Committee for Agriculture, Environment and Rural Affairs
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From: Dr Janice Thompson, Clerk to the Committee for Agriculture, Environment and Rural Affairs

Date: 18 June 2026

Subject: Summary of the Anaerobic Digestion Stakeholder Event on 4 June 2026.

Background

1. The Agriculture, Environment and Rural Affairs Committee held a Stakeholder event on 4 June 2026 at the Stormont Hotel to allow Committee Members to hear from both the environmental, farming and bioenergy sectors, to inform future policy development and also its work evaluating the use of Anaerobic Digestors (AD).

2. The event aimed to bring together a range of stakeholders from agricultural, environmental, energy, academic, and government backgrounds to discuss the challenges and opportunities of the use of Anaerobic Digestors on farms and on an industrial scale.

The Event

3. The event was specifically designed to inform Committee members and to try to ensure that differing opinions could be discussed by stakeholders between themselves.

4. To this end, eight tables of stakeholders considered the challenges and opportunities that AD presents to the environment and agricultural sectors. The Assembly Engagement Team aimed for an equal split at each table

between those from environmental and farming sectors, along with a notetaker and, as far as possible, a Committee member at each table.

5. There were two discussion sessions. The first session gave time for each table to consider the main opportunities AD presents for the environment and farming sectors. The second session considered the main challenges presented by AD. To reflect the informal nature of the session, the event was not recorded and minutes were not taken, rather the focus was on facilitating discussion between stakeholders and Committee members to allow them to hear as wide a range of views as possible.

6. Whilst these notes are, by definition, a snapshot of points raised, they are written to cover the main talking points. The varying length of notes taken at different tables does not reflect the level of communication or debate at the tables.

7. The Chair welcomed attendees to the event and advised that it was an opportunity to gather opinions and views on Anaerobic Digestion.

8. The Committee Clerk then gave a brief overview of the role of the Committee and of Anaerobic Digestion and provided attendees with an explanation of how the roundtable discussion would be facilitated and the potential next steps.

9. After the two sessions, The Chair facilitated a feedback session, and each table highlighted its main discussion points. The following is a summary of that feedback including opportunities, including direct and indirect benefits, and challenges highlighted. The fuller notes taken at the individual tables can be found at **Annex A**.

The Opportunities highlighted included the following:

- Decarbonisation;
- Lowering ammonia admissions;
- Nutrient security and nutrient management:
    - Circularity of nutrients;
    - managing the digestate – the concentrated nutrient output from an AD then needs to be managed; and
    - managing water, soil, and air quality;
- Centralised processing of animal waste;
- Income generation and new economies across Northern Ireland;
- Sovereignty opportunities regarding increasing our energy security for electricity and gas (biogas);
- Production of carbon dioxide (co-product of biomethane production) needed by the various industries and is currently mostly imported;
- Valorising the materials involved – animal waste, feedstocks, digestate etc.
- The need to put in place good regulation and governance.

The Challenges highlighted included the following:

- Cannot solve all the issues all at once;
- Slow progress to date – a similar roundtable was held over two decades ago;
- Appropriate regulation and governance;
- Holistic approach - cannot look at AD in isolation from carbon-targets, wider carbon services etc.
- Understanding of cross-industry and cross-departmental matters;
- Understanding the economics around AD and what is the appropriate size of the AD sector in Northern Ireland;
- Public perception of AD, for example, re-branding to 'biorefineries;'
- Scale-up will be needed – this has not yet been achieved in Northern Ireland;
- Planning barriers – expansion of existing and building of new plants;
- Common goals between environmentalists and farming community;
- Lack of valorisation to date of the environmental benefits;
- Processors need to be buying from farms 'doing things properly' in terms of AD;
- Feedstocks for AD plants – impact of growing 'food' for digestors; and
- Environmental legislation – production of biomethane will require 'weaving in' to environmental legislation.

10. The Committee is very grateful to the stakeholders who participated in what was a positive and constructive event and looks forward to future engagement.

Committee Clerk

Session One – Opportunities – Issues Per Table

Table One

Environment Sector:	Reduction of the Carbon Footprint;
	Less reliance on the use of Fossil Fuels;
	Amount of food waste in Northern Ireland (NI) could be used in AD;
	Climate change isn't just an NI issue; AD could help play its part; and
	Use of Bio-fuel in NI government vehicles.
Agriculture Sector:	Massive opportunities for growth in the AD sector – use of the heat to power homes;
	Help reduce NI dependence on oil and increase its use of natural gas;
	Could support food security; and
	Noted the success of government support for wind farms – same could be given to AD development.

