

Ireland's National Bioeconomy Action Plan

2023 - 2025

Gas Networks Ireland's Submission to the Public Consultation

23th January 2023



Introduction

Gas Networks Ireland (GNI) welcomes the opportunity to respond to the Department of the Environment, Climate and Communications' (DECC) Bioeconomy Action Plan Consultation and Discussion Document.

GNI operates and maintains Ireland's €2.7bn, 14,664 km national gas network, which is considered one of the safest and most modern renewables-ready gas networks in the world. Over 720,000 Irish homes and businesses trust Ireland's gas network to provide efficient and reliable energy to meet their heating, cooking, manufacturing and transport needs.

The gas network is the cornerstone of Ireland's energy system, securely supplying more than 30% of Ireland's total energy, including 40% of all heating and almost 50% of the country's electricity generation. GNI believe the gas network can play a similar role in helping to deliver Ireland's clean energy future, by safely and securely transporting renewable gases such as green hydrogen and biomethane. GNI is already supporting Ireland's journey to a cleaner energy future by beginning to replace natural gas with biomethane.

Biogas can be injected into the natural gas network when it has been upgraded to biomethane. Biomethane results from the purification of biogas to give it the same properties as natural gas. Biomethane can seamlessly replace natural gas on the network today and is fully compatible with existing appliances, technologies and vehicles. It can reduce emissions across key sectors of the economy including heating, industry, transport and power generation, while also supporting the decarbonisation of the agri-food sector.

The production of indigenous renewable gas in Ireland supports the circular economy and sustainable agriculture. As well as reducing on-farm emissions and supporting more sustainable supply chains, an indigenous biomethane industry can also provide significant opportunities for local communities from the sale of biomethane, feedstock used to produce the renewable gas, and a bio-fertiliser called digestate, that is a by-product of the process.

An indigenous biomethane industry is also crucial for enhancing the security and diversity of Ireland's energy supply, reducing our reliance on imported energy. The European Union's (EU) REPowerEU plan identifies biomethane as playing an important role in diversifying Europe's gas supplies and reducing the EU's dependence on Russian fossil fuel, while simultaneously reducing exposure to volatile natural gas prices.¹ The European Commission has also identified Ireland as having the highest potential for biomethane production per capita within the EU.²

Relatively small quantities of biomethane are already being produced in Ireland and injected into the national gas network. With ambition, biomethane can be developed at scale and can play a key role in Ireland's Carbon Budgets 1 & 2. GNI fully supports the Government's target of up to 5.7 TWh of indigenous biomethane by 2030 and will work with all stakeholders to help deliver this important element of our future clean energy system.

¹ https://energy.ec.europa.eu/topics/renewable-energy/bioenergy/biomethane_en

² https://energy.ec.europa.eu/system/files/2017-03/ce_delft_3g84_biogas_beyond_2020_final_report_0.pdf

Consultation Questions:

Question 1: Are you satisfied the outlined Pillars represent the structure of the Irish bioeconomy?

Not relevant to GNI.

Question 2: Are there specific key performance indicators and/or targets the bioeconomy should be setting out to achieve to measure its implementation?

- The Irish Government have set out ambitious targets for biomethane production in Ireland and fully support the European Union targets:
 - The agreement reached on sectoral emissions ceilings in Ireland commits additional resources for agri-forestry and anaerobic digestion (AD) (with a target of up to 5.7 TWh of biomethane).
 - Climate Action Plan (CAP) 2023 sets a target of 1 TWh of biomethane production by 2025 and the construction of up to 20 AD plants. The production of up to 5.7 TWh of biomethane by 2030 and the construction of up to 200 AD plants of scale.
 - In May 2022 the EU announced details of its REPowerEU Plan to reduce European dependence on Russian fossil fuels. The Plan has doubled the target for biomethane production in Europe, from 17bcm to 35bcm by 2030 (compared to the Fit for 55 target).
- GNI proposes that the National Bioeconomy Action Plan includes biomethane relate actions that reinforce and assist in reaching the biomethane production targets set out by Ireland in the sectoral emissions ceiling agreement and CAP 2023, and the EU in the REPowerEU Plan.
- In addition, given the critical role that gas plays in the Irish economy, as a minimum all gas shippers and gas transporters should report the volume and percentage of renewable gas they ship/transport each year. This may form part of the Government's planned Renewable Heat Obligation Scheme going forward.
- Available quantities of biomethane feedstocks should be measured and reported on annually.

Question 3: What other key issues should the Governance Pillar deal with?

- Identify the main economic, technical and regulatory barriers that biomethane producers and consumers are currently facing.
 - GNI has conducted several stakeholder events in the recent past and are happy to support DECC on this matter.
- Based on the barriers identified as being relevant, introduce policies and regulatory measures to address those barriers and enable a smooth and robust development of biomethane production and uptake.
- As Ireland is only one of three EU countries that has no support scheme specifically for biomethane, it should examine the support schemes utilised in other EU states and the

outcomes that have resulted from these supports. Denmark is an excellent example to look into where today close to 30% of the gas in its gas network is biomethane.

