S. 37

File With _____

SECTION 131 FORM

Appeal NO:_ABP 322098

Defer Re O/H

☐

TO:SEO

Having considered the contents of the submission ~~dated~~/ received 11/4/25

from

An Taisce I recommend that section 131 of the Planning and Development Act, 2000

~~be~~/not be invoked at this stage for the following reason(s):.. No new issues

E.O.: _____ Date: 23/4/25

To EO:_____

Section 131 not to be invoked at this stage. ☐

Section 131 to be invoked – allow 2/4 weeks for reply. ☐

S.E.O.:_____ Date:_____

S.A.O:_____ Date:_____

M _____

Please prepare BP _____ - Section 131 notice enclosing a copy of the attached submission

to: _____ Task No: _____

Allow 2/3/4weeks – BP_____

EO: _____ Date: _____

AA: _____ Date: _____

S. 37

File With _____

CORRESPONDENCE FORM

Appeal No: ABP 322098

M _____

Please treat correspondence received on 11/4/25 **as follows:**

1. Update database with new agent for Applicant/Appellant _____	
2. Acknowledge with BP 41	1. RETURN TO SENDER with BP _____
3. Keep copy of Board's Letter ☐	2. Keep Envelope: ☐
	3. Keep Copy of Board's letter ☐

Amendments/Comments
Obs Tausc
LID 15/11
LDG -

4. Attach to file (a) R/S ☐ (d) Screening ☐ (b) GIS Processing ☐ (e) Inspectorate ☐ (c) Processing ☐	RETURN TO EO ☐

	Plans Date Stamped ☐ Date Stamped Filled in ☐
EO:	AA: Lauren Murphy
Date: 22/4/25	Date: 23-04-25

Validation Checklist

Lodgement Number : **LDG-079388-25**
Case Number: **ABP-322098-25**
Customer: **~An Taisce**
Lodgement Date: **11/04/2025 09:18:00**
Validation Officer: **James Sweeney**
PA Name: **Fingal County Council**
PA Reg Ref: **F24A/1162E**
Case Type: **Normal Planning Appeal PDA2000**
Lodgement Type: **Observation / Submission**

An Bord Pleanála

Validation Checklist	Value
Confirm Classification	Confirmed - Correct
Confirm ABP Case Link	Confirmed-Correct
Fee/Payment	Valid – Correct
Name and Address available	Yes
Agent Name and Address available (if engaged)	Not Applicable
Subject Matter available	Yes
Grounds	Yes
Sufficient Fee Received	Yes
Received On time	Yes
Eligible to make lodgement	Yes
Completeness Check of Documentation	Yes

BP41

Run at: 17/04/2025 09:54

Run by: James Sweeney

Saves

Laura Grady Lawlor

From:	Bord
Sent:	Friday 11 April 2025 14:40
To:	Appeals2
Subject:	FW: Ref. 322098
Attachments:	20250411-ABP-322098.pdf

From: Sean O'Callaghan <socallaghan@antaisce.org>
Sent: Friday, April 11, 2025 2:37 PM
To: Bord <bord@pleanala.ie>
Subject: Ref. 322098

A Chara,

Please find enclosed An Taisce's observation on the above appeal.

Is mise le meas,

Seán O'Callaghan
Planning and Environmental Policy Officer
An Taisce – The National Trust for Ireland
Email: socallaghan@antaisce.org
www.antaisce.org

An Taisce
The National Trust for Ireland
5 Foster Place
Dublin 2, Ireland
D02 V0P9

20250411-ABP-322098

An Bord Pleanála,
64 Marlborough Street,
Rotunda,
Dublin 1,
D01 V902.

Sent by email to: bord@pleanala.ie

11th April 2025

Ref: 322098

App: County Crest ULC

For: The development of an Anaerobic Digestion (AD) Facility to produce a renewable biomethane gas for direct injection into the national gas grid on a site of circa 7.28 hectares at the townland of Collinstown, Lusk, Co Dublin. The development comprises of AD tanks and processing equipment, feedstock storage facilities and equipment, silage storage clamps, digestate management and storage facilities. Carbon dioxide from the production of this biomethane will be captured for reuse in the Irish food industry.

Site: Country Crest, Collinstown, Lusk, Co. Dublin

A Chara,

An Taisce would like to make the following observations on the above appeal.

