

# Wastes Incinerated

## Introduction

The TEGCO Immingham Ltd Installation at Netherlands Way, Stallingborough, Grimsby, DN41 8DF is an Energy from Waste (EfW) process. The installation is designed to consume 320,000 Te/yr of Refuse Derived Fuel (RDF) based on 10 MJ/kg (LHV), producing: -

- 12 MW electrical export,
- 51 MW thermal export (60 Te/hr) as steam (no condensate return).

The installation is a Combined Heat & Power (CHP) plant sized and is designed to replace the steam and electricity currently generated by an existing CHP plant on an adjacent industrial plant. The existing CHP plant is reaching the end of its operational life and will be decommissioned when the installation is operational.

The need to continue to take waste in the event that steam and/or electricity cannot be exported (e.g. customer is shutdown), the installation is designed such that all steam generated at normal waste feed can pass through the turbine and condenser resulting in 24 MW electrical export.

A proportion of the RDF is sourced from local waste management companies and transported to the installation by road. The remaining is sourced from further afield and transported by rail to 1 of 2 local railheads and the final transfer from the railhead to the installation is by road.

The installation will operate continuously (24 hr/day & 7 day/week) for >8,000 hr/yr.

The installation consists of 2 off 20Te/hr incineration lines (combustor, boiler & feed-water system) and a single turbine and air cooled condenser.

The installation is designed not to generate any waste water from the process during normal operation.

The installation is designed to be fully compliant with the 2019 European BREF for Waste Incineration (JRC 118637) and the associated BAT Conclusions published in the Official Journal of the European Union on 3<sup>rd</sup> December 2019.

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The RDF incinerated at the installation are: -

EWC Code	Description of Waste
	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

Requiring the suppliers to produce and supply an RDF that is compliant with a defined specification (i.e. Pre-Treatment) ensures that consistency between loads and suppliers is far greater. The RDF specification and contractual requirements address: -

- Calorific value (amount of energy per unit mass of the RDF),
- Physical characteristics (e.g. particle sizes, particle shapes & proportions of large particles and dust),
- Chemical characteristics (e.g. content of metals and of chemical species & proportion of non-combustible material),
- Wastes that can be used to produce the RDF (e.g. prohibits the use of any hazardous, radioactive or similar materials),
- Quality control requirements (e.g. sampling and analysis of composition, auditing of suppliers operations and management systems),
- Demonstration that suppliers and their facilities are appropriately registered/permitted by relevant regulatory bodies primarily the Environment Agency.
- Transportation and related requirements (e.g. container type and capacity)

The consistency of the RDF results in consistent operating conditions within the combustion furnace resulting in predictable, stable combustion performance, steam generation and consistent loads on the abatement systems.

The RDF specification is detailed in Appendix 2 of the Non Technical Description document.