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Strategy for the next gas distribution price control - RIIO-GD1 Outputs and incentives

The Renewable Energy Association (REA) is the largest renewable industry body in the UK, with over 650 corporate members. These companies are active across the range of renewable electricity, heat and transport technologies.

The REA welcomes the opportunity to respond to this consultation. The core membership we seek to represent is renewable energy producers, renewable fuel providers, renewable energy equipment manufacturers, installers and project developers. We also have many corporate members with interests in these areas, but whose core business lies elsewhere.

Our members are also involved in the injection of renewable gas into gas distribution networks. This response focuses on the specific questions in the "Outputs and associated incentive mechanisms" document which covers the issue of biomethane connections.

General Comments

Biomethane injection into the gas networks has substantial benefits for future UK consumers, contributing to a low carbon and sustainable energy sector. Given sustainability is central to the RIIO framework we hope the wider benefits of renewable gas will be taken into consideration and reflected in the price control.

The current charging arrangements need to change to ensure they are truly cost reflective and include the broad network benefits. One of the key barriers are the connection costs and the REA believes that there is innovation that can reduce these significantly.

The next price control period starts in 2013, but it is important that urgent steps are taken in 2011 to promote competition in the provision of injection related plant (e.g. measuring equipment and instrumentation) to reduce costs. The REA estimates that whilst current 'injection' related costs (excluding pipelines) are around £600k, a figure of around £200K is more appropriate, similar to the level that applies in the Netherlands.

Ofgem's duties have been strengthened and now have a greater emphasis on protecting future consumers, promoting reduction of GHG emissions and contributing to the achievement of sustainable development. Ofgem should use this opportunity to appropriately incentivise and remove any barriers for biomethane injection, in line with its duties.

In Germany there is an obligation on the gas distribution company to accept biomethane into the local grid, with the costs to provide capacity (by installing compression plant within the grid) socialised. The REA believes it would support innovation and the development of biomethane market if Ofgem and the GDNs were able to agree that this should also apply in GB. The REA believes the GDNs should be incentivised in relation to both capex and opex to provide capacity.

Response to specific questions asked

CHAPTER: Two

Question 1: Do you agree with our proposal to require GDNs to report the capacity of bio-methane connected as a broad measure of environmental impact but not to adopt an associated financial reward/penalty?

As above, in Germany the gas distribution networks have to provide capacity, even if this means installing gas compressors to move gas from one tier of their grid to the higher pressure tier that feeds it. We should have this in GB. It would not apply to Low Pressure Grids but could apply to MP, IP and LTS. The REA envisages that the compression plant would be funded, installed, owned and operated by the GDN which would earn a return on these assets. The opex associated with running the compressors (usually they will operate only in summer) would be subject to incentive arrangements to encourage efficiency, though we believe the carrot is much more appropriate than the stick in relation to this activity and GDNs should see the additional effort, risk and complexity as worthwhile.

Question 2: Is there any other measure of environmental impact which you believe could be financially incentivised, bearing in mind the need for an output to be measurable and controllable by the GDNs?

GDNs could consider promoting the use of dual fuel diesel-CNG trucks with compression plant connected to higher pressure tiers (e.g. LTS) as this offers significant CO₂ benefit compared to running trucks on diesel alone. To compress gas to 250 bar from 40 bar requires only around 25% of the electricity compared to 0.5 bar to 250 bar and hence this should be incentivised. With 15 million vehicles in the world now on CNG but less than

50 in GB, it is time that we considered this market, especially given that it is believed that dual fuel diesel-CNG can reduce well to wheel CO2 emissions by 20- -30%/

Question 3: We would welcome respondents' views on the expected take-up of biomethane following the introduction of the Renewable Heat Incentive (RHI).

Until the level of RHI is announced it is difficult to predict. If the RHI is at least as attractive as electricity generation then there could be 40 biomethane projects by 2015 and around 200 projects by 2020. Of these, around 30 - 40% would benefit from Compression within the network to provide capacity. The German market has shown major growth since injection started only 3 – 4 years ago and GB could follow a similar growth curve.

If the costs of the injection plant are reduced as the REA believes they should be then this could further support the market. Without reform of standards and reduction of costs from £600k to £200k it may be that biomethane production of 200 m³/hr is the smallest level that would be economically feasible for grid injection. With lower costs, this level could fall to 100 m³/hr which result in additional biomethane to grid projects, with their higher energy conversion efficiencies and greater contributions to renewable energy targets.

Question 4: Are there any wider-network benefits associated with bio-methane which might imply that we need to change the current connection charging boundary?

If there were 200 projects, say 25 per GDN area, then diversity effects would mean that some capacity credit was possible. However, given forecasts of gas demand that are generally flat, the main benefit is that the gas grid can use 'Green Gas Certificates' to carry bioimethane to efficient appliances e.g. fuel cells or new housing with CHP and district heating. Also, supermarkets are interested in 'food waste to AD plant to biogas to biomethane injection' with an equivalent amount of gas used to fuel dual fuel diesel-CNG trucks. The gas network could act as the conduit to allow and stimulate such efficient and low CO2 developments.