The planning documents for the subject application characterise the proposal as a facility producing "renewable" biomethane. Without detailed assessment of any given biogas proposal, biomethane cannot be automatically labelled as a renewable gas or be assumed to contribute to climate mitigation due to the environmental risks associated with fugitive methane losses, the use of chemical fertiliser to produce silage and the ammonia emissions which can result from applying the by-product of the anaerobic digestion (AD) process, namely digestate, as fertiliser. Furthermore, the feedstock provision for facilities of this nature raise serious land-use concerns, especially when considered cumulatively. Therefore, we submit that these key areas require detailed assessment in relation to the subject application.

Feedstock

This application is for a biogas facility to process 62,110 tonnes per annum of biodegradable feedstock in the form of poultry litter, cattle manure, agri-food waste, crop-based feedstocks, WWTP sludge and grass silage. It must be determined that proposed feedstocks are sustainable in the first instance and that their production will not exacerbate ongoing issues with greenhouse gas emissions, water quality deterioration, etc. The emissions that contribute to the production of feedstocks must be considered as indirect impacts

of the proposal as they can significantly negatively impact biomethane's overall contribution to climat mitigation. As producing sustainable energy is a key justification used by the applicant in this case, assessing the indirect impacts of the feedstocks is crucial.

We note that the largest share of process input material will be derived from grass silage (24/500 tonnes per annum), as per the Climate section of the EIAR (p.116). AD predicated on increased grass or energy crop production has the potential for significant adverse impacts to climate and water quality as a result of the increased levels of chemical fertiliser input needed to grow the energy crops. We would highlight that clarification on the proportion of grass silage to be mixed with slurry and other feedstocks is important, due to the higher global warming potential associated with high silage mixes. For example, as outlined by the EPA in Chapter 4: Future Energy Choice by Technology in Volume 2 of their Climate Change Assessment[1]:

"However, considering that biogas is itself CH4 , it is thus crucial that CH4 emission leakage is monitored. Beausang et al. (2021), assessing different mixes of slurry and grass silage digestion, highlight that the GHG emissions saving potential is highest with high proportions of slurry and low proportions of grass. They found that high shares (80%) of grass silage resulted in net positive global warming potential due to the emissions incurred from using fertiliser to provide additional grass silage for this mix." (p. 83).

The cited study above is important when assessing the subject application and the potential environmental impacts of co-digesting slurry and manure with energy crops such as silage.

