

## Annual performance report for: Templeborough Biomass Power Plant

**Permit Number:**   EPR/GP3433WS

**Year:** 2018

This report is required under the Industrial Emissions Directive's Article 55(2) requirements on reporting and public information on waste incineration plants and co-incineration plants, which require the operator to produce an annual report on the functioning and monitoring of the plant and make it available to the public.

### 1. Introduction

Name and address of plant	Templeborough Biomass Power Plant Ltd River View Sheffield Road Rotherham S60 1BN
Description of waste input	Waste Wood
Operator contact details if members of the public have any questions	Myles Wallace, General Manager info@templeboroughbiomass.com

### 2. Plant description

The facility is an installation whose main purpose is the generation of energy using waste as a fuel in a waste co-incineration plant. The facility consists of a single Solid Biomass Plant burning a maximum of 320,000 tonnes of recycled waste wood per annum. The steam produced is used to generate about 44.1 MWe, the majority of the electricity generated (about 40.1MWe) will be exported to the National Grid with the remainder used to power the plant.

The following operations are carried out on site:

- Combustion of fuel in a combined heat and power-ready (CHP\_R) Plant
- Reception, transfer and storage of waste wood
- Steam turbine operation and the generation and export of electricity
- Cooling and condensing of the exhaust steam in a water-cooled condenser
- Storage, control and discharges of process effluent
- Storage, handling of process residues from biomass fuel streams.

### 3. Summary of Plant Operation

Waste wood (biomass) received	67,486 tonnes
Total plant operational hours	2,358 hours
Total hours of “abnormal operation” (see permit for definition)	0 hours
Total quantity of incinerator bottom ash (IBA) produced	4,241 tonnes
Disposal or recovery route for IBA	Disposal to Landfill
Did any batches of IBA test as hazardous? If yes, state quantity	During commissioning period all IBA material has been classified as hazardous. Once plant is in continuous operation in early 2019 a hazard classification procedure will be conducted.
Total quantity of air pollution control (APC) residues produced	1,100 tonnes
Disposal or recovery route for APC residues	Disposal to landfill
Total electricity generated for export to the National Grid	75,229 MWh

### 4. Summary of Plant Emissions

#### 4.1 Summary of continuous emissions monitoring results for emissions to air

The power plant was under commissioning throughout 2018 and operated to an agreed commissioning plan with varying limits as each phase was completed e.g. deNOX optimisation, flue gas control system, safety interlock testing and boiler grate combustion optimisation. Weekly reports on commissioning plan progress were issued to the EA highlighting compliance with the agreed plan limits.

The plant will report against daily ELV's under the environmental permit from 1st January 2019 although commercial operations did not commence until 1<sup>st</sup> March 2019.

## 4.2 Summary of periodic monitoring results for emissions to air

The table below shows the results of periodically monitored substances. One periodic test programme was carried out during the commissioning phase of the power plant in 2018.

Substance	Emission limit value	Results
		22/11/18
Mercury and its compounds	0.05 mg/m <sup>3</sup>	0.0004 mg/m <sup>3</sup>
Cadmium & thallium and their compounds (total)	0.05 mg/m <sup>3</sup>	<0.001 mg/m <sup>3</sup>
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total)	0.5 mg/m <sup>3</sup>	0.12 mg/m <sup>3</sup>
Dioxins and furans (I-TEQ)	0.1 ng/m <sup>3</sup>	0.0007 ng/m <sup>3</sup>
Hydrogen Fluoride	2 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>

## 4.3 Summary of monitoring results for emissions to water

There were no emissions to water from the process [other than clean surface water].

# 5. Summary of Permit Compliance

## 5.1 Summary of any notifications or non-compliances under the permit

Date	Summary of notification or non-compliance	Reason	Measures taken to prevent reoccurrence
03/07/18	Notification of NO <sub>x</sub> emission above limit agreed in commissioning plan.	Gas oil burner swirl plate found to be damaged.	Swirl plate replaced, burner set up by manufacturer engineers and operating satisfactorily.
04/12/18	Notification of CO limit above daily ELV	Poor combustion control during optimisation of boiler operation.	Air / fuel ratios adjusted and operations staff briefed on action required in the event of high CO levels.

## 5.2 Summary of any complaints received and actions to taken to resolve them.

Date of complaint	Summary of complaint	Reason for complaint including whether substantiated by the operator or the EA	If substantiated, measures to prevent reoccurrence
10/04/18	Unacceptable noise emitted during steam blow operation	During a steam blow procedure to clean out new pipework, the commissioning contractor removed a silencer from the system. EA formal investigation carried out and enforcement action taken.	No further steam blow exercises were carried out.
16/05/18	Complaint of odour and smoke from the power plant	Power plant heating on gas oil only during commissioning operations. No evidence of odour or smoke emissions.	N/A
12/06/18	Complaint of odour and smoke from the power plant	Combustion tests on gas oil burners, no evidence of odour or smoke emissions.	N/A

## 6. Summary of plant improvements

<b>Summary of any permit improvement conditions that have been completed within the year and the resulting environmental benefits.</b>
None
<b>Summary of any changes to the plant or operating techniques which required a variation to the permit and a summary of the resulting environmental impact.</b>
None

**Summary of any other improvements made to the plant or planned to be made and a summary of the resulting environmental benefits.**

None

## **7. Details of any public liaison planned for 2019:**

<b>Date and time</b>	<b>Description</b>	<b>Location</b>
June / July 2019	Invitation to neighbouring businesses, local authority representatives and Environment Agency local regulatory officer to witness the plant in operation and to explain the operational plan for the year ahead.	Templeborough Biomass Power Plant

If you wish to be involved in the public liaison programme, please contact [info@templeboroughbiomass.com](mailto:info@templeboroughbiomass.com)