

## **Evidence Submitted by Enovert North Limited**

### **Reference Petition P-06-1510 – Direct NRW to revoke the environmental permit and ensure the closure of Enovert’s, Hafod Landfill Site in Wrexham.**

Enovert are grateful to the Senedd Petitions Committee for the opportunity to provide evidence in respect of operations at our Hafod landfill site. We further welcome the opportunity to answer questions at the meeting scheduled for the 22<sup>nd</sup> September 2025.

### **Background**

Enovert are a leading UK waste and resource operator with facilities, including landfill sites, composting facilities, waste transfer and treatment and renewable electricity generation assets (landfill gas generation and solar) across England and Wales. Our waste management facilities are regulated facilities permitted under the Environmental Permitting Regulations as regulated by The Environment Agency in England and Natural Resources Wales for our Welsh sites.

We are committed to environmental, health and safety and operational excellence. Our operating systems are certified to the following internationally recognised standards as verified by independent accredited auditors:

- ISO 14001 - Environmental Management Systems
- ISO 45001 - Health & Safety Management
- ISO 9000 - Quality Management System
- ISO 50001 - Energy Management

Enovert was formerly a part of the Cory Environmental group, who purchased the Hafod site in 2008. Enovert was formed in 2018 when the Cory landfill and gas generation business was sold, resulting in our acquisition of the Hafod Landfill site. Cory staff transferred to the Enovert business ensuring continuity of operations, retention of historical knowledge and maintenance of links between the business and the local community for the Hafod site and all other of our facilities.

### **Hafod Landfill Site**

The Hafod site is permitted (Permit Number EPR/PP3139GB) as a biodegradable non-hazardous landfill site accepting a range of wastes, which as they decompose under controlled conditions in the landfill site produce byproduct gases (landfill gas) and leachate (a liquid rich in ammonical nitrogen). Landfill gas is collected and utilised as fuel for the generation of renewable electricity and leachate is abstracted and tankered

off-site to a suitable permitted wastewater treatment facility. The site accepts in the order of 120,000 tonnes of waste each year, a proportion of which are soils used in the final restoration of the site. We have provided a summary of the waste arising detail further on.

### **Odour Complaint Data**

Enovert takes all complaints seriously investigating each one and reacting accordingly to control our operations and infrastructure to minimise the risk of odours arising. It is always our intention to be a good, responsible neighbour.

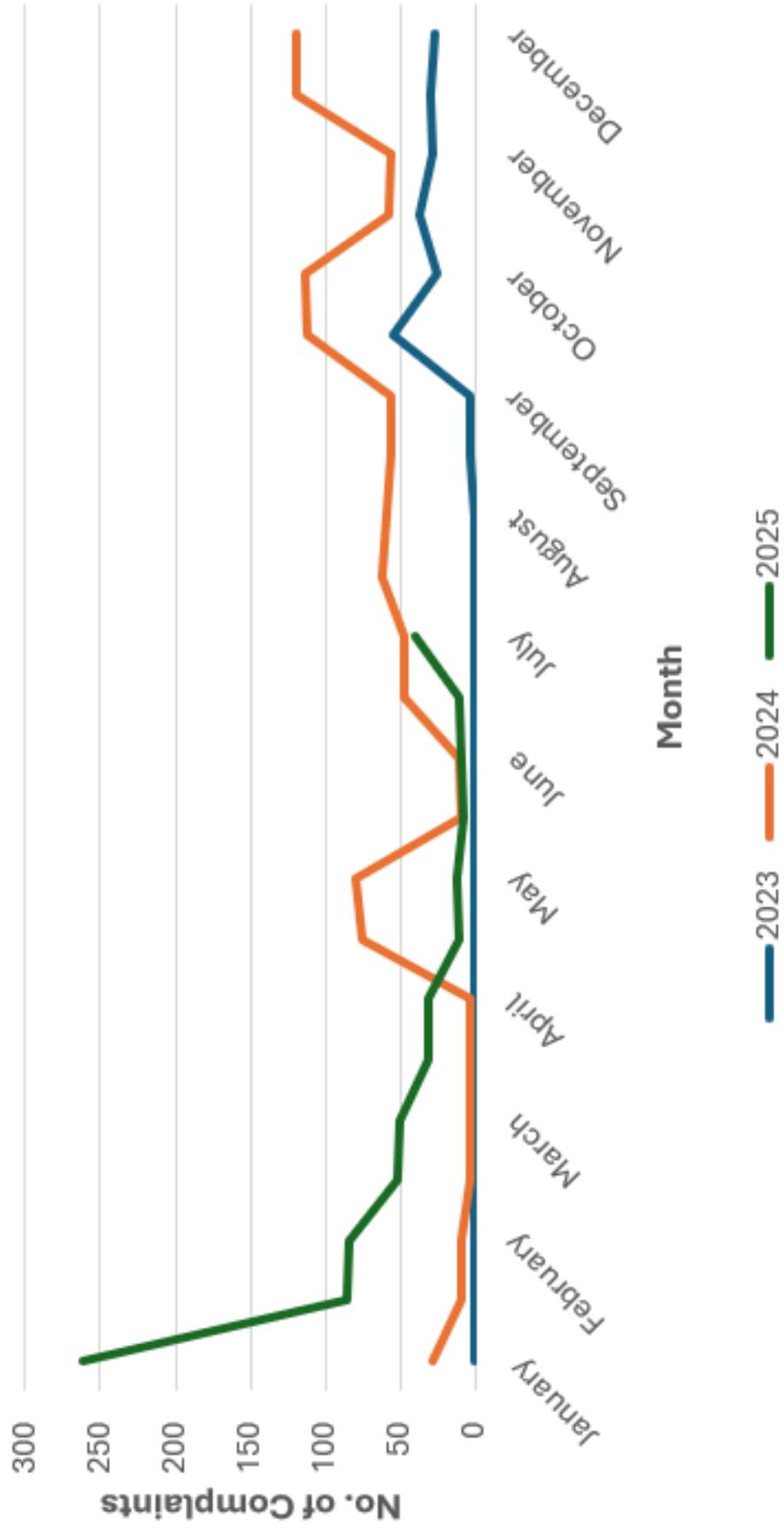
On the 16<sup>th</sup> November 2023 the site received a number of odour complaints whereas prior to this time complaints were almost non-existent. Enovert took immediate action bringing forward capping and gas well installation works scheduled for completion prior to year end. These works we completed in November 2023 as part of an action plan submitted to NRW and community updates were provided advising on progress throughout.

