4Permit Number:	AB3092ZE	Operator:	Bryn Power Limited
Facility:	Gelliargwellt Farm Anaerobic Digester Facility	Form Number:	WaterUsage1 / 10/06/21

Reporting of Water Usage for the year 20.01.23 to 20.01.24

Water Source	Usage (m^3/year)	Specific Usage (m^3/unit output)
Mains water	1030.987	0.000165934
TOTAL WATER USAGE		

Operator's comments:

See end.

Signed [redacted] …… Date……31.01.2024……..

(authorised to sign as representative of Operator)

Permit Number: AB3092ZE

Operator: Bryn Power Limited

Facility: Gelliargwellt Farm Anaerobic Digester Facility

Form Number: Energy1 / 10/06/21

Reporting of Energy Usage for the year 20.01.2023 to 20.01.24

Energy Source	Energy Usage Quantity	Primary Energy (MWh)	Specific Usage (MWh/unit output)
Electricity *	MWh	1.45 (own produced)	0.0002329
Natural Gas	MWh	n/a	
Gas Oil	tonnes	n/a	
Recovered Fuel Oil	tonnes	n/a	
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

See end.

Signed …… [redacted] ……. Date……31.01.2024……..

(Authorised to sign as representative of Operator)

Permit Number: AB3092ZE

Operator: Bryn Power Limited

Facility: Gelliargwellt Farm Anaerobic Digester Facility

Form Number: Air 1 / 17/08/22

Reporting of emissions to air for the period from 20/01/2023 **to** 20/01/2024

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
A1 CHP Exhaust (Jenbacher Engine) [5]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500mg/m^3	Hourly mean	369	BS EN 14792	28.11.23 11:20 – 12:20	15
	Carbon monoxide	1400mg/m^3	Hourly mean	825	BS EN 15058	28.11.23 11:20 – 12:20	44
	Sulphur dioxide	350mg/m^3	Hourly mean	199	BS EN 14791	28.11.23 11:20 – 12:20	3.2
	VOC's	2000mg/m^3	Hourly mean	1144	BS EN 12619	28.11.23 11:20 – 12:20	67
A2 Flare Stack [5],[6]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	No limit set	Hourly mean	n/a	BS EN 14792		
	Carbon monoxide		Hourly mean	n/a	BS EN 15058		
	Sulphur dioxide		Hourly mean	n/a	BS EN 14791		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
	VOC's		Hourly mean	n/a	BS EN 12619		
A5 CHP Exhaust (Edina Engine) [5]	Oxides of Nitrogen (NO and NO_2 expressed as NO_2)	500mg/m^3	Hourly mean	369	BS EN 14792	28.11.23 10:00 – 11:00	19
	Carbon monoxide	1400mg/m^3	Hourly mean	794	BS EN 15058	28.11.23 10:00 – 11:00	35
	Sulphur dioxide	350mg/m^3	Hourly mean	192	BS EN 14791	28.11.23 10:00 – 11:00	3.3
	VOC's	2000mg/m^3	Hourly mean	940	BS EN 12619	28.11.23 10:00 – 11:00	42
A6 Carbon filter on the processing liquid tank	Ammonia (NH_3)	20 mg/Nm^3		<0.08 <0.059	EN ISO 21877	14.02.23 09:05 – 10:05 15.08.23 09:05 – 10:05	0.016
	Hydrogen sulphide (H_2S)	No limits set		<0.27 <0.3	US EPA Method 11 (Impinger method) or CEN TS 13649 (Charcoal tube), US EPA Method 15	14.02.23 10:15- 11:15 15.08.23 10:15- 11:15	0.27
A7 Biofilter serving the waste reception building	Ammonia (NH_3)	20 mg/Nm^3		<0.08 0.45	EN ISO 21877	14.02.23 12.25-13.25 15.08.23 12.25-13.25	0.016
	Hydrogen sulphide (H_2S)	No limits set		<0.31 <0.3	US EPA Method 11 (Impinger method) or CEN TS 13649 (Charcoal tube), US EPA Method 15	14.02.23 13:30-14:30 15.08.23 13:30-14:30	0.31
A9 Covered	Ammonia (NH_3)	20 mg/Nm^3		-Not tested,	EN ISO 21877		

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
digestate lagoon vents				unavailable to access			
	Hydrogen sulphide (H_2S)	No limits set	-	-Not tested, unavailable to access	US EPA Method 11 (Impinger method) or CEN TS 13649 (Charcoal tube), US EPA Method 15		

[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] The measurement uncertainty specified in LFTGN08 v2 2010 shall apply
[6] Monitoring of flare emissions is only necessary when the flare operated in excess of 10% of the time

Signed ……[redacted]…… Date……24.01.2024……..
(Authorised to sign as representative of Operator)

Permit Number:	AB3092ZE	Operator:	Bryn Power Limited
Facility:	Gelliargwellt Farm Anaerobic Digester Facility	Form Number:	Performance 1 / 17/08/22

Reporting of other performance indicators for the period 20.02.2022 **to** 20.02.2023 effective from 17 August 2022

Parameter		Units
Total raw material used	n/a	tonnes
Total amounts of waste treated	26904.95	tonnes
Biogas produced by AD Facility	2653814.8	m^3
Power output - electricity	6213.238	MWh
Energy efficiency	0.002	MWh/m^3 biogas
Electrical energy exported to the grid	3.3075	MWh
Electrical energy drawn from the grid	6.03	MWh
Operational time of emergency flare	0.05	%
Amount of gas sent to emergency flare	1125	m^3
Generation of residue waste	225.4	tonnes
Generation of wastewater	n/a	m^3

Operator's comments:

This year has seen the plant reach significant milestones with both the engines reaching their first major rebuilds.

The down time of the rebuilds has seen a drop in this year's electricity production.

Waste treated is down on last year, but the energy efficiency has remained the same.

Export of power has been reduced but this is an expected result from the rebuilds and the increased energy load of site from the university research units.

[redacted]

Signed …… Date……24.01.2024……..

(Authorised to sign as representative of Operator)