EFET
European Federation of Energy Traders

EFET response to DESNZ consultation on hydrogen blending into the GB gas distribution networks

The European Federation of Energy Traders (EFET[1]) thanks the Department for Energy Security & Net Zero (DESNZ) for the opportunity to provide our views on the market and trading arrangements regarding purchase of low-carbon hydrogen produced for blending into the GB gas distribution networks.

On a general note, we wish to highlight that pure hydrogen grids prospectively interconnected to the methane grid, based on flexible blending thresholds, are key for the efficient operation of the interconnected GB gas system, security of supply and efficient decarbonisation. Markets are best placed to determine the commercial attractiveness of hydrogen blending into the methane network. For this reason, legislative frameworks should accommodate for the preferred solution without threatening market fragmentation.

The use of existing storage technologies to balance the different systems – including quality balancing to ensure the blended grids can maintain appropriate proportions of methane and hydrogen – will be challenging in the short to medium term. Until new technologies, such as hydrogen storage, cheaper membranes, and dynamically adjustable turbines, become available and mature, market design around gas quality should factor in potential technological developments and not preclude the economics of co-transportation. The interconnected network will serve as the hardware to underpin trading in hydrogen certificates. Therefore, limited flexibility in the infancy stage of the market risks unnecessarily reducing interconnectivity and ability to trade hydrogen, including across the UK-EU borders.

We consider that technical standards for hydrogen and methane quality, which should allow for a reasonable degree of aggregation on both supply and demand side to underpin a wholesale market, merit further thinking by DESNZ and should possibly be separately consulted. The same holds for the notion of the *"gas day"* in hydrogen networks and the allocation timeframes for offtakes from the hydrogen network to the methane one, and vice versa, for balancing purposes.

[1] The European Federation of Energy Traders (EFET) promotes and facilitates European energy trading in open, transparent and liquid wholesale markets, unhindered by national borders or other undue obstacles. We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the transition to a carbon neutral economy. EFET currently represents more than 140 energy trading companies, active in over 27 European countries. For more information: www.efet.org

Question 5: Do you agree with the proposed lead option to allow both gas distribution network operators and gas shippers to purchase hydrogen produced for blending?

We are in principle supportive of the basic concept put forward by DESNZ. The shipper ought to be responsible for purchase of hydrogen, whether it is blended into the existing gas network or for other purposes, to the extent they can. However, we expect that there are going to be balancing issues arising from this. Therefore, the system balancer, i.e., the DSO, must, as a last resort, have some capability of buying hydrogen for other purposes.

As hydrogen clusters start being integrated into the regulated network, quality requirements and limitations that the blended system must operate under will be key to solve imbalances, as hydrogen and gas are off taken (and reformed) from one network into the other. As the market kick-starts, the proportion of methane to hydrogen, and vice versa, must be reasonably constant and fairly fixed for network users. The system operator is responsible not only for balancing gas networks for the volume or pressure of gas within each respective network, but also for quality balancing to ensure that constancy in the proportion in the blended network.

If the proportion is affected, or if the system is generally short, the DSO should be able to sell gas and buy hydrogen into the blended network or buy gas on the balancing market to balance the network. We expect that, because of interconnections in the hydrogen system and the blended system, flexible hydrogen will contribute to balancing the blended system. However, as the market is still based on limited numbers of hydrogen producers and consumers, the DSO will need to be able to flexibly manage the network. Hence, a shipper-led network, where the shipper can input any combination of methane and hydrogen units they wish, should be complemented by the role of the TSO as manager of quality and balancing.

Question 6: Given blending's proposed strategic role as a reserve off taker, do you agree that certificates for low carbon hydrogen injected into the gas network should be precluded from onward sale after the point of injection?

We do not support the proposal put forward by DESNZ. Certificates should be tradable beyond the point of injection of low-carbon hydrogen into the methane network for a market in hydrogen and its attributes to be properly established based on value opportunity and price discovery. Whilst acknowledging the reasoning of the UK authorities[2] regarding the almost exclusive role of hydrogen in the decarbonisation of UK industrial clusters, as well

[2] Hydrogen is not a panacea for reaching Net Zero, warn MPs

as concerns around efficient production of low-carbon hydrogen and at-scale deployment of CC(U)S, we stress that hydrogen production in the UK for whatever end-use will nonetheless be underpinned by the trading of certificates.

