

VISION FOR RENEWABLE GAS IN IRELAND

REGATRACE / RGFI Collaboration and Participatory Workshops

Ireland has an ambitious vision to transform into a low carbon society and economy by 2050. While significant progress has been made to date in the decarbonisation of industrial energy and electricity generation, there is a recognition that more can, and must be done to address other areas such as heating and transport, which also generate significant volumes of greenhouse gases.

The Regatrace programme has been instrumental in the development of the vision for the renewable gas industry in Ireland through supporting collaboration, providing information and progressing work in line with the wider EU context. The Renewable Gas Forum is at the forefront of Ireland's advancement towards a new era of indigenous, sustainable energy and is the Ireland Regatrace co-ordination body.

In June 2021 RGFI welcomed over 30 delegates to the first Irish Regatrace workshop, co-hosted by Gas Networks Ireland. The workshop presented the EU framework for developing the European gas industry and related trade. It highlighted Gas Network Ireland's leading work to develop the Green Gas Certification Scheme – see below.

Over 60 delegates attended the 2nd Regatrace workshop “The vision for Biomethane in Ireland”, hosted by RGFI, held on 29 July 2021. The delegates ranged from government officials and academics to service providers and consultants. The workshop presented a collaborative vision for renewable gas in Ireland and described some important initiatives from industry collaboration and the agricultural perspective to urban schemes and community involvement.

The Regatrace workshops have provided the opportunity to highlight a number of projects and initiatives relevant to the vision for the renewable gas industry in Ireland, including

- the potential to develop urban hubs within area master plans, moving from oil to renewable gas of Sligo Local Gas Network,
- agricultural research from Teagasc and Devenish Nutrition on integrated farming solutions
- community empowerment, Community Power.
- Industry collaboration - Project Clover – see below

The related presentations can be found at

<https://www.renewablegasforum.com/collaboration-on-the-vision-for-renewable-gas-biomethane-as-rgfi-hosts-2nd-regatrace-workshop/>

There was overwhelming support for the shared vision that has been developed through Regatrace and wider initiatives:

“A consumer led, at scale, renewable gas industry

- *decarbonising difficult to decarbonise sectors ie the thermal demands of industry, and agriculture*
- *supporting sustainable, profitable agriculture and the circular rural economy*
- *supporting sustainable transport*
- *aligned with EU and national sustainability and climate action policies*
- *underwritten by charter “*

THE ROAD TO A RENEWABLE GAS INDUSTRY IN IRELAND

2018 Ervia / KPMG Plan for decarbonising domestic heating

In 2018 Ervia produced a plan for decarbonising domestic heating in Ireland. The plan identified

- utilising low carbon biomethane within the existing gas network as the lowest cost way of decarbonising heat for homes connected to or in close proximity to the gas network
- Low-carbon gas is the least disruptive way of decarbonising domestic heating
- Meeting heat demand through low-carbon gas will require extensive use of Ireland's natural resources and a very ambitious deployment of anaerobic digestion technology
- Low-carbon gas can be a highly secure decarbonised heat supply
- Hydrogen holds potential, but remains a developing technology
- Development of the sector will bring significant societal benefit

2018 - Green Gas Certification Scheme and Renewable Gas Registry

In 2018, the RGFI, along with a consortium of industry partners, designed and published a blueprint for a Green Gas Certification Scheme in Ireland. The Scheme will certify biomethane produced in Ireland, complies with the sustainability criteria set out in the Renewable Energy Directive II, and is in line with best practice, carbon accounting principles.

The Irish Green Gas Certification Scheme provides confidence and assurances to gas consumers, in validating and verifying, in a fully accountable and transparent manner, that biomethane is sustainably produced.

Gas Networks Ireland now operate the Scheme and they are also responsible for Ireland's gas pipeline network – one of the most modern in Europe.

