Written evidence submitted by GMB Union (DHH0031)

Introduction and summary

GMB Union is pleased to submit evidence on behalf of our members to this inquiry, and we welcome the BEIS Committee's interest in this important policy area.

GMB represents over 600,000 people across the public and private sectors. We are one of the largest unions in energy, and we are the largest union in the gas industry. All our members are energy users and billpayers.

GMB believes that the decarbonisation of home heating must be aligned with social objectives. Public policy should have as its clear aims: utilising the skills and experience of the gas workforce, developing strong UK supply chains, combating fuel poverty, and ensuring that low-income households do not bear the costs of technological transition.

These aims can be met if the right strategic choices are made at an early stage. Conversely, other options – which might be attractive to policymakers when seen through a narrow lens – could have serious and adverse social consequences, including for the gas industry's workforce.

The 2018 COP24 Silesia Declaration on 'Solidarity and Just Transition' stated that environmental policies must be developed through social dialogue, as part of a process that 'creates decent work and quality jobs.'[1] Put another way, change must be done with workers – not to them.

We are yet to see a meaningful commitment to the principle of social dialogue in the UK. As the future of home heating is debated, we urge politicians and other policymakers – including members of the Committee – to fully engage with gas industry workers and their representatives.

Decarbonisation and the role of home heating

It should be recognised that, historically, the expansion of natural gas use (at the expense of solid and liquid fuels) has had a positive impact on emissions in the UK. The role of natural gas as a transitional fuel is well established: compared to coal, natural gas reduces carbon emissions by an estimated 50 per cent, and home heating emissions by 33 per cent.[2] The installation of modern, efficient gas boiler systems has further contributed to a ten per cent reduction in residential emissions on a temperature-adjusted basis over the last decade.[3]

Natural gas is a fossil fuel: it is common ground that the relevant questions are how, and when, its use is phased out – not if. However, an abrupt dislocation would have profound and negative social consequences (and, we argue below, would likely fail on its own terms). An evolutionary approach – based on the blended introduction of biogas and hydrogen, with a role for heat pumps in hard-to-connect homes – represents a sustainable option that allies environmental and social objectives.

Electricity's price gap and fuel poverty

Gas is relatively cheap, and its favourable cost plays an important role in combating fuel poverty.

The differential is stark: the marginal price of gas was 4.5p per kilowatt-hour in 2019 (compared to electricity at 18.9p per kilowatt-hour).[4] Despite falling wholesale costs, the price of electricity to consumers per unit is projected to rise by 9 per cent in real terms between 2020 and 2035.[5]

The positive role that gas plays in reducing fuel poverty is recognised in official policy: the Fuel Poor Network Extension scheme continues to connect thousands of vulnerable households to the grid. It is also borne out by official statistics. 20 per cent of homes heated by electricity are in fuel poverty, compared to just 9 per cent of homes heated by gas.[6]

GMB represents hundreds of thousands of low-paid workers. The union has long campaigned against the regressive price structures that characterise the UK consumer market. The poorest households spend almost seven times more, as a proportion of income, on heating and power than the richest.[7] Fuel poverty is a serious, and linked, public health concern. An estimated 3,200 excess winter deaths are associated annually with fuel poverty (this is higher than the number of deaths attributed to skin cancer or substance misuse).[8]

The situation is made worse by Government policy. The Climate Change Levy has proved to be deeply regressive; conversely, funding the costs of energy subsidies out of direct taxation – which GMB supports - would reduce costs for 65 per cent of households (and reduce the lowest-income households' costs by £98 a year).[9]

Any invasive policy of electrification would likely be unpopular, and significant subsidies would be required to avoid a spike in fuel poverty. GMB believes that these funds would be better deployed to invest in green gas development, and the existing workforce and infrastructure.

The gas workforce and infrastructure

The development of the gas sector has created a workforce and an infrastructure that should be recognised as significant national assets.

The gas industry is an important source of skilled and relatively well-paid employment. Full-time median earnings are 35 per cent higher than the average for all industries.[10] Our members are dedicated professionals, and GMB is committed to securing a socially and environmentally sustainable future for the gas sector.

It is sometimes assumed that the UK's 135,000 certified gas engineers could be rapidly, and painlessly, redeployed to heat pump installation. Such assumptions should be treated with scepticism. The UK has a poor record of delivering national retraining schemes. There is also a serious problem of an

aging workforce due to years of underinvestment,[11] and older workers can find it harder to access retraining.

As a generalisation, the evidence suggests that older workers find it more difficult to transfer into new roles and are at a heighted risk of exiting the labour market prematurely during industrial transitions. Recent research has stressed the long-term economic and health costs of redundancies in skilled industries.[12] By contrast, a phased transfer to green gasses would make best use of the skills of the existing workforce.

The UK has developed an extensive 280,000 km[13] gas distribution network, which continues to be expanded. The value of this infrastructure is at least £20 billion.[14] A detailed assessment by the Institution of Engineering and Technology concluded that 'from an engineering perspective there is no reason why [the repurposing of the network to supply hydrogen] cannot be achieved safely.'[15] By contrast, an abrupt 'electric by default' policy risks turning much of the network into a wasted asset with write-down costs that run into the billions.

