



Submission to the
Department of Communications, Climate Action and Environment

For
**Biofuels Obligation Scheme
Consultation on Future Increases in the Obligation Rate**

From:
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1. Background and Relevance

The Department of Communication, Climate Action and Environment (DCCA) has a consultation document published regarding proposed amendments to the consultation on increasing the obligation rate in the Biofuels Obligation Scheme.

Cré welcome the opportunity to comment on this consultation.

2. Consultation Questions and Responses

2.1 Question 1

In order to meet Ireland's 2020 renewable energy target in the transport sector, it is proposed to increase the biofuel obligation rate to 10% from 2019 and circa 12% from 2020.

-Do you support this policy measure?

-What biofuels do you envisage contributing to meeting these increased rates?

-What alternative approaches do you view as being more likely to achieving Ireland's 2020 renewable energy target in the transport sector?

Cré Response:

Yes we support this policy measure.

We would envisage that biomethane would be one of the fuels that can help meet this target. Biomethane, produced by Anaerobic Digestion of organic feedstocks has made zero contribution to meeting the RES-T target so far, but has the potential to contribute significantly once that industry is developed. Biomethane qualifies for inclusion within the scope of the BOS. However no producer has applied to the scheme to date.

Consideration should be taken into account of the benefits, in addition to provision of renewable energy and increased energy security for Ireland, across a wide range of aspects:

- Significant employment increase potential
- Carbon emission reduction from Irish agriculture (digestion of by-products and animal slurries)
- Carbon emission reduction from Irish industry and waste management (digestion of biodegradable by-products and wastes)
- Benefits to Irish agriculture in providing sustainable organic fertilisers
- Carbon emission reduction from Irish transport and heat usage from biomethane distributed through the national gas grid.

AD is a proven and efficient technology that will deliver multiple energy, climate, environmental, societal and economic benefits. It can help Ireland achieve a number of important EU and national policy commitments and has wide ranging cross-sectoral benefits.

AD provides a constant supply of electricity, gas and/or heat. It therefore can be used to provide a stable base-load of renewable energy to the grid. It has the potential 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 use of biogas from anaerobic digestion to provide pipeline quality renewable natural gas can enable us to meet the RES-T target using our natural gas pipeline, a significantly underutilised national resource.

This can be achieved through harnessing unused resources that would otherwise cause pollution problems or require money and energy to manage – organic wastes, food wastes, slurries etc.

In addition to organic wastes, Ireland has many acres of under-utilised grassland that could be yielding valuable energy when harnessed through AD plants. The expertise and equipment is already on farms, and not using these available resources represents opportunities missed for Ireland PLC, on many levels (under-utilised land, missed employment opportunities, missed taxation opportunities etc).

Harnessing this resource need not involve diversion of prime arable land away from food production. The creation of an AD industry will allow Ireland to convert abundant organic

wastes and abundant under-utilised grasslands and marginal lands to a useful energy product.

In terms of biomethane deployment, the demand is there, the gas grid is already in place, and gas boilers/heating systems are already in place in many homes and businesses. Therefore investment costs are comparatively low for the whole life cycle, once the AD plants are built.

If the full potential of AD development is realised, 2,250 direct permanent jobs could be created across Ireland, with many more generated in the construction phase (Ref: 'The Development of Anaerobic Digestion in Ireland' – Report prepared by the Joint Committee on Communications, Energy and Natural Resources, 2011, <http://www.oireachtas.ie/documents/committees30thdail/j.../20110126.1.doc> and the 2014 European Biogas Association Report). Furthermore, these jobs will be created where they are needed most, in rural areas.

Besides biomethane, electric cars will likely help contribute towards Ireland's 2020 renewable energy target in the transport sector.

2.2 Question 2

In order to meet Ireland's 2020 renewable energy target in the transport sector, it is proposed to increase the biofuel obligation rate to 10% from 2019 and circa 12% from 2020.

-What impact do you believe this will have on fuel prices?

-What alternative approaches could provide a more cost-effective method of achieving Ireland's 2020 renewable energy target in the transport sector?

Cré Response:

An alternative approach to help reach the targets is the use of biomethane in transport.

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.

An argument could be made to Irish consumers that paying slightly more per unit of energy would be worthwhile for Ireland PLC, if the entirety of that money stayed in the country (as would be the case for home-grown energy through AD plants). The comparison would be paying slightly less and seeing all of that money leave Irish shores, as is the case currently.

Responsible forward-thinking Government should be able to make that distinction and action it through a responsible subsidy scheme that benefits the nation as a whole, without affecting prices to consumers. Taxing diesel a fraction of a percent more and using the extra money to incentivise CNG and biomethane would solve many problems and benefit the economy as well as Government coffers.

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.

Biomethane (produced from wastes) has been consistently shown to be the most carbon efficient renewable transport fuel. Compressed biomethane can be used in CNG vehicles. There are many examples across Europe of biomethane powered inner city bus fleets (with associated benefits to air quality and public health), and biomethane fuelled HGVs operating between depots on major trunk routes. Technology is established and has proven successful for decades. Biomethane Tractors are also now available. See link <https://www.youtube.com/watch?v=ftMIRzjXz8&t=18s> .

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.

