

FUTURE SUPPORT FOR LOW CARBON HEAT

Consultation response

OGUK is the leading representative organisation for the UK offshore oil and gas industry. Our membership includes around 400 organisations with an interest in the UK's upstream oil and gas sector. As the champions of industry, we work on behalf of the sector and our members to inform understanding with facts and evidence, engage on a range of key issues and support the broader value of this industry in a changing energy landscape. From exploration through to decommissioning and located across the length and breadth of the UK, our members are critical to safely providing security of energy supply, while supporting around 270,000 jobs and contributing billions of pounds to the economy each year.

The offshore oil and gas industry was one of the first industrial sectors to support net-zero with the publication of Roadmap 2035 – a blueprint to net zero. In June 2020, the UK's offshore oil and gas industry committed to halving operational emissions in the next decade, confirming its pathway to becoming a net zero emissions basin by 2050¹. The sector is one of the first in the UK to commit to industry-wide targets and provide details on how they will be achieved.

We are also currently discussing a Sector Deal with government which will include some of the measures necessary to support carbon capture and hydrogen and the significant contribution these technologies will make to decarbonising current uses of oil and gas. OGUK is a member of the Decarbonised Gas Alliance (DGA) and also endorses the content of the DGA response to this consultation and, in particular the objective of a target of at least 50TWh of decarbonised gas, encompassing biomethane and all types of hydrogen, by the year 2030. Oil and gas companies, including our contractor members, are already playing a strong role in developing projects aimed at carbon capture and the supply of hydrogen.

It is clear that all decarbonised gases will have an important role to play in helping the UK achieve net zero as part of a range of several technology options. Likewise, hydrogen from both electrolysis and methane reformation with carbon capture and storage will be needed to achieve a decarbonised gas sector at the required scale. A large proportion of hydrogen supply will initially be from methane reformation with CCUS since this will deliver lower cost and larger volumes more rapidly.

Decarbonised gases are needed as, although some elements of heat and transport demand are well suited to the replacement of oil and gas products by electricity, there are many other current energy uses where solutions based on electrification are either impractical or may not be supported by consumers. Furthermore, continued use of gaseous fuels allow the UK to make maximum use of the existing infrastructure and expertise and achieve decarbonisation at lower cost and more quickly.

OGUK and several member companies are already participating in the BEIS expert groups on CCUS and Hydrogen which are considering future business models. These discussions are highly relevant to the consultation on future support for low carbon heat since, as a general principle, all decarbonised solutions should be fully integrated with existing energy market and system operation rules. Although the proposals in the consultation to implement a feed in tariff mechanism are relevant to early stages of development, in the longer term, such mechanisms are not suitable for large scale decarbonised solutions. Any feed in tariff measures should therefore have clear limits

¹ <https://oilandgasuk.co.uk/product/production-emissions-targets-report/>

as to the overall volumes of biomethane or hydrogen being supported in this way and a roadmap towards technology neutral and market-oriented support mechanisms, aimed at reducing GHG emissions.

The attached Annex sets out OGUK responses to the individual sections based on the questions in the consultation document. These mainly concentrate of the development of the market for decarbonised gases rather than those referring to building level technologies.

OGUK
7 July 2020

ANNEX DETAILED RESPONSE TO CONSULTATION QUESTIONS

Feed in Tariff for Biomethane (Questions 1-8)

Feed in tariffs should be a stepping-stone to a market-based system where the value of the biomethane, like other gaseous fuels, is determined by supply and demand, with the decarbonisation element underpinned using market based instruments such as carbon prices and tradable Guarantees of Origin. As such, feed in tariffs should be considered an appropriate mechanism for the initial phases of technology development. In this regard, the degressive tiering structure outlined in the document is appropriate as it allows for implied support levels to fall as volumes increase.

In the meantime, the feed in tariff levels being considered should be based on competitive processes, which both recognise costs and GHG savings on a life cycle basis and avoid wide divergence from existing gas prices. Ideally this feed-in tariff should be open to all gases with a lower GHG footprint than natural gas. Competitive processes are preferable on value for money grounds and to ensure ongoing wider consumer support since the additional costs will be collected from levies on gas consumers. The overall costs of such mechanism should be controlled through regular auctions and process to revisit costs.

