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

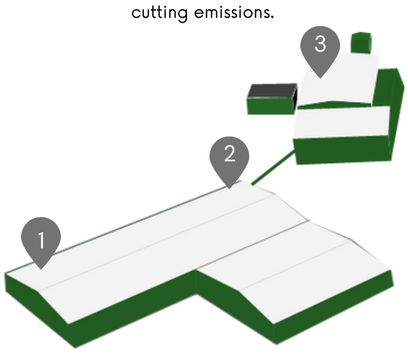
Other materials recovered include WEEE from electrical equipment, organic fines that are sent for composting, and ferrous metals in the form of pots and pans etc.

*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.

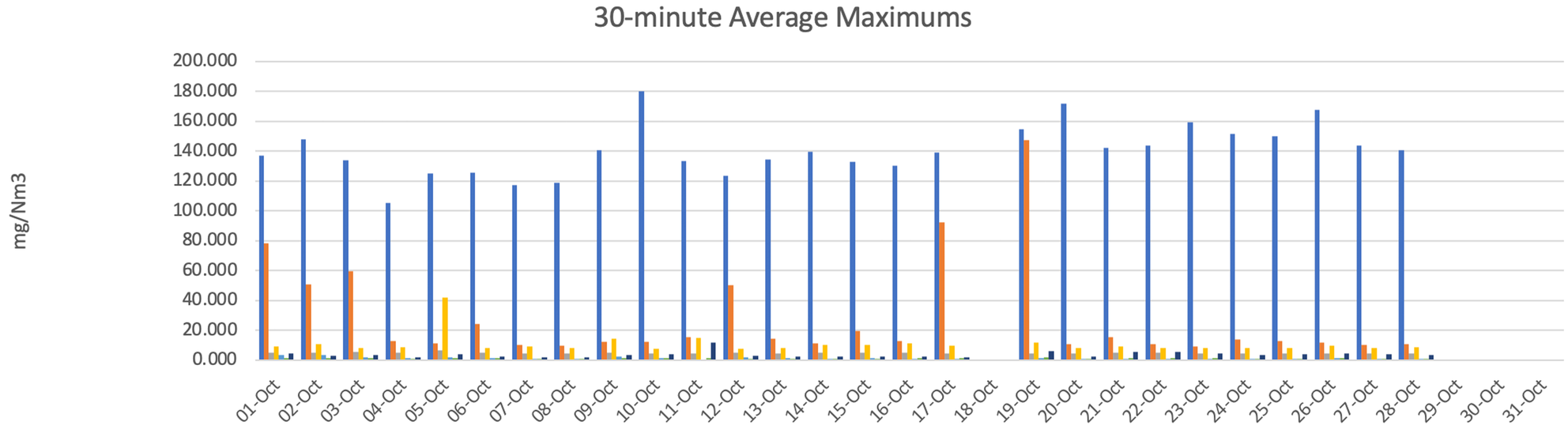
In addition to providing information to SEPA for regulatory compliance, the CEMS also allows the Power Plant team to monitor the processes. The data provided by the monitoring systems gives useful feedback on how the processes are operating, thereby allowing the team to safely and efficiently run the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