Despite Enovert's actions taken to address odour complaints and in response to the level of complaint on 21<sup>st</sup> December 2023 NRW issued a Statutory Notice. The Notice required Enovert to undertake a series of works and monitoring exercises, many of which had already been included in the action plan previously submitted by Enovert and some having been completed prior to issue of the Notice itself. Enovert responded to the Notice immediately, agreeing to undertake all actions NRW felt necessary. We complied with the Notice completing actions to agreed timescales.

The chart below summarises the volume of odour complaints received by NRW during the period October 2023 to July 2024, inclusive. In summary:

- 2023 had consistently low complaint levels, up until October 2023.
- 2024 showed a mid-year rise and sustained high levels in autumn and winter – peaking at 110 complaints in the October.
- 2025 so far shows an unusually high spike in January (peak of 270), but then a steep fall, settling at much lower levels currently.

## Monthly Hafod Odour Complaints 2023 - 2025



## Works on Site

Enovert have undertaken a programme of works at the Hafod site since complaints began in 2023. The programme of works is summarised below showing our commitment to continuous improvement, investment at the site and use of all appropriate measures to control landfill gas and ensure the site operates responsibly.

Item	Description	Date Completed
1	Installation of 6 new deep gas wells	Oct-23
2	Extension of 180mm gas main and new flow lines	Nov-23
3	Installation of 5000m <sup>2</sup> of permanent clay capping	Nov-23
4	Temporary clay capping of outer northern flank of Cell 5a. NB: LLDPE placed in when weather better	Dec-23
5	Temporary clay capping and LLDPE capping of top of Cell 5a - 5500m <sup>2</sup>	Jan-24
6	Temporary clay capping of western flank of Cell 5a. NB LLDPE placed in Jun-24 when weather better	Jan-24
7	Installation of 250mm gas main to Cell 5b	Jan-24
8	Fit pneumatic pumps to gas wells in Cell 5a	Feb-24
9	Installation of 2 x horizontal leachate drains and 2 x pin wells on Cell 5a and connect to gas system	Dec-23
10	Installation of new 180mm gas main on internal bench in Cell 5a and reroute gas collection pipes	Mar-24
11	New leachate main installed from Cell 5b to green tanks	Jan-24
12	Installation of 10 new pin wells on western flank of Cell 5a	Feb-24
13	Installation of new 250mm gas main to allow future gas extraction in Cell 5b	Jun-24
14	Install new horizontal gas collection pipes in Cell 5b to provide extraction on active tipping area	Apr-24
15	Remediate bentonite seals on all leachate chambers	May-24
16	Remediate bentonite seals on all gas wells	Jun-24
17	Install new collector pipes to LC5 and MP5b to improve gas collection	Jun-24
18	Installation of 3000m <sup>2</sup> of temporary LLDPE capping on western flank of Cell 5b	Sep-24
19	Extension of 180mm gas main along perimeter of Cell 5c to form a ring main	Dec-24
20	Install further temporary LLDPE capping on northern and western flanks of Cell 5b	Sep-24
21	Install replacement 3516 CAT genset due to failure of Hafod 1	Nov-24
22	Installation of misting system adjacent to Landfill Gas Management Compound	Jan-25
23	Purchase of leachate eductor system to use in gas wells	Feb-25
24	Installation of 7 new deep gas wells and connection into extraction system	Mar-25
25	Installation of 17 new pin wells on outer northern flank of Cell 4	Mar-25
26	Install replacement 3512 CAT genset (engine)	Apr-25
27	Gas manifold moved on Cell 4 to improve gas flows	Apr-25
28	Installation of 2 x horizontal gas collection pipes	Apr-25

29	Installation of 4 x Air Quality Monitoring units within boundary of the site	Apr-25
30	Installation of 6000m2 of temporary LLDPE capping on northern flank of Cell 4	May-25
31	Installation of a further 1000m2 of temporary LLDPE capping on top pf Cell 5a	Jun-25
32	Install replacement 3516 genset (engine)	Jul-25

## **Engagement and Public Liaison**

Through working with Natural Resources Wales, Wrexham Public Protection Department, Local Councillors and the Hafod Community Liaison Group, we have provided updates on all progress on site and attempted to provide sufficient information to address the community's concerns.

