

29th October 2021

Renewable Heat Obligation Consultation
Business Energy Gas Policy Division
Department of the Environment, Climate and Communications
29-31 Adelaide Road
Dublin 2
D02 X285

Re: Consultation on the Introduction of a Renewable Heat Obligation

Dear Sir/Madam,

With reference to the above consultation process, **Stream BioEnergy** welcomes this opportunity to contribute to this discussion on Ireland's energy future.

Company Background

Stream BioEnergy (SBE) is a biogas development and operation company with an emphasis on delivering infrastructure to process organic waste in Ireland. As part of a vision for an improved, safer, more secure and sustainable clean energy future, SBE promotes the use of Anaerobic Digestion (AD) to generate renewable energy from organic materials in a way that safeguards our environment.

SBE has constructed and now operates a £23m AD plant near Ballymena, Co. Antrim, that generates 3MWe from processing 40,000 tonnes of poultry litter per annum. This plant became operational in October 2017 and the electricity generated is exported to the national grid and is sufficient to power c.4,000 homes.

SBE has also acquired planning permission for a large-scale AD facility in Little Island, Cork to process 90,000 tonnes per annum of non-hazardous biodegradable wastes including household and commercial organics. When operational this plant will provide a sustainable way of managing organic wastes as well as generating 10MW of renewable energy, in the form of biomethane, that could be utilised in the heat sector.

Stream is part of a dedicated Irish anaerobic digestion platform being developed with the support of Pioneer Point Partners LLP ("Pioneer") through its fund Pioneer Infrastructure Partners SCSp ("Fund"). Established in 2008 by four partners with over 90 years of combined private investment experience, Pioneer is an independent, sustainable infrastructure investment manager focused on European infrastructure. With deep sector specialisation, Pioneer targets opportunities in the energy transition and environment sectors. Pioneer has particular expertise in the biogas market and currently owns Nature Energy based in Denmark which is the largest biomethane producer on the European grid.

As a developer of critical energy and waste infrastructure we would be obliged if you would consider our comments set out below.

The Benefits of Anaerobic Digestion

AD is a proven and efficient technology that delivers multiple energy, climate, environmental, societal and economic benefits. It can help Ireland meet a number of important energy and non-energy EU and national policy commitments and it has many wide-ranging cross-sectoral benefits. It also has an advantage of flexibility and can be deployed at different scales and designed to process many different organic feedstocks.

Biogas is a valuable product of AD which can play an important role in helping to achieve our EU Renewable Energy Targets for 2030 and beyond. Biogas can be converted to energy via an on-site Combined Heat & Power Plant (CHP) and electricity generated from the CHP process can be used in neighbouring industrial or commercial enterprises or can be fed into the national grid. The surplus heat generated can be used in industrial processes or for district heating systems.

Alternatively, the biogas can be upgraded on-site to biomethane for use as a natural gas substitute to help achieve our renewable heat and transport targets. The upgraded renewable gas can be injected directly into the gas network, a significantly underutilised national resource, to maximise efficiency in distribution and usage. As AD provides a constant supply of electricity, gas and/or heat, it can be used to provide a stable base-load of renewable energy to the grid. The biomethane can also be compressed on-site to create a CNG which can be transferred by road to end-users. Therefore, AD can play a significant role to help achieve an objective of increasing the level of renewable energy used in the heat sector.

As well as producing heat and power that can be fed into our communities, AD has an important role to play in the fight against climate change as it can reduce Greenhouse Gas Emissions (GHG) which Ireland has international commitments to decrease. Landfilling and landspreading of organic wastes and animal manures generates uncontrolled emissions of methane to the atmosphere as the waste degrades. By diverting these wastes to AD, the organic materials are processed in a totally enclosed system which prevents the uncontrolled release of methane. Replacing fossil fuels with renewable energy generated in this manner also reduces GHG emissions.

