



Submission to the

Department of Environment, Climate Action & Communications

On

Consultation on the Introduction of a Renewable Heat Obligation

From:

**Cré – Composting and Anaerobic Digestion
Association of Ireland**

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1. Introduction

Cré welcomes the opportunity to comment on the consultation on the Renewable Heat Obligation.

Cré

Established in 2001, Cré is the Composting and Anaerobic Digestion Association of Ireland. Cré (which is the Irish word for 'soil'), 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.

Cré has a broad membership base ranging from compost and anaerobic digestion facilities, waste companies, local authorities, technology providers, local authorities, consultants and third level colleges. Cré is recognised by Government and agencies as the voice of the industry in Ireland and Northern Ireland. It is frequently called on to give the industry view on future policy and legislation. Cré is a member of the European Compost Network and the European Biogas Association. See www.cre.ie

2. Consultation Questions & Responses

Q1: Do you think that a Renewable Heat Obligation is an appropriate measure to introduce?

Cré Response: Yes, we believe it's appropriate. and we should follow best practice on its implementation based on the successful implementation in other EU Countries. However, there are many solutions are needed there as no one technology is going to solve this problem. There is a need to support suite of technologies instead of focus on one technology to reach our targets. There needs to be support of community schemes, co-location of local projects & Innovative technologies. There needs to be a regulator pathway to fast track carbon negative projects.

Q2: If not, what alternative measures would you consider appropriate to increase the use of renewable energy in the heat sector?

Cré Response: Yes, Cré believe it's appropriate.

Q3: Do you agree that the obligation should apply to all non-renewable fossil fuels used for heating as set out above?

Cré Response: in principle Yes, an evaluation needs to take place to ensure one sector does gain a disproportion advantage that would affect the overall goal of decarbonisation of heat which Cré believes that this should be considered on a life cycle basis.

Q4: It is intended that electricity used for heating purposes and renewable/waste district heating systems would be exempt from this obligation, do you agree with this approach?

Cré Response: Yes, we agree that all renewable and waste heat should be exempt. In terms of electricity used for heating, on the assumption that the electricity suppliers will be the obligated party, then the exemption should only apply to renewable electricity. Suppliers already report their percentages of renewable electricity in their mix so it would be easy to apply the exemption and RHO to this proportion.

Q5: Do you agree that the portion of fossil fuel input used in CHP plants to generate heat would be considered to be part of the obligation?

Cré Response: Yes.

Q6: Are energy suppliers the most appropriate bodies to become the obligated parties in the heat sector?

Cré Response: Yes, the energy suppliers are the most appropriate.

Q7: Is the 400 GWh of energy supplied an appropriate level for a supplier to become obligated?

Cré Response: No, there should be no de minimis level, as experience in waste enforcement, a de minimis level only creates problems and can be difficult to enforce.

Q8: Do you agree with the 2023 start date for the obligation?

Cré Response: At this stage we are at the consultation phase. If the Department make a final determination on this by December 2021 and make a 100% commitment that all functions will be in place for Jan 2023, then the 2023 start date would give clear certainty for the sector to start preparing and building biogas plants. Certainty from the Department is crucial at the earliest opportunity.

Q9: In terms of the obligation rate, do you agree with the proposed initial level of obligation of 0.5%?

Cré Response: Yes.

Q10: In terms of ambition for a 2030 target, what level of ambition do you think is appropriate?

3% minimum

5% medium ambition

10% higher ambition

Other?

Cré Response: Cré supports a 3% ambition as it allows the industry to develop sustainably and the cost the consumer will be low (€33 by 2030) which should allow for public acceptance. Plants must be developed in a sustainable manner to build confidence in the sector. Different industry sources estimate that a 3% ambition (1.6TWh) would mean 60-80 agri based AD plants would be required by 2030. Agri based plants would need to process at least 55-70% slurry is needed to comply with RED2 2026 sustainable criteria for 80% reduction in GHG emissions.

Q11: Do you agree with the first obligation period being multiple years 2023-2025 to give the industry time to develop supply lines?

Cré Response: Yes, Cré agrees. A decision on the renewable heat obligation needs to be determined by December 2021 as certainty from the Department is crucial at the earliest opportunity. Once there is certainty the sector can invest and build plants for the first obligation period of 2023-2025. Cré agrees with the timelines once the Department can give a final decision on the obligation by December 2021.

Q12: Once the first period 2023-2025 expires, do you agree with the obligation then becoming an annual obligation?

Cré Response: Yes, Cré agrees to an annual obligation.

Q13: Do you agree with suppliers being able to trade credits in order to meet their obligation?

Cré Response: Cré agree with suppliers being able to trade credits in the short term till 2025 in the Republic of Ireland to meet the obligation.

Q14: Do you agree with allowing 10% carry over of renewable credits to be used in the following year's obligation?

Cré Response: Yes, Cré agrees.

Q15: What are the sustainable energy sources likely to meet the Renewable Heat Obligation at an obligation rate of (i) 3%, (ii) 5%, (iii) 10% by 2030?