### **Natural Resources Wales (Regulator)**

In addition to usual regulatory interactions, we have maintained open channels of communication to keep the regulator informed of ongoing works on site, provide community updates and provide confidence that as operator we are fully engaged in and invested in addressing matters of compliance.

### **Site Resident Liaison Meetings**

These meetings have been held at the site since prior to 2008 and are attended by local area representatives, local elected members, Wrexham Public Health, Wrexham Planning Department, Natural Resources Wales and Senior Enovert Management representatives. The meetings, held quarterly, run to an agreed agenda which includes operational updates and feedback from the community issues and concerns. Details of the meetings are shared with the wider community via the community representatives and elected members. Over the years the resident liaison meetings have been effective in maintaining open lines of communication with the community including during any periods of difficulty or concern regarding the site.

### **Wrexham - Homes & Environment Scrutiny Committee**

Enovert were asked to attend these meeting to provide evidence of our operations and answer questions put forward from the Committee and members of the public. We have fully engaged in the meetings, attending the first meeting in October 2024. The key action of those agreed from that meeting was for Enovert to work with Wrexham Council Public Protection Department to install Hydrogen Sulphide (H2S) monitoring devices to collect data for assessment of the potential for impact on public health. We have devoted considerable resource since then to the installation and routine monitoring of H2S providing four monitoring stations around the site in conjunction with those provided by

Wrexham in the community. Additionally, we have appointed and are working with leading independent environmental consultants to enable the proper technical assessment of the data collected and, on their recommendation, also installed additional diffusion tube monitoring devices to provide accurate detail in respect of actual exposure risk. The initial scrutiny committee meeting also recommended the formation of a stakeholder group to take forward and manage actions and public liaison, and again we have fully engaged in that process.

### ***Wrexham – Hafod Stakeholder Meetings***

Enovert attended the inaugural meeting on 21<sup>st</sup> March 2025 and again on 18<sup>th</sup> July 2025, and at each meeting presented a detailed report on the Hafod site, including works undertaken and those scheduled, as well as details of progress on H2S monitoring. Invited member to the meetings are:

- Deputy Leader (WCBC)
- Lead Member for Planning and Public Protection (WCBC)
- Local Members for Pant and Johnstown
- Local Member for Ruabon
- Chair of Ruabon Community Council
- Chair of Rhos Community Council
- Representatives of Enovert
- Constituency Member of the Senedd – Clwyd South
- Member of Parliament for Montgomeryshire & Glyndwr

Officer membership shall include;

- Chief Officer Economy & Planning (WCBC)
- Head of Service, Public Protection (WCBC)
- Head of Service, Planning Development Management (WCBC)
- Natural Resource Wales representatives

### **Members of the Senedd**

We have conducted site visits and corresponded with the following elected members of the Senedd:

**Ken Skates MS** – In April 2024 and following the onset of complaints in November 2023 Ken Skates MS visited the Hafod site and we discussed works to improve gas collection systems.

**Steve Witherden MP** – Visited the site in October 2024.

**Llyr Gruffydd MS** – In October 2025 Enovert responded to a request for provision of waste input data and to provide reassurance as to the safety on the site in respect of emissions and we provided the detail requested.

**Huw Irranca-Davies MS (Deputy First Minister of Wales)** – Visited the site in March 2025 and later writing to encourage Enovert to ensure compliance with the sites Environmental Permit through engagement with NRW, and the importance of engaging with the public regarding any necessary maintenance and infrastructure works at the site – comments we have wholly taken on board and actively pursued.

In addition to the above, during the 12-month period to July 2025 we have responded to and provided over 25 separate press statements regarding works and progress at the Hafod site.

### **Air Quality Monitoring – Hafod Landfill Site**

In conjunction with Wrexham Public Protection Department and as agreed with Wrexham Homes & Environment Scrutiny Committee Enovert are partially funding an air quality monitoring scheme. This includes monitoring for Hydrogen Sulphide gas on site as well as in the community. The aim is to gather quantitative data regarding the concentration of Hydrogen Sulphide in air. At this stage, the monitoring includes passive diffusion tubes that provide averaged concentrations over a defined period and specialist instrumentation (AQ Mesh pods) logging real-time measurements that record average readings every 15 minutes based on readings taken every 10 seconds. Regular daily off-site and on-site odour surveys are also undertaken and complaints recorded and evaluated. The monitoring also logs weather conditions, including wind direction and atmospheric conditions used to consider source, pathway and receptor relationships.