AD not only recovers the energy from organic waste, but it also produces a nutrient rich digestate that can be suitable for use as an organic soil conditioner or biofertiliser for agricultural and horticultural purposes thus reducing reliance on artificial fertilisers that are becoming increasingly expensive to manufacture. The nutrients contained in digestate are more amenable to plant uptake than other organic fertilisers and thus its use in a circular economy has water quality, environmental and health benefits as it decreases organic pollution potential as well as reducing risk of spreading microbial contamination by avoiding landspreading of untreated manures.

Feedstock's for biogas production include domestic and commercial organic waste (MSW), industrial organic waste from the food and beverage processing industry and sewage sludge from wastewater treatment plants, and organic wastes from the agricultural sector. AD can therefore make a significant contribution to the management of organic materials in Ireland as well as achieving national and EU waste recycling targets.

There is massive potential for a new rural industry generating biogas from farm waste and agricultural organic residues in AD plants. This would support sustainable development in rural areas, provide better control of energy costs for farmers, as well as offering new income opportunities to supplement family

farm incomes which have dropped significantly in the past few years. It would generate jobs in the rural economy and attract young people back to farming.

The agriculture sector faces a significant challenge to moderate its GHG emissions (32% of Ireland's total) and convert to a low carbon sector. Furthermore, targets have been set to increase the output from the Irish Agri-Food and Fisheries industry going forward. This will increase the volume of agricultural organic residues and wastes that will need to be managed in a sustainable way as we aim to address the challenge of converting to a low carbon agricultural sector going forward. AD can make a valuable contribution to achieving this objective in conjunction with increasing food production levels from agriculture, thus achieving sustainable smart agriculture which is a key component in the promotion of Ireland's food exports under the banner of the Bord Bia initiative, Origin Green.

A new AD sector would also create many new direct permanent jobs across Ireland. Employment would also be created in support industries such as engineering and manufacturing and other local professional services. There would be new business opportunities for sectors that can provide services to the AD industry and the development of the AD sector would also promote more balanced regional economic development as investment is made in the local economy and revenue from the plants is likely to be spent locally.

Responses to Specific Consultation Questions

Consultation on the Introduction of a Renewable Heat Obligation

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

Stream Response: Yes, we believe it's appropriate. There is an urgent need to decarbonise the heat sector and while electrification of heating (from renewable generation) will form part of the solution there are many areas (particularly industrial processes) for which this will not be practical or technically possible. It is therefore necessary to grow the market for renewable biofuels to help meet Ireland climate change targets.

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

Stream Response: NA

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

Stream Response: Yes, the obligation should apply to all fossil fuels. If the obligation were to be applied to only some fuels it would create an uneven playing field and potentially lead to incentivising the use of fuels with a higher carbon footprint.

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?

Stream Response: Yes. Given the progress made in decarbonising the electricity system this should be exempt. The electricity system already has a levy in the form of the PSO to fund renewable generation and should not be penalised further. Given the positive benefits of renewable/waste district heating systems we also believe these should be exempt.

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?

Stream Response: Yes. While there are clear efficiency benefits to CHP generation, emissions are still occurring. In addition to this there may be multiple uses behind the consumer meter and differentiation of uses may prove to be complex and difficult to implement.

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

Stream 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?

Stream Response: Initially yes, however consideration should be given to reducing this over time to include smaller suppliers so as not to create an incentive for suppliers to stay below the limit.

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

Stream Response: Yes, given the flexibility and low level of the obligation in the early years 2023 is an appropriate start date. **However, it is important for investor confidence that a definite timeline is adhered to going forward.**

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

Stream Response: Given the flexibility in the initial years (2023-2025) we believe an obligation rate of 1% would be more appropriate to avoid a potential over supply in the market which could undermine confidence from developers and investors.

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?

Stream Response: Stream supports a 10% ambition. Ireland has made little progress in decarbonising the heating sector to date and needs to make substantial progress to meet Irelands climate targets.

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

Stream Response: Yes, this will allow additional time for the industry to implement the projects required.

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

Stream Response: Yes, given the scale of the decarbonisation challenge toward 2030 and beyond to 2050, it is critical that all stakeholders have a clear signal of a long-term stable market and regulatory structure that can facilitate delivery of the necessary solutions to help achieve critical renewable heat targets.

