Renewable Gas Form- Irish Green Gas Ltd (RGFI)

TOWARDS A NATIONAL PLANNING FRAMEWORK

A Roadmap for the delivery of the National Planning Framework 2016

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[redacted]

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Renewable Gas Forum
Irish Green Gas Ltd

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Introduction to RGFI

The Renewable Gas Forum Ireland (RGFI) is an industry forum representing the interests of those involved in the renewable gas supply chain across the island of Ireland, both north and south. RGFI is committed to influencing, supporting and delivering policies and initiatives that promote the development of the renewable gas industry in Ireland as an economically viable and environmentally sustainable component of the overall energy mix.

RGFI is a not for profit company limited by guarantee. Membership is open to all parties interested in renewable gas from both the public and private sectors.

RGFI affairs are managed to the highest standards of good governance and integrity, at all times representing the best interests of its membership.

Strategic Objectives

The core objective of RGFI is to bring together industry in the form of producers, consumers and supply chain participants to work together to inform, evaluate and promote policies that support the development of the renewable gas industry in Ireland.

Consumer Demand & Climate Change obligations:

- Approximately 60% of total Heat energy consumption in Ireland is provided by gas (natural gas and LPG), and for Large Manufacturing companies, this is in excess of 80%.
- The large manufacturing companies operate in Ireland, in two categories a) FDI's and b) Agri-food sector.
- The proposed policy in the Energy White Paper to exclude the ETS manufacturing sector from accessing the Renewable Heat Incentive (RHI) will significantly impact Ireland's competitiveness in attracting and retaining FDI industries and jobs, and severely impact the Agri-Food sectors drive to de-carbonise (Origin Green) and compete internationally.
- Sustainable energy is now a mandatory criterion for FDI future investment – i.e. securing new jobs and retention of existing employment.

- Most EU member states have chosen to give priority to large manufacturing in access to subsidised sustainable renewable energy, primarily renewable gas, as industry needs gas.
- Ireland has a legally binding target to achieve 16% of gross final energy demand from renewable sources by 2020 under the EU Renewable Energy Directive (2009/28/EC).
- Irish government introduced a 12% target for renewable heat by 2020. Only 6% achieved to date. Ireland may need >12% renewable heat to meet the overall 16% renewable energy target due to shortfall in renewable transport energy from biofuels. Currently 99% of biodiesel receives a double credit (for using waste fats and oils) towards meeting the 10% renewable transport target. However the double credit doesn't apply to the overall renewable energy target of 16%.

Renewable Gas:

- **Biomethane (Renewable Natural Gas)** is one of the most cost effective, versatile and indigenous renewable energy sources available in Ireland that can utilise the existing National Natural Gas Network without any need for infrastructure investment. Biomethane production provides a double benefit of contributing significant Green House Gas (GHG) savings from avoided GHG emissions in Agriculture and Waste processing.
- **Bio-LPG** is one of the most cost effective and versatile renewable energy sources available in Ireland for existing LPG and off the gas grid customers.
- **Biomethane and Bio-LPG** offer the same secure supply, high efficiency, on-demand heat or combined heat & power (CHP) for the customer, and require no investment, risk or change to the customer's equipment or facilities.
- There are significant indigenous resources such as biowaste, agricultural manures and additional grass silage in excess of livestock requirements and in regions with low fodder demand (i.e. underutilised grassland) which can be used to produce large quantities of biogas, while diversifying farming incomes, supporting rural economies and employment.
- When biogas is purified to 98% methane (referred to as biomethane) it can be used in the same manner as natural gas and can be injected into the gas grid to provide "green" gas for energy consumers.
- Biomethane injection to the natural gas grid has been supported in many EU countries and has proven to be an effective and economic renewable energy technology.

Summary of Renewable Gas (Biomethane/BioLPG) benefits

Industry Benefits	**Benefits for Ireland**
Versatile, efficient, clean and secure primary fuel	Address our greenhouse gas (GHG) emissions crisis across Energy, Agriculture & Industry.
CO2 emissions reduced, helping to achieve carbon targets	Transition to a low carbon economy
Utilise sustainable, indigenous energy sources	Maximising use of the existing gas networks and services (pipeline and road deliveries).
Fulfilling corporate climate commitments while also attracting and retaining FDI industries and jobs.	Diversification of family farm incomes
Meet renewable heat targets (RES-H) With no change or upgrade required to existing equipment	Help to meet emissions targets in Heat and Transport
Improve / secure Irelands competitiveness in attracting FDI industries	Enable private equity investment and employment in rural / agricultural regions and diversify farming income.