The monitoring exercise needs to gather a sufficient body of data to allow proper assessment of the air quality environment. We are awaiting the data from the instruments for the third monitoring period at the time of writing. We have agreed to

provide the latest monitoring data summary, with the benefit of the third *round of monitoring detail*, to the *Senedd Petitions Committee* by 15<sup>th</sup> September for inclusion in our evidence.

## **The Petition**

Enovert acknowledge the strength of feeling expressed in the petition and the community's concerns about the Hafod landfill site. Whilst the petition was directed at securing an independent inquiry into NRW's regulatory performance, and more broadly into the fitness of the regulatory framework under which the Hafod site operates in the interests of transparency and accountability Enovert have provided responses to the petition so far as it refers to our operation of the Hafod site. Our responses run in the same order as the matters are raised in the petition.

### **1. Hafod Landfill Site has caused community distress for 18 years, making it Wales' longest running environmental campaign.**

Whilst the site has a controversial history having been through a planning appeal for the original landfill planning consent and at one time, under alternative ownership, having accepted all of Merseyside's domestic waste for disposal the site does not have a history of significant environmental impact or complaint. Odour complaints increased more recently in October 2023 at which time public and media interest in the site also increased and since which time Enovert have taken all practical measures to control odours at the site.

### **2. The site continues to emit noxious odours creating an unacceptable statutory nuisance.**

Olfactory monitoring (sniff tests) has been undertaken on a regular basis by Enovert and independently by NRW and malodour associated with the landfill site has not regularly been detected in residential areas. The being Air Quality Monitoring being conducted, which includes an instrument and diffusion tube at the Johnstown Community Centre, will help in assessing the levels of Hydrogen Sulphide gas present and combined with weather and atmospheric data sources of emission.

### **3. NRW are responsible for environmental protection and has failed to take meaningful enforcement action.**

Enforcement action by NRW in respect of odour has not been necessary in accordance with conditions of the sites Environmental Permit and the framework under which the Permit is issued. Instances where an NRW regulatory officer has suspected a non-compliance have been raised with Enovert in Compliance Assessment Reports and if appropriate scored in accordance with NRW's guidance. This has included issue of formal Notice in December 2023 as we have outlined above. In accordance with the Permit and regulatory guidance where non-compliances have been raised, Enovert are

obligated to address these via submission of improvement plans which must be adhered to and deliver the agreed improvement and done this. As operator we would suggest the site has been appropriately and proportionately regulated by NRW.

#### 4. If NRW regulatory framework allows a site to emit persistent and overpowering odours whilst remaining compliant, then the regulations are clearly not fit for purpose.

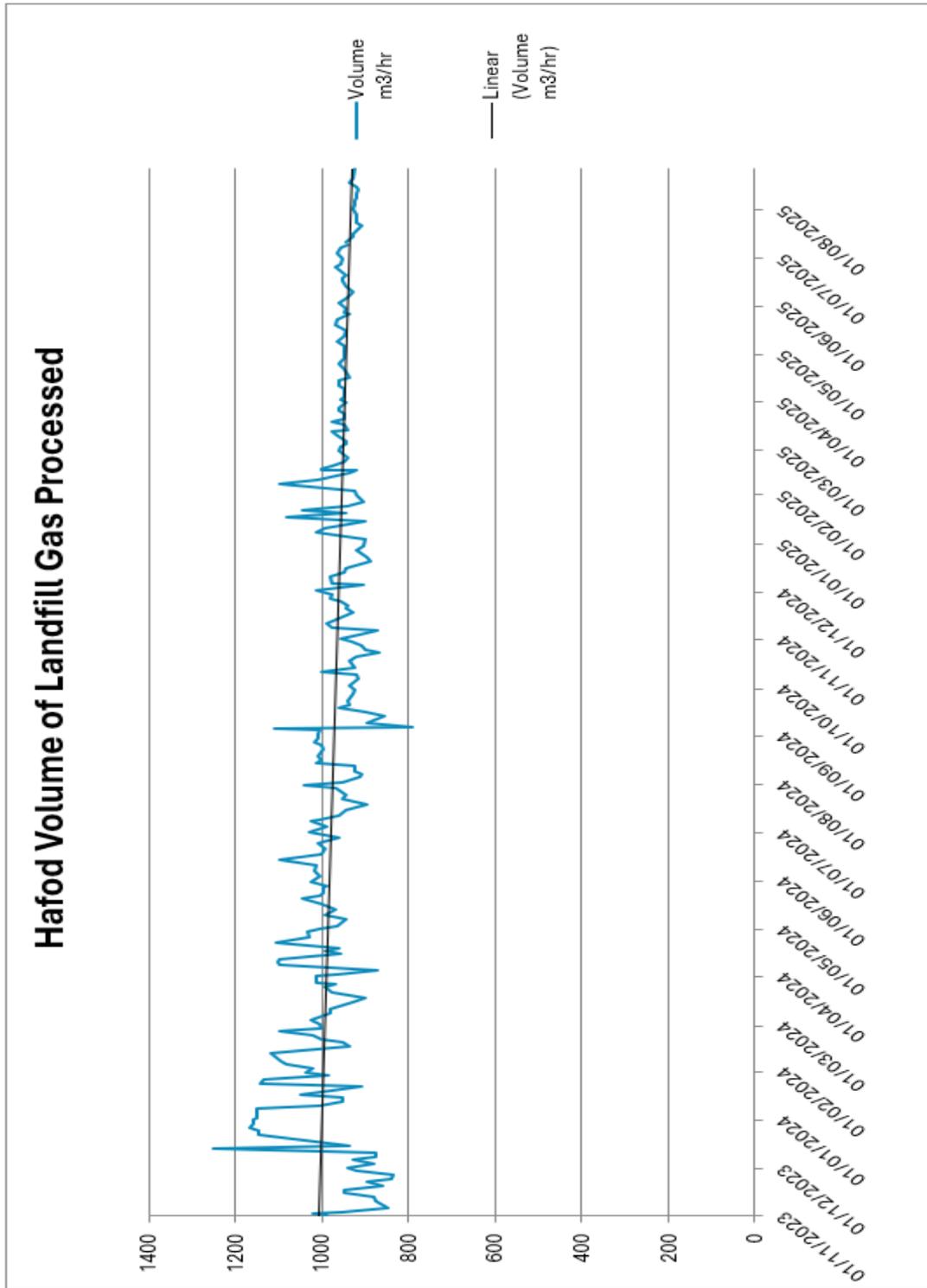
Environmental Permits do not specify emission limits for fugitive emissions, but they do set formal emission limits at designated points. The permit requires that there be no uncontrolled emissions beyond the site boundary during normal operations. Enovert, as the operator, must use appropriate measures to minimise and prevent fugitive emissions, and implement extra controls and notify NRW during exceptional activities like drilling or excavation that may cause odours. Enovert has complied with these requirements.

