

Call for Evidence Response

Tuesday 30th June 2020



Just Transition Commission

Call for evidence

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 seven 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) and the Gas Vehicles Network (GVN).

The Energy and Utilities Alliance (EUA) is a company limited by guarantee and registered in England. Company number: 10461234, VAT number: 254 3805 07, registered address: Camden House, 201 Warwick Road, Kenilworth, Warwickshire, CV8 1TH.

Full name or organisation's name

The Energy and Utilities Alliance.

Does your response relate to a specific sector?

EUA and its divisions operate across a number of sectors but our responses will be limited to energy production, energy transmission, heating and heavy goods vehicles.

What do you see as the main economic opportunities and challenges associated with meeting Scotland's climate change targets?

The key challenge for Scotland in terms of meeting its climate change targets will be identifying pathways for decarbonising each sector which will be accepted by, and minimise economic and practical disruption for, consumers. Consumer awareness of many of the technologies which could help us to reduce emissions in sectors such as heating remains very low. Many consumers are not even aware of the impact on emissions of many aspects of their home and everyday life. In broad terms, a key challenge will therefore be to inform consumers of changes to their lifestyle which will be necessary, empowering them to make choices which work for them and will reduce emissions and in many cases incentivising them to make those choices in order to ensure that the burden of transitioning to a net zero society does not fall disproportionately on those who are least able to shoulder it. This is clearly at the heart of the Just Transition Commission's work so we welcome its report and the opportunity to feed into the discussion around Scotland's unique transition.

There could be ample economic opportunities for Scotland to lead the way on many of the technologies and fuels which could make a net zero economy possible. Scotland is clearly well placed in terms of renewable energy production. Indeed, much of the innovation and

investment in renewable energy in the UK has taken place in Scotland. With its large oil and gas sector, EUA believes that Scotland could pioneer the creation of a hydrogen gas grid and hydrogen economy. By leveraging the significant asset of the gas grid, Scotland could lead the way in producing hydrogen from methane, but also via electrolysis using dedicated or excess renewable electricity. This would present a major opportunity for Scotland to become a world leader in this technology, the benefits of which would multiply as the rest of the UK and other countries catch up with its potential. Given the high concentration of energy-related jobs in Scotland, it will be vital for Scotland to be at the heart of the transition to net zero energy sources so that the expertise and employment in energy is not lost to other countries that are pressing ahead with these innovations.

What do you think are the wider social (health, community etc.) opportunities and challenges associated with meeting Scotland's climate change targets?

There will clearly be direct benefits to the health of millions of people if air quality is improved, for example by ending the sale of petrol and diesel vehicles in the 2030s. Of particular interest for members in our Gas Vehicle Network division is the conversion of HGVs away from diesel to sustainable and practical alternatives. A large amount of governmental resource and policymaking is focused on promoting and incentivising alternatives to petrol and diesel cars and vans, in both Scotland the rest of the UK. This is understandable given the high proportion of vehicles in these categories, however, HGVs make a disproportionate contribution to stubbornly high transport emissions. UK-wide, HGVs emit 21% of total transport-derived nitrous oxides (NO_x) and 16% of transport greenhouse gas emissions despite constituting only 5% of vehicle miles travelled and just 2% of vehicles on the road. These vehicles are causing significant air pollution issues, particularly in Scotland's cities, but alternatives to all-out electrification are needed as there are currently no commercially viable battery or direct electric HGVs.

Many of the Gas Vehicle Network's members are supplying biomethane-based gas fuels which significantly lower NO_x emissions whilst also delivering CO₂ savings in excess of 80% or, in the case of newly developed manure-based gas fuels, savings of 100%. Notably, biomethane is already playing a significant role within the gas vehicles sector; figures recently collated by the Gas Vehicle Network show that during 2019, 78.2% of the gas fuels dispensed in the UK were renewable biomethane-based. This demonstrates that biomethane for transport is both viable and sought after in the commercially competitive HGV market.

