Inquiry Response

Friday 29th January 2021

PGES 40th Anniversary Inquiry

What are the energy policies that will drive an independent UK to net zero while fuelling the economy?

The Energy and Utilities Alliance (EUA) provides a leading industry voice helping shape the future policy direction within the sector. Using its wealth of expertise and over 100 years of experience, it acts to further the best interests of its members and the wider community in working towards a sustainable, energy secure and efficient future. EUA has eight organisational divisions - Utility Networks, the Heating and Hotwater Industry Council (HHIC), the Industrial & Commercial Energy Association (ICOM), the Manufacturers of Equipment for Heat Networks Association, the Hot Water Association (HWA), the Manufacturers' Association of Radiators and Convectors (MARC), the Energy Services and Technology Association (ESTA) and the Gas Vehicles Network (GVN).

Tell us on whose behalf you are answering the questions

We are responding on behalf of our members across all eight of our divisions.

What is your sector?

We operate in the energy industry, historically and primarily the gas industry, with the majority of our members being involved with the manufacturing, installation and maintenance of heat appliances, both domestic and commercial. Our members also have operations in a variety of associated fields including gas and electricity transmission, utility asset maintenance, metering and gas vehicles.

What is the key risk or burden of decarbonisation in your sector?

When it comes to the decarbonisation of heat, the main potential burden is disruption to consumers and, linked to this, the main risk is therefore a lack of acceptance of low carbon heating technologies and participation in the journey to net zero. Consumers need to be empowered to make informed decisions on which technologies are right for their home and lifestyle, including a decarbonised hydrogen gas grid for the >85% of on-grid homes.

What is sector's key opportunity in decarbonisation?

Our sector, and by extension the Government, has an opportunity to ensure the UK becomes a world leader in a number of the low carbon heating technologies of the future, particularly in the production, storage, transmission and usage of hydrogen and in carbon capture, storage and usage. In doing so, we can safeguard the jobs and expertise in our gas industry and create

sustainable jobs rather than seeing them move abroad as low carbon heating appliances are increasingly manufactured on the continent.

What is the biggest element of energy policy that is holding you back?

Holding our industry back is uncertainty over the Government's position on the long term energy landscape in the UK and how they envisage the decarbonisation of our existing housing and commercial building stock. In recent months, this has been somewhat alleviated with positive signals of support for advancing the development of hydrogen for heat in the Government's Energy White Paper but there is still talk in the media of boilers being 'banned' which is alarmist and unhelpful messaging for consumers who have a generally low awareness of the need to decarbonise heating and of the technologies which could achieve that.

What behaviour or technology do you see as key to decarbonisation?

We believe that a gas grid decarbonised by the gradual replacement of methane with hydrogen will be key to decarbonising heat. This will utilise the major national infrastructure asset of our gas grid, which has almost been made suitable for transporting hydrogen through the iron mains replacement programme. Key to the transition from methane to hydrogen will be minimising disruption for consumers and enabling them to continue to use appliances which are familiar to, and preferred by, them.

What is the timescale for deployment?

The Government have set a target for 5GW of low carbon hydrogen to be produced annually by 2030 and by 2025 it is hoped that hydrogen will be trialled in a village with the first town heated by hydrogen targeted for the end of the decade. We are calling for new standards to be introduced which will require all new boilers installed from the middle of this decade to be 'hydrogen-ready' i.e. able to be converted from running on methane to hydrogen simply and affordably with a change of a few components.

What is the effect of its deployment?

Decarbonising our gas grid with hydrogen could make an enormous contribution to tackling emissions from heating as well as heavy vehicles and some industrial processes. Studies have shown than even blending hydrogen into our methane gas grid up to 20% of volume, which a trial is showing would be safe and have no impact on existing appliances, would cut CO_2 emissions by 6 million tonnes a year, the equivalent of taking 2.5 million petrol and diesel cars off our roads. As previously mentioned, a hydrogen economy would also create and safeguard skilled, well paid jobs in a critical sector.

What are the barriers to its deployment?

Many of the barriers to deployment of hydrogen at scale are being addressed through various work programmes between Government, the industry and third party consultants. These include setting technical standards, developing appliances and carrying out real world trials. A key question to be addressed is how processes that produce hydrogen in a low carbon way can be

scaled up and made commercially viable; this includes both 'blue' hydrogen produced from steam methane reformation of natural gas and 'green' hydrogen produced by electrolysis using renewable electricity.

What are the costs of its deployment?

As so many aspects of our future transition to low carbon heating still need to be resolved, it is difficult to estimate the total cost of transitioning from methane to hydrogen. Once production is scaled up, supply chains are developed and demand is growing, there may be only small differences in the direct costs to consumers. For example, boiler manufacturers are confident that pure hydrogen boilers could be sold at a very similar price to natural gas boilers if the market is allowed to mature and develop.

How can your sector's organisations become active and flexible consumers of energy to help them decarbonise?

We have no comment to make.

Where can UK Government investment be most effective?