2019 RGFI / KPMG Business Case for a Renewable Gas Industry in Ireland

The Renewable Gas Forum Ireland commissioned KPMG to support in the development of a business case to present to government in respect of the establishment of policy and economic support for an indigenous Irish biomethane industry. *A Business Case for a Renewable Gas Industry in Ireland*, was published in 2019 and has laid a firm foundation for subsequent work. Its conclusions:

- Based on consultation with industry, gas consumers and the agricultural community, there is strong appetite for the establishment of an indigenous biomethane industry in Ireland. *
- With nearly two thirds of farming enterprises in Ireland either uneconomic or at a break-even level⁵, there is need for alternative and diversified farming opportunities. Farmers and farming organisations are increasingly interested in the potential for a robust AD biomethane industry to provide the security and certainty of demand they require, while assisting in the decarbonisation of the wider agricultural sector.
- There is also demand for renewable gas from the manufacturing, processing and commercial sectors, with many industrial businesses committed to mandatory targets in reducing their GHG emissions under the EU ETS mechanism. Given the profile of their industrial heat load, renewable biomethane is the only viable and available alternative for many businesses to decarbonise their heat requirement without impacting their overall operations. The use of indigenously sourced renewable gas has the potential to offset the significant ETS emission levels from these industries whilst strengthening Ireland's position as a world leader in attracting foreign direct investment.
- Gas Networks Ireland, which operates the Irish Gas Network, has outlined its support for renewable gas and in particular its ambition to invest in a network of gas injection points and related infrastructure to support the growth of the sector.

2020- Project Clover

In response to the significance, scale and complexity of the sustainability and climate action challenges impacting the competitiveness and legal obligations of the Irish food industry, key industry representatives ("SteerCo Members"), led by Danone Ireland, formed a collaboration of industry participants in June 2020 under the banner "Project Clover" .

Having previously scrutinised all options for decarbonising their industrial heat processes, including biomass and electrification, the SteerCo Members concluded that switching to biomethane was the most economic and viable option available.

Ireland's agri-food and beverages sector, in the form of a collaboration of some leading companies, has reached the conclusion that farm based AD biomethane and bio-fertiliser production using carbon farming practices, is the only commercially and technically viable way for it to decarbonise its thermal processes

This viewpoint has been informed by a series of KPMG Reports, providing independent analysis of scientific based targets, economic and financial data. Recent work has determined that, with appropriate Government policy support, AD biomethane and associated bio-fertiliser produced utilising agri-based feedstock, has the potential to replace natural gas in a way that is technically and commercially viable, with tremendous environmental benefits in terms of reducing carbon emissions (c 700kt CO₂ pa), capturing carbon in soil, and improving biodiversity, air and water quality (reducing nitrate run-off). And as the price of carbon continues to rise the business case can only strengthen.

This approach would, at the same time, provide farmers with a reliable income stream, support the circular, rural economy and the commercial sustainability and competitiveness of the Irish food and drinks industry. It is projected to create 3,000 sustainable jobs across rural Ireland.

It aligns with the Paris Agreement, EU Green Deal, Farm to Fork Strategy, and national agricultural and climate action strategies, and will be underpinned by an AD Charter to ensure delivery of environmental commitments.

Ireland is particularly suited to farm based AD biomethane and bio-fertiliser production because 80% of its land is pasturelands, with a strong dairy industry and ready availability of silage and slurry feedstock. Recent research from the government agricultural research agency, Teagasc, and Devenish Nutrition, is particularly encouraging. It shows how a move to mixed species pastures can further the energy value and environmental benefits of the feedstock, with only 2% of land required for sustainable feedstock supply and 735k Ha of permanent pasturelands available for use to grow sustainable agri feedstock to supply an indigenous and sustainable AD biomethane industry.

With biomethane available in many other jurisdictions, SteerCo Members are of the view that Ireland's lack of an indigenous biomethane industry will harm the Irish food industry's international competitiveness, impact FDI, and limit Ireland's decarbonisation ambitions under the national Climate Action Plan.

Project Clover represents a shared vision of a fully integrated, agriculture led, on-farm sustainability approach to the decarbonisation of the Irish food supply chain. Central to the vision is the use of indigenous AD biomethane to decarbonise thermal heat processes, commercialisation of its by-product digestate to produce organic fertiliser and monetisation of the currently unquantified soil carbon sequestration on Irish farms.