Feed in tariffs should also avoid creating unrealistic expectations on the part of producers of particular levels of subsidy being maintained and point to a stable medium-long term framework. Contract structures should therefore take account of other decarbonised gas solutions based on hydrogen emerging and that the expected increase in overall volumes should indicate a more market integrated solution. The ultimate objective should be for all decarbonised gases to compete in the market on the same basis without technology specific support. This is discussed further below in the response to Q21-22.

Feedstocks (Questions 9-13)

No comments

Plant eligibility (Questions 14-17)

No comments

Barriers to decarbonised gases (Questions 18-19)

Both biomethane and hydrogen will need to be accepted into existing gas networks to allow for blending alongside the development of dedicated infrastructure. OGUK currently participates in the Gas Market Action Plan (GMAP) process being run by National Grid. Likewise, the Institution of Gas Engineers and Managers is running a process aimed at identifying changes required to the Gas Safety Management Regulations (GSMR) so that networks can accept a wider range of gases safely. These processes are aimed at identifying and addressing potential barriers to the adoption of decarbonised gases. One particular issue related to biomethane are the requirements set out in the Calculation of Thermal Energy Regulations (COTER) relating to CV-averaging which currently can require blending with propane before injection into the gas networks.

These working groups are considering a range of other system operation questions relating to potential changes to the GSMR standards, issues related to balancing and the changes required to incorporate Hydrogen into the gas markets. In particular, the interface between transmission and distribution businesses is likely to become more complex. This work is ongoing: however it is becoming clear that, as volumes increase, some of the issues

that have previously been dealt with through localised exemptions may need to be incorporated into the normal process for setting the network codes through the UNC network code process.

Green gas support in the longer term (Questions 20-21)

Using feed in tariffs can be an effective support mechanism during the initial stages of technology development. However, in the longer term, removing large volumes from normal competitive processes will erode the liquidity of wholesale markets and disrupt efficient system operation. This also risks undermining the successful functioning of the energy market that has underpinned competitive gas markets and efficient investment and operation. Feed in tariffs have been gradually phased out in the electricity sector in favour of more market-oriented approaches which retain volumes in the traded market.

Government should therefore develop a policy roadmap to support decarbonised gas in the short, medium, and long term and avoid creating unrealistic expectations. Businesses need to be ready to adapt to more market-oriented approaches as has been used successfully in the electricity sector.

In the medium to long term, all decarbonised gases should be fully integrated with the existing gas market and infrastructure with prices set according to the supply and demand for all gases. This would mean that the market price for the *energy* content (i.e. p/therm) of decarbonised gases would therefore usually be the same as the market price prevailing in the wider gas wholesale market.

In order to then provide the necessary recognition of the decarbonised content of gases some form of certification process will be required which would then be subject to support mechanisms. This will need the production of decarbonised gases (including Hydrogen) to be evaluated and verified in terms of the level of decarbonisation offered by different technologies in different circumstances as they can vary significantly. Once this has been established, a preferably technology neutral mechanism, which permits market integration can be considered. For example, models based on contracts for differences (CfDs), which provide an additional reward for carbon emissions avoided, or gas GHG intensity targets (supplier obligations) are both possible routes to a more sustainable market-oriented approach for all low carbon gases including biomethane and hydrogen.

Whether support is through CfDs (mirroring the UK electricity subsidy structure) or setting gas GHG intensity targets, these are likely to increasingly have an impact on consumers' bills, whether through certificate prices or any levies to support CfDs. This underlines the need for a competitive and efficient process in order to manage these costs and maintain public and wider policy support for decarbonisation.

Policy measures need to be efficient and similar to those prevailing for other parts of the energy sector to arrive at efficient decarbonisation outcomes. Also, additional measures may be required to ensure other fossil fuels which have a higher carbon footprint than natural gas are not advantaged from a pricing perspective. The detailed market design for decarbonised gases will need to consider several issues in view of the various different uses for the product across both heat and transport. Not all of these issues can be solved immediately but the attached Appendix sets out some possible principles for further consideration.

Building Level Technologies (Questions 22-35)

A simple flat rate grant scheme for building level technologies as set out in the consultation is an improvement on the various overlapping and sometimes contradictory measures that existed previously. As discussed above, moving away from tariff-based approaches avoids negative impact on energy markets and competition and promotes efficient investment and operations. However, grants must be sufficiently generous to ensure uptake:

the £4,000 flat rate grant (vs installation costs of £10,000+), and cap on effectively 12,000 applications a year, is probably insufficient given the scale of decarbonisation required.

