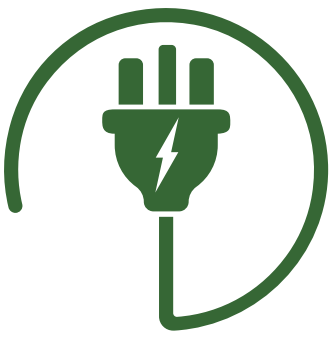
Introduction

The Levenseat Renewable Energy (LREL) waste treatment facility consists of an advanced materials recovery facility and a combined heat and power plant, designed to recover recyclable material from black waste and maximise diversion from landfill.

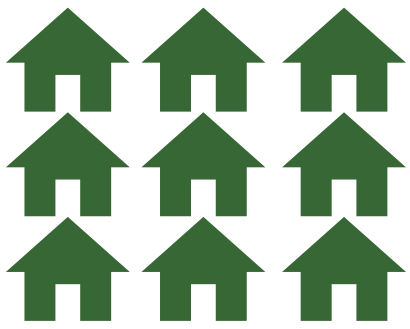
Once all efforts have been made to recover recyclable material from waste streams, the next best option is to recover energy from the remaining waste. This not only means we are recovering value from waste; we are also diverting waste from landfill and helping to contribute to Scotland's renewable energy targets.

Key Facts



12.5MW

Electricity Generated



Equivalent to the needs of

25, 000 Homes

215, 000 tonnes

Processing Capacity

Interesting Facts

The LREL facility is designed to process residual waste, otherwise known as black bin waste, waste that householders have deemed to be unrecyclable, yet we are able to recover and recycle on average 20% of the material received.

84, 000 Aluminium cans recovered

224,875 Plastic bottles recovered

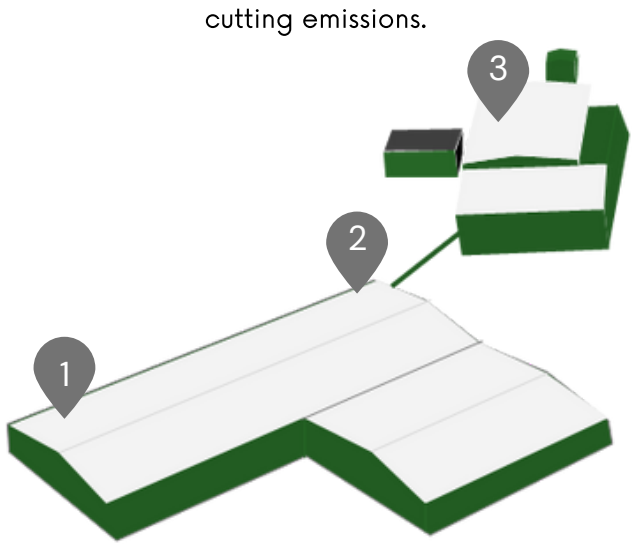
Other materials recovered include WEEE from electrical equipment, organic fines that are sent for composting, and ferrous metals in the form of pots and pans etc.

*based on 2020 annual statistics

Step 1: Recovery of Recyclates
Materials such as wood, cardboard, ferrous metals, non-ferrous metals, mixed plastics, and inerts are all recovered and diverted back into the manufacturing or construction industries.

Step 2: Fuel Preparation
The remaining waste is prepared into a fuel known as Refused Deriver Fuel. This fuel is made to a specific, detailed standard to ensure a clean and efficient conversion process and to minimise production of ash and other by-products

Step 3: Energy Recovery
Our Power Plant provides an environmentally responsible means of producing reliable baseload electricity. The Plant uses non-recyclable waste as a fuel, reducing our reliance on fossil fuels, the need for landfill and cutting emissions.



Emissions Monitoring

Emissions are monitored directly by our Continuous Emissions Monitoring System (CEMS). This system is fitted inside the stack so it monitors the flue gas before it is released into the atmosphere.

The majority of our emissions are compounds of normal air like steam, oxygen, nitrogen and carbon dioxide. For the very small remainder of emissions, they go through a sophisticated treatment process that ensures emissions remain well below all relevant standards.

