



Energy for
generations

The Introduction of a Renewable Heat Obligation Consultation

29th October 2021

ESB Generation & Trading



ESB welcomes the opportunity to respond to the consultation on the Introduction of a Renewable Heat Obligation.

This year Ireland committed to achieving net-zero emissions no later than 2050, and to deliver a 51% reduction in emissions by 2030 from a 2018 baseline. Heat energy accounts for 35% of energy related emissions in Ireland with 94% of the heat has still been supplied by fossil fuels. It is essential that a viable decarbonisation pathway for this sector is established to achieve Ireland's 2030 carbon ambitions. Ireland has already been shown to be falling behind its European counterparts, having the second lowest progress to its 2020 RES target out of all Member states. The least amount of progress in Ireland was seen in the heating sector which only delivered over half of its 12% renewable heating target. Therefore, it is timely that further measures are now taken to help decarbonise this sector and ensure that adequate policy support is available. Any policy measure introduced should provide a level playing field for all technologies capability of delivering decarbonised heat. Accordingly, ESB Generation and Trading recommend that the renewable heat obligation should be expanded to give credit to the electrification of heat.

ESB Generation and Trading wishes to highlight the following areas relating to this consultation for further consideration.

Policy approach

A supplier obligation is only one of a suite of policy measures that could be used to support the growth in renewable heat. The consultation paper does not explore these other options or provide qualitative or quantitative evidence to suggest that this is the most optimal approach to drive decarbonisation of the heating sector. The paper simply points to the success seen in the transport sector in using this type of mechanism.

A supplier obligation alone is unlikely to deliver the levels of decarbonisation that will be required to meet carbon budgets over the coming decades. This represents a major challenge facing energy policymakers. Ideally a whole systems assessment of heat should be carried out considering the role of all technologies, including the electrification of heat. A strategy for the further decarbonisation of the heating sector could then be developed and a suite of policy measures could be developed to address key barriers.

Inclusion of electrification of heat

Given the already high penetration of RES-E on the Irish electricity system, and the ambitious goals to drive this up to 80% by 2030, the decarbonisation of heat through electrification is a clear opportunity to drive strong emissions reductions. However, the RHO in its current form does not allow for this

technology to contribute to the obligation. Ultimately, the goal is not just to increase renewable heat but it's also to drive emission reductions as efficiently as possible as we edge closer to a zero-carbon energy system. The electrification of heat would help drive greater emission reductions in the near to medium term at greater scale than its counterparts. ESB Generation and Trading recommends that credits should be considered for the electrification of heat.

Traceability

The decarbonisation of the heat sector will not be a linear process, with certain areas proving much harder to abate. In efforts to maximise emission reductions, the renewable fuels should be concentrated on these users which have no alternative decarbonisation pathway. Therefore, ESB Generation and Trading agrees that the obligation should be fulfilled through supplying renewable energy directly to the customer. The paper stipulates two potential options for the treatment of the indirect supply of renewable heat to a consumer (e.g. through the injection into the gas grid) to fulfil the obligation. ESB GT believes that option B where the renewable energy is equally proportioned across the supplier's consumers is a more practical solution given the immaturity of gas contracting in Ireland. This also is consistent with the approach taken for the transport sector renewable fuel obligation.

Gas composition and quality

The evolution of the gas system to incorporate renewable gases must include the necessary studies and engagement with large gas users to ensure that these renewable gases can be safely used by directly connected users, without causing disruption or damage to their operations. Gas-fired generation can be particularly sensitive to variability and fluctuations in gas composition. Any changes to the gas quality specification could impact generators' performance which could lead to implications for security of supply.

A gas supply evolution is already expected for the Irish system over the coming years. Gas supply from Corrib will decline and the volume of gas demand supplied by the Moffatt entry point will increase. The future governance of, and specification for, gas quality standards at Moffat under GB authority (GS(M)R, IGEM, HSE) are issues which require immediate consideration on the island. The prospect of hydrogen blend at transmission pipeline level, for example, is a realistic option under study currently and likely to be heavily influenced by UK government policy. Carefully consideration is required of these gas supply dynamics along with the those resulting from the introduction of the RHO.

Engagement with large gas users should be carried out to help fully understand the implication of blending renewable gases for both the gas market and the end users of the gas. This will ensure the best outcome, limiting any potential disruptions and keeping associated costs to the consumers resulting from the gas composition change to a minimum.

The scheme's ambition

To fulfil the RHO, the development of a whole new renewable gas production sector in Ireland will be required. This is a challenging goal and will take time, and the flexibility in the establishment phase to allow this sector to scale up may not prove sufficient. This could lead to unintended consequences such as pushing up the cost of the entire scheme due to lack of supply without delivering any further decarbonisation. The ambition of the scheme should be based on an assessment of the feasible scale up of this sector without the reliance of imported biofuels which are unlikely to meet the EU sustainability criteria. Similarly, the ambition of the scheme could indeed be raised if credits were provided for the electrification of heat.

Green hydrogen

The rapid development of a domestic green hydrogen economy is an important component of achieving climate neutrality by 2050. It is timely that measures are now put in place to help stimulate a hydrogen economy in Ireland as it will take decades to scale up to the levels required to help fulfil national carbon target ambitions. Therefore, ESB Generation and Trading welcomes the inclusion of green hydrogen within the scheme.

The level of support required by this renewable fuel needs to reflect the policy and regulatory framework which is currently still being developed for hydrogen. For instance, there is a requirement under REDII to provide additionality and temporal matching of renewable power consumed by an electrolyser, although the nature of the additionality and the level of direct physical connection has yet to be defined. The most stringent definition would create a very rigid hydrogen production and consumption model. This model would hinder leveraging of the full benefits that green hydrogen production can offer such as the provision of frequency support and demand response and realisation of solutions for hard-to-decarbonise sectors of the economy. These details will have a significant impact on the economics of the hydrogen produced. Accordingly, the multiplier of credit should only be determined once the hydrogen regulatory and policy framework has been finalised to reflect the real economics of the fuel. This will likely be much higher than the double multiplier suggested in the paper.

Although we welcome the inclusion of Hydrogen within the RHO, it's now even more critical that an overall Irish hydrogen strategy is developed to help build out this sector and map out its role across the energy industry.

To fully stimulate a hydrogen economy in Ireland, a scheme to support the use of green hydrogen on a per kg of hydrogen produced basis should be developed to be used in various sectors. This should be launched in parallel to the RHO.

In the short to medium term, renewable fuels such as green hydrogen will be in limited supply. Again, to maximise delivery of emission reductions, these fuels should be concentrated on applications that cannot avail of any other route to decarbonisation. A hierarchy of use for green hydrogen would allow this high value fuel to be concentrated in the hardest to abate sectors first, providing greater emission reductions across the economy.

ESB GT suggests that in the short term, an appropriate hierarchy of uses for green hydrogen is:

1. Heavy transport and shipping where electrical solutions do not exist
2. Industrial high temperature heat supply where electrical solutions do not exist
3. Chemical feedstock in industry
4. Zero carbon energy storage and direct use for dispatchable power generation (where the H₂ is produced, stored and reconverted to electricity on site).

This new scheme should focus on the use of green hydrogen in heavy transport as per the hydrogen use hierarchy. The scheme should be designed to make hydrogen use economic relative to the fossil fuel alternative. In time the scheme should be broadened to support use of green hydrogen in according to the proposed hierarchy as supply grows. The RHO could complement this scheme by providing a larger multiplier for applications such as industrial high heat that cannot be electrified.