

Permit Number: SP3537VQ

Operator: Biogen Bryn Pica Ltd

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Air1 / 17/08/2022

Reporting of emissions to air for the period from 01/01/2022 to 31/12/2022 effective from 17th August 2022

Emission Point	Substance / Parameter	Emission		Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Uncertainty <sup>[4]</sup>
		Limit Value	Reference Period				
A1	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	500 mg/m <sup>3</sup>	Hourly mean	258	BS EN 14792	24.11.22 9:50-10:50	+/- 14
A1	Carbon monoxide	1400 mg/m <sup>3</sup>	Hourly mean	663	BS EN 15058	24.11.22 9:50-10:50	+/- 35
A1	Total Volatile Organic Compounds (VOCs)	1000 mg/m <sup>3</sup>	Hourly mean	450	BS EN12619:1999 or 13526:2002	24.11.22 9:50-10:50	+/- 1.8
A1	Sulphur Dioxide	350 mg/m <sup>3</sup>	Hourly mean	27.6	BS EN 14791	24.11.22 9:50-10:50	+/- 22
A2	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> ) <sup>[5]</sup>	150 mg/m <sup>3</sup>	Hourly mean	N/A	BS EN 14792	N/A	N/A
A2	Carbon monoxide <sup>[5]</sup>	50 mg/m <sup>3</sup>	Hourly mean	N/A	BS EN 15058	N/A	N/A
A2	Total Volatile Organic Compounds (VOCs) <sup>[5]</sup>	10 mg/m <sup>3</sup>	Hourly mean	N/A	BS EN12619:1999 or 13526:2002	N/A	N/A
A5	Ammonia (NH <sub>3</sub> ) <sup>[6]</sup>	20 mg/Nm <sup>3</sup>	Every 6 months	0.61	EN ISO 21877	24/11/22 10:30 – 11:00	+/- 0.11
A5	Hydrogen sulphide (H <sub>2</sub> S) <sup>[6]</sup>	No Set Limit	Every 6 months	27.41	US EPA Method 11 (Impinger method), and CEN TS 13649 (Charcoal tube), US EPA Method 15	24/11/22 10:30 – 11:00	+/- 10.9

- [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
- [6] Where emissions are unlikely to impact on sensitive receptors, operators can choose whether to monitor for odour or ammonia and hydrogen sulphide. Operators will need to justify that their choice demonstrates the continued efficacy of their abatement equipment and that the environment is protected.

Signed .....  .....  
(Authorised to sign as representative of Operator)

Date...10/02/2023.....

Permit Number: SP3537VQ

Operator: Biogen Bryn Pica Ltd

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Water1 / 14/01/2021

**Reporting of emissions to water (other than to sewer) and land for the period from 01/01/2022 to 31/12/2022**

Emission Point	Substance / Parameter	Emission		Reference Period	Result <sup>[1]</sup>	Test Method <sup>[2]</sup>	Sample Date and Times <sup>[3]</sup>	Uncertainty <sup>[4]</sup>
		Limit Value						
W1	Oil and grease	None visible		Periodic (prior to discharge)	No visible oil and grease	Visual check	01/01/2022 – 31/12/2022	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.

Signed .....  .....  
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Date...10/02/2023.....

Permit Number: SP3537VQ

Operator: Biogen Bryn Pica Ltd

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: WaterUsage1 / 17/08/2022

**Reporting of Water Usage for the year 2022** effective from 17th August 2022

Water Source	Usage (m <sup>3</sup> /year)	Specific Usage (m <sup>3</sup> /unit output)
Mains water	349m <sup>3</sup>	0.017m <sup>3</sup> /tonne
<b>TOTAL WATER USAGE</b>		

Operator's comments:

Water usage has been divided by tonnes into the Plant rather than tonnes out as, due to the nature of the process, this is more meaningful.

Signed .....  .....  
 (authorised to sign as representative of Operator)

Date.....10/02/2023.....

Permit Number: SP3537VQ

Operator: Biogen Bryn Pica Ltd

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Energy1 / 17/08/2022

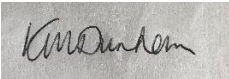
**Reporting of Energy Usage for the year 2022** effective from 17th August 2022

Energy Source	Energy Usage		Specific Usage (MWh/unit output)
	Quantity	Primary Energy (MWh)	
Electricity *	269.32 MWh <sup>1</sup>	646.37	0.013 MWh/tonne <sup>2</sup>
Natural Gas	N/A	N/A	N/A
Gas Oil	N/A	N/A	N/A
Recovered Fuel Oil	N/A	N/A	N/A
TOTAL	-	646.37	0.013 MWh/tonne <sup>2</sup>

\* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

<sup>1</sup> Calculated as: parasitic energy usage (213.62 MWh) + imported electricity usage (55.7MWh).  
<sup>2</sup> Electricity usage has been divided by tonnes into the Plant rather than tonnes out as, due to the nature of the process, this is more meaningful.

Signed  .....  
 (Authorised to sign as representative of Operator)

Date...10/02/2023.....

Permit Number: SP3537VQ

Operator: Biogen Bryn Pica Ltd

Facility: Bryn Pica Anaerobic Digestion Site

Form Number: Performance1 / 17/08/2022

Reporting of other performance indicators for the period 01/01/2022 to 31/12/2022 effective from 17th August 2022

Parameter	Units
Total raw material used	20, 983.48 tonnes
Total amounts of waste treated	20, 983.48 tonnes
Biogas produced by AD Facility	3,071,362 m <sup>3</sup>
Power output - electricity	8801.1 MWh
Energy efficiency	0.0026 MWh/m <sup>3</sup> biogas
Electrical energy exported to the grid	8083 MWh
Electrical energy drawn from the grid	55.7 MWh
Operational time of emergency flare	5.42 %
Amount of gas sent to emergency flare	269,126 m <sup>3</sup>
Generation of residue waste	749.64Tonnes
Generation of wastewater	0 m <sup>3</sup>
Amount of biogas combusted in the CHP unit per day	8414 m <sup>3</sup> /day

Operator's comments:

Signed .....  .....  
(Authorised to sign as representative of Operator)

Date...10/02/2023.....