

BEIS Future support for low carbon heat: Decarbonised Gas Alliance response

July 2020

Overall comment

Overall, while the green gas support scheme is welcome, we would argue that the level of ambition may be insufficient. There are currently over 100 biomethane plants, capable of injecting a total of 8.67 TWh of biomethane into the grid each year.

We would suggest that an overall target of 50 TWh a year of decarbonised gas injection by 2030 (including biomethane and hydrogen) would be appropriate, supporting both the decarbonisation of heating and the growth of biomethane and hydrogen trucks.

For example, a level of around 22 TWh of biomethane from anaerobic digestion and around 30 TWh of hydrogen injection into the grid was suggested in the recent Energy Networks Association study as being consistent with a pathway to net zero in 2050.¹

Such a target would imply an ambitious requirement for AD connections over the next five years, as a more market-based support system is introduced. We are also happy to see a holistic review, as part of the forthcoming Heat and Buildings Strategy, to ensure all available options to increase green gas, and the associated costs and benefits, are fully analysed and considered.

Consultation questions

Q1: Do you agree that the tiering structure as outlined above is appropriate and would deliver the best value for money?

Yes. We support the revised tariff bands. It is sensible to encourage larger plants with greater economies of scale.

Q2: What are your views on the impact of a 15-year tariff period to support biomethane?

AND

Q3: What are your views on the advantages and disadvantages of a shorter 10- or 12-year tariff period and whether they would help maximise value for money?

It is worth noting that ongoing costs for biomethane are high, and therefore it is not simply a payback period for capital investment, as is the case to a greater extent for wind and solar electricity generation. Therefore, a reasonable tariff period is needed to account for these operational costs.

¹ Energy Networks Association, Pathways to Net Zero, 2019, p.33 <https://www.energynetworks.org/gas/futures/pathways-to-net-zero-report.html>

We would also note that other government incentive mechanisms – including contracts for difference and the capacity market – have 15-year time-frames, and that the Netherlands offers tariffs for 12 years.

None of this should preclude the move to more market-based support mechanisms, as per our answer to Questions 21 and 22.

Q5: Do you have suggestions of other mechanisms that could be introduced to ensure tariffs deliver the best possible value for money – for example, additional evidence on costs and revenues that applicants to the Green Gas Support Scheme could be required to provide?

There are several complementary mechanisms:

- *Valuing the storage and time of injection into the gas grid, to help meet peak demand:* To some extent, this will be covered by the variable revenue for an AD plant, though the wholesale price of gas, but it is worth considering whether the role of biomethane in helping to meet seasonal peak demand could be further supported.
- *Off-grid areas:* The value of biomethane to support gas usage in areas off the gas grid should also be considered, given that it could replace the need to extend the gas grid. This includes biomethane serving peak demand to support the deployment of hybrid heating systems.
- *Biomethane targets:* The tariff levels could also be related to achieve a biomethane injection target in practice, consistent with our suggestion of an overall green gas (biomethane and hydrogen) grid injection target of 50 TWh per annum by 2030.

Q6: From experience of depression, how do you think elements such as the frequency and size of depression, and spend triggers, should change in order to ensure value for money, whilst meeting the need for investment certainty?

One key issue is that when the price of natural gas falls, it affects biomethane. This needs to be taken into account when setting tariff levels.

The other challenge is that depression has to date led to a rush of plants seeking to commission before the deadline, which means that grid connections are carried out in a stop-start manner, rather than in a smooth way throughout the year. To manage this better, we support the guarantee that those who have successfully applied for tariffs would not be affected.

We would support an annual review to ensure best value for money, together with a manual review process to ensure that industry views are taken into account. As per our answer to question 5, tariffs should be set at a level which ensures that an ambitious target for biomethane is met.

Q7: Do you have further suggestions, beyond those mentioned in this consultation, which would help the Green Gas Support Scheme to deliver the best possible value for money?

We do think that there are other important considerations which should be included in a value-for-money exercise, as well as pure cost:

- First, the benefits of using UK resources rather than shipping in feedstock. It's possible that in some cases this may cost more, but the environmental benefits would be clear. As per biomass, it would be best not to be too reliant on overseas sources.
- Second, other environmental drivers, such as the proportion of waste in the biomass feedstock and the level of fugitive emissions.

Q8: Do you agree with the proposals for tariff guarantees for biomethane? Yes/No. How could this be improved?

We support tariff guarantees, and we accept the commissioning window ending at the same time as the end of the support scheme. But it is important that consideration is given to plants that may be commissioning close to this date – there is no benefit in a last minute rush to complete grid connections, when a more steady approach would achieve the same level of connections overall.