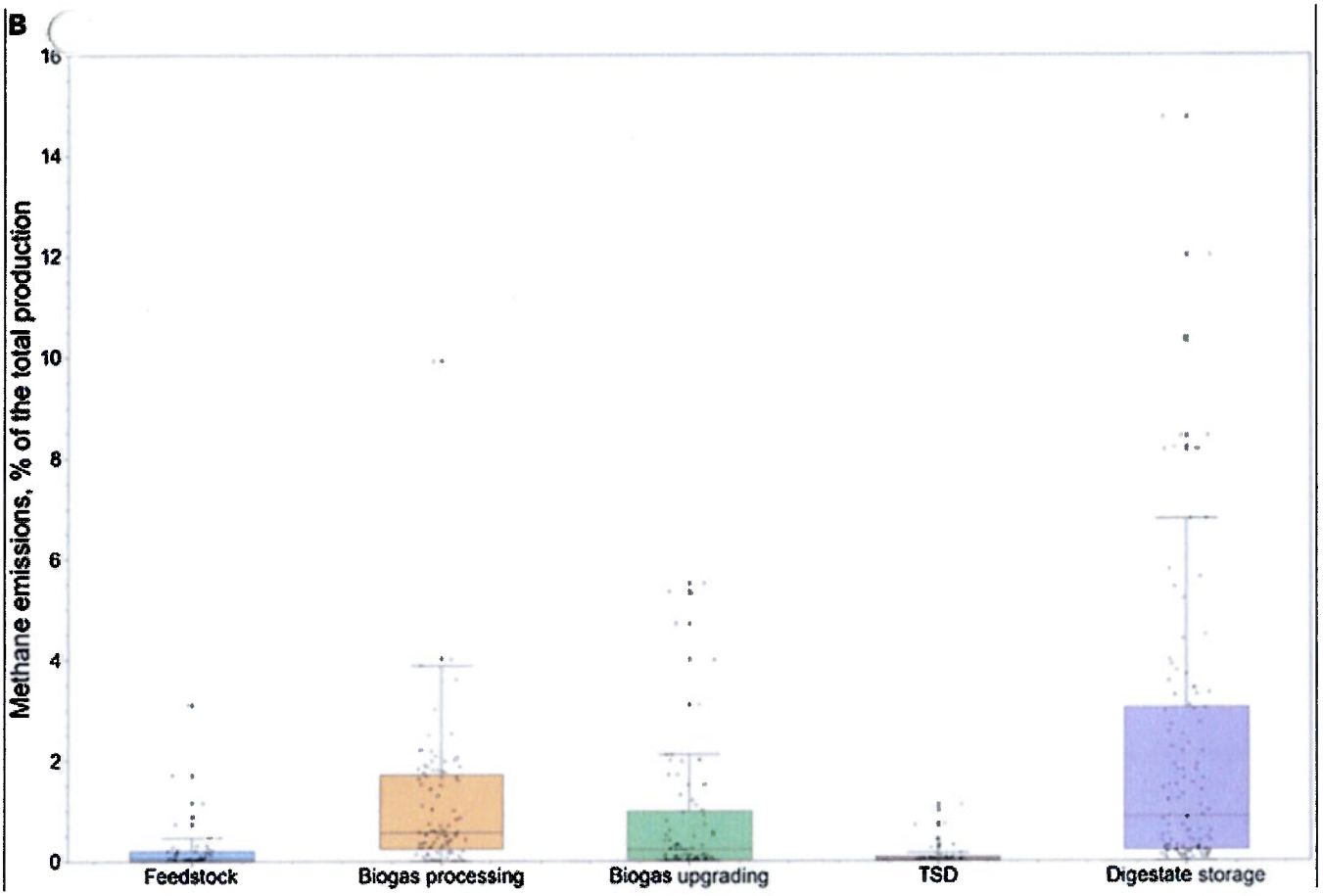
Furthermore, energy crop production to facilitate the AD biomethane process has implications for extensive land use for growing these crops. With regard to the use of slurry, intensive cattle farming is also a major emitter of greenhouse gases. Any use of slurry for bioenergy production should not be reliant upon or drive further bovine agriculture intensification which would have implications for increased methane emissions and water quality impacts. This would hinder our ability to achieve legally binding climate commitments.

Fugitive Methane Emissions

An Taisce would highlight that scientifically reported field assessments show that anaerobic digesters suffer from significant fugitive emissions problems via methane leaks. The effect of the leakage of this potent greenhouse gas may greatly reduce or even negate the potential climate benefits of using biogas in place of fossil fuels.

A study by Bakkaloglu *et al* (2022) highlights that methane losses in the biomethane and biogas supply chain exceed those in oil and natural gas and must be mitigated against to adhere to climate obligation and limit global heating, *"Methane emissions could be more than double what has been previously estimated, according to the aforementioned study, with the digestate stage responsible for the majority of methane released. To realise the climate benefits of biomethane and biogas production, effective methane-mitigation strategies must be designed and deployed at each supply chain stage."* Ther graph below illustrates the proportion of each stage of the biomethane production process which contributes to methane emissions.

[1] https://www.epa.ie/publications/monitoring--assessment/climate-change/ICCA_Volume-2.pdf



Graph from Bakkaloglu et al (2022)

A highly relevant peer-reviewed journal paper by Scott et al. on 'The Role of Anaerobic Digestion in Reducing Dairy Farm Greenhouse Gas Emissions'[2] uses standard climate accounting to assess AD biomethane from different dairy farm system options in Northern Ireland. Crucially, the study finds that small fugitive methane loss rates 'can wipe out any advantage' of AD biomethane production.

Expert testimony to the Joint Oireachtas Committee on Environment and Climate Action highlighted the need to address the issue of fugitive methane losses, stating that "*As methane loss may be the largest contributor to the carbon footprint of biogas production it would be important that biogas plants in Ireland monitor, report and address methane losses*".[4]

Scientific assessments of AD biomethane repeatedly stress the importance of fugitive methane losses in leakage from AD plant infrastructure, open digestate storage and from digestate spreading that can cancel out much of the claimed climate benefits. Recent field measurements of multiple operational AD plants – in

[2] Scott, A. and Blanchard, R., 2021. The Role of Anaerobic Digestion in Reducing Dairy Farm Greenhouse Gas Emissions. Sustainability, 13(5), 2612. https://www.mdpi.com/2071-1050/13/5/2612

the UK[3], by the Danish Energy Agency[4], in addition to another study focusing on Denmark[5] and Be[illegible]m[6], confirm that unsustainable levels of AD and digestate methane losses are common.