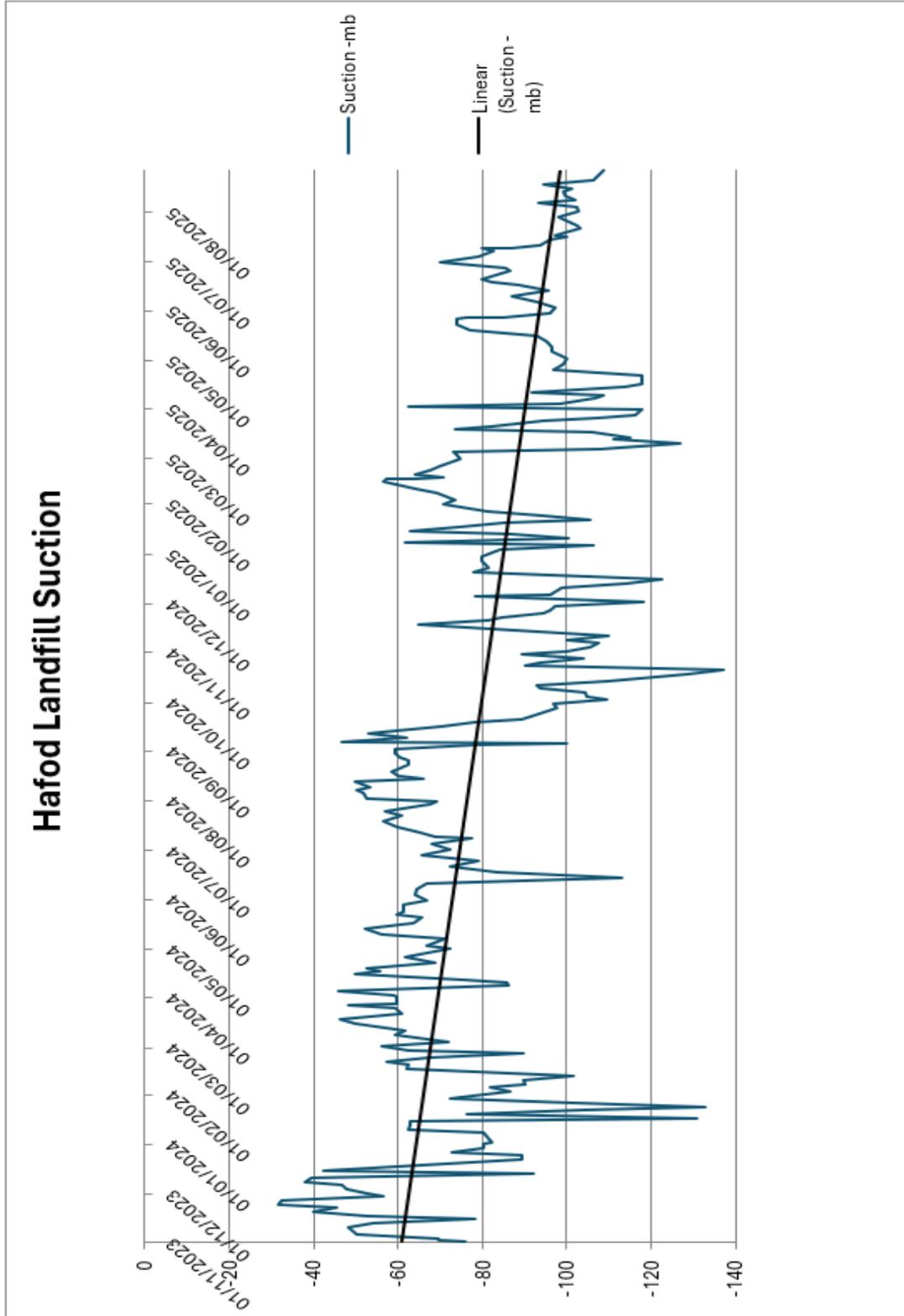
#### 5. Their own (NRW's) last Inspection reported key failings such as a non-operational gas engine, increasing the release of landfill gases.