Financial management of funding delivery (Questions 36-37)

As discussed above, feed in tariff measures should be relatively limited in terms of the volumes being supported and time frame. The budgetary control mechanisms for biomethane are supported.

Technologies not supported (Questions 38-41)

Decarbonisation of *process heating* is likely to be dealt with through other policy measures including the future UK carbon pricing system (to replace EU ETS) supplemented by other funding mechanisms. Therefore, larger commercial and industrial decarbonisation appear to be out of scope for the schemes being proposed.

Government should not rule out *hybrid systems* under the Clean Heat Grant and keep eligibility conditions under review as new technologies emerge. 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.

Other policies to support decarbonised heat could include requirements and minimum standards relating to e.g. hydrogen ready boilers.

No comments on exclusion of *direct biogas combustion* and *solar thermal*.

Compliance (Questions 42-44)

As discussed above, certification, compliance and enforcement are all crucial to the successful development of all decarbonised technologies including green gases. The Emission Trading Scheme is a good model to build on in that it has clear Monitoring, Reporting and Verification requirements and a well-understood annual cycle.

APPENDIX

DRAFT PRINCIPLES FOR LONGER TERM DECARBONISED GAS AND HYDROGEN MARKET DESIGN

- A fragmented market for different grades/colours of hydrogen or other decarbonised gases should be avoided. The wholesale market price for the energy content of all gases in terms of calorific value (i.e. p/therm) should be derived from the interaction of supply and demand from the current gas market.
- As for the electricity sector, decarbonised gas producers should be responsible for selling, or arranging the sale of, their output into the market and be subject to the balancing arrangements provided by network operators.
- With respect to retail supply, this should continue to be based on freely negotiated arrangements between market participants. If a “premium” element is developed (such as delivery at a certain location to a particular customer), or physical product (e.g. suitable for transport use), this will be reflected in individual contractual structures. There should not be direct regulation of decarbonised gas prices to end users.
- Although wholesale and retail prices should not be subject to ex-ante price regulation the market may need to be subject to monitoring by the energy regulator. Suppliers and shippers of decarbonised gases should be licenced in a similar way as in the natural gas market today, potentially with bespoke licence conditions. It is also presumed that market participants will be subject to competition law.
- Balancing arrangements will be required so that some volumes of decarbonised and hydrogen gas produced can be blended into either transmission or distribution networks:
 - production facilities may need to be larger than any “anchor” loads from industrial demand as supplies will need to be reliable in order for e.g. industrial users to switch to new equipment;
 - production facilities may, initially, also need to be oversized and anticipate demand emerging in order to take advantage of scale economies;
 - there may also be inherent imbalances between e.g. production and withdrawal of hydrogen as methane reformation is most efficient if run 24/7 whereas some industrial loads may be more intermittent.

Allowing for blending of gases will require modification of the Gas Safety Management Regulations (GSMR) and also potentially change gas transmission and distribution licences, Calculation of Thermal Energy (COTER) Regulations and the UNC code. This may include interface arrangements between, for example dedicated hydrogen systems and the residual domestic gas networks.

- In terms of support mechanisms, if a Contract for Difference (CfD) system is used: The CfD payment should take into account the following factors:
 - the costs of an economic low carbon gas project, including some indexing to the gas price as a key input,
 - value of energy in the market (e.g. value of natural gas),
 - a suitable proportion of the expected additional revenue (“premium”) accruing to decarbonised gas producers as a result of existing carbon prices (e.g. higher prices received from e.g. industrial users where use of decarbonised gas avoids the costs of emission allowances from the ETS or UK successor system).

- A support mechanism based on GHG intensity obligations on suppliers (heat or transport) or a parallel voluntary market are alternatives to the CfD model that would aim at achieving a particular GHG intensity, which can be met by a combination of decarbonised gases of different types. Credits would need to be issued on the basis of the reduction in carbon emissions from decarbonised gases vs. standardized natural gas. The suppliers would then be able to purchase these credits to meet the GHG intensity standard for gas. A GHG intensity obligation would create a separate market for carbon credits of decarbonised gases, meaning that producers of decarbonised gases would receive an additional revenue stream.
- Interfaces with EU ETS and the future UK regime will need to avoid inconsistent or overlapping incentives and, as far as possible, aim at a consistent set of technology neutral carbon prices across the whole economy. In the long run all regulatory frameworks aiming at reducing carbon emission to meet UK government objectives should face the same or a similar price for carbon across all sectors.