Table Two

Environment Sector:	AD is a main technology to support environmental sustainability and climate targets;
	Renewable Energy Production and strengthens energy security;
	Waste Reduction and Circular Economy - AD is a cornerstone of the circular economy;
	Nutrient Management and Pollution Reduction - AD helps manage nutrient surpluses, particularly in regions with intensive agriculture; and
	Job Creation and Rural Development- Expansion of AD infrastructure could create thousands of green jobs across the UK.

Agriculture Sector:	Opportunities for Nutrient Recycling and Soil Health; Farm Income Diversification- generating multiple revenue streams, such as the sale of biomethane; Electricity generation and Carbon credits, reducing reliance on imported fossil fuels; Improved Waste Management - farms can process organic waste reducing Storage issues; Contributes to Food Security; and Export and Economic Growth Opportunities - farmers have the potential to export digestate products and recovered nutrients NI could develop a phosphate export market.

Table Three:

Environment Sector:	Learning from experiences here (90 ADs already in place) and improved resource management; Energy policy benefitting / sustainability "devalorisation – decarbonisation; and Centralisation vs On-Farm ADs (both have benefits).
Agriculture Sector:	Opportunities for Resource recovery and digestate management; and The creation of a high value product.

Table Four

Environment Sector:	Improving soil quality by reducing nutrient loading; Improving water quality by reducing nutrient loading; Improving air quality by reducing ammonia levels and impacts;

Conversation focused on the issues above and the need to maximise mutual benefits for environment and agri-food;

Frustration at agri-food and environmental opportunities and challenges being dealt with separately – they co-exist;

AD gives us a real opportunity to reduce chemical fertiliser dependency and move to sustainable alternatives – enhances food and energy security – a very real example of circular economy; and

Decarbonisation of energy is a key government target – AD can assist in delivery.

Agriculture Sector:

Enhancing viability of sector – reducing costs and generating income;

Wider societal/economic sustainability – circular economy outworking;

Specific food and energy security benefits – agri-food delivering for all of society in NI;

AD and its sustainable credentials could be used by the sector to promote local agri-food in a more positive light – potential for export growth and local product differentiation to consumers;

Has potential for major water quality improvements – impacts on water have been a key challenge for the sector;

AD could reduce nutrient pressures to maintain current size of agri-food sector and enable further growth;

Valorisation of waste and potential for new products/processes – the technology continues to develop; and

Biogenic CO_2 is a key area for growth given CO2 shortages across wider economy over recent years.

Table Five

Environment Sector:	General point made and agreed that the two sectors Environmental and Agricultural should not be separated - inextricably linked; Improved water quality- Northern Ireland Water does not have the money to tackle the water problems affecting Northern Ireland; More strategic nutrient usage. Done properly, this can help reduce usage of a finite material which is under pressure. Can support the retention of wealth locally, rather in offshoring money which is spent on importing fertiliser; and Can support replacement from fossil fuel usage. This can reduce greenhouse gas emissions. If fertiliser is produced locally this can reduce the amount required to be imported, which can support reduction in greenhouse gas emissions in transporting material.
Agriculture Sector:	General cost savings for agriculture industry. It can reduce bills and reduce sanctions against farmers by supporting improved compliance with regulations; Industry could work with DAERA to develop policy on an on-going basis, rather than DAERA producing a policy and then requiring the sector to adapt to it. This adaptable approach could see what works and what does not, this would make better policy. Could help provide better incentives/government support to agriculture sector; More accurate application of nutrients. Better for yields - saves money/costs. Nutrients can be used in Northern Ireland, but excess production can be sold to other locations (e.g., South of England or mainland Europe). This would be a high quality (premium) product that would be valuable and make money; and

	Bio-methane can be produced at scale. Bio-methane at scale would produce CO_2 which could be used for air fuel.

Table Six.

Environment Sector:	Reduction in nutrient application with lower phosphorus run off and a reduction in emissions leading to improvement to water quality; Decarbonisation of energy and less reliance on fossil fuels helping to slow down global warming; Reduction in methane pollution, and reduction in the importation fertiliser; and Creating greater energy security through the reduction of the importation of gas.
Agriculture Sector:	Help to improve the sustainability of farming and the agri food sector; Creation of a saleable commodity via efficient waste management which in turn can help reduce harmful emissions; and Production of biomethane through AD provides a commercial opportunity and can lead to greater diversification away from traditional farming activities, generating another potential income stream.

