

1.0 Waste Hierarchy

The waste hierarchy as established in the Waste Framework Directive has also been enshrined in the newly revised Directive on Waste¹ as part of the recently adopted Circular Economy Package (CEP) with the result that it must be applied as a priority order in waste prevention and management legislation and policy.

It therefore must be adhered to in the context of the present Industrial Emissions (IE) licence application.

The waste hierarchy establishes the following order of priority:

- Prevention;
- Preparing for re-use;
- Recycling;
- Other recovery e.g. energy recovery; and
- Disposal.

The waste hierarchy thus gives priority to the options that deliver the best overall environmental outcome and in the context of the proposed development, the waste to energy process – thermal treatment coupled with energy recovery falls within the recovery component of this hierarchy.

The proposed development will be designed to meet the R1 efficiency criteria in Annex II to the WFD Directive as the activity proposed to be carried out will be classified as a recovery operation and will therefore contribute to moving waste away from landfill disposal to a higher tier of the waste hierarchy and thus aligns with the proper application of this order of priority.

In the context of waste streams that are transferred off-site from the waste to energy facility for treatment elsewhere, all such waste streams fall within the recovery tier of the waste hierarchy apart from three namely, water from boiler draining, foul effluent

¹ Member States including Ireland are required to bring into force laws, regulations and administrative provisions necessary to comply with the revised CEP Directives by 5 July 2020 and which entered into force on 4 July 2018 following publication in the Official Journal of the European Union

from a holding tank during annual shutdowns and a small quantity of waste to be disposed of via high temperature incineration. The annual quantities of these three waste streams are outlined in Attachment 8-1-Waste-Generated.

As these constitute unavoidable wastes and it is not technically or economically possible to recover or recycle these wastes, they will be disposed of in a manner which will prevent or minimise any impact on the environment and in a controlled manner and in accordance with relevant licence conditions.

All other waste streams will be transferred off site to undergo appropriate recycling, reclamation or recovery operations or will be stored pending recovery or recycling. Such waste streams will be stored separately prior to transfer and will not be mixed with any other waste streams.

2.0 Residues from the waste to energy process

Bottom Ash

The incineration process results in the generation of some residual materials, including bottom ash and recovered metals which have the potential for beneficial use. It is the intention of Indaver to identify potential uses for the bottom ash and in this regard consideration of the waste hierarchy has been a key element in this process.

The reuse of this material would assist in Ireland's envisaged transition to a circular economy as laid down in stated European and national policy positions as all wastes including those that are unavoidable such as residues are regarded as being capable of being transformed into useful and valuable resources. Such reuse is also compatible with the principle of self-sufficiency as laid down in the Waste Framework Directive.

Full details are presented in Chapter 15.5.3.8 of the EIAR which expands on the options for the reuse or recovery of the bottom ash depending on its classification, the options available at the time and if new projects which are planned become operational.

Ferrous and Non-Ferrous Metals

In addition to bottom ash, circa 2,600 tonnes per annum of ferrous and non-ferrous metals will be recovered for recycling. The application of the waste hierarchy has once again been considered in the context of these metals and the recovery of these metals will also align with the recovery tier of the hierarchy.

The recovery or recycling of the ferrous and non-ferrous metals is expected to have a minor positive effect on the environment and will fall within the recovery tier of the

waste hierarchy and will move this waste stream to the recovery as opposed to the disposal tier of the hierarchy.

Boiler Ash and Flue Gas Cleaning Residues

In addition, circa 2,000 tonnes of boiler ash and 9,104 tonnes of flue gas cleaning residues will be produced annually. The application of the waste hierarchy has also been considered in the context of boiler ash and flue gas cleaning residues that will be produced by the proposed development.

The above amount is the equivalent of two truckloads of boiler ash and eight or nine truckloads of flue gas cleaning residues being sent off site per week. Boiler ash and flue gas cleaning residues from Indaver's Meath facility are sent for recovery to salt mines licensed to accept this type of waste in Northern Ireland or Germany. Further details on the options for recovery of these residues is found in Chapter 15.5.3.8 of the EIAR.

In 2017 a similar facility in Northern Ireland attained planning consent and an environmental permit to operate as a recovery facility for hazardous residues from waste to energy facilities.

The facility in Northern Ireland is in Carrickfergus, Co. Antrim and it has an environmental permit to operate as a recovery facility for hazardous residues from waste to energy facilities. It has been accepting pre-treated boiler ash and flue gas cleaning residues for recovery from the Indaver Meath waste-to-energy facility since October 2018.

It is likely that the boiler ash and flue gas cleaning residues from the Ringaskiddy Resource Recovery Centre will be sent to this facility, which has capacity to accommodate the material. Each load sent off site would be transported under Transfrontier Shipment licence to track each delivery until it has arrived at its destination.

3.0 Summary

The above process adopted in the context of all waste streams transported off site will ensure that the requirements as laid down in the Waste Management Act 1996, as amended, which places a duty on waste producers and holders to ensure that waste undergoes recovery operations in accordance with sections 21A and 32(1) of the Acts is adhered to in full.

Therefore, the transfer of these waste streams for recovery off-site, and of the residues created by the waste to energy process for recycling or recovery, and for disposal in

very limited circumstances where recovery is not technically or environmentally possible, is in alignment with the proper and correct application of the waste hierarchy as stipulated by national and EU legislation.

The proposed facility does not presently participate in any projects under the National Waste Prevention Programme. However, consideration will be given to future participation in this Programme.

4.0 References

Attachment-8-1-Waste-Generated