The observed average and upper rates are well above the base rate of 0.6% and the maximum of 2% indicated by the Teagasc MACC (p. 120).[7] Teagasc states that "*an increase in fugitive methane from 0.6% to 2% would halve the mitigation potential of storage emissions as the fugitive emissions would increase from 37.5 tCO2e yr-1 to 125 tCO2e yr-1*", therefore if losses approached the field measurements indicating substantially higher average and high rates, this would likely wipe out much or all climate benefits of AD biomethane.

Regarding "Renewable Natural Gas" (RNG) – a common American industry term for AD biomethane – a journal article by Grubert[8] states that:

"RNG is not inherently climate friendly. Based on consideration of both the source of methane used to produce RNG and the likely alternative fate of that methane, and using reasonable assumptions about likely system methane leakage, it is unlikely that an RNG system could deliver GHG-negative, or even zero GHG, energy at scale. ...

Under some system leakage rates that have been observed for biogas systems (Liebetrau et al 2017, Scheutz and Fredenslund 2019), RNG might not even meet the less stringent threshold of outperforming Fossil Natural Gas from a GHG perspective. ...

This work shows that RNG needs to be carefully evaluated in the context of expected long-run system conditions before it is adopted as a component of a zero GHG energy system, particularly given its potential for methane leakage-related climate pollution."

In light of these considerations, it is submitted that the issue of fugitive emissions and their potential contribution to the climate impact of the subject proposal needs to be fully assessed. Sources of fugitive methane emissions include biomethane upgraders, digesters, digestate stores, feedstock reception buildings, gas distribution pipework, CHP exhausts, pasteurisation and pressure relief valves (PRVs). These require a clear articulation of monitoring and reporting protocols to address methane leakage at the proposed facility should permission be granted. For example, due to the potential for methane leaks to be emitted for an extended period of time, which could escape detection under a static monitoring system which might only monitor leaks once a year, more regular active monitoring and remediation should be embedded within the proposal.

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[3] Bakkaloglu, S., et. al., 2021. Quantification of methane emissions from UK biogas plants. Waste Management, 124 https://www.sciencedirect.com/science/article/pii/S0956053X21000167

[4] https://ens.dk/presse/ny-rapport-om-metantab-fra-danske-biogasanlaeg

[5] Scheutz, C. and Fredenslund, A.M., 2019. Total methane emission rates and losses from 23 biogas plants. Waste Management, 97. http://www.sciencedirect.com/science/article/pii/S0956053X19304842

[6] Vergote, T.L.I., et. al., 2020. Monitoring methane and nitrous oxide emissions from digestate storage following manure mono-digestion. Biosystems Engineering, 196. https://www.sciencedirect.com/science/article/pii/S1537511020301240

[7] MACC 2023, Teagasc. https://www.teagasc.ie/media/website/environment/climate-action/climate-centre/MACC-2023.pdf

[8] Grubert, E. 2020. At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates. Environmental Research Letters, 15, 084041. https://iopscience.iop.org/article/10.1088/1748-9326/ab9335/pdf

We would highlight a research paper from IEA Bioenergy which proposes fugitive methane emissions mitigation measures for biogas facilities.[9] This paper notes that *"Some of the potentially larger sources (CHP, PRV and large leaks) are dependent on operation and time and therefore need to be routinely monitored."* A list of reduction measures are outlined which should be carefully considered by the Board.

Of particular note are the recommendations with regard to gas management and the avoidance of PRV releases. A common theme is the need for continuous active monitoring of leakage potential at critical sources in the site i.e. leaks in seals, pressure relief vents, other vents, engine combustion stack, gas upgrade plants, flares and digestate transfer, filtration and storage. Similarly, Bakkaloglu *et al* (2021) *"strongly suggest that biogas plant emissions should be monitored on a daily basis to capture the emission and dispersion pattern due to site activities or meteorological variations on a diurnal, weekly and seasonal basis, and emission reduction should be achieved through better regulation".*[10] We advise that a stringent monitoring protocol is ensured by the Board when making its determination on the proposal.