Table Seven

Environment Sector:	Opportunity to provide incentives to bring about behavioural change; AD can assist the drive towards decarbonisation; Opportunity for the local economy to grow and provide localised fuel- cutting down on carbon footprint through reduced transport costs; and Positive impact on the circular economy.
Agriculture Sector:	Proposals will help to achieve long term food security;

Opportunity to generate an alternative and sustainable income stream; and

Can help to create a balance between agriculture and the environment.

Table Eight

Environment Sector:

Can help reduce greenhouse gas emissions to meet climate targets and environmental responsibility;

Producing renewable energy from food and farm waste - producing a richer bio product; and

Improves nutrient management leading to improved water quality and more focused application where required.

Agriculture Sector:

Increase energy and food security but a balance is needed as don't want energy and farm competing against each other;

Getting waste off farm and creating a balance of nutrients; and

Small plants (80-250KWH) have greater opportunities for dairy and beef and will make planning easier as less local objection.

Session Two – Challenges – Issues Per Table

Table One

Environment Sector:

Planning is a major issue in NI with some AD applications taking over 6 years;

Either support AD now or let's forget about it and try something else;

There is a need for a replacement Renewable Obligation Certificate trading scheme; and

The Gas network is not widespread across NI to power AD.

Agriculture Sector:	There is no government support – scared to try anything after RHI; There needs to be a roadmap from Government – what is the plan for Net Zero? Good land shouldn't be used for AD fuel; and The biggest challenge is making AD cost effective.

Table Two

Environment Sector:	Environmental Governance Systems **-** existing regulatory frameworks may not be fully aligned with AD deployment. The complex compliance requirements can slow progress. Ensuring consistent monitoring and enforcement remains a key challenge; Lack of Joined-Up Government Approach - fragmentation between government departments and committees leads to inefficiencies in policy implementation and conflicting objectives (e.g. energy vs biodiversity goals); Ensuring Environmentally Sustainable Growth **-** the expansion of AD must not lead to increased pollution and Habitat degradation. The Environmental impacts must demonstrate a downward trend over time to remain acceptable; Nutrient and Emission Risks – improper handling of digestate can lead to phosphorus runoff and water pollution. The Ammonia emissions remain a significant concern if not properly treated; Certification and Monitoring Requirements - there is a need for certification of digestate quality (particularly liquid fractions), along with monitoring systems to ensure safe application and transport; and Planning and Community Impact - public resistance to AD plants due to visual and odour concerns, perceived and

environmental risks. Additionally, there are location-specific restrictions, especially in sensitive or rural areas.

Agriculture Sector:

Planning System Restrictions - strict planning regulations can delay or prevent AD plant development and require strong justification for approval;

Conflicts may arise with environmental protections (e.g. habitat regulations);

Lack of Policy Certainty - uncertainty around subsidies, carbon pricing and biomethane incentives. This discourages investment in AD infrastructure;

Government Coordination Issues **-** poor alignment across departments results in confusing guidance and delayed decision-making;

Ammonia Emissions and Leaching - digestate application can lead to ammonia volatilisation along with nutrient leaching into soil and waterways. While mitigation technologies exist, there are challenges such as cost and accessibility for farmers;

Variability in Farm Systems **-** unlike industrial AD systems, farms use variable feedstocks (slurry, crops, waste), therefore they have less control over input consistency. This complicates process optimisation and efficiency;

Infrastructure and Market Barriers **-** biomethane injection into the national grid requires centralised regulation and an overarching authority to manage supply and incentives. Carbon credit systems also require standardised measurement and governance;

Geographic and Social Constraints - rural and remote areas may face infrastructure limitations and community opposition to AD plants. Geographic factors also affect

transport/export costs and the carbon intensity of AD operations; and

Cost and Accessibility of Technology - Technologies for ammonia reduction or enhanced efficiency may be expensive and difficult for smaller farms to adopt.

Table Three:

Environment Sector:	Unsustainable food waste / nutrient management system;
	Cost of implementation and delivery and distorted markets; and
	Support / subsidies for farmers - what is the future? - funding food or energy.
Agriculture Sector:	Non-recovery of resources as no incentive / costings;
	Infrastructure funding issues and lack of expertise in the Department;
	Timelines of announcements impacting industry action; and
	Lack of joined up thinking between Departments.