The National Planning Framework & Government Priorities:

In publishing its 'Planning Policy Statement' in January 2015, the Government has reaffirmed its "strong belief in the value of a forward-looking, visionary and dynamic planning process because it will ensure that the right development takes place in the right locations and at the right time and in providing the social, economic and physical infrastructure necessary to meet the needs of our people in a way that protects the many qualities of our natural and built environment".

The Planning Policy Statement confirms that a new National Planning Framework will be developed to provide the context for national planning for the next decade and beyond. This will involve reshaping and focusing our national spatial strategy to meet future challenges and decisions that will be necessary in the national interest in order to stay competitive and provide the policies, environment and renewable energy policies in line with other European Member states. Ireland currently lags behind the rest of Europe in matters of renewable energy and specifically Renewable Gas (RNG).

For and on behalf of the Renewable Gas Forum Ireland (RGFI) the following items being submitted are necessary and relevant for inclusion in The National Planning Framework as set out;

- **Identify national priorities with regard to future employment growth and development.**

Rural Biogas Industry: The rural economy and employment opportunities of a biogas industry in Ireland are substantial. There is significant demand for renewable gas as a heating and transport fuel from industry, and the circular economy benefits will also deliver a major decarbonisation benefit for Agriculture and Industry.

The RGFI has members who are large multinational manufacturing and processing companies in the Agri- food, beverages, bio pharma and pharma sectors, who are large employers and are seeking solutions to the secure supply and storage of renewable gas.

Approximately 60% of total Heat energy consumption in Ireland is provided by gas (natural gas and LPG), and for Large Manufacturing companies, this is in excess of 80%. The large manufacturing companies operate in Ireland, in two categories a) FDI's and b) Agri-food sector.

The proposed policy in the Energy White Paper to exclude the ETS manufacturing sector from accessing the Renewable Heat Incentive (RHI) will significantly impact Ireland's competitiveness in attracting and retaining FDI industries and jobs, and severely impact the Agri-Food sectors drive to de-carbonise (Origin Green) and compete internationally.

Sustainable energy is now a mandatory criterion for FDI future investment – i.e. securing new jobs and retention of existing employment.

Perhaps the policies implemented by the Irish Government had the unintended consequences of the majority of food and beverages manufacturing and processing being categorised as being in the ETS sector due to the energy demand/consumption. The RGFI strongly recommends that this policy of categorising the large manufacturing and processing sectors to the ETS sectors needs to be urgently

reviewed and amended in line with other European member states treatment and categorisation of the large manufacturing and processing industries.

- **Establish a clear policy framework within which there will be more dynamic participation by rural areas in overall regional development by re-emphasising the contribution from rural based enterprise in food, tourism, natural resources and innovation sectors.**

Collaboration between Industry and Agriculture in supporting a Rural Biogas Industry: GHG emission reduction / decarbonisation and the processing of residues are common issues across agriculture and industry, however there are clear opportunities for collaboration on these issues through promotion and support of a rural biogas industry in Ireland. The economic and social benefits include; a new indigenous supply of fuel to displace reliance on imported fuels, decarbonisation of agriculture through elimination of emissions from slurry storage and land spreading of raw slurry and synthetic fertilizers, decarbonisation of manufacturing and logistics transport with a carbon neutral primary heat or transport fuel. The re-vitalisation of rural economy is entirely achievable with clear policy support for this strategy.

The development of a Bio Economy Strategy for Ireland will highlight the significant opportunities that are currently available within rural Ireland through the utilisation of the Agri-food residues complimented by but not limited to including the excess grass and rotation crops.

The production of biogas/biomethane (renewable gas) from organic residues using well established and mature technologies is gaining acceptance across the EU as a major mechanism for GHG mitigation from heat/processing and transport and achieving the 2020 targets for RES-H and RES-T in those EU member states that have enabled and deployed the production of biogas from organic residues. Natural gas and subsequently renewable gas is rapidly developing to be a real alternative to liquid fossil fuels in the manufacturing & processing sectors of industry and in transport in Europe and worldwide.