The Phase 1 Feasibility Study for Project Clover. Phase 1 Feasibility Study (Sept 2020-March 2021) considered the economic, regulatory and practical feasibility of delivering the three core workstreams:

- Developing a viable indigenous biomethane industry
- Monetising organic fertilisers
- Maximising soil carbon sequestration potential.
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The work was fully funded by industry participants – Danone, Glanbia Ireland, Dairygold, Carbery, Lakeland Dairies, Tipperary Co-op and Wyeth Nutrition. The findings from this Study will be released in soon. Its recommendations include a pilot

2021 Renewable Heat Plan

June 2021 saw a united call from energy associations (including RGFI), for a target of 40% renewable heat by 2030 in Ireland, primarily from bioenergy, heat pumps, renewable gas and district

heating Through *Renewable Energy Ireland* they have published *40by30*, a roadmap to reduce our CO₂ emissions by 7% annually, in line with the *Climate Action Bill*. Renewable gas is identified as one of the solutions to be pursued within the wider strategy.

The Report includes figures from 2018 showing that thermal energy use accounted for 40% of all energy used and circa 20% of all greenhouse gas emissions. €3 billion was spent that year on heating - one third of the national heat demand is in industry, two thirds in buildings.

2021 Climate Action Bill

2021 saw Ireland introduce a Climate Action Bill (*Climate Action and Low Carbon Development (Amendment) Bill 2021*) to support its transition to Net Zero by no later than 2050.

The Bill provides for the first time:

- a legally binding framework;
- clear targets and commitments, with carbon budgeting, set in law;
- structures and processes to achieve national, EU and international climate goals and obligations

It strengthens the role of the *Climate Change Advisory Council (CCAC)*, and puts renewed emphasis on using relevant scientific advice and drawing on international best practice. The former CCAC had advised Government to plan for the development of zero-carbon fuels, including biomethane and green hydrogen and it is hoped that the new CCAC will support the vision for AD biomethane.

Of some concern is that reference to soil carbon sequestration (central to the integrated approach to agri-biomethane and bio-fertiliser production) has been removed from the latest version of the Bill. This removal is being challenged by those who view it as contrary to the Paris Agreement and who want farmers to be credited for the carbon they are sequestering on their land.

The *Climate Action Bill* stipulates a 51% reduction in Ireland's carbon footprint by the end of the decade and Ireland will be legally bound to reduce its emissions (carbon footprint) by 7 % per year to hit its new 2030 target.

However, this target is extremely ambitious and it is not yet clear how it will be achieved. It brings home the hard decarbonisation challenges facing many businesses in terms of meeting legal requirements and global competitiveness.

ROADMAP GOING FORWARD

The REGATRACE collaboration has helped to identify the most important elements on the Roadmap going forward to realise the vision and RGFI is currently seeking views on this:

- required government support;
- capital funding from the Irish government / Europe,
- a renewable heat fuel obligation scheme,
- a higher carbon price tax ranked slightly ahead of exchequer funding and other tax incentives
- a pilot scheme having a number of at scale AD plants built by 2025
- a Green Gas Certification Scheme / Guarantees of Origin
- underwritten by charter
- knowledge and information transfer
- greater public awareness of the opportunity to decarbonise and the associated environmental benefits
- facilitating cross border trade of renewable gases
- while green hydrogen is a consideration it is not yet considered an immediate priority

The Current Ask of Government

So much is in place to develop Ireland's biomethane industry - it is now down to the Irish Government to act on the scientific evidence, commercial information and consumer advice that has been presented to it to realise the shared vision to decarbonise.

The Renewable Gas Forum Ireland (RGFI) and industry members are currently liaising with government departments, political parties and farming representatives, to gather momentum for change:

- declared policy support for AD biomethane;
- Implementation of Article 23 RED II in 2021/2022, with a biomethane target of 11% by 2030;
- support with match capital funding of €24m for a pilot AD scheme 2021-2023 and capital funding to support full roll out to 2030;
- support industry in consultation on the optimum structure for a national carbon farming initiative

References:

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