NexSys (Next Generation Energy Systems)

Submission to Consultation on the Support Scheme for Renewable Heat - Expansion of Operational Aid Supports

June 2025

Table of Contents

Introduction

NexSys (Next Generation Energy Systems) is an all-island, multidisciplinary energy research programme. Through this programme of research, 50 leading academics across 9 institutions are working in partnership with industry to tackle the challenges of energy system decarbonisation, developing evidence-based pathways for a net zero energy system.

NexSys is committed to engaging with national policy processes in order to provide evidence based research and policy insights in support of our net zero ambitions.

This submission is intended to provide evidence-based feedback on the proposed expansion of operational aid support for the Support Scheme for Renewable Heat (SSRH).

Eligibility

Question 1: Do respondents agree with the proposed technology eligibility and plans to expand the support tariff to larger scale installations, including those in the ETS?

- Yes. Allowing larger heat users to take advantage of the scheme will facilitate the decarbonisation of commercial and industrial heating and provide an incentive for the development of more district heating systems in Ireland.
- There is precedent for providing subsidies to other renewable energy sources in Ireland, such as wind and solar, that are also included in the EU ETS and therefore it is acceptable to do this for biomass which is at a lesser stage of development in Ireland than wind and solar generated electricity.
- It is important that with this expansion the state should also include measures to ensure the sustainability of biomass subsidies (e.g. certification to ensure no harvest of virgin forests) as is done in the UK and Netherlands.[1] Biogas sustainability criteria should also be ensured by including a cap to the share of energy crops used as feedstock, as has been done by Germany, Austria and Denmark.[2]
- Biomethane from waste and green hydrogen should both be considered part of the solution to heat decarbonisation for commercial users. Future revisions to the SSRH should give consideration to adding these to the list of eligible technologies under the Scheme.

Competitive Bidding Process

Question 2: Do respondents believe there would be a sufficient number of potential bidders (ie. heat users) to ensure a competitive bidding process for tariff supports in respect of biomass and AD biogas heating systems in the proposed cohort of eligible heat users?

- In the first instance a competitive bidding process would be good practice. This would allow transparency of pricing and identification of the number of market actors. If there are insufficient bidders, an alternative design could be considered.

Question 3: Do respondents have any views on whether a competitive bidding process would restrict tariffs for biomass and AD biogas to certain heat users who were better equipped to enter a competitive bidding process?

- The terms and conditions of bidding should be carefully considered in order to not be too onerous for smaller users.

[1] https://doi.org/10.1016/j.enpol.2019.04.038
[2] https://doi.org/10.1016/j.renene.2018.03.006

Question 4: Do respondents believe smaller target heat budgets for the scheme (ie. smaller heat targets (GWh) per auction), or facilitation support for bidders (ie. support to prepare and submit bids) would assist in achieving a sufficient number of potential bidders to ensure a competitive bidding process for tariffs for biomass and AD biogas heating systems in the proposed cohort of eligible heat users?

- Facilitation support for bidders should help smaller bidders; smaller heat targets alone will block larger bidders but will not help smaller bidders with the administrative burden of applying. Both measures would appear appropriate.

Additional Questions

Question 5: Do respondents believe that an administratively set tariff is optimal for driving investment in biomass and AD biogas heating systems in the proposed cohort of eligible heat users or would an alternative mechanism be preferred?

- Research has found that feed-in tariffs are effective for increasing biogas production in Europe.[3]

Question 6: The administratively set tariffs are set in order to achieve a target 8% IRR on investments. Is this target IRR a suitable incentive to convert heat users to biomass or AD biogas heating?

- This is a question primarily for industry but it would appear appropriate.

Question 7: The tariffs are set for 15 years based on renewable biomass or AD biogas heat delivered. Is this tariff period suitable, or would a shorter, frontloaded, or back loaded tariff structure provide a better incentive to convert heat users to biomass or AD biogas heating?

- There is good evidence that 10-20 years is a suitable period for incentivising investment into biomass and biogas installations. Italy and Germany have previously provided 15 to 20-year supports for biogas;[4] both are now leaders in European biogas production and utilisation.[5]
- In terms of front-loaded versus backloaded tariff structure, it depends on the cost structure of the heating system. If there are very high upfront costs with lower running costs, then frontloading makes sense. If the biogas and biomass AD heating system purchase and installation costs are higher than fossil fuel-based heating systems, then a combination of grant upfront and operational support, as in the previous scheme, are appropriate.

[3] https://www.europeanbiogas.eu/wp-content/uploads/2021/02/BiogasAction-D2.3-Final-version.pdf
[4] https://www.frontiersin.org/journals/energy-research/articles/10.3389/fenrg.2021.719697/full#B5; https://biogas.org.rs/wp-content/uploads/2019/10/New-Support-schemes-for-biogas-and-biomethane-_-ITALY.pdf
[5] https://www.sciencedirect.com/science/article/pii/S096014811830301X

References

1. Banja, Manjola & Sikkema, Richard & Jegard, Martin & Motola, Vincenzo & Dallemand, Jean-François. (2019). Biomass for energy in the EU -The support framework. Energy Policy. 131. 215-228. https://doi.org/10.1016/j.enpol.2019.04.038
2. Güsewell, Joshua & Scherzinger, Katharina & Holstenkamp, Lars & Vincent, Lynn & Eltrop, Ludger. (2021). Extending the Operation of Existing Biogas Plants: Which Follow-Up Concepts and Plants Will Prevail? Frontiers in Energy Research. 9. https://doi.org/10.3389/fenrg.2021.719697
3. Scarlat, Nicolae & Dallemand, Jean & Fahl, Fernando. (2018). Biogas: Developments and perspectives in Europe. Renewable Energy. 129. https://doi.org/10.1016/j.renene.2018.03.006

Contributors

NexSys contributors to the preparation of this submission (in alphabetical order):

- Dr Charlene Vance, School of Chemical and Bioprocess Engineering, UCD
- Dr James G. Carton, School of Mechanical & Manufacturing Engineering, DCU
- Professor Lisa Ryan, School of Economics, UCD

NexSys is funded by Research Ireland Grant no. 21/SPP/3756 (NexSys partnership). Observations and recommendations in this submission do not necessarily reflect the views of NexSys affiliated research organisations or industry partners.

NexSys welcomes further engagement with the Department on this submission and related matters. Any information requests can be sent to john.doody@ucd.ie.