The dangers of a dash for heat pumps

GMB believes that heat pumps have a role to play in the decarbonisation of home heating. They will be the best option for some properties, such as those that are hard to connect to the gas grid. However, there are technical and logistical challenges to their widespread adoption that should be recognised.

Heat pumps are not a carbon-free option. If heat pumps were installed in most homes then this would generate significant demand for electricity, which during times of low renewable production would be met by gas-fired power stations.[16] Each 20 percentage point change in heat pump uptake would lead to a 14.3 per cent increase in peak electricity demand, which would generate additional system costs.[17] This must be set against dramatic

increases in demand in other sectors (transport's electricity requirement is forecast to rise at least sixty-fold to 81 TWh by 2050[18]). Even with an increase in renewables production, without a zero-carbon replacement for gas-fired stations, there is no credible plan for meeting this demand that does not involve burning fossil fuels. There would also be a loss of resilience, and raised negative consequences of blackouts, from dependence on the electricity grid.

Heat pumps are not readily accepted by consumers who value the familiarity of gas boilers. Public awareness of heat pumps is lower than the hydrogen alternative. Consumer research has stressed that billpayers generally value continuity 'typically preferred the least-worst option' for low-carbon heating,[19] and heat pump take-up (supported through the RHI scheme) has been very low.

Heat pumps are a mature technology but a heavy price differential remains on installation costs. According to benchmarking data collected for BEIS, the average cost of a ground source heat pump installation in 2018 was £19,000 excluding VAT (which compared to £3,660 for a combi-boiler replacement[20]). According to manufacturers, the price of hydrogen boilers would be similar to that of natural gas boilers.[21] While the differential is smaller for air source heat pumps, this option loses efficiency in cold temperatures and will not be an appropriate solution for many people's homes (or large industrial settings).

Heat pump inefficacy is often attributed to inappropriate installation and specification. This reflects the very small scale of the heat pump industry in the UK. Roughly 20,000 heat pumps are installed per year, compared to over a million new gas boiler sales. As the CCC has acknowledged, 'there are not enough qualified heat pump installers'[22] -and the challenge of creating such a workforce in time to meet a 2025 deadline for mass roll-out is, in all likelihood, insurmountable.

While heat pumps have a role to play as part of a balanced home heating solution, GMB believes that the Government should be looking to make use of the infrastructure and skills that the UK has at its disposal already.

Biogas, hydrogen, and a just transition in home heating

GMB has argued at length elsewhere that a gradual blending of green gasses (biomethane, synthetic natural gas/bioSNG, and hydrogen) offers a sustainable option that would minimise disruption for consumers and make best use of the existing gas workforce and distribution network.[23]

Both products can be safely blended into the natural gas supply (including hydrogen blends of up to 20 per cent) without a change to existing appliances, pending eventual full replacement.[24] The industry's programme of metal pipe replacement with polyethylene has removed many of the logistical challenges of existing network utilisation.

Allied with Carbon, Capture, Utilisation and Storage (CCUS), hydrogen can be produced on an industrial scale at existing industrial sites (such as the proposed Sizewell C nuclear power station), and the production of green hydrogen – utilising wind power – offers the prospect of a truly net-zero fuel, for which the only waste product is water. Green hydrogen production is already commercially competitive in niche industrial applications, and it will be commercially viable at scale within a decade on current cost trajectories.[25]

Green gas production and CCUS require strategic Government support. Unfortunately, the public support announced to date does not compare to the multi-billion pound investments being made by competitor nations – such as France, Germany, and Japan – in hydrogen development. The UK has a historic opportunity to develop a strong, exporting supply chain, but it will require early political and financial support.

In preparation for a full transfer to hydrogen, the UK can draw on its experience of arguably its only true 'just transition': the conversion from town gas (which was 50 per cent hydrogen) to natural gas in the 1960s and

1970s, with Government, industry, and union support. Estimates produced for BEIS suggest that a similar conversion programme today could provide work for 100,000 people and be completed in four years.[26]

The debate over the future of home heating is not settled, and the Government must not close the door to a hydrogen future at this early stage. The reported policy of banning gas boilers in new homes would be a retrograde (and likely unworkable) step that would impose an unsatisfactory option on consumers and the workforce.

Funding support for green hydrogen development and localised conversion trials would build confidence in this green technology. In addition, in line with the recommendations of the APPG on Hydrogen, home boilers should be required to be 'hydrogen-ready' from 2025.

Conclusion

While an environmentally sustainable future for home heating is achievable, it should be done in full consultation with the existing home heating workforce. There is no justice in a transition from skilled work to the unemployment lines.

Public policy should not make a conflict of environmental and social objectives. Technological solutions that are acceptable to the public are available, and GMB is committed to securing a sustainable future for our members and the public they serve.

November 2020

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