There is precedence of other EU countries offsetting savings delivered by the EUETS sector against the target for the non-ETS sector. 25% of total national emissions are associated with the ETS sector, and the non-ETS industrial sector accounts for only 3% of total national emissions

The environmental benefits include a significant reduction of Ireland's greenhouse gas emissions, by displacing fossil fuels and developing an indigenous industry producing biogas gas from agri-food waste and residues, in conjunction with better utilisation of existing grass land with increased production levels, complimented by the rotation crops from the tillage sector.

Development of the renewable gas industry in Ireland will bring major economic, social and environmental benefits with modest support from Government. The RGFI represents the full supply chain of the biogas industry from the biogas producer, e.g. farmer to the end consumer either domestic or Industrial/commercial.

- **Investment in critical national infrastructure by both the public and private sectors in key areas like housing, transport, energy, water services, communications and waste management.**

Utilisation of existing strategic national infrastructure (Gas Network and Road Network): A rural biogas industry can utilise the existing critical gas network and road infrastructures and does not require any significant new infrastructure investment. RGFI members include Gas Networks Ireland, who are committed to integrating indigenous gas production and grid injection. Licensed gas road haulage companies are also represented by the RGFI and these companies are equally committed to supporting this industry in areas that are not accessible to the gas pipeline network.

The areas mentioned above of transport, energy, water services, and waste management can contribute significantly to improving the competitiveness and sustainability of Ireland, with rural regions playing a vital role in the displacement of fossil fuels and decarbonisation of energy through the production of renewable gas from organic residues. The potential of the biogas industry as an indigenous supply would provide the security of supply and storage provided with the current modern gas networks and complimented by the provision of an off grid transport solution for off grid production and consumers who are off the grid. The solutions for off grid road network is very competitive and feasible.

The Irish economy is heavily dependent on the employment and exports of the large ETS manufacturing companies. 90% of these companies have a predominately thermal (gas) energy demand. 75% of these companies have higher renewable energy and decarbonisation targets than our National targets. Renewable Heat energy is already supported and available at competitive prices in all Western European countries, and Ireland risks becoming uncompetitive in attracting and retaining large industry if we cannot ensure similar access to thermal energy here.

The European Commission and the Joint Research Council documents the gaseous pathways, accounts for the net GHG savings and needs to be applied to all fuels including wood biomass. The European Commissioner has proposed new sustainability criteria for biomass in the latest revision of the Renewable Energy Directive (2009/28/EC) which should also be the point of reference when reviewing existing European policies in adapting a strategic context for the NPF on waste management, transport and renewable energy.

- **Planning at regional and local levels for Ireland's requirements in relation to housing, commercial, office and industrial accommodation.**

The experience of the RGFI membership when engaging with the local authority planners is that the guidelines within the Regional/local area development plans are not taking into consideration the constraints being imposed by other state agencies in charge of attracting Foreign Direct Investment (FDI) into Ireland.

The state agency of the IDA typically will not support the co-location or location near an industrial zoned lands of a renewable gas production project, regarding same as a deterrent in attracting industry and further investment to the area.

The NPF needs to take these constraints into consideration when drafting the strategy of planning for the future that suitable location/s for renewable gas projects are better suited to be co-located with available feedstock from the agri-food sector, typically located in rural locations, on farm or green field sites to avoid the transportation of the feedstock to built up industrial & urban areas.

The NPF needs to address and make recommendations to the local authorities that the regional and local area development plans make provision for and address the objectives currently in place for the locating and direction on the developments of the renewable gas/bio economy in rural locations.

The multi benefits of having an Anaerobic Digester plant producing renewable gas located on an existing farm around the storage and management of stored slurry, argi residues, excess grass and potential for rotation crops can be better managed on farm or green field site. One of the outputs from the plant is that the digestate which is a bio fertiliser reduces the reliance on artificial fertilisers, better for the soil and water quality. Stored slurry accounts for approximately 12% of the national GHG emissions.