There are 3 additional benefits that REA members have pointed out:

- Use of the gas grid to move biomethane energy will reduce the requirement to use electricity grid capacity to move energy from AD plants, reducing the investment required to support wind projects
- The gradual replacement of fossil natural gas with biomethane (initially from AD plants and then as bio-SNG from gasification of waste) provides a pathway that would allow the UK Government to meet GHG targets in 2050
- The use of biomethane to support gas throughput beyond 2030 means that charges to gas consumers will be lower than if the grid was only transporting fossil natural gas (in which case overall gas usage would need to be lower to achieve the required GHG reductions). This is very important as there are many gas consumers for whom alternatives such as ground source heat pumps will not be possible.

Question 5: We would welcome respondents' views on our proposed approach not to recover connection and downstream asset costs through general network charges. In

particular, we would like to hear views on the potential rationale for socialising the costs of connecting bio-methane plant, and how we might be able to do this within our vires.

The key issue in 2011 is to make appropriate adjustments to the measurement standards for biomethane injection. This cannot wait until 2013. The REA believes that the costs for injection related plant (gas quality monitoring, odorant addition, CV measurement, gas flow metering, telemetry, pressure control) could fall to less than £200k (from around £600k). It is important that this change is given priority.. There are good arguments that the biomethane producers should fund some of this equipment so that they can generate efficiencies such as using one analyser for the biogas clean up and upgrading plant and for the injection analysis. However, the REA recognises that if some of this plant is funded by the GDNs it should also be possible to deliver efficiencies and this should also be considered as an option. The option of GDNs providing a financial allowance and others building the plant may be the most efficient outcome as this would promote competition and innovation.

Question 6: Do you agree with our proposed approach of logging-up costs associated with bio-methane connections in the event that the connection boundary changes?

The REA does not agree with the logging-up approach as we believe the GDNs should be incentivised to support the development of the biomethane market in a more positive way, with no delay to remuneration. The REA has been pleased with the benefits from the National Grid/Adnams and SGN/Didcot projects but believes that the IFI fund is too small to support the important early market innovation that is required and Ofgem should make available funding of around £10M in the period 1 April 2011 to 1 April 2013.

Such funding would be used to encourage projects that create competition, develop the supply chain and provide capacity (eg installation of compression plant). We are not suggesting that such capex is invested without any efficiency test and would recommend that the IFI guidelines are used but with the presumption that the investment will be efficiently incurred and hence can be rewarded in the same time-frame that it is incurred. From 2013 an appropriate incentive regime would then take-over.

Question 7: Are there other issues we should be considering for the price control in relation to distributed gas (predominately bio-methane)?

In relation to the change in standards necessary to ensure that arrangements in respect to biomethane are economic and efficient (as set out in the answer to Q5 above), the industry has agreed that biomethane producers should add propane to FWACV¹. This is a key point and protects consumers from receiving gas at a lower CV than they pay for.

The biomethane industry wants to modify Gas Thermal Energy Regs to make them more fit for purpose for biomethane, but without changing them for the rest of the gas that goes into the NTS or direct to GDNs.

The REA believes that a simple way to achieve this would be the following:

¹ There may also be particular locations where blending can be used to avoid the need for propane addition.

- Ofgem and the GDNs would agree a 'Biomethane Energy Measurement Protocol' ("BEMP") which Ofgem and the GDNs would consult on with the industry (shippers and biomethane producers) and adopt as a mandatory requirement in the NEAs for biomethane. There could be a Network Code Modification to enforce this if that was thought to be helpful.
- The BEMP would also set out minimum standards for the 'upstream' measurement of CV that is used to control the biogas clean-up and upgrading plant, providing an additional safe-guard
- Given the BEMP, Ofgem would agree NOT to DIRECT the site.
- Instead, the protection would be in the BEMP. This would set out standards for CV, for flow, for transmitting data to Xoserve etc. Crucially it would also refer to the NEA provision in relation to meeting FWACV. This would mean that expensive items including Uninterruptible Power Supply, heated room, very high accuracy, tamper-proof computer etc would not be required.

This would not discriminate against any other sources of gas, would be simple to implement and could be seen as a 'sensible deregulation' by Ofgem to facilitate a renewable energy market, reducing overall costs BUT at the same time protecting consumers from receiving gas at one CV and paying as if they had received a higher number.

Ofgem could facilitate the drafting of the BEMP and could then consult on it. The REA requests that Ofgem considers this approach now and does not wait until 2013

The use of compression plant to provide capacity is critical and of huge value to the biomethane producers and should be encouraged by Ofgem now.

Finally, on the path to 2050 it will be important that the UK develops capability to make Bio-SNG from the gasification of waste. National Grid and Centrica have recently completed a Feasibility Study in relation to this and Ofgem should encourage and incentivise the industry to take this initiative forward as the prize in terms of CO2 benefit compared to other options appears to be very significant.

Question 8: What information would distributed gas users find useful to help them connect?

Likely capacity availability in MP and higher pressure networks (less of an issue if the GDN was willing to install compression or, like in Germany, had an obligation to provide capacity)

The REA's final comment relates to the process for taking forward the changes we have described above. We believe that some work can commence immediately (eg review of standards of CV measurement and the BEMP), but others may take 6 – 12 months. It would be helpful if Ofgem, the GDNs and the biogas production industry were able to agree a process to resolve these issues and that this was set out in the AD Plan being developed by DEFRA/DECC and the industry.

We hope that you find these comments useful. Please let me know if you would like to discuss them further.

Gaynor Hartnell

Chief Executive, Renewable Energy Association