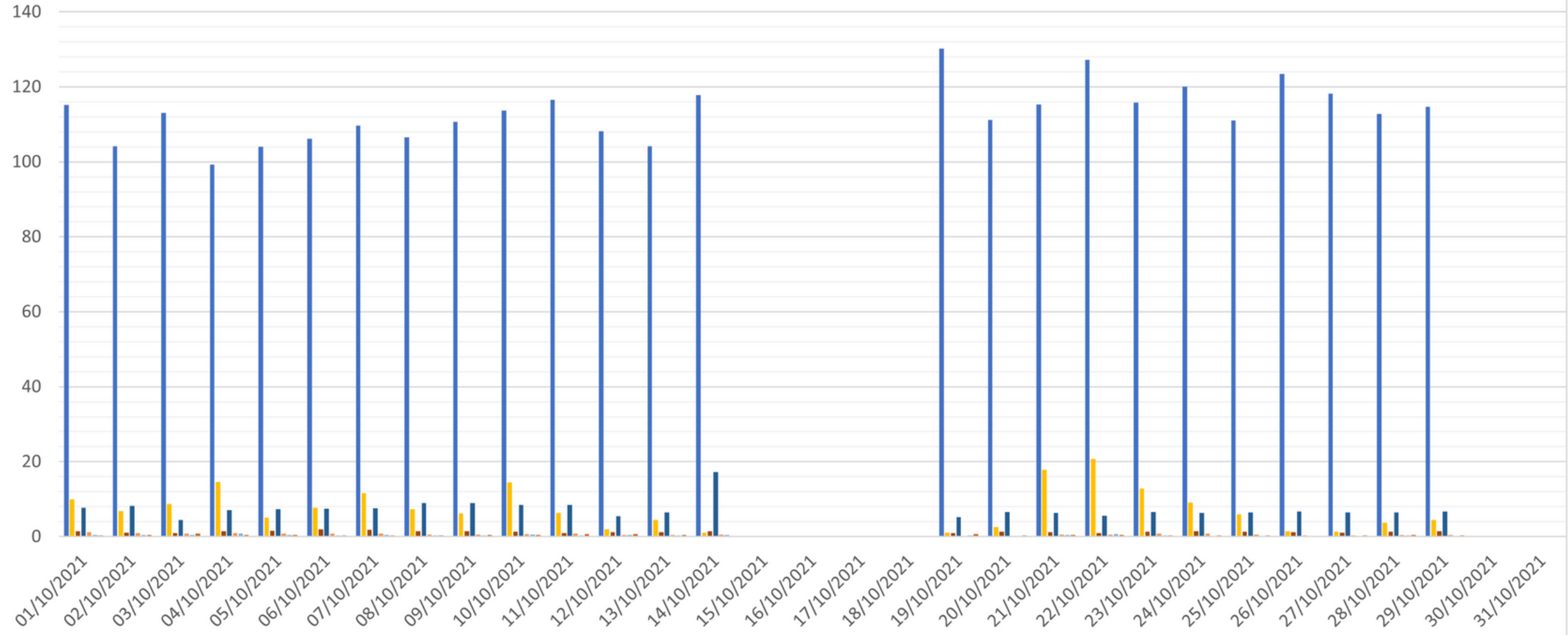
In addition to providing information to SEPA for regulatory compliance, the CEMS also allows the Power Plant team to monitor the processes. The data provided by the monitoring systems gives useful feedback on how the processes are operating, thereby allowing the team to safely and efficiently run the plant.

	Permitted levels mg/Nm3	
	Daily	**30 min max average**
Nitrogen Oxide (NO_x)	200	400
Carbon Monoxide (CO)	50	100
Sulphur Dioxide (SO_2)	50	200
Hydrogen Chloride (HCl)	10	60
Ammonia (NH_3)	10	
Total Organic Carbon (TOC)	10	20
Particulates	10	30