- Relevant EU funding available to Ireland for indigenous biomethane production should be sought to support the development of this sector.
- The National Bioeconomy Action Plan should complement and build on the following announcements and developments by Government and Government agencies.
 - CAP 2023 highlights the importance of renewable gases as a critical components for Ireland's energy ecosystem and reaffirms Government commitment to tripling its ambition for biomethane from CAP 2021, to now deliver up to 5.7 TWh by 2030 of indigenously produced biomethane.
 - CAP 2023 also announces that the Department of Agriculture, Food and the Marine and the Department of the Environment, Climate and Communications will establish a Biomethane Working Group to develop a National Biomethane Strategy.
 - Teagasc recently referenced biomethane as playing an important role in their published Climate Action Strategy. ([link](#))

Question 4: What key issues should the Research, Development & Innovation Pillar deal with?

- Examining how to accelerate Ireland's journey to a cleaner energy future using the full potential of indigenously produced biomethane in Ireland.
- Ensuring a comprehensive review is undertaken to determine what policy supports are needed to reach up to 5.7TWh of biomethane production in Ireland by 2030.
- Exploring how indigenously produced biomethane can most effectively enhance Ireland's energy security.
- Understanding the feedstock potential available for biomethane production at the national level; identify which feedstocks offer the largest untapped potential and map the availability of those feedstocks to derive spatially explicit estimates of the potential for biomethane production at a regional or local level.
- Valuable lessons can be learned from other countries who have already successfully established biomethane sectors at scale.

Question 5: How could the RD&I bioeconomy approach be best structured to support the enhancement, application and scaling-up of biological knowledge and bioeconomy solutions?

- GNI recommend the establishment (or adaption) of a National research centre for key bioeconomy areas. Modelling this centre upon the Marine & Renewable Energy Ireland (MaREI) in Cork is one approach that could be considered. GNI would be happy to support such an initiative.
- Establish a bioeconomy research centre of excellence in the following core pillars:

- Sustainable agriculture, feed and fertilizer;
- Sustainable marine & aquaculture technology;
- Sustainable forestry;
- Sustainable food.

Question 6: What key issues should the Nature, Climate & Circular Pillar deal with?

- By employing the AD process, food and farm wastes can be minimised and the production of biomethane and digestate from these wastes and other feedstocks contributes to the circular economy.
- Biomethane facilitates sustainable circular economies, with businesses having the opportunity to power their operations via renewable gas made from their own waste / agricultural feedstocks.
- As well as reducing on-farm emissions and supporting more sustainable supply chains, an indigenous biomethane industry can also provide significant opportunities for local communities, as well as diversification of income for farmers.

Question 7: What key issues concerning consumption patterns need to be examined to close the gap between sustainable supply of biological resources and demand?

- It would be beneficial to demonstrate that biomethane is not in competition with food production regarding land use etc. The opposite is the case, it's entirely complementary and can enhance / decarbonise food production via use of digestate (offsetting chemical fertilisers), carbon sequestration etc.
- The displacement of artificial fertilizer with digestate from biomethane should be examined with a view to developing a long-term plan to enhance the use of digestate.

Question 8: What key issues should the Agriculture, Food & the Marine Pillar deal with?

- The production of indigenous renewable gas in Ireland, not only provides a solution to emission reduction and security of energy supply, but also promotes sustainable growth in rural areas, providing significant benefits to the local agriculture sector and economy in the region.
- Maximising biomethane as a local, natural resource and how best to exploit the opportunity this presents for the agriculture sector should be one of the primary aims of this pillar.

Question 9: What key issues should the Communities Pillar deal with?

- Anaerobic digestion and biomethane provide an additional income stream for farmers and creates jobs in rural areas.

- Public acceptance of biomethane production in their locality through comprehensive and consistent stakeholder engagement planning and education.
- Local engagement at a very early stage with all potential stakeholders and participation in developing a clear plan as to how projects might progress and benefits shared would greatly simplify implementation of Bioeconomy initiatives.

Question 10: Are local and regional policies ensuring the consideration of bioeconomy opportunities are in scope, and are coordinated approaches on such services in place at regional assembly and local authority level?

- Any local and regional areas that have potential for biomethane production and digestate use should be incorporated into local authority development plans.
- The decarbonisation of heavy good vehicles needs to form part of all future local development and local authority plans, with renewable gas provided for in all future refuelling stations.

Question 11: What key issues should the Industry & Enterprise Pillar deal with?

