities currently in the UK, the proposed development will enable maximum value to be extracted from the waste it processes, not only reducing the volume of waste going to landfill, but also reducing the need for export, whilst at the same time contributing power to the UK National Grid and heat to local users.

**Social** – With an increasing demand for energy recovery facilities in the UK, the social benefits of enabling the growth of the facilities come in the form of new jobs and environmental enterprise initiatives.

The location of the proposed development is adjacent to an urban expansion which has a need for secure and sustainable energy and heat. The proposed development seeks to provide this.

Paragraph 154 of the NPPF states that:

*“154. When determining planning applications for renewable and low carbon development, local planning authorities should:*

*a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*

*b) approve the application if its impacts are (or can be made) acceptable”.*

As identified previously, the proposed development provides a low carbon solution to the Counties residual waste management requirements.

In addition, the energy produced from the elements of waste materials which are biogenic (i.e. natural wastes which are made by or of life forms) can be classified as renewable energy.

The proposed development therefore can be classed as meeting paragraph 154 of the NPPF.

At a local level, the adopted Durham Plan recognises the importance of securing balanced communities, ensuring that the needs of communities are met.

Policy 47 of the County Plan requires that energy is recovered from proposed incinerating activities.



Policy 60 of the County Plan requires that proposals for waste management facilities will be determined having regard to the overall aim of sustainable development which includes self-sufficiency, the proximity principle and waste hierarchy.

The proposed development is assessed against these principles below.

- Self Sufficiency: The proposed development seeks manage local business waste to produce a reliable energy and heat supply (back to those same businesses). It is therefore concluded that the proposed development accords with the principles of self-sufficiency.
- The Proximity Principle: The proposed development seeks to manage waste generated in the local area, thereby managing waste as close as practicable to the generation of the material.
- Waste Hierarchy: The application of the waste hierarchy (as discussed previously) in the adopted plan is set out within paragraph 5.586 of the County Plan which states that;

*“the council will consider positively planning applications to provide additional treatment capacity. It is recognised that such facilities could assist in managing waste towards the top of the waste hierarchy and could contribute both to net and regional self-sufficiency. Such proposals will be looked upon favourably where the proposal is acceptable in all other respects taking into account all relevant Plan policies”.*

The proposed development is therefore considered to be in accordance with the requirements of both national and local planning policy.

## **Conclusion**

The Low Carbon Economy team have questioned the overall environmental value of the scheme which we find disappointing for the following reasons:

- The facility provides a low carbon solution to the management of waste materials.
- The facility will offset the use of fossil fuels to produce heat and electricity.
- The proposal is a Combined Heat and Power Plant which will provide secure, low-cost heat and electricity to the wider Hownsgill area. This will in turn provide wider social and economic benefits to the area in terms of jobs and investment.
- The proposal accords with both the energy and waste policies of the NPPF and other policy documents.

It is appreciated that parts of the district heat network cannot be confirmed at this stage, but Project Genesis Ltd can offer the following condition to provide assurances that this is the intention of the facility.

*“Prior to any works on site, further details shall be submitted to and approved in writing by the planning authority as to the infrastructure strategy to be installed to enable links to potential heat and/or power users in the area”.*



We would be happy to discuss the points in this letter further should it be required and look forward to your response.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "S. Queeney". The signature is fluid and cursive, with a large loop at the end.

**Sharon Queeney**  
Planning Consultant  
On behalf of Enzygo Ltd