It is common for gas engines to experience periods of non-operation due to the demanding conditions in which they function. These engines operate continuously and utilise landfill gas as their fuel source to generate renewable electricity. As a result, landfill gas engines are subject to significant wear, necessitating routine servicing at intervals as frequent as every 250–500 hours, depending on engine condition and fuel quality. Unplanned mechanical failures may arise, with the likelihood increasing as the engine ages and experiences general wear.

In response to these operational realities and acknowledging that engine downtime is both expected and essential for repairs and maintenance, the Hafod site deploys two gas engines under normal circumstances. The presence of a secondary engine ensures continued utilisation of landfill gas for electricity production should one engine be offline; any surplus gas previously consumed by the primary engine is automatically diverted to, and managed via, the flare. Similarly, if both engines are simultaneously offline, the gas flare is capable of safely managing the total volume of gas produced by the site at peak capacity. This approach guarantees consistent control over the gasfield, vacuum systems, and gas collection operations. Consequently, having a gas engine offline does not result in elevated risk of fugitive gas emissions.

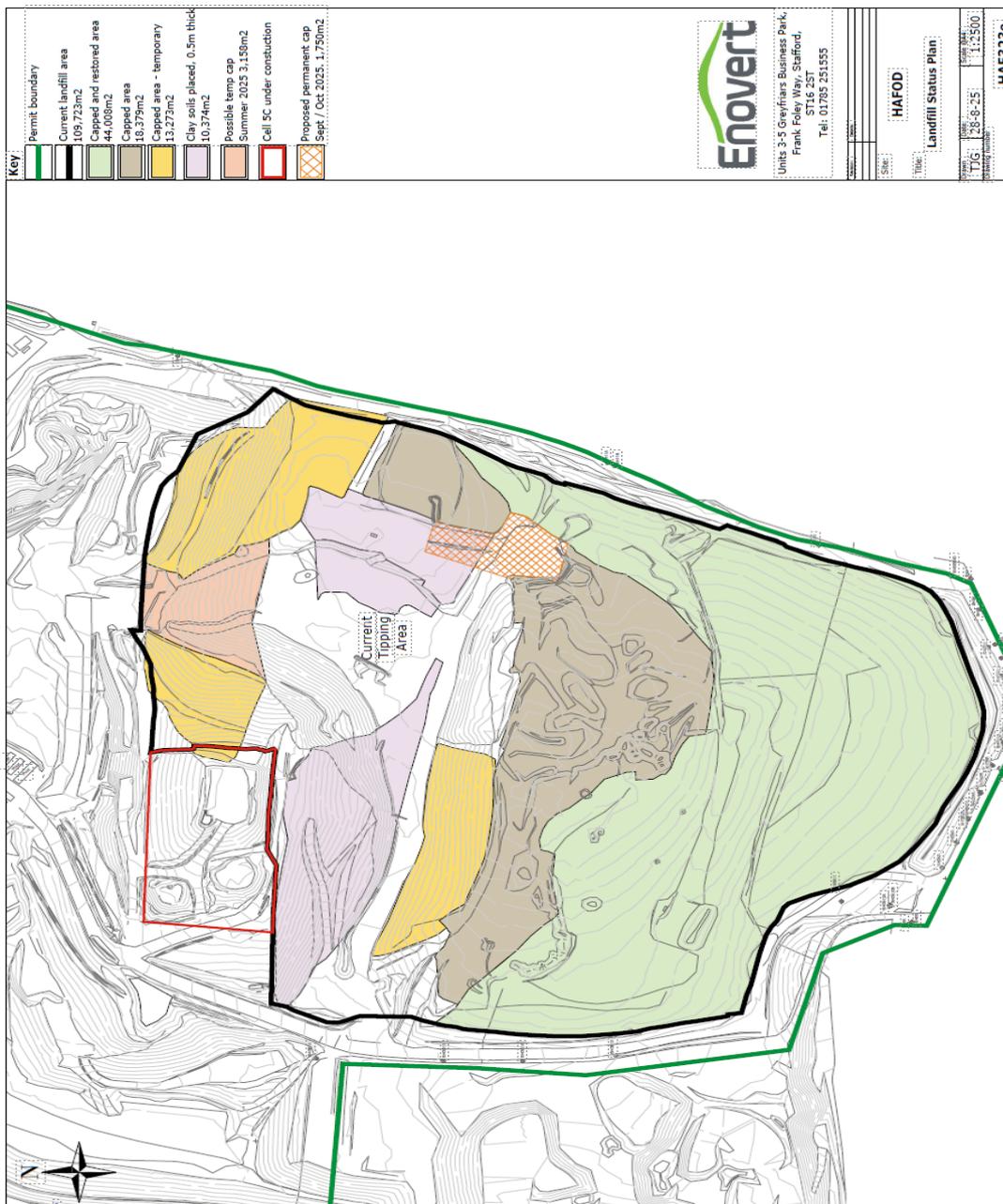
The graphs display landfill gas volumes abstracted from Hafod landfill site between 01/11/23 and 28/08/25. Gas is extracted using a vacuum pump (gas plant), measured in m<sup>3</sup>/hr with suction in millibars (mb). The gas plant can supply both flare and gas engines simultaneously, maintaining an average gas flow of about 925m<sup>3</sup>/hr and a steady site suction of around -80mb. Despite engine repairs and replacements, gas abstraction and vacuum levels have remained consistent, demonstrating stable gasfield control throughout varying operational conditions.





