

Compliance Assessment Report CAR_NRW0050942

Permit being assessed: HB3935AE.

For: Pancross A D Plant, **held by:** Vale Bio - Energy Ltd

At: Llancarfan, Barry, South Glamorgan, CF62 3AJ.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 05/03/2026.

Parts of permit assessed: Monitoring.

NRW Lead Officer: Greg Gardner.

Report sent to: Site Manager, Site Manager, on 23/03/2026.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	Assessed (A)	
IR4B - Installations - Information - Reporting	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
IR3E	The operator must continue enhanced monitoring of emissions and carry out the required routine and preventative maintenance on the engine and associated systems to ensure optimal performance and minimise the risk of approaching or exceeding the permitted VOC emission limit.	31/07/2026

Compliance criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

This report details the annual emissions (2025) monitoring at Vale Bio Energy, Pancross Farm, permit reference number EPR/HB3935AE. The annual emissions monitoring report was submitted to NRW on the 11/11/2025.

As part of the sites environmental permit, under section 4.2 (reporting), the site must submit periodic reports detailing emissions from site. It compares results from the Annual Environmental Report for 2025 against the sites permit limits.

EMISSIONS TO AIR

Element Materials Technology (who are UKAS and MCERTS accredited) conducted stack emissions monitoring of Engine 1 on **17 June 2025**, with results compared against the emission limit values (ELVs) prescribed in **SR2023 No.01 Table 3.1**. All monitored pollutants were found to be **within the permitted limits**, confirming **full compliance and no breaches** at the time of monitoring. See below screenshot. However, **Total VOC emissions were recorded at 993 mg/m³**, which is **very close to the ELV of 1000 mg/m³**. Continued vigilance and possible optimisation measures are recommended.

The significance of VOC being this close to the limit has operational, regulatory, and environmental significance.

- **High regulatory risk:** Breaching the VOC limit would constitute non-compliance under the permit, requiring immediate notification to NRW as per permit Section 4.3.1.
- **Indicator of combustion inefficiencies:** VOC levels this high can suggest incomplete combustion, catalyst deterioration, or inconsistent biogas quality.
- **Potential for future exceedances:** Given how close the measured value is to the ELV, planned maintenance, engine tuning, or feedstock review may be required
- **Odour and community impact:** Elevated VOCs may contribute to odour episodes; the operator must prevent off-site odour under permit Section 3.3.

ACTION: The operator must continue enhanced monitoring of emissions and carry out the required routine and preventative maintenance on the engine and associated systems to ensure optimal performance and minimise the risk of approaching or exceeding the permitted VOC emission limit.

MONITORING RESULTS

Vale Bio-Energy, Llancarfan

Engine 1

17th June 2025

where MU = Measurement Uncertainty associated with the Result

Parameter	Concentration				Mass Emission			
	Units	Result	MU +/-	Limit	Units	Result	MU +/-	Limit
Sulphur Dioxide	¹ mg/m ³	88.5	5.4	350	g/hr	117	10.2	
Total VOCs (as Carbon)	¹ mg/m ³	993	57.0	1000	g/hr	1307	111	
Oxides of Nitrogen (as NO ₂)	¹ mg/m ³	459	24.3	500	g/hr	604	49.6	
Carbon Monoxide	¹ mg/m ³	728	37.9	1400	g/hr	959	78.1	
Oxygen	% v/v	Dry 9.4	0.41					
Water Vapour	% v/v	10.7	0.46					
Stack Gas Temperature	°C	149.8						
Stack Gas Velocity	m/s	16.4	0.71					
Volumetric Flow Rate (ACTUAL)	m ³ /hr	3128	196					
Volumetric Flow Rate (REF)	¹ m ³ /hr	1316	83					

In this document 'Natural Resources Wales' means the Natural Resource Body for Wales established by Article 3 of the Natural Resources Body for Wales (Establishment) Order 2012

END.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action required for the permit condition assessed to avoid non-compliance. No non-compliance scored at this time
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

If your assessment result in Section 1 is suspended, what does this mean?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry compliance criteria (used in section 1 and 2):**1. Management**

- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

2. Operations

- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

3. Emission and Monitoring

- IR3A(1) – Emissions to water
- IR3A(2) – Emissions to air
- IR3A(3) – Emissions to land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

4. Information

- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

Enforcement response

Any non-compliance with a permit condition is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within twenty working days to let you know if we agree to your request.

Disputing the Content of this Compliance Assessment Report Form

If you disagree with the content of this Compliance Assessment Report form, you should submit your concerns, in writing, to the regulating officer who issued it within **15 working days** of its issue. This will be treated as a **Stage 1 review**.

If you are not satisfied with the outcome of the stage 1 review, you may request a **Stage 2 appeal**. This request must be submitted **within 21 working days** of receiving the response from the stage 1 review.

Further details on our review and appeal process are available at: [Natural Resources Wales / Appeal a regulatory decision from Natural Resources Wales](#)

Concerns Not Related to the Content of this Compliance Assessment Report Form

If your concerns do not relate to the content of the Compliance Assessment Report form, you should first attempt to resolve the issue with the regulating officer or their line manager.

If the issue remains unresolved, please contact our **Customer Contact Team**:

- **Telephone:** 0300 065 3000 (Monday to Friday, 09:00–17:00)
- **Email:** enquiries@naturalresourceswales.gov.uk

They will provide details on how to escalate your concerns through our **Complaints and Commendations procedure**.

If you are dissatisfied with our response, you may contact the **Public Services Ombudsman for Wales**:

- **Telephone:** 0300 790 0203
- **Email:** ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.