There are obvious advantages of having a strategy in place when dealing with and addressing the industrial residues and waste with the location of these facilities being close to the sources of the feedstock, typically in industrial areas. However the support and buy in from state agencies such as the IDA would be greatly beneficial. In many locations throughout Europe and the UK there are examples of how the manufacturing and processing industries can co locate to encourage the utilisation of the natural resources in any regional/local area, improve competitiveness and sustainability while providing much needed regional and local employment.

- **Preparation of new Regional Economic and Spatial Strategies by the three new Regional Assemblies and the associated enhancement of the economic development focus of local authorities as provided for under the local Government Reform Act 2014.**

The RGFI would recommend that there be meaningful engagement with the industry forum who represent the full supply chain of the biogas and renewable gases in Ireland.

The Regional Economic and Spatial Strategies should give serious considerations to utilising the existing natural and farming resources to develop a robust renewable gas industry in Ireland. The following points in our opinion are worth considering and supporting;

- Local area development plans to allow for provision of locating an Anaerobic Digester plant in rural area where the feedstock is most likely available for the agri residues such as excess grass, slurry and energy crops are located.
- Local area plans to provide for the location of Anaerobic Digesters plants that utilise the industrial/commercial waste streams near industrial zones.
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- In conjunction with Gas Networks Ireland to identify suitable locations for central injection facilities/aggregator sites that will enable the smaller and more localised/rural AD plants to operate and have route to market through the injection facilities or by road network operators.
- The expansion of existing and attracting new industry to regional location will be enhanced by the security of supply and storage of renewable gas which is the primary energy of choice for the manufacturing and processing sectors.
- The provision of a network solution for route to market of renewable gases will enable projects to be deployed in regional and rural locations.
- The concept of power to gas (P2G) to produce hydrogen is widely used in Europe and can utilise the power generated from wind, instead of being curtailed the turbines can be used to generate power to gas.
- The use of innovative 2nd and 3rd generation technologies to deal with various different waste streams and/or generation of renewable gases should be encouraged. There is a role for the Regional Economic and Spatial Strategies to identify the strengths of each region in order to utilise the natural resources agri-food and industrial residues for the production of renewable gases.

Conclusion

Rural Biogas Industry: The rural economy and employment opportunities of a biogas industry in Ireland are substantial. There is significant demand for renewable gas as a heating and transport fuel from industry, and the circular economy benefits will also deliver a major decarbonisation benefit for Agriculture and Industry.

Collaboration between Industry and Agriculture in supporting a Rural Biogas Industry: The economic and social benefits include;

- A new indigenous supply of fuel to displace reliance on imported fuels,
- Decarbonisation of agriculture through elimination of emissions from slurry storage and land spreading of raw slurry and synthetic fertilizers,
- Decarbonisation of manufacturing and logistics transport with a carbon neutral primary heat or transport fuel.
- The re-vitalisation of rural economy.

Utilisation of existing strategic national infrastructure (Gas Network and Road Network): A rural biogas industry can utilise the existing critical gas network and road infrastructures and does not require any significant new infrastructure investment.

Ireland is very fortunate to have a modern gas network that has the capacity to deliver renewable gases to the domestic, industrial/ commercial and transport sectors. The gas network services most of the large urban populated areas along with most of Ireland's large industrial/commercial areas.

The supply of a renewable gas which matches the quality of displaced fossil fuel can utilise the gas network, use the same technologies with no additional capital cost to the end consumer. This is an

ideal opportunity for Ireland to cease this solution to decarbonise large swaths of both domestic, industrial and commercial consumers, where high efficiency boilers and CHP plants are ensuring efficient end use of the primary energy.

The use of biomethane in transport will also benefit significantly from the enabling and deployment, facilitating the switch from fossil fuels to biogas.

Biogas produces between 60% and 80% less greenhouse gas emissions than conventional diesel, but ramping up its deployment and use needs to be included in the National Planning Framework. The production of biogas eliminates existing greenhouse gas emissions from agriculture and waste processing so thus deliver an overall carbon negative impact environmentally, and thus benefits several sectors with one solution.

Ireland is lagging behind all other European member states in adapting policy to deploy and enable renewable gas as the energy of choice for the manufacturing and processing industries, to ensure competitiveness and sustainability in challenging global markets.