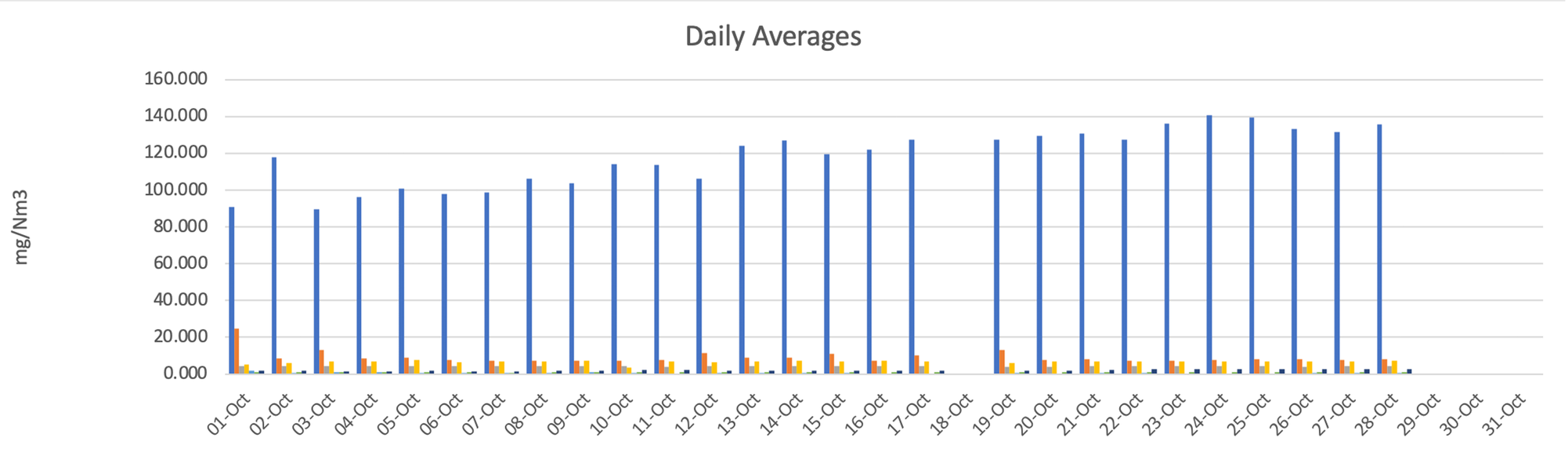
Learn more at www.lrel.co.uk

OCTOBER 2023 DAILY AVERAGE CEMS REPORT



	01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct	08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct
NOx 30m Max	136.8	148.0	133.7	105.0	125.1	125.3	117.1	118.9	140.4	180.0	133.5	123.2	134.4	139.5	132.8	130.4	139.1	0.000	154.7	171.8	142.2	143.6	159.3	151.5	150.0	167.4	143.7	140.6	0.000	0.000	0.000
CO 30m Max	78.20	50.70	59.60	12.70	11.30	24.30	10.00	9.400	12.00	12.10	15.10	50.10	14.50	11.00	19.40	12.90	92.20	0.000	147.2	10.50	15.40	10.80	9.100	13.60	12.50	11.60	10.40	10.70	0.000	0.000	0.000
SO2 30m Max	5.000	5.000	5.300	4.800	6.300	4.900	4.700	4.600	4.900	4.300	4.300	4.800	4.700	4.800	4.900	4.800	4.500	0.000	4.700	4.600	4.800	4.800	4.700	4.700	4.700	4.600	4.600	4.500	0.000	0.000	0.000
HCl 30m Max	9.000	10.60	8.100	8.400	41.80	7.900	9.100	8.200	14.40	7.400	15.00	7.800	7.900	10.10	10.30	11.20	9.400	0.000	11.50	8.200	9.200	8.100	8.300	8.300	8.100	9.700	8.300	8.700	0.000	0.000	0.000
NH3 30m Max	3.600	3.300	2.100	1.300	1.600	1.200	1.000	1.000	2.400	1.500	0.500	1.900	1.300	1.000	1.400	0.800	0.600	0.000	1.300	0.900	1.000	1.000	0.700	0.700	0.900	1.100	0.800	0.800	0.000	0.000	0.000
TOC 30m Max	1.200	1.200	1.300	0.900	1.200	1.100	0.900	1.000	1.400	1.400	1.100	1.000	1.000	1.000	1.000	1.100	1.200	0.000	1.800	1.000	1.100	1.100	1.100	1.000	1.000	1.400	1.000	1.000	0.000	0.000	0.000
Particulate Matter 30m Max	4.700	3.100	3.200	1.800	4.100	2.400	1.900	2.000	3.500	3.700	11.70	2.700	2.500	2.400	2.300	2.200	2.000	0.000	6.200	2.400	5.500	5.700	4.700	3.400	3.900	4.700	3.700	3.400	0.000	0.000	0.000

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NOx Daily Mean	90.80	117.7	89.60	96.30	101.0	97.90	98.80	106.1	103.6	114.1	113.8	106.4	123.9	126.9	119.6	122.0	127.4	0.000	127.5	129.3	130.8	127.3	136.1	140.5	139.6	133.4	131.4	135.6	0.000	0.000	0.000
CO Daily Mean	24.80	8.500	13.30	8.600	8.800	7.600	7.200	7.300	7.300	7.300	7.700	11.30	9.100	9.000	11.10	7.500	10.40	0.000	13.20	7.700	8.000	7.500	7.200	7.900	8.000	8.100	7.700	8.100	0.000	0.000	0.000
SO2 Daily Mean	4.500	4.500	4.300	4.400	4.500	4.300	4.300	4.300	4.300	4.200	4.100	4.300	4.300	4.400	4.300	4.200	4.200	0.000	4.000	4.000	4.100	4.300	4.300	4.300	4.200	4.200	4.100	4.200	4.300	0.000	0.000	0.000
HCl Daily Mean	5.200	6.200	6.700	6.900	7.600	6.500	6.900	6.900	7.400	3.400	6.800	6.600	6.900	7.500	6.700	7.200	6.900	0.000	6.000	6.900	6.900	6.900	6.900	6.900	7.000	7.000	7.000	7.100	0.000	0.000	0.000
NH3 Daily Mean	1.800	0.800	1.000	0.900	0.800	0.600	0.600	0.700	0.900	0.500	0.300	0.800	0.700	0.600	0.700	0.400	0.400	0.000	0.500	0.400	0.500	0.600	0.400	0.300	0.400	0.500	0.600	0.600	0.000	0.000	0.000
TOC Daily Mean	1.000	1.000	0.900	0.900	0.900	0.900	0.800	0.900	1.000	1.100	0.900	0.900	0.900	0.900	0.900	0.900	1.000	0.000	1.000	0.900	0.900	0.900	1.000	0.900	0.900	1.000	0.900	0.900	0.000	0.000	0.000
Particulate Matter Mean	2.100	1.900	1.500	1.500	1.800	1.600	1.600	1.700	2.100	2.200	2.500	1.800	1.800	1.800	1.800	1.700	1.800	0.000	2.100	1.800	2.500	2.800	2.700	2.600	2.900	2.900	2.900	2.800	0.000	0.000	0.000