As such, it is important there is clear understanding as on what constitutes commissioned, referring to appropriate industry standards and practices. These standards and practices should be explicitly referred to in the new scheme to provide clarity.²

Q9: What are your views on increasing the minimum percentage of waste feedstocks above 50%, now or in the future? What could be a suitable new threshold?

Overall, we would support increasing the minimum percentage of waste feedstocks above 50%, but would note the following issues, as the overall topic is complex:

- First, we should distinguish between anaerobic digestion and bio-SNG. Bio-SNG will include the gasification of waste, but this is separate to this support scheme.
- Second, for anaerobic digestion, it is important to note that agricultural waste production is very variable, and it is more efficient to keep the AD plant running continuously. It is therefore best to measure the proportion of waste feedstocks on the basis of a rolling average over the year, rather than over a shorter period of time.
- Third, we would support monitoring and reporting on the proportion of waste feedstocks, and making the results public, supporting continuous improvement.
- Fourth, what happens to the residual waste that is not turned into energy is also important. There are opportunities to use the digestate as fertiliser, but equally there are risks of digestate being contaminated and therefore unusable, depending on the type of feedstock for the AD plant.

² Energy Networks Association, *Open Letter on Commissioning Biomethane Plant* (2019) available at: <https://www.energynetworks.org/assets/files/gas/futures/190923%20ENA%20Open%20letter%20on%20biomethane%20plant%20commissioning.pdf>

- Fifth, the need to support agricultural incomes is also relevant, which may lend support to limited energy crop growing.

Q10: In light of recent amendments to sustainability criteria in the RED II, do you have any views on whether the UK should look to take into account similar changes for the Green Gas Support Scheme?

Yes, the UK scheme should align with RED II:

- Buyers of green gas certificates would need to be RED II certified, and would have to do this whatever the Green Gas Support Scheme requires. It is not sensible to have numerous different sustainability criteria.
- Renewable Transport Fuel Certificates (RTFCs) are also relevant, and it would be sensible to alignment with RED II as the sustainability standard.

Q13: What are the reasons for the lack of commercial demand for digestate and how can the market for digestate be strengthened?

We think that a key issue is the quality of the digestate. If there are contaminants that are hard to remove, it may be easier to dispose of the digestate rather than upgrade it. It may also be the case that energy crop feedstocks produce fewer contaminants than waste feedstocks, and so there may be an inverse relationship to the proportion of waste feedstock and the amount of digestate that can be sold – also see our answer to Question 9.

Q14: Do you agree with the proposal not to include an additional capacity mechanism within the Green Gas Support Scheme?

We are happy with the proposal not to have such a mechanism, given the tiering arrangements proposed.

Q15: Do you have any views on how a change of scheme participant mechanism may differ in the Green Gas Support Scheme to the RHI?

We are happy for the change of scheme participant mechanism to be the same for the RHI and the Green Gas Support Scheme.

Q16: Do you agree with the proposal to not allow any interaction between the RHI and the Green Gas Support Scheme?

Yes, with one exception. Allowances should be made for biogas CHP plants (that may be receiving RHI support for the heat fraction) to reconfigure to inject biomethane into the gas grid, where there is a business case and capacity on the network.

The Energy Networks Association “balanced” energy scenario for 2050 sets out a view of the optimal way to reach net zero emissions for buildings, transport, industry and power.³ In this scenario wet bioresources are used to produce biomethane for injection into the network and as such the option for biogas CHP plants to reconfigure should be maintained.

Q17: Do you agree with our proposal to allow biomethane producers to decide how much biomethane they wish to claim Green Gas Support Scheme payments for within a given quarter?

Yes, we support the proposal to allow dual participation in both the Green Gas Support Scheme and the Renewable Transport Fuel Obligation (RTFO). This is a good example of a whole systems approach that will also support a growing number of biomethane trucks on the roads.

Q18: What are the main barriers to the deployment of biomethane AD plants and what potential solutions could help to overcome these?

There are several barriers that we would highlight:

