

Permit Number: EPR/AB3092ZE

Operator: Bryn Power Limited

Facility: AD Facility at Gelliargwellt Farm

Form Number: Air1 / DD/MM/20

Reporting of emissions to air for the period from 20/01/2020 to 20/01/2021

Emission Point	Substance / Parameter	Emission		Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
		Limit Value	Reference Period				
A1 CHP Exhaust	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	Hourly mean	383	BS EN 14792	11:55 – 12:55 17.11.2020	17
	Carbon Monoxide	1400mg/m ³	Hourly mean	731	BS EN 15058	11:55 – 12:55 17.11.2020	32
	Sulphur Dioxide	350mg/m ³	Hourly mean	261	BS EN 14791	11:55 – 12:55 17.11.2020	20
	VOC's	2000mg/m ³	Hourly mean	1189	BS EN 12619	11:55 – 12:55 17.11.2020	54
A5 CHP Exhaust	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	500mg/m ³	Hourly mean	479	BS EN 14792	13:30 – 14:30 17.11.2020	21
	Carbon Monoxide	1400mg/m ³	Hourly mean	718	BS EN 15058	13:30 – 14:30 17.11.2020	30
	Sulphur Dioxide	350mg/m ³	Hourly mean	51	BS EN 14791	13:30 – 14:30 17.11.2020	4
	VOC's	2000mg/m ³	Hourly mean	1165	BS EN 12619	13:30 – 14:30 17.11.2020	51
A2 Flare Stack Note5	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	150mg/m ³	Hourly mean	N/A	BS EN 14792	N/A	N/A
	Total Volatile Organic Compounds (VOCs)	10mg/m ³	Hourly mean	N/A	BS EN 12619	N/A	N/A
	Carbon Monoxide	50mg/m ³	Hourly mean	N/A	BS EN 15058	N/A	N/A

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with Natural Resources Wales is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

- [3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- [4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.
- [5] Monitoring of flare emissions is only necessary when the flare operated in excess of 10% of the time



Signed
(Authorised to sign as representative of Operator)

Date.....05/02/2021.....

Permit Number: EPR/AB3092ZE

Operator: Bryn Power Limited

Facility: AD Facility at Gelliargwellt Farm

Form Number: Water 1 / DD/MM/20

Reporting of emissions to water (other than to sewer) and land for the year 2020

Parameter	Units	Result
Batches of water tested for discharge criteria (ammonia, and/or visual check)	number	16
Batches of water passed all tests and discharged to W1 soakaway	number	16
Batches of water failed one or more test not released to W1 soakaway	number	0



Signed
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Date.....05.02.21.....

Permit Number: EPR/AB3092ZE

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Facility: AD Facility at Gelliargwellt Farm

Form Number: Performance1 / DD/MM/20

Reporting of other performance indicators and production/treatment for the period 20/01/2020 to 20/01/2021

Parameter	Value	Units
Power output – Electricity	5,950.21	MWh
Energy efficiency	0.0023	MWh/m ³ biogas
Electrical energy exported to the grid	2893.3	MWh
Electrical energy drawn from the grid	21.9	MWh
Water usage	786.09	m ³
Operational time of emergency flare	0.01875	% of operational time
Amount of biogas combusted in the CHP unit per day	7021.97	m ³ /day
Biogas produced by AD facility	2,563,022	m ³
Total waste treated	21,079.87	tonnes

Operator's comments:

This year has been a difficult year. We were hit hard by the first national lockdown, but the digester did not starve, and we did not have to close.

Thankfully, the digester is very biologically stable with a large Tac buffer, so she took the changes in feed rate in her stride.

Both engines have had major rebuilds this year. I am concerned that CHP1 is now producing condensate from the exhaust where before I have only seen this a handful of time since 20th of Jan 2016. I have repeatedly spoken to the maintenance team about this and they are monitoring performance, in particular engine water pressure levels.

Heating has been sorted by modifying the boiler and using different pressure washing equipment to clean out the heat exchanger.

New sheets have been put on the reception building so that is looking far more presentable.

For the coming year I would like to secure some of the waste from Greggs so will be approaching Biffa about buying or trading off for a couple of loads a week.

Fingers crossed we will have a good steady year ahead to recoup losses and maximus electricity export.

The university wants to put a trail lab on site, so plans are currently being drawn up for the placement of that along with our school/meeting room which will also be installed this year.

Our first Kiss doctorate student has just finished her thesis and will soon have her viva. I am very keen to see what her result will have.

The inline equipment she has been working on will be a great help to the feeding of AD plants. Reduce the reliance on external lab testing of composition of feed stocks, giving operators realtime data to make informed decision quicker.



Signed

Date.....05.02.2021.....

(Authorised to sign as representative of Operator)