The Government setting a clear policy direction and a roadmap to the development of a hydrogen economy will be a vital first step. Subsequent to this, public investment in innovation and the development of hydrogen production and carbon capture and storage will help to kick-start the scaling up and commercialisation we will need for these technologies. Investment in leveraging excess renewable energy for electrolysis as a form of energy storage is also an area in which the Government could play a key role.

How can place-based resources and organisations be harnessed to deliver net zero?

When it comes to decarbonising heat, local authorities could play a major role in shaping the future energy landscape for their area. Several councils are already doing work to demonstrate how their area could be converted to hydrogen; Leeds City Council, for example, have been a key player in the H21 Leeds City Gate project which has established that switching Leeds to 100% hydrogen was both technically feasible and could be delivered at a reasonable cost. The Government should seek to harness the expertise of local authorities to ensure the right solutions for each part of the UK are found.

What areas are hard to decarbonise? Why? Are they essential or is there an alternative?

In terms of the areas in which our members operate, heavy goods vehicles are particularly difficult to decarbonise as electrified alternatives to diesel are not viable, particularly for weight-sensitive sectors such as haulage. Battery electric HGVs would be far too heavy and charging times could impact businesses whilst overhead cables on major roads would be disruptive and expensive to install. HGVs can be, and are being, decarbonised with gas fuels such as LNG and CNG. Renewable CNG produced from wastes, such as food waste and manure, can deliver demonstrable CO_2 savings of 84% compared to diesel with the latest fuels being carbon neutral.

How should the efficiency, effectiveness and cost of decarbonisation be assessed?

Aside from the obvious quantitate metrics of emissions reductions delivered compared to costs, we believe that one key measure which is, so far, being largely overlooked in the debate around decarbonisation is disruption to consumers. Retrofitting certain low carbon heating appliances, such as heat pumps, into existing properties would carry an average cost of £26,000 according to a report for the CCC and could entail significant, disruptive in-home modifications. The willingness of consumers to high costs and disruption should be taken into account when weighing up pathways to net zero heating.

In what UK policy do you believe there is cross-party consensus where action can be taken?

There is certainly cross-party agreement on the need to decarbonise the way we heat our homes and buildings and to upgrade their energy efficiency. There is also a significant political consensus forming around hydrogen being the primary heating fuel for the future. As previously mentioned, the Government are making positive statements around ambitions for the UK to become a world leader in, and exporter of, hydrogen technologies. At the same time, some of the UK's largest trade unions who represent thousands of workers in the energy industry are calling for a hydrogen strategy and for its widespread adoption.

What UK policy do you see controversy that requires intensive policy negotiation?

One policy issue which is generating increasing debate amongst parliamentarians and the industry is how the transition to net zero heating will be paid for. Understandably, there is considerable concern for safeguarding and supporting fuel poor households who are already facing high energy costs. Given the cost of some low carbon heating technologies and the need to scale up others, the way costs are distributed across society is a controversial issue. Some are advocating Government support for the vast majority of households to make the transition, funded by general taxation, in order to spread costs equitably.

What actions should be taken to raise awareness on energy and the climate emergency?

The Government has a key role to play in explaining to households the impacts that their energy usage has on emissions as well as steps they can take to reduce this. In terms of the long term transition to heat, it will be vital for the Government to set out its anticipated roadmap so that consumers have certainty over what may be expected of them and when. Key milestones on the road to a hydrogen gas grid will need to be handled strategically with clear messaging, as the transition to methane in the 1960s was.

What should the UK do differently post-Brexit and post-COVID-19?

The UK will need to focus on investments and technologies that ensure a high level of self-sufficiency in our energy industry; this will also deliver greater export opportunities as we position ourselves as a world leader. High dependency on products or parts produced abroad could mean we struggle to meet targets for low carbon heating. COVID-19 has left many households in a more precarious financial position than they were in 12 months ago; the long-term effects of this must be taken into account when policy decisions are made on how the transition to low carbon heat will be paid for and what form it takes.

What is the most important agenda item for COP26 that would enable the UK to maximise its effectiveness as the host?

The Government should look to build on commitments we have made, such as legislating for net zero emissions; we should seek similar commitments from other major countries which have not already made them. The Government should also be looking to build on the hosting of COP26 to establish the UK as a hub for energy innovation and high quality manufacturing. We have already built a reputation for leading on technologies such as offshore wind so the opportunity is there for us to make similar strides on developing a hydrogen economy.

Summary

The transition to net zero heating will be a key aspect of the strategy to reach net zero across the economy by 2050. Bringing consumers along this journey will necessitate changes to the way they heat their homes and other premises. We believe that empowering consumers to make choices for their own home will deliver far better outcomes for all concerned than 'picking winners' and specifying certain types of appliances they must use. To this end, the Government should continue to push forward with assessing the feasibility of a hydrogen gas grid and the associated work that goes alongside this. The UK has a window of opportunity to become a world leader in the fields of hydrogen production, transmission, storage and usage and of carbon capture, usage and storage. These technologies could play a critical role in the decarbonisation of many sectors and could protect and add to the high skilled jobs in our energy sector. We await the forthcoming Hydrogen Strategy and hope that it will include further commitments to the creation of a hydrogen economy for the UK and much-needed detail on the timeline for switching our gas grid to this clean and sustainable fuel.