- **Planning delays:** A number of AD plants have experienced delays in obtaining planning permission. While delays are unfortunately a common and expected feature of the UK’s planning system for most sectors, they will make it more difficult to achieve net zero targets. As part of the forthcoming planning policy paper later in July, we would urge that the approvals process be speeded up for AD plants, or at least that existing timelines are met with more consistency.
- **Grid capacity:** In some areas, the capacity of the local gas distribution network is insufficient, especially in summer when demand is lower. The Wales & West Utilities business plan, submitted to Ofgem in December 2019⁴, proposed a net zero uncertainty mechanism that would unlock investment in the gas network to provide additional capacity through the use of smart control systems and compression to higher pressure tiers on the network. BEIS should ensure that Ofgem allows this mechanism in the next price control period.
- **Network codes:** Some of the gas network codes are written for natural gas with large injection points, not for a greater number of smaller injection points. The networks have been pursuing a programme to standardise connections since late 2018 to address this, to simplify the connection process and hence lower project costs.
- **Propanation:** To meet gas quality requirements, specifically with regard to the energy content of the gas, propane is added to biomethane before grid injection. This protects consumers by ensuring that they receive the energy content they pay for, but negates some of the environmental benefit of biomethane. Further, oxygen limits also pose an issue for biomethane, which tends to have higher oxygen content than natural gas. The revised gas quality standard being consulted on by IGEM would address the oxygen issue by allowing up to 1% oxygen throughout the network, and we support this change. The Future Billing and Real Time Networks projects would also allow customers to be billed based on the actual

³ Energy Networks Association, Pathways to Net Zero, 2019 <https://www.energynetworks.org/gas/futures/pathways-to-net-zero-report.html>

⁴ See <https://www.wvutilities.co.uk/media/3567/3-wvu-business-plan-december-2019.pdf>

energy content of the gas they receive, rather than a flow-weighted average. This would remove the need for propanation.

Q19: Do you have views on how the Green Gas Support Scheme could be improved, beyond the ways described in this consultation?

As we set out in our introduction, the ambition of the scheme should be raised, consistent with a target of at least 50 TWh of green gas (biomethane and hydrogen combined) injection by 2030. Such a target would imply an ambitious requirement for AD connections over the next five years, as a more market-based support system is introduced.

Q20: Do you have any views on the most appropriate market-based mechanism for green gas support in the longer term, and how this might operate?

AND

Q21: Do you have any views on industry readiness for a market-based mechanism to support green gas in the longer term?

We think that a contract for difference (CfD) would be a suitable market-based mechanism. It is well understood and has worked well in bringing forward considerable renewable electricity generation capacity. With an auction mechanism, it has also led to considerable cost reductions. It could work for both biomethane and hydrogen injection into the network.

There are, however, several points of detail worth emphasising:

- A CfD would only incentivise green gas production that meets minimum sustainability criteria, which is particularly important for bio-feedstocks, and so a top-up if sustainability criteria are exceeded should be considered. Similarly, if the CO₂ from AD plants is captured and stored, or used for e.g. methanation of fuels, it could be incentivised by a top-up to the CfD.
- Depending on the outcome of the ongoing BEIS work on hydrogen business models, auctions for green and blue hydrogen may need to be in different categories, given the different cost levels of the two technologies.

We would recommend that a CfD be adopted as soon as practical, depending on the outcome of the ongoing hydrogen production and CCUS business models work. We think that industry would rapidly gear up once a longer-term business model is visible.

Q36: Do you agree with the proposed budgetary control mechanisms as a means of preventing scheme overspend?

The key issue is the level of the cap, and whether it enables sufficient biomethane production. A cap should not be set at a level lower than that which enables a pathway to a target of 50 TWh per annum of green gas injection capacity (biomethane and hydrogen) by 2030.

Q41: Do you agree with not supporting hybrid systems under the Clean Heat Grant?

No. Hybrid heating systems are an important part of a decarbonised heating mix, avoiding the peak electricity demand issues of full heat pump solutions, and, through reducing the load on the gas system, increasing the proportion that can be supply by biomethane or hydrogen.

In one part of the Wales & West Utilities network (the North Gloucestershire zone), year-round biomethane levels are reaching the point where there is enough green gas to supply the boiler if hybrid systems were widely adopted across the area – thus ready to decarbonise home heating when combined with enough renewable electricity.

Appendix: About the Decarbonised Gas Alliance

The Decarbonised Gas Alliance (DGA) is an alliance of over 50 gas producers, transporters, suppliers and users, hydrogen and carbon capture experts, alongside R&D, supply chain, trade union and local government specialists whose knowledge and expertise will be vital in decarbonising the UK's gas system and improving poor air quality. Our website is found at www.dgalliance.org

Our aim is to work with all levels of government and with other expert organisations to use the gas system as a whole to help deliver our emission reduction and air quality goals. We believe that decarbonising gas – including biogases and hydrogen from a variety of low carbon methods – would make best use of our existing infrastructure and lower the overall costs of decarbonisation.

The DGA is a broad-based alliance, established in late 2016, and has now expanded to over 50 signatory organisations, which are listed in full in the diagram below. The DGA secretariat is managed by DNV GL, a global specialist firm which provides advisory, certification and other technical assurance solutions covering a range of energy sources.

We welcome the opportunity to provide our views on future support for low carbon heat, and we are happy to provide further detail, if this would be useful to BEIS.

