

# BIOGAS

A SOLUTION TO THE RENEWABLE ENERGY CHALLENGE



Jointly Prepared by:



# BIOGAS

A SOLUTION TO THE RENEWABLE ENERGY CHALLENGE



Ireland has a golden opportunity to establish a new industry in rural Ireland that will create jobs and help meet our commitments for renewable energy.

Anaerobic Digestion (AD) is a proven and environmentally friendly technology that can deliver multiple energy, climate, environmental, societal and economic benefits.

It has the potential to create 2,250 direct permanent jobs, with many more in the construction phase, spread across all counties in Ireland.

AD has the capability to supply enough electricity to power 20% of Irish homes, or to replace 7.5% of the fossil-based natural gas used via the national gas grid with renewable "green" gas.

The readily available renewable energy supply from anaerobic digestion could be the equivalent of a corporation tax incentive to attract new foreign investment into Ireland, enabling major companies such as Apple to gain marketing traction by meeting their sustainability goals.

## POLICY CHANGES REQUIRED

For this to happen, a number of key policy changes must be implemented nationally. The model already exists in the EU, typically in Germany, Italy and the UK.

- 1 Introduce a Renewable Heat Incentive (RHI), which includes biogas from ADCHP and injection of biomethane into the national gas grid.
- 2 Provide adequate support for electricity generation from AD.
- 3 Provide incentives for the use of agricultural organic residues and manures as feedstock for AD, as in Germany.
- 4 All incentives should be "grandfathered", meaning investors should qualify from 9 July 2014, even if the legislative instruments take some time to implement.
- 5 Encourage the separate collection and processing of food waste as feedstock for AD in Ireland, and make it easier for AD developers to obtain long-term contracts of supply for such feedstock.

# BIOGAS

A SOLUTION TO THE RENEWABLE ENERGY CHALLENGE



## THE BENEFITS OF ANAEROBIC DIGESTION

Anaerobic Digestion (AD) produces renewable biogas from materials such as agricultural and industrial organic residues and domestic and commercial food waste. It is a proven technology widely used across the EU and the world. It provides a constant (dispatchable) supply of electricity, gas and/or heat. This means it can be used to provide a stable base-load of renewable energy to the electricity grid.

AD can help Ireland achieve its renewable energy targets for 2020 across all sectors, heat, electricity, transport. This can be achieved with no negative impact on the food supply capability in Ireland, and no significant change in land use.

Energy sourced from AD will diversify the national fuel mix, provide a more secure clean energy supply, and reduce the country's reliance on imported fossil fuels, whose prices are subject to global energy market trends.

The use of biogas from AD to provide pipeline quality renewable natural gas can enable Ireland to meet the RES-T transport target using the natural gas pipeline, a significantly underutilised national resource.

AD can make a significant contribution to the management of organic waste in Ireland as well as helping achieve national and EU waste recycling targets. Rather than sending organic waste to landfill and land spreading, AD can convert this material to renewable energy and organic-rich fertiliser.

The challenge facing the agriculture sector to moderate its GHG emissions (32% of Ireland's total) and convert to a low carbon sector in the context of major growth to achieve the Food Harvest 2020 targets, could be addressed by AD. It has the added benefit of significant job creation in the rural economy, another farm income stream and better control of energy costs for farmers.

A further benefit is the support AD provides for sustainable smart agriculture, a key component in the promotion of Ireland's food exports under the banner of the Bord Bia initiative, Origin Green.

AD provides farmers with a valuable recycled source of fertiliser, closing the loop on nitrogen and phosphorous management, and providing environmental and health benefits by replacing artificial fertiliser and avoiding land spreading of untreated manure.

Over 9000 plants have been built in Germany since the year 2000 due to the positive stimulus provided by the German government over a decade. Similarly, the AD industry has flourished in the UK in the last 5 years with over 180 commercial plants now in operation, with more than 200 others initiated in the development pipeline. The significant plans for AD development in Northern Ireland are a direct result of the incentives available there. In contrast, Ireland only has a few small scale plants operating and in planning. The major roadblock to expansion in Ireland has been an ongoing lack of economic viability for developers and investors. Improved fiscal incentives are required to enhance the attractiveness of AD in Ireland for investment.

# BIOGAS

A SOLUTION TO THE RENEWABLE ENERGY CHALLENGE



Ireland urgently needs prompt decisions from the Department of Communications Energy and Natural Resources regarding a renewable electricity support scheme and renewable heat incentive (RHI), to enable numerous projects currently held-back, to proceed, which would deliver all the positive benefits mentioned. Leadership is needed across the political spectrum to realise that Ireland is missing a golden opportunity for jobs creation, import substitution, better energy security, sustainable waste management, rural development, and many environmental benefits.

## REFERENCES AND SUPPORTING DOCUMENTATION

A 2014 European Biogas Association Report shows 68,500 jobs in the EU biogas industry and the sector produces 11,539 MW of biogas. This means that for every MW 5.9 jobs are created.

In 2011 the Joint Oireathas Committee on Communications, Energy and Natural Resources published a report 'The Development of Anaerobic Digestion in Ireland'. This report states that there is potential for 1000 AD plants of average 380kw in size. Based on these numbers and the EBA numbers, 2,250 permanent jobs could be created.

The Bord Gais Report - The Future of Renewable Gas in Ireland states that up to 7.5% of renewable gas demand in Ireland could come from biomethane. This would directly substitute for €170 million euro in imports.

**This document was produced by Cré and IrBEA.**



Cré is a non profit association of public and private organisations, dedicated to growing the biological treatment sector. Cré supports the production of high quality outputs, assists the delivery of Government waste diversion and bioenergy targets, and promotes the creation of sustainable indigenous jobs.



IrBEA is the association representing the Bioenergy industry on the island of Ireland. We seek to increase understanding of issues related to biomass supply chains used to generate energy in the form of heat, electricity and motion. The main objectives of the association are to influence policy makers to promote the development of bioenergy, and to promote the interests of our members. Improving public awareness, networking and information sharing, and liaising with similar interest groups are other key areas of work in promoting biomass as an environmentally, economically and socially sustainable energy resource.