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

Response: Stream agree with suppliers being able to trade credits generated 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?

Stream Response: Yes

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?

Stream Response: Biogas and wood biomass are likely to be the main sources regardless of the obligation rate. There is not a one size fits all solution and which technology is used will depend on the individual situation. Both biogas and wood biomass have the potential to meet the 10% target on their own. Biogas is likely to be sourced from food waste, animal manures, sewage sludges and industrial sludges and organic wastes, while wood biomass is likely to be sourced from forestry residues.

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

Stream Response: There are enough organic wastes in Ireland to meet and surpass the obligation rate of 10%, there are over 50m tonnes of livestock slurries and over 1m tonnes of food waste and industrial sludges suitable for biogas produced each year. However, directing these feedstocks to biogas and other forms of renewable heat with require cross departmental support and planning. In the waste industry further increases in the source separation of organics from MSW is needed, particularly in the commercial sector. This requires further roll out of organic “brown” bins and a program of education and enforcement to increase their use and minimise contamination. Agricultural and industrial organic wastes should be diverted from land spreading in their raw forms and directed towards biogas which will produce a nutrient rich fertiliser that allows nutrients to be recycled to agriculture in a more environmentally friendly and biosecure way, as well as harvesting the energy from these wastes.

With the addition of energy crops (for biogas or biomass) the indigenous resources would be capable of meeting much higher targets than 10%.

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

Stream 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)?

Stream Response: Option B

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

Stream Response: The cost of biogas production can vary significantly depending on the scale and nature of the plant. Smaller on farm plants using energy crops are likely to have the highest cost of production while larger scale waste plants charging a gate fee for feedstock will generally have a lower cost of production. We believe the costs outlined are at the upper end of expectations as large scale biogas has the ability to deliver significant quantities of biomethane at a lower cost.

Q20: Are these costs reasonable to impose on consumers?

Stream Response: Yes. Given the relatively small impact on bills and the urgency with which the heat sector must decarbonise we believe the costs are reasonable. The increased costs of fossil fuel heating will also help make the move to electrify heating look like a more attractive option where it is suitable. The alternative will be the cost of consequences resulting from climate change, rising sea levels, weather volatility, flooding, altered agricultural practices, etc.

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

Stream Response: Yes, the penalties proposed for non-compliance are reasonable.

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

Stream Response: Potentially yes in the short term but with proper planning and ramping up of renewable alternatives this can be minimised and gradually replaced with a more sustainable energy secure future that is less exposed to geo-political and economic impacts associated with current supply arrangements.

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

Stream Response: We suggest any penalties for non-compliance received (above the administration costs) are ringfenced for fuel poverty alleviation measures.

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

Stream Response: No, biomethane and hydrogen should have equal supports in an all-energy solution approach to meeting the significant challenge. We recommend that Government focuses on solutions, such as Biogas, that are proven, and implementable at scale now and help decarbonise agriculture.

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?

Stream Response: Yes. Besides being used in heating and transport Hydrogen is used in many industrial sectors, including chemicals, textile fibre manufacturing, glass, electronics and metallurgy. By giving Green Hydrogen multiple credits it is likely that it will be used in the heating sector rather than transport or other industrial sectors in which a larger carbon saving may be achieved by replacing grey hydrogen with green hydrogen.

Conclusions

Now more than ever there are many broad national reasons for supporting the development of AD in Ireland including the generation of renewable energy that can be used in the heat sector. On a local level it makes sense to recycle our waste into energy and biofertiliser, avoiding harmful GHG emissions and sustaining much needed employment in the process. If the correct economic conditions prevail, in line with other European countries, a new energy industry with huge potential could develop in Ireland.

We trust that you will consider these points carefully in developing a Renewable Heat Obligation Scheme for the future and Stream BioEnergy is available at your convenience for further engagement in relation to any of the issues raised in this correspondence.

I would be grateful if you could please acknowledge receipt of this submission.

Sincerely,

Morgan Burke

Director of Development & Operations
Stream BioEnergy