Cré Response:

Cré believes that the anaerobic digestion industry would be able to supply sustainable energy sources likely to meet the Renewable Heat Obligation. There are other sources, but Cré does not have information on them.

Q16: Will there be enough sustainable indigenous supply to meet this demand?**Cré Response:**

- There is an abundance of agricultural by products – manures. There is potential to grow an abundance of multi-species swards and balance can be made up of grass silage, so long as it is in line with RED 2 criteria.
- Sustainable grass production is required. Grass silage will be a feedstock and can be grown sustainably using increase grass yields using certain grass species, and the use of digestate on land to help replace some chemical fertilisers.
- The potential sector where AD had easily available clean feedstocks are the food processors, meat factories & the dairy industry. The quantity is unknown.

In the EPA report published in March 2021 *'How much food do we waste in Ireland?' it estimates:*

- Current household food waste is estimated to be 250,000 tonnes per annum. In 2018, 137,000 tonnes are already composted/digested.
- Current food waste in the commercial sector is estimated to be 303,000 tonnes per annum with approximately 134,000t is already composted/digested
- There is considerable uncertainty over food waste amounts in the processing and manufacturing sector, which could be as high as 500,000 tonnes, but likely to be an overestimate due to non-food waste being included in some waste categories.

Brown bin collections are co-mingled food and garden waste and are not suited to AD unless they have specific pre-treatment equipment. Due to factors in Northern Ireland, brown bin materials and other clean industrial organics are increasing being exported for treatment in Northern Ireland which creates uncertainty for processing in Ireland. Further implementation of brown bin collection are required in the household and commercial sector.

Q17: Do you agree that for renewable fuel delivered directly to a consumer that this will be the point of supply?

Cré Response: Yes.

Q18: Which option do you think should be applied for renewable energy that is indirectly supplied (e.g. via the natural gas grid)?

Cré Response: Option A.

Q19: Do you think the costs set out above are reflective of likely costs?**Cré Response:**

The cost estimates appear to be reasonable. The costs are improving over time.

Q20: Are these costs reasonable to impose on consumers?

Cré Response: Yes.

Q21: Do you agree with the intended position in relation to penalties for non-compliance?

Cré Response: The intended penalty needs to discourage the use of non-renewable sources and to encourage renewable sources. The combination of the cost of non-renewables and the penalty needs to be more expensive than the cost of buying renewables.

Q22: Do you think the proposed obligation poses a significant risk to increased energy poverty?

Cré Response: Yes, the higher rate poses a risk to energy poverty.

Q23: How best could the impacts on energy poverty be minimised?

Cré Response: A gradual increase per year and linking exemption for people on social payments.

Q24: Do you agree with the outlined approach for additional support for green hydrogen?

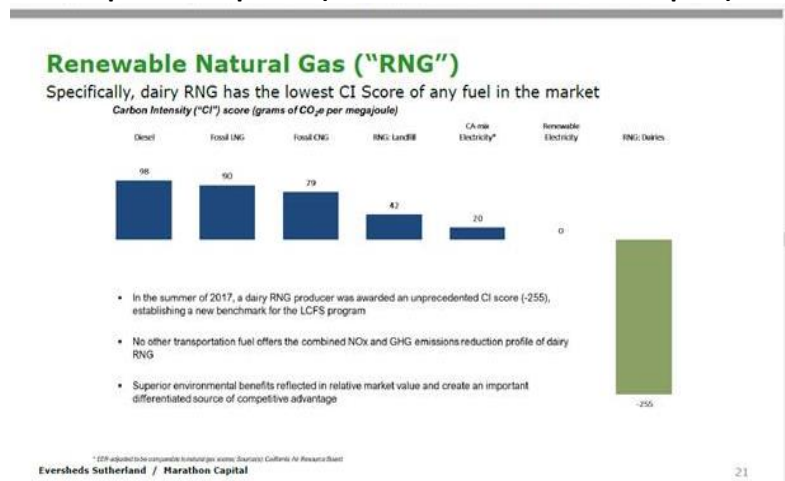
Cré Response: Cré’s remit is to support composting and anaerobic digestion. Hydrogen is not within our remit.

We recommend that Government focus on solutions that are proven, and implementable at scale now and help decarbonise agriculture such as AD. Hydrogen is expensive (both in terms and energy to produce) and whilst it is an important developing technology biogas production is mature and proven, with ~20,000 plants across Europe. Hydrogen has lower emissions at the point of use, biomethane is better carbon footprint when its whole life cycle is considered. Sources states that it takes approximately 1.3kWh of renewable electricity to produce 1kWh of green Hydrogen - and that does not allow anything for the distribution of said hydrogen. While it is good to support new developing technologies as long does not effect of generation of renewable electricity, all benefits should be considered.