The pace of growth of the hydrogen market cannot be easily predicted on account of the imbalance between the growth or production and consumption, which is why, as underlined in the previous section, it is important to interconnect the two networks to achieve more flexibility in managing the uncertain development on both the supply and demand ends. Restricting the tradability of certificates limits this flexibility and doesn't help public authorities assess the need for and levels of financial (or other) support for future infrastructure investments.

Moreover, to enable fungibility of the UK low-carbon hydrogen certification instruments both domestically and across the UK-EU borders, we also suggest to DESNZ to mirror, to the extent possible, the pertinent provisions of Directive (EU) 2018/2001 (RED II) regarding the CEN-EN 16325 standardisation process on GoOs[3] and the Union database for tracing gaseous and liquid fuels for transport end-uses. With regard to the latter, we also draw attention to the corresponding RED III provision extending the traceability to biomethane and (until the Gas Package adoption) green hydrogen for all end use sectors, which stipulates that the EU mass balance system[4] will have to be complemented by GoOs, where appropriate[5].

Consideration: How should blending interact with Low Carbon Hydrogen Certification schemes and the UK Emissions Trading Scheme (ETS)?

Overall, emission allowances of stationary installations could be treated in a similar manner as under the EU ETS Monitoring and Reporting Regulation[6]. EFET has previously discussed with the EU Commission the possibility for hydrogen producers, with no logistics chains for hydrogen offtake, but who wish to inject into the TSO network, to be able to transfer (and cancel) the hydrogen certificates to users with furnaces covered by the EU

[3] Directive (EU) 2018/2001 and the recently adopted RED III make mandatory the observance of the CEN/ CENELEC standard by all EU Member States. The process is aimed at the establishment of a cross-commodity GoO at EU level specifying energy carrier (e.g., hydrogen), location of production facility, time etc.The draft of EN16325 provides for an optional data field for the carbon footprint information related to the production of the respective MWh of energy represented by the GoO, and a data field with a reference to the methodology used for calculating this. For gas certificates, in particular, there will be an optional data-field indicating whether or not the corresponding energy complies with any sustainability criteria, a reference to the scheme that sets these criteria and a reference to the certification body that confirmed adherence to these criteria.
[4] The EU interconnected infrastructure with the meaning of article 2(18) and (19) under the RED II Implementing Regulation 2022/996 (including LNG terminals and hydrogen systems) must be treated as in a single mass balancing system where there is no tracking of the exact molecules to which a given certificate is attached.
[5] Article 31a RED III, as hyperlinked in footnote 3.
[6] For more details on the requirements of this approach see the EFET response to the second batch of MRR amendments.

ETS. Our expectation is that, in analogy to the biogas treatment under the MMR, the users could deduct an amount of emissions equivalent to the avoided emissions from the network-injected hydrogen for which the certificates have been cancelled. The anticipation is that this could result in pricing for the hydrogen certificates to converge with emission allowance prices.

Furthermore, as a general principle, certificates exchanged in the context of the *"interconnected infrastructure"*, as legally defined under EU Regulation 996/2022[7], are meant for a physical consignment of hydrogen to be linked to a certificate allowing for unequivocal matching of injections and withdrawals. The use of mass balance, envisioned to be complemented by GoOs under RED III, provides evidence of this chain of custody. It is not intended to ensure ownership of the molecule, while the certificate remains the same within a given system. In the context of such a system, emissions associated with the transportation of gas are better accounted for by the TSO/ DSO rather than allocated to shippers.

Once hydrogen enters the high-pressure grid, emissions associated with the transportation of the blended product are accounted for because of the obligation of system operators to buy emission allowances corresponding to the emissions of their compressor stations. This alleviates the burden of complexity in the transition to the mass balancing approach, subject to the (still discussed, but necessary for the UK-EU cross-border trade) applicability of the RED II notion of the interconnected gas infrastructure to hydrogen and its derivatives produced in the UK.

[7] See footnote 4.