Digestate and Biomethane Use

It is proposed that the digestate by-product of the AD facility (49,045 tonnes of liquid digestates and 9,342 tonnes of solid digestate) will be collected by *"registered contractors/farmers"*, however further detail is required as to the precise location of these end-uses to ensure the contribution of the proposal to the local rural economy. This issue was highlighted in Fingal County Council's Chief Executive report which recommended refusal, partly based on the raw material for the process not being linked to rural activity due to being sourced from Louth and Monaghan.

We submit that a similar assessment of the end-use of the digestate is required to ensure local application and to determine the extent to which local uses for the biomethane product have been considered, such as in nearby agricultural sites. Otherwise, the proposal risks exacerbating fossil gas lock-in in the medium to long-term by solely seeking to inject biomethane into the centralised gas grid which would mix with existing natural gas, while perpetuating fossil gas infrastructure. This is incompatible with out emissions reduction legal obligations and supporting policies. Furthermore, this could lead to significantly higher system costs and grid tariffs, while raising the risk of stranded assets. It is submitted that seeking local off-grid industrial uses is required as a preferable option, provided it is used for electricity generation and is not mixed with fossil gas.

With regard to the environmental impacts of digestate usage, excess ammonia emissions from digestate spreading can find their way back into soils and waterbodies in the form of gas or as ammonium in precipitation.[11] This can be highly detrimental to aquatic ecosystems by causing eutrophication due to excess nutrient deposition and the proliferation of algal blooms within the waterbody. This stifles the levels of oxygen and sunlight available to aquatic species and devastates biodiversity. Ammonia deposition can also enrich naturally nutrient poor habitats such as highly protected bogs and heaths, decimating the unique flora they maintain.[12] Consequently, it is particularly important to assess potential ammonia impacts arising from the proposed development on the surrounding receiving environment, particularly aquatic and wetland ecosystems.

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[9] Liebetrau et al. 2017. Methane emissions from biogas plants: Methods for measurement, results and effect on greenhouse gas balance of electricity provided. IEA Bioenergy. https://www.ieabioenergy.com/wp-content/uploads/2018/01/Methane-Emission_web_end_small.pdf

[10] Bakkaloglu, S., et. al., 2021. Quantification of methane emissions from UK biogas plants. Waste Management, 124 https://www.sciencedirect.com/science/article/pii/S0956053X21000167

[11] https://www.nnfcc.co.uk/files/mydocs/Ammonia%20I%20-%20AD%20and%20digestate%20management%20-%20October%202022.pdf

[12] Guthrie, S., et. al., 2018. The impact of ammonia emissions from agriculture on biodiversity. Rand Europe and the Royal Society. https://royalsociety.org/~/media/policy/projects/evidence-synthesis/Ammonia/Ammonia-report.pdf

Therefore, covering all digestate stores and using Low Emission Slurry Spreading (LESS) techniques when spreading digestate should be required, otherwise residual ammonia emissions can occur which would completely offset the benefits of reducing chemical fertiliser use. These indirect effects of ammonia emissions from digestate application should be fully assessed as indirect impacts.

We would again refer the Board to the research by Beausang et al.[13] which also looks at the potential impacts of digestate spreading in relation to various co-digestion mixes.

Traffic and Transport Assessment

We advise that the Board gives close consideration to the applicant's Traffic and Transport Assessment to ensure the absence of adverse traffic congestion impacts for the local community arising from the frequent transport of slurry and other AD inputs via large vehicles. We note that Fingal County Council's Transportation Planning Section expressed concerns regarding pedestrian safety arising from vehicle movements associated with the proposal, and they highlighted the omission of a Road Safety Audit.

Please acknowledge our submission and advise us of any decision made.

Is mise le meas,

Seán O'Callaghan
Planning Officer and Environmental Policy Officer
An Taisce – The National Trust for Ireland

[13] Beausang, C., McDonnell, K., Murphy, F., 2021. Assessing the environmental sustainability of grass silage and cattle slurry for biogas production. Journal of Cleaner Production 298, 126838 https://www.sciencedirect.com/science/article/pii/S095965262101057X?via%3Dihub