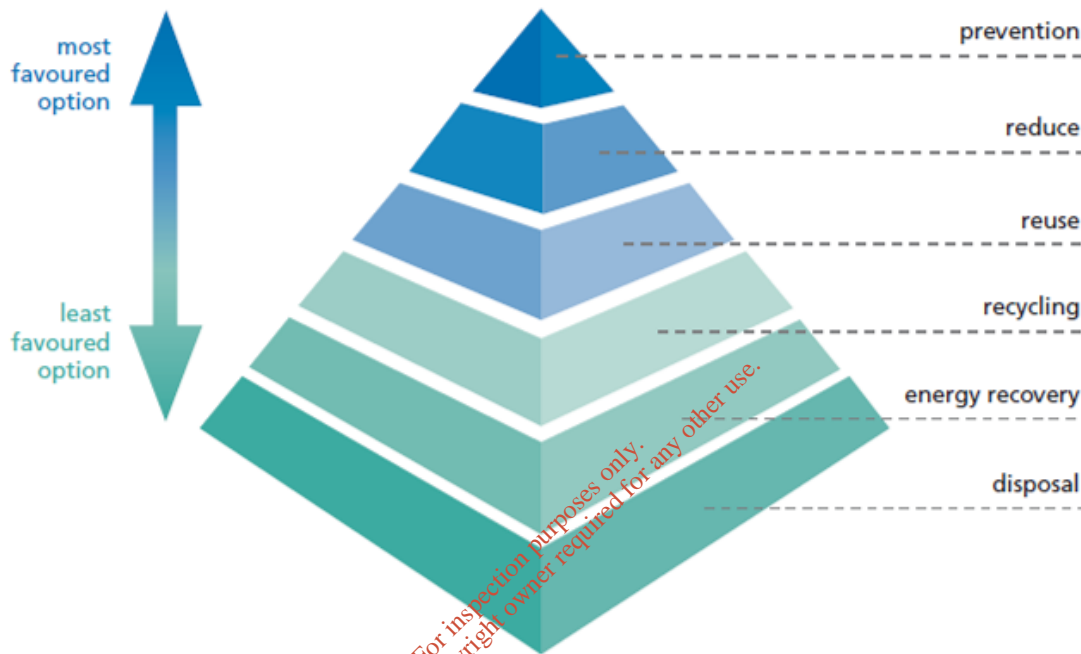


### Attachment-4-3-7-1-Waste Hierarchy Consideration

The EU Waste Framework Directive (WFD) (Directive 2008/98/EC), published in 2008, requires the application of the revised waste hierarchy as a priority order in waste prevention. The Directive also places a greater emphasis on optimising resource efficiency, reuse, recycling and the recovery of waste materials. The waste hierarchy is shown in Figure 1 below.



**Figure 1: European Union Waste Hierarchy (Source: EPA, *Municipal Solid Waste: Pre-Treatment and Residuals Management (Page 5), 2009*)**

The existing and proposed landfill infrastructure at the Drehid Waste Management Facility (WMF) is designed for the sustainable disposal of incoming waste materials. While waste disposal is the least favoured path for waste management, it is acknowledged that landfilling is still a requirement in Ireland. In particular, the MSW Landfill capacity provided by Bord na Móna at the Drehid WMF has been fully absorbed in each year of operation to date. There is also a national demand for non-hazardous and hazardous waste landfill capacity in Ireland for certain waste types, as set out in Chapter 2 of the Proposed Development EIA.

The following measures will be implemented to reduce the waste volume going to landfill and to ensure the landfilling of appropriate waste materials:

- All incoming municipal waste to the MSW Landfill is subject to pre-treatment to minimise the biodegradable content of the waste;

- Incinerator Bottom Ash (IBA) incoming will be subject to pre-processing to remove recyclable metals present in the ash; and
- Hazardous ash materials will be solidified using cement and liquid additives to ensure leaching limit criteria are met. The liquid additives will be sourced from hazardous leachate and landfill gas treatment waste, where possible, to minimise the requirement for freshwater consumption and importation of chemicals, where possible.

The landfill infrastructure has been designed in accordance with EPA Landfill Design requirements and best practice so as to ensure maximum protection to the surrounding environment. In addition, the collection of landfill gas from the MSW and Non-Hazardous Landfills will provide a renewable source of energy at the facility.

The compost facility enables the treatment of biodegradable waste and comprises a recovery activity. There are waste quantity losses from the composting processes and the facility output can be recovered as a compost material for spreading on land or recovered in the MSW or Non-Hazardous Landfill as daily cover, avoiding the need to import engineering materials to the site for this purpose.

As above, leachate generated in the hazardous landfill will be recirculated for reuse in the ash solidification process. Leachate generated in the MSW and Non-Hazardous Landfills will be subject to preliminary treatment on-site in the leachate treatment facility prior to removal off-site in tankers for disposal at a municipal wastewater treatment plant (WWTP).

Sludge generated from the leachate treatment process will be disposed of in the landfill eliminating the need for disposal off-site.

Any silt and sludge materials retained in the surface water interceptors at the site will be collected by a dedicated hazardous waste contractor and transferred off-site for recovery, where possible. Similarly, any waste oils generated from maintenance works will be collected by a suitably authorised waste contractor and opportunities will be sought for off-site recycling or recovery of the waste oil.

Waste materials generated by operational and construction staff at the facility will be source segregated to maximise the recyclable and recovery potential of the waste. Dedicated wheelie bins will be provided suitable locations on the site for segregation of waste materials into mixed dry recyclables, organic waste and mixed non-recyclables. Mixed non-recyclable (residual) waste will be disposed of to the MSW Landfill and organic waste will be transferred to the compost facility, ensuring the minimal transfer of waste off-site from the facility.

Dry mixed recyclable waste will be collected from the site, as required, by AES Ltd. and transferred off-site for recycling.