## 6. Temporary capping of landfill cells that fail to contain odours.

It is good industry practice to provide temporary capping and Enovert has committed to a routine schedule of installation. A combination of the different types of temporary capping system have been installed appropriate to the areas on which they are deployed and accounting for methods of installation – steeper slopes being covered with fully welded plastic membrane and flatter areas with compacted clay. In addition to temporary capping Enovert have maintained a programme of permanent capping works (1m of engineered clay). The Site Status Plan below shows the extent of the capped areas and the operational area where waste is deposited which is being maintained as a small discrete working area.



Once capping is installed it is necessary to periodically survey the cap to assess its performance. Emission points can occur, particularly on areas of temporary cap, where it ties into the operational landfill (i.e. into waste where the leading edge of the capping advances behind the waste deposit). Similarly, gas and leachate well infrastructure must be brought up through the cap. Sealing around protrusions is an area for assessment post construction and periodically as the waste mass settles around the structure.

Both Enovert and NRW have undertaken surface emission surveys at Hafod on the temporary and permanent capping and around surface penetrating structures. The surveys identified areas, around the tie-in detail and some protrusions where Enovert then undertook further works to improve sealing and these repairs themselves were then subjected to further survey.

A typical repair involves the placement of additional clay to improve sealing or in difficult to seal areas use of bentonite (a naturally occurring clay product that once hydrated provides a seal) or use of a “boot” on plastic capping and as can be seen in the images below. Sealing in this way enables us to pull, under vacuum, as hard as is possible on the gas system to capture as much landfill gas as possible. The capping installed at site is performing as designed - minimising surface emissions, preventing ingress of rainfall (reducing leachate generation) and providing a seal against which we can pull to abstract landfill gas.





## 7. Persistent leaks from multiple area of the site.

It is not possible to completely cap the whole site as some operational areas for waste disposal must remain open to facilitate infilling with waste. Enovert do install temporary horizontal gas abstraction pipework in these areas, to collect landfill gas as soon as its generated, but open operating areas can experience surface emissions on outer flanks and around surface penetrations such as leachate wells.

In addition to temporary capping (as discussed above) we do apply thicker layers of waste soils and clays, low permeability materials, to act as intermediate cover allowing us to maintain as high a vacuum as possible across these areas of site. As soon as the waste depth is deep enough ( $\geq 10\text{m}$  to ensure drilling does not compromise the basal/sidewall lining systems) to support the drilling of deep vertical gas abstraction wells we drill the area and install further temporary abstraction. These works are planning and scheduled in advance by Enovert, and we are proactive in extending the abstraction system and operating it to recover as much landfill gas fuel as possible.

While industry guidance and the environmental permit do not technically require assessment of surface emissions on the operational areas, we have worked with NRW to undertaken routine survey and inspection across all areas. However, we recognise that such areas may from time-to-time experience surface emissions and where possible have installed additional abstraction or capping infrastructure to increase gas capture rates as far as is practical. The site exceeds the industry standard gas capture rate (85% of the theoretical gas production rate as modelled by Gassim) with Enovert undertaking additional works and specialised surveys to ensure we are at the forefront of landfill emissions reduction and gas capture technology.

#### 8. Delays in infrastructure upgrades, leaving the site vulnerable to excessive emissions.

Enovert have not deliberately delayed installation of any infrastructure critical to the control of landfill gas or environmental engineering infrastructure. Some works are weather dependant - such as capping with plastic on steep slopes which for genuine reasons of safety cannot be undertaken in wet weather. Any such weather delay has however been minimal and the rate at which works at the site have been completed has not left the site vulnerable to fugitive gas emissions as evidenced by the gas capture rate detail in the graphs above. The site has remained under abstraction, collected gas has been consistently managed via a combination of engines or flare, planned works and those agreed in action plans with NRW have been completed and as these works have been completed, we have seen a reduction in the level of odour complaints.