Table Four

Environment Sector:	Digestate challenge – how to reduce storage risks; perception that big is bad in terms of AD plants and the environmental impact;
	Investment in AD must bring wide benefits – but environment needs to be a dedicated focus;
	Reality that many of our environmental sites are critically loaded with nitrogen – we need solutions;
	Is there Executive buy in for the environmental benefits of AD?
	There are still issues with digestate to land – is this a feature of all AD sites and digestate?

	What feedstocks to use in AD systems – use of silage is placing pressure on some habitats and impacting biodiversity; and Lack of a biogas support tariff is having a negative impact on AD investment.
Agriculture Sector:	Scale – centralised and large vs small and dispersed; Organisation and logistics – who does what to enable development; Investment in AD must have economic payback – not just environmental; Poultry sector citing Tully site as the way to go – large scale brings many benefits but requires investment. Does scale in AD site development for poultry sector work for other more dispersed and fragmented livestock sectors – this is a key question; and Development of the sector needs executive buying and support across areas like planning and energy policy.

Table Five

Environment Sector:	Requires a holistic approach. These issues should not be looked at in silos. Also raised was the lack of an Environmental Protection Agency in Northern Ireland. Individual areas around this topic are treated differently. These cover a number of government departments (specifically in relation to AD – why was DfE/Economy not represented at the event) other departments also e.g., Infrastructure; Unintended consequences of AD, environmental effects (CO_2 emissions from AD Plants). Pollution paradox – companies will use law, PR and Press to reduce regulations. CO_2 emissions for current AD plants need to be considered. Analysis needs to be done. Consideration of the unintended consequences of AD; and Some considered that AD would see ultimately a maximizing of energy production against the environment benefits. A perception of the policy being an energy production one over supporting the environment. Noted

	was a contract for benefit – working with government to define the benefit and then delivery the project at the lowest price.
Agriculture Sector:	A requirement for support to be targeted. Noted in this was the previous SATS programme and ROCs: Data is an opportunity and challenge. Data exists but is not being used effectively; Scaling up the infrastructure in Northern Ireland. There would there be a requirement to utilise the existing AD infrastructure – need for retrofitting and upgrades. Also noted was that current AD plants are not spread evenly across Northern Ireland; The issue of scaling up requires significant investment - uncertainty as to when the funding for such an investment will come; There is a feeling from some that the current AD approach is pre-determined; and There needs to be governance of AD plants and appropriate structures put in place to monitor aspects of the operations. Regulatory frameworks required. Current perception by some of unlawfulness around existing AD plants. Also issues around local communities “enraged” by current AD plants requires community support for new or expanding plants.

Table Six

Environment Sector:	Environmental governance has to be in place - greater regulation is needed to deal with enforcement issues as there is no chance of real success with the current level of governance; There is a perception issue which presents a PR challenge. It is too easy to place the blame on any one sector; Planning challenges with a need for a consistent local government approach; There is a need for clear resourcing and a balance struck between the economic and environmental outcomes;

	Need to ensure proper digestate management to minimise risk of pollution and to ensure it does not lead to air and water quality issues; and Larger scale AD operations may be easier to manage in terms of regulation.
Agriculture Sector:	Economic viability- larger AD plants would be more viable as opposed to small scale on farm operations; There is a danger that smaller scale operations may be ruled out due to viability; The planning process is already under pressure - and there is a need to address delays; and Uncertainly around the future development of AD and the potential risks involved may deter farmers from exploring the opportunity.

Table seven

Environment Sector:	Issues with compliance and it is viewed as a non-regulated area There is a lack of proper enforcement which appears to reward those who have not been compliant; The negative public perception is an issue with a need to educate on the potential benefits; There is a lack of knowledge how to access the market; Planning issues are a major concern; There is a need to scale up AD plants to make them a viable option - economies of scale; and Many view it as a waste product rather than as a nutrient product.
Agriculture Sector:	There is perception that AD will use up good land creating challenges around food security and sustainability; There is not enough of a financial incentive for farmers; The infrastructure also needs to be in place to move products;

	Environmental legislation is often viewed as a double edged sword - necessary but restrictive; and There is a need to rebrand AD to highlight its environmental credentials.

Table Eight

Environment Sector	The issue of dirty water and difficulties in how to reduce this (reed / willow beds); The creation of noise; odour and potential malfunction and its impact on the surrounding area; and Transport can lead to increase of carbon footprint.
Agriculture sector	Planning issues if there is no waste management license as it takes too long for NIEA to assess an application; and Payment matrix for gas purification - 40% more efficient to purify gas.