Please see below for this months report

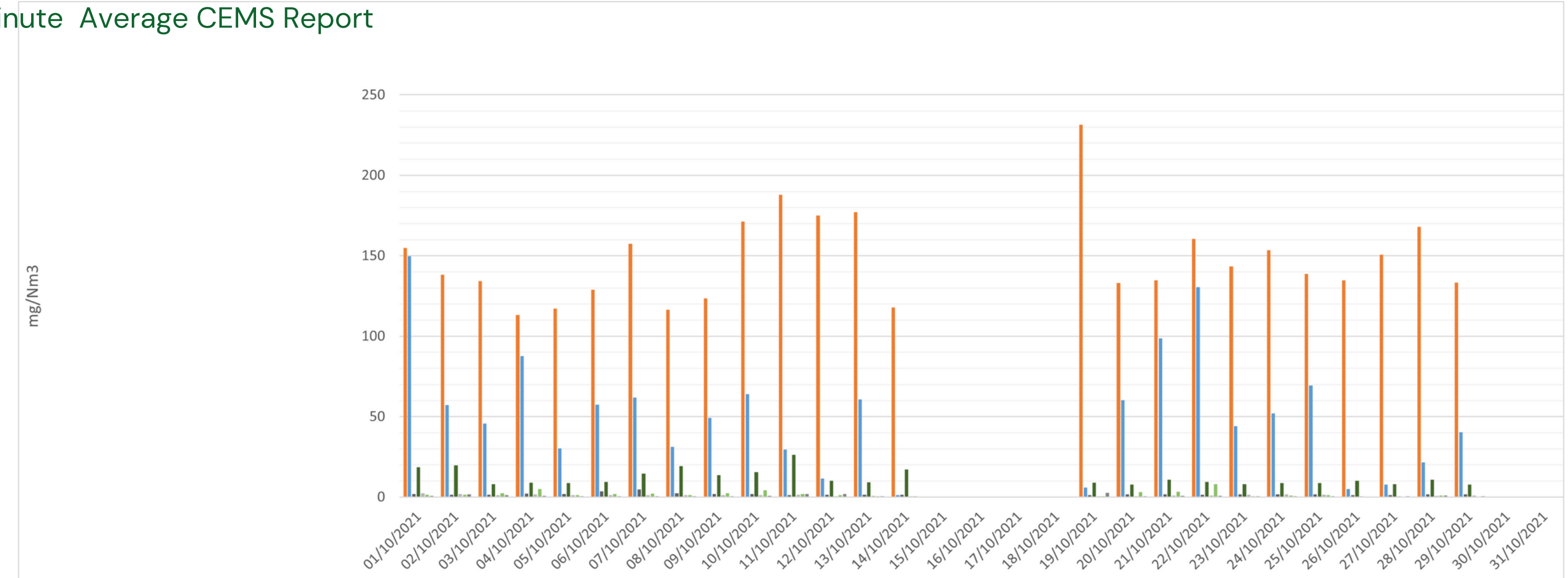
Learn more at www.lrel.co.uk

October 2021 Daily Average CEMS Report



	01/10/2021	02/10/2021	03/10/2021	04/10/2021	05/10/2021	06/10/2021	07/10/2021	08/10/2021	09/10/2021	10/10/2021	11/10/2021	12/10/2021	13/10/2021	14/10/2021	15/10/2021	16/10/2021	17/10/2021	18/10/2021	19/10/2021	20/10/2021	21/10/2021	22/10/2021	23/10/2021	24/10/2021	25/10/2021	26/10/2021	27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021
NOx (mg/Nm3) Daily Average (mg/Nm3)	115.2	104.1	113.1	99.3	104	106.1	109.7	106.5	110.7	113.7	116.6	108.2	104.2	117.8	0	0	0	0	130.2	111.2	115.3	127.2	115.8	120.1	111	123.4	118.2	112.8	114.7	0	0
CO (mg/Nm3) Daily Average (mg/Nm3)	10	6.8	8.7	14.6	5.1	7.7	11.6	7.3	6.2	14.5	6.3	1.9	4.4	1.1	0	0	0	0	1.1	2.6	17.9	20.7	12.9	9.1	5.9	1.5	1.3	3.7	4.5	0	0
SO2 (mg/Nm3) Daily Average (mg/Nm3)	1.4	1.1	1	1.5	1.6	1.9	1.8	1.5	1.5	1.3	1	1.2	1.2	1.4	0	0	0	0	0.9	1.3	1.2	0.9	1.3	1.5	1.3	1.2	1.1	1.3	1.5	0	0
HCl (mg/Nm3) Daily Average (mg/Nm3)	7.7	8.2	4.4	7.1	7.3	7.5	7.6	9	9	8.5	8.5	5.5	6.5	17.2	0	0	0	0	5.2	6.6	6.3	5.6	6.6	6.3	6.5	6.7	6.5	6.5	6.7	0	0
NH3 (mg/Nm3) Daily Average (mg/Nm3)	1.2	0.9	0.8	1	0.8	0.8	0.8	0.6	0.6	0.7	0.8	0.4	0.5	0.6	0	0	0	0	0.2	0.2	0.6	0.6	0.8	0.8	0.6	0.3	0.3	0.5	0.5	0	0
TOC (mg/Nm3) Daily Average (mg/Nm3)	0.4	0.4	0.5	0.8	0.4	0.3	0.4	0.3	0.3	0.6	0.3	0.4	0.3	0.4	0	0	0	0	0.3	0.2	0.4	0.7	0.3	0.2	0.1	0.1	0.1	0.3	0.2	0	0
Particulates (mg/Nm3) Daily Average (mg/Nm3)	0.3	0.5	0.8	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.7	0.7	0.5	0.2	0	0	0	0	0.7	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0	0