- Certain industries which have high temperature or high intensity heat loads require renewable gas solutions. The Industry & Enterprise pillar needs to educate and support the adoption of suitable technology, including biomethane, as is more widely practiced in other EU states.
- Natural gas currently meets c. 40% of Ireland's heating requirements (including industrial and residential); by replacing natural gas with renewable gases such as biomethane, it will be possible to reduce emissions from these sectors, with low or no upfront costs and minimal actions required by end-users. The alternative (in order to decarbonise such energy users) is significant costs in terms of (for example) a conversion to electricity-based heating systems.
- To accelerate the uptake of carbon-neutral low temperature heating, the National Bioeconomy Action Plan should support the introduction of support scheme for biomethane.
- Compressed Natural Gas (CNG) technology provides a lower carbon alternative to diesel for public sector transport fleets and can significantly contribute to the recently agreed Sectoral Emissions Ceiling for transport, including helping drive the 5.7 TWh target set for biomethane.
- Renewable gas can be utilised by CNG vehicles as bioCNG, resulting in a significant reduction in transport emissions, improvements in air quality and promoting the circular economy.

Question 12: What lead market initiatives could support entrepreneurship, development, innovation and the commercialisation of bio-based products, processes, information, and services?

- Climate Action Plan 2023 confirms the government's plan to introduce a Renewable Heat Obligation Scheme (RHO) by 2024. A timely, well designed and ambitious RHO scheme can

contribute to the development of a biomethane industry in Ireland at scale. This needs to mirror schemes already in place which have supported the wind industry and solar sectors.

- An incentive mechanisms (e.g. feed-in tariffs) for production and injection of biomethane into the gas network similar to the support mechanisms used for renewable electricity would be the most effective approach – particularly at the development stage of the biomethane sector.
- Simplified and faster permitting for biomethane production plants.
- These points should all be reflected in the National Bioeconomy Action Plan and the National Strategy for Biomethane to be developed.

Question 13: Due to the requirement for capital and operational investment what innovations aimed at financing infrastructures and technical and economic evaluation of innovation are necessary to scale up the bioeconomy?

- Capital supports for the development of AD plants.
- Explore funding opportunities for biomethane under REPowerEU chapter as part of Ireland's Recovery and Resilience Plan.
- A funding mechanism which engages local communities in support of local renewable infrastructure development, e.g. through Community Credit Unions and Irish Strategic Investment Fund, could be developed which may reduce the feeling of alienation from infrastructure development in an area.

Question 14: What key issues should the Knowledge & Skills Pillar deal with?

- Renewable electricity technologies such as wind and solar are already included in the school syllabus. All new technologies that can drive long term sustainable solutions to decarbonisation should be included in secondary school science syllabus, such as biomethane production.
- A study of how planning infrastructure is undertaken in other counties, in particular where infrastructure can be delivered in shorter timeframes while still accommodating local community concerns.

Question 15: Can the regional skills and regional enterprise approaches better support bioeconomy development?

Not relevant to GNI.

Question 16: An important part of developing the bioeconomy is to determine the most appropriate practices, treatments, technologies, logistics and business models to valorise ecosystem services, primary and secondary biomass resources. What role do advisory systems play in addressing this challenge?

Not relevant to GNI.

Question 17: Are there any further Pillars/Issues which this Action Plan should address?

- Assess the future infrastructure requirements for biomethane integration into the gas network by comparing the current gas network infrastructure to the mapping of biomethane production potential. Facilitate collaboration between local authorities, national Transmission System Operators (TSOs) and Distribution System Operators (DSOs), as well as with national energy regulatory agencies.
- Mobilise sustainable feedstock supplies to reach biomethane production targets for 2030 and beyond. Facilitate access to sustainable feedstock for biomethane producers by coordinating and incentivising initiatives to increase awareness across key potential feedstock supply sectors.
- Rapidly scale up biomethane project development by developing a reliable supply chain (equipment, installation, project development). The supply chain needs to be able to foster the development of a skilled and qualified workforce that can support high quality installation, operation and maintenance of AD plants and biomethane upgrading sites.

Question 18: Indicate what the top five priorities for action in the bioeconomy over the next three years should be?

- Realising circular economy benefits can only be achieved with multi-sectoral engagement and policy support/provisions. Deliver a new support scheme for AD/biomethane setting out clear timelines and support mechanisms to deliver Ireland's new target of 5.7 TWh.
- Define biomethane production and consumption targets for the long-term out to 2050.
- Achieving biomethane targets requires establishing a consistent supportive regulatory framework across the entire biomethane value chain at European, National & Local levels.
- Simplified and faster permitting for biomethane production plants.
- Identify the main economic, technical and regulatory barriers that biomethane producers and consumers are currently facing. Based on the barriers identified as being relevant, introduce policies and regulatory measures to address those barriers and enable a smooth and robust development of biomethane production and uptake in Ireland.

Gas Networks Ireland supports the development of a strong and vibrant bioeconomy in Ireland, ensuring we make full use of our extensive indigenous biological resources in the most environmentally responsible way. A well-developed bioeconomy in Ireland, where biomethane plays a key role, can provide solutions for addressing climate change and reaching our decarbonisation targets, contribute to a secure and diversified energy supply, further the circular economy and provide local jobs and income, particularly in rural areas. The National Bioeconomy Action Plan can play a vital role in addressing challenges and opportunities identified for bioeconomy development in Ireland.