#### 9. In May 2020, a substantial fire broke out, burning for several days and producing thick black smoke. NRW recorded air pollution levels 14 times above the permitted level.

This is accurate and refers to a fire that occurred at the site over five years ago in May 2020. It was an unforeseen event following which Enovert offered a public apology at the time. The source of the fire was thought to be a lithium battery deposited within a load of waste delivered to site. Delays with initially getting fire-fighting water to the location of the fire allowed it to spread, increasing the scale of the incident and the time then taken to bring it under control.

The risk of fire from such sources of ignition is not specific to Hafod or landfill sites as waste disposal facilities, but one that impacts the whole of the waste sector. Small electronic devices i.e. discarded fire alarms, vapes or similar devices containing lithium batteries can be incorrectly deposited in domestic and commercial waste streams. As a result there is an increasing trend of fires in waste facilities caused by lithium batteries see (<https://www.materialfocus.org.uk/?press-releases=over-1200-battery-fires-in-bin-lorries-and-waste-sites-across-the-uk-in-last-year>).

Following the fire at Hafod in 2020, Enovert implemented additional fire precaution measures to prevent and minimise the impact should a fire reoccur. These measures included:

- Contacting all customers to highlight the issue of batteries within waste and to request additional pre-disposal inspection.
- Training of Enovert staff on additional waste inspection regimes, fire prevention and fighting measures.
- Liaison with the local fire service reference selection of appropriately specified site based firefighting equipment.
- Installation of a pumped rising main to provide firefighting water around the site in the event of fire.

- Purchase of ground monitoring firefighting equipment held at site and capable of rapid deployment.
- Engagement with industry bodies, for example Environmental Services Association of which Enovert are a member organisation; to support initiatives and legislative and policy change to reduce fire risk across the waste management sector.

## Waste Arisings

The Hafod site is permitted to accept a range of non-hazardous biodegradable wastes. There is no restriction in the permit or planning consent that limits inputs to a certain geography. The decreasing number of permitted landfill sites both local and nationally means some wastes now travel further to find suitable authorised disposal facilities. Based on the last full year of data (Jan 2024 to Dec 2024) which was a typical year for the Hafod site waste inputs were as follows:

Inputs from Merseyside are predominately from commercial and industrial sources but does include waste diverted, during periods of planned/unplanned outage, from Waste to Energy plants comprising residual or black bag waste which equates to just 10% of the site's annual inputs.

Hafod Landfill Inputs by Region

Merseyside	28%
Wrexham	25%
Cheshire	11%
Gwynedd	8%
Shropshire	7%
Flintshire	5%
Denbighshire	4%
Lancashire	4%
Greater Manchester	3%
Powys	1%
England other	1%
Anglesey	<1%

Ceredigion	<1%
Conwy	<1%
Wales other	<1%

### **Landfill Disposals Tax & Landfill Disposals Tax Communities Scheme**

Landfill Disposals Tax (Landfill Tax in England) is payable on each tonne of waste deposited in the Hafod site and Enovert act as tax collector in that regard.

The Landfill Disposals Tax Communities Scheme (**LDTCS**) will fund projects within five miles of certain waste transfer stations or landfill sites. Eligible sites are those that reported sending more than 2000 tonnes to landfill in the reporting year and Hafod is one such site. The type of projects that can be funded by LDTCS are:

**Biodiversity** – create resilient ecological networks for the benefit of a range of habitats and species:

- Improve conditions to help native species, pollinators and provide opportunities for new planting
- Restore, maintain and enhance natural habitats
- Engage and support participation and understanding to embed biodiversity

**Waste minimisation and the diversion of waste from landfill** – promote awareness and best practice to reduce the amount of waste produced:

- Encourage prevention, re-use, recovery and recycling of waste
- Reduce food waste and support initiatives such as composting
- Engage and support understanding to enable waste to be seen as a resource

**Wider environmental enhancements** – bring wider community benefit through improving quality of place:

- Create community green spaces and support green infrastructure
- Bring neglected and run-down areas back into community use
- Maintain or improve community facilities, for example community halls

The scheme will provide local projects with main grants of between £5000 - £49,000 and “nationally significant” projects with a value between £50,000 - £250,000. Funding is awarded in funding rounds and a detailed review of funding undertaken by Welsh

Government in 2022 (A Review of the Landfill Disposals Tax Communities Scheme – Social Research Number 38/2022) shows granted totalling £600,000 were made in the Wrexham area for rounds 1-10.

Historically, prior to the Landfill Tax being devolved to Welsh Government in 2017 funding was instead awarded under the Landfill Tax Communities Fund Scheme. Between 2009 and 2017 the Enovert Community Trust was able to grant around £1.4 Million of community funds to projects local to the Hafod site.