Cré’s key position is biomethane is:

- Considerably less expensive than hydrogen
- Is mature technology and ready to deploy now
- Has the potential to decarbonise agriculture
- Biomethane only viable option to decarbonise heavy good transport
- Decarbonise agriculture and transport should have the hight priority to decarbonise in Irish policy.
- Hydrogen has lower emissions at the point of use, biomethane has a better carbon footprint when its whole life cycle is considered. For twenty years Life Cycle Analysis (LCA) studies have told us that biomethane from agricultural and food wastes is the only carbon negative transport fuel option available to mankind, when you consider ‘well to wheel’ and not only tailpipe emissions. The chart below shows the carbon intensity of different fuels and show biomethane is best.

Carbon Intensity of Transport Fue Options (Eversheds and Marathon Capital).



Q25: Do you think that offering multiple credits for green hydrogen in the heat sector might have unintended consequences for supply in other sectors such as transport?

Cré Response: Cré does not support offering multiple credits for green hydrogen. Despite the condition of additionality Cré fears valuable resources to achieve short term decarbonising goals will be wasted. Any addition resources should be spent ensuring there is enough biogas to do the jobs only biogas can do (e.g. HGV transport). The unintended consequences will be not only in electrical transport but in the general renewable electricity supply, for exactly the reason mentioned above. Any incentive for green hydrogen must not divert existing renewable electricity from the grid or impact the 70% renewable electricity targets. It should incentivise additional renewable electricity.

General Input

In examining the consultation, we must acknowledge the big picture of entire anaerobic digestion/composting sector. We have an established sector that can grow. There are factors that need to be addressed affecting availability of feedstocks. We do not have complete roll out of brown bin to all households in Ireland. With these factors in mind we must develop a sector which is sustainable and allows for all bio processing of anaerobic digestion and composting to co-exist as there are many synergies.

In developing a sustainable sector, we must develop in line with carbon sequestration benefits.

It is important when designing the scheme that best practice from other countries should be copied instead of trying to reinvent the wheel.

If the RHO is going to allow for 60 to 80 AD plants in agriculture sector by 2030 for heat obligation, there is also a need for AD plants for transport obligations.

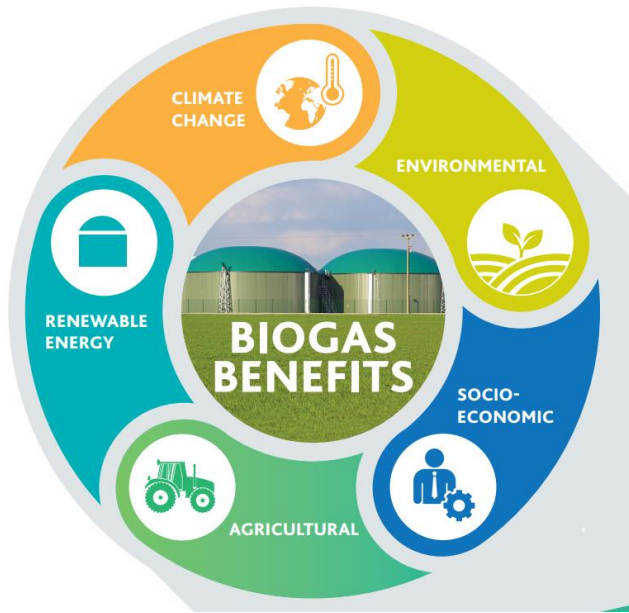
Anaerobic digestion (AD) has been a mainstream and mature industry in many European countries for several years. There is great potential for development of a biogas industry in Ireland that would deliver economic, environment and social benefits to the country. Biogas is produced using anaerobic digestion technology to convert organic waste to energy and fertiliser. This energy can be converted to electricity via a combined heat & power unit and exported to the national power grid. Alternatively, the biogas can be upgraded to biomethane which is the focus of this document. This biomethane can be directly pumped into the gas grid and used for heating or as a transport fuel. Biogas plants can be deployed at different scales. AD can be produced from a wide variety of feedstock. Feedstock to be used by the industry could include, agricultural residues, domestic & commercial food waste, organic waste from industrial sources, animal manures and grass silage produced for grass grown in less intensively farmed areas. Therefore, AD is a flexible technology which can be deployed at varying scales to suit demand.

AD technology involves significant capital investment, and substantial ongoing operating costs. The economics of this technology only make sense with increasing scale. There are also technical challenges associated with biogas including the energy required for compression and decompression to transport renewable gas. The costs associated with incorporation of this technology into a larger scale biogas model will be more justifiable in a medium to larger scale installation close to the gas grid compared to a smaller scale facility situated on farm and off grid.

The proposed level of renewable gas supplied to the national grid from indigenous sources will enhance Ireland's energy security. It will also meet a need of many global investors in Ireland for a supply of renewable gas to help them meet their social responsibility agenda.

The development of a meaningful biogas industry offers Ireland the opportunity to plan our journey towards decarbonising the Irish economy, improving the environment and economic sustainability of Irish farming and making the transition from fossil fuels to more renewable energy sources. Our document focuses on the untapped potential which exists through the development of the Irish biogas industry. We believe that renewable bioenergy sources such as biogas offers huge opportunity and potential in the drive towards reducing carbon emissions and addressing climate change and renewable energy targets.

A biogas Industry can deliver many cross-sectoral environmental, economic and social benefits



BENEFITS OF BIOGAS

