

5. Climatic Factors

Introduction

- 5.1 The purpose of this Chapter is to respond to the third party representations received, specifically objection nos. 5212, 5214 and 5218, which raise concerns in relation to the carbon intensity of incineration, water usage of the facility, the precautionary principle and the known impact of incineration of waste as an accelerant of climate change.
- 5.2 This Chapter is accompanied at Appendix 5.1 with a detailed response from RPS which follows the original ES Chapter 15 'Climatic Factors' and subsequent update in March 2019 whereby the Waste and Resources Assessment Tool for the Environment (WRATE) assessment was revisited. This assessment was prepared to calculate the environmental performance of the proposed waste management facility and enabled comparisons to be made with the existing practice of directing the majority of our waste to landfill.
- 5.3 The RPS response addresses the climate change related issues raised in objection nos. 5212, 5214 and 5218 in full which are summarised in this Chapter.

Carbon Intensity of EfW

- 5.4 Objection nos. 5212 and 5218 allege that incineration has a higher carbon intensity than conventional use of fossil fuels for power generation (measured as kg of CO₂ released per kWh of power generated).
- 5.5 It is misleading to compare an EfW facility with a conventional power station purely on the basis of power generation. Burning coal, gas or oil in a power station does not provide waste management. An accurate comparison must also count the emissions from alternative waste management that is avoided by use of the EfW. The alternative is considered to be landfill for residual waste that cannot be treated further up the waste hierarchy.
- 5.6 The WRATE assessment provided previously concludes that the proposed facility would offer significant net GHG emission reductions compared to the baseline of conventional power generation and landfill for waste disposal.
- 5.7 These conclusions are consistent with the findings of a recent published study related to EfW facilities in Scotland which have been shown to provide a 15% carbon reduction compared to sending the same waste to landfill, when taking into consideration the benefit of energy generation at the EfW facility together with landfill diversion. Appendix 5.1 notes that this appears to be conservative and that the actual carbon intensity reduction from treating waste in an EfW is likely to be significantly greater than the 15% reported in the study. Nonetheless the study referenced does clearly demonstrate the benefit of EfW as a solution to waste management.

5.8 It must also be emphasised that the proposed development is not only an EfW facility generating electricity. It has several other elements that would contribute to GHG emission reductions:

- including front-end waste sorting and recycling, with the benefit of reducing virgin material use and increasing the biogenic to fossil carbon ratio in the residual waste fuel;
- processing of the bottom ash and recycling of metals; and
- a CHP-ready design with the potential to supply heat to customers in the future, further improving its energy and carbon efficiency.

Water Usage

5.9 Objection nos. 5212 and 5218 further suggest that high water usage is normally required to facilitate the energy recovery process and query what consultation has taken place with NI Water to consider the impacts of the proposed development.

5.10 Water is needed in the EfW process for purposes such as boiler top-up, ash quench and other incidental uses i.e. welfare facilities. Firewater tanks are also maintained as a safety measure. EfW is not normally regarded as a highly water-intensive industry. Indeed, due to the high moisture content of incoming waste, an important part of the proposed MBT facility is to dry out the incoming waste, not add more water.

5.11 Process water will be used within the EfW facility where possible, and water consumption among other resources is subject to the requirement to demonstrate use of BAT under the regulation of the PPC permit for the facility.

5.12 The applicant consulted NI Water which confirmed in 2014 and 2019 that upgrades to its network have been identified which would ensure that it can meet the daily water consumption of the facility and any exceptional firefighting demands. Identifying maximum capacity needs (in this case for refilling the firewater tank in 36 hours) is a normal part of providing a water network connection for any new development, outwith the planning process, and discussions between the applicant and NIW are on-going.

5.13 The risk of climate change causing water supply stress in Northern Ireland is recognised, and NI Water is obliged by the Water and Sewerage Services (Northern Ireland) Order 2006 (as amended in 2016) to plan for this and maintain an adequate supply. This is not the responsibility of Local Councils as inferred by the objections received.

Precautionary Principle

5.14 Objection no. 5214 suggests that the Department should adopt the precautionary principle in making their decision on the basis of the known impact of incineration of waste as an accelerant of climate change.

5.15 For the reasons as explained above, it has not been demonstrated that the proposed development will contribute towards climate change. The assessments provided, to the

contrary, demonstrate that the proposed EfW facility will provide a reduction in GHG emissions when compared to existing waste disposal and energy alternatives.

- 5.16 Paragraph 3.9 of the Strategic Planning Policy Statement (SPPS) for Northern Ireland states that:

'In formulating policies and plans and in determining planning applications planning authorities will also be guided by the precautionary approach that, where there are significant risks of damage to the environment, its protection will generally be paramount, unless there are imperative reasons of overriding public interest'.

- 5.17 It is therefore clear that the precautionary principle only applies where there are significant risks of damage of the environment. No such significant risks exist and therefore the precautionary principle cannot apply in this case.

Summary

- 5.18 In summary, it has been clarified that in order to provide an accurate comparison of carbon intensity of EfW to other forms of power generation, the emissions from the alternative waste management solution that is avoided by the use of EfW must also be considered i.e. landfill. It has been demonstrated that the proposed facility would offer significant net GHG emission reductions compared to the baseline of conventional power generation and landfill for waste disposal.
- 5.19 It has been further clarified that the proposed facility will not contribute to climate change by way of high water usage. On the basis that the proposed development will not present any significant risk of damage to the environment, the precautionary principle should not apply in the Department's decision-making.