October 2021 30 minute Average CEMS Report



	01/10/2021	02/10/2021	03/10/2021	04/10/2021	05/10/2021	06/10/2021	07/10/2021	08/10/2021	09/10/2021	10/10/2021	11/10/2021	12/10/2021	13/10/2021	14/10/2021	15/10/2021	16/10/2021	17/10/2021	18/10/2021	19/10/2021	20/10/2021	21/10/2021	22/10/2021	23/10/2021	24/10/2021	25/10/2021	26/10/2021	27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021
NOx (mg/Nm3) 30 min max Average (mg/Nm3)	154.9	138.2	134.3	113.1	117.2	128.8	157.5	116.5	123.5	171.3	187.9	175.1	177.2	117.8	0	0	0	0	231.5	133.1	134.7	160.6	143.3	153.5	138.8	134.7	150.6	167.9	133.3	0	0
CO (mg/Nm3) 30 min max Average (mg/Nm3)	149.7	57.2	45.8	87.6	30.3	57.5	61.9	31.1	49.2	64	29.6	11.5	60.8	1.1	0	0	0	0	5.8	60.3	98.7	130.4	44.1	52.1	69.4	5	7.8	21.7	40.4	0	0
SO2 (mg/Nm3) 30 min max Average (mg/Nm3)	1.8	1.4	1.4	2.2	1.8	3.5	4.8	2.4	1.9	2	1.3	1.4	1.5	1.4	0	0	0	0	1.1	1.6	1.6	1.4	1.7	1.7	1.7	1.3	1.3	1.6	1.7	0	0
HCl (mg/Nm3) 30 min max Average (mg/Nm3)	18.5	19.8	8	8.9	8.8	9.3	14.6	19.2	13.6	15.4	26.3	10	9.2	17.2	0	0	0	0	8.9	7.7	10.9	9.5	8	8.7	8.8	10	7.9	10.7	7.8	0	0
NH3 (mg/Nm3) 30 min max Average (mg/Nm3)	2.4	1.8	1.2	1.6	1.2	1.3	1.3	1.1	1.2	1.2	1.5	0.6	0.8	0.6	0	0	0	0	0.5	0.5	0.9	1	1.4	1.7	1.4	0.5	0.4	0.7	0.9	0	0
TOC (mg/Nm3) 30 min max Average (mg/Nm3)	1.4	1.4	2.4	5	1.3	2	2.2	1.3	2.3	4.3	1.9	1.3	0.5	0.4	0	0	0	0	0.5	3.1	3.2	8	0.6	1	1.3	0.2	0.3	1	0.3	0	0
Particulates (mg/Nm3) 30 min max Average (mg/Nm3)	0.8	1.6	1.2	0.7	0.6	0.4	0.5	0.4	0.6	0.8	1.8	1.8	0.6	0.2	0	0	0	0	2.5	0.4	0.7	0.8	0.5	0.4	0.5	0.3	0.4	0.9	0.4	0	0