Ireland urgently needs prompt decisions from the Department of Communications, Climate Action and Environment 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.

2.3 Question 3

In order to maximise the contribution of the *Biofuels Obligation Scheme* to Ireland's renewable energy target in the transport sector, it is proposed to restrict / reduce the current level of use of carried over certificates in 2020.

- Do you support this approach?

- What would be the appropriate level of carryover for use in 2020 and beyond?

- If you feel the current level should be maintained, please provide reasoning including an alternative approach to maximising the contribution from biofuels to achieve Ireland's renewable energy target in the transport sector.

Cré Response:

No Comment.

2.4 Question 4

The recently amended *Fuel Quality Directive* (Directive 98/70/EC) places obligations on suppliers to reduce emissions – specifically the reduction in carbon intensity of at least 6% to be met by 31 December 2020 compared to 2010.

-How do you envisage this requirement being met?

-Are there any measures that Government could take to assist obligated parties reach the Fuel Quality Directive target?

Cré Response:

The use of biomethane is a much clearer gas compared to fossil based alternatives. Biomethane from wastes and slurries is carbon negative, as not only is organic material renewable, but AD offsets the carbon-based energy used to treat the wastes through composting (or the emissions from slurries as they decompose). A small percentage of biomethane fuelled vehicles could go a long way to meeting renewable transport fuel targets.

2.5 Question 5

Increasing the biofuel obligation rate is likely to involve the introduction of fuels with higher concentrations of biofuel (such as E10 which is petrol blended with 10% ethanol and B7 which is diesel blended with 7% biodiesel). This may lead to compatibility issues with older vehicles, consumer cost, the necessity of consumer awareness in order to ease its introduction, and potentially the development in forecourt infrastructure.

-What do you view as the technical and consumer challenges associated with increasing the biofuel obligation rate (including introducing fuels such as E10 and B7)?

-Can fuels such as E10 and B7 be brought to the market in Ireland by 2020?

-Are there technical barriers to achieving 7% conventional biodiesel blend (B7) averaged across the full year, including the winter months?

-For biodiesel blend rates higher than 7%, are drop-in biofuels a viable solution for Ireland?

Cré Response:

More and more HGVs and bus fleets are converting to CNG, which is cleaner than diesel with less particulate emissions. CNG infrastructure is becoming more common. Biomethane is compatible with CNG vehicles.

2.6 Question 6

Since the publication of *A European Strategy for Low Emission Mobility* in July 2016, the European Commission has designated that food based biofuels have a limited role in decarbonising the transport sector due to concerns about their actual contribution to the decarbonisation. It is envisaged that a gradual reduction of food based biofuels and their replacement by more advanced biofuels will realise the potential of decarbonising the transport sector and minimise the overall indirect land-use change impacts. The EU Commission has signalled that the trajectory of biofuels is away from first generation biofuels towards advanced or second generation biofuels. This is primarily to be achieved through the introduction of a cap on first generation biofuels and the incentivisation of advanced biofuels.

-How should the development of increased levels of advanced biofuels be supported in Ireland?

Cré Response:

It should be supported through biomethane, which is not reliant on large areas of mono-crops, as other biofuels can be (e.g. bioethanol from wheat), but can be produced locally from a wide range of organic wastes and energy crops. Therefore achieving this target from biomethane also assists in the diversity of farming practices, diversity of land use and the avoidance of long-term soil damage and erosion caused by mono-cropping.

Major changes in land use (away from food production) will not be necessary, as there are large areas of under-utilised grassland in Ireland. Expertise and equipment are already in place to grow and harvest, and to transport and distribute the product (biomethane via the gas network). The technology is proven and ready, the developers are ready, the financiers are ready, only the Government backed incentive for developers is missing.

2.7 Question

Currently, the *Biofuels Obligation Scheme* is limited to the transport sector. In the heating sector, there is a high use of fossil fuels (including oil) and a target 12% of energy consumption from renewable sources by 2020.

-What is your opinion on the potential for an obligation scheme (similar to the Biofuels Obligation Scheme) in the heat sector?

-What do you see as the technical barriers to introducing such a scheme? -How should the development of increased levels of advanced biofuels be supported in Ireland?

Cré Response:

There are no technical barriers for the creation of a biomethane industry to utilise locally sourced organic wastes and grassland to offset imported natural gas.

Organic wastes are there, under-utilised land is there, rural unemployment is a problem, the gas network is there, gas based heating systems are in place in industry and homes. Expertise and equipment are already in place to grow and harvest, and to transport and distribute the produce (biomethane via the gas network). The technology is proven and ready, the developers are ready, the financiers are ready, only the Government backed incentive for developers is missing.

Return on investment will be good for Government, by way of avoidance of EU fines, employment creation, a more efficient and productive rural economy, increased taxation, and reduced reliance and expenditure on foreign fossil fuels.

Liquid based biofuels will all involve changes to farming practice, mono-culture cropping, mostly on good quality arable land, diverting the land away from food production and leading to losses in biodiversity.

Liquid based biofuels will also require road transport to the point of refining, and to the point of use. Biomethane (in most cases) will not.

2.8 REFERENCES AND SUPPORTING DOCUMENTATION

A 2014 European Biogas Association (EBA) 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.