Fuel poverty presents a significant challenge, particularly for Scotland, and will need to be addressed alongside the decarbonisation agenda to ensure that the inevitably higher costs for heat in the future which the Commission's report refers to. EUA agrees that "Government must consider and set out the policy mechanisms that will be used to best secure an equitable distribution of costs for the decarbonisation of heat during this transition." Whichever low carbon technology is employed, fuel poor and low income households will clearly need to be supported to make the transition to low carbon heating. Scotland has had a more consistent and wide-ranging Government approach to consumer-facing subsidies for energy efficiency than any other part of the UK. The Home Energy Efficiency Programmes for Scotland have supported complex projects such as whole estate insulation upgrades, but also simple and popular measures for a wide range of consumers, including the so-called 'able-to-pay', such as vouchers for the replacement of old boilers with modern, condensing models. This foundation of varied but accessible and cohesive support should give a firm foundation for the Scottish

Government to support those who cannot afford to transition to low carbon energy sources without assistance.

What would a successful transition to net-zero emissions look like for your sector/community?

A successful transition in the heating sphere would focus on repurposing the gas grid to transport low carbon hydrogen to the vast majority of homes which currently use natural gas for their space heating and hot water. EUA believes that, for households on the gas grid, hydrogen would present a minimally disruptive alternative to the fuel most already use. Gas appliances are familiar to many consumers, both for heating and hot water production and for cooking. They are also popular with consumers reporting high levels of satisfaction with their gas heating systems and its ability to give them the level of comfort they desire. Disruption would also be kept to a minimum as the vast majority of piping in homes is suitable for hydrogen and natural gas appliances could be swapped out for hydrogen ones. This process could be made smoother by the advent of hydrogen-ready appliances which would could be easily converted once an area was ready to move to a 100% hydrogen supply. Boiler manufacturers are already developed hydrogen-ready boilers which, if mandated from an appropriate date, would make switchovers even less costly or disruptive.

Using the gas grid to transport low carbon fuels therefore serves the dual purpose of providing consumers with a familiar and minimally disruptive fuel whilst also using, not losing, the significant asset of our gas grid. Switching to electric-only alternatives to gas appliances would not only necessitate a huge increase in electricity grid capacity with all the associated costs, it would also necessitate the costly mothballing of the gas grid. The grid provides the opportunity to gradually decarbonise by blending alternative gases, including biomethane and hydrogen, in with natural gas. The Hy4Heat study is exploring the potential of hydrogen to be blended up to 20% and used in existing gas appliances. A 20% blend could provide significant carbon savings; it is estimated that it would save six million tonnes of carbon dioxide a year, the equivalent of taking 2.5 million cars off the road.

EUA believes that a hydrogen grid would enable a just transition as costs on consumers are likely to be far lower than for other alternatives, chiefly because extensive in-home changes, such as those required for heat pumps, would be avoided. Also, per unit costs for gas remain far lower than for electricity so decisions which would reduce or eliminate the role for low carbon gas in the long term could have the unintended consequence of exacerbating fuel poverty. The Scottish Government must be hyperaware of protecting the most vulnerable households throughout the transition to net zero and heat will be a key area in that effort.

In the transport sphere, transitioning heavy commercial vehicles to renewable biomethane and, potentially in the longer term, hydrogen would decarbonise a particularly difficult to treat sector. These fuels would avoid the need for vehicles to carry bulky and heavy batteries in addition to their payload, or for costly and disruptive overhead cables to be installed along our road network. Again, the experience for the end user would be very similar to existing fossil fuel vehicles so consumer acceptance would be high and additional training needs would be minimised. Refuelling would also be safe, clean and simple to carry out.

What actions do you think the Scottish Government should take to manage the opportunities and challenges referenced above?

The Scottish Government should continue its effective, consumer-facing energy efficiency programmes and leverage them to incentivise consumers to make a positive contribution to decarbonising Scotland, and it should do so as soon as practically possible as a tonne of carbon saved today is clearly worth far more when it comes to tackling climate change than a tonne saved in years' time. This system can enable a level of consumer choice to avoid the one-size-fits-all approach which would not be appropriate for the diverse building stock within Scotland.

The Scottish Government should also make a clear decision to support hydrogen as a low carbon fuel for on-grid properties and to support carbon capture, storage and usage as this will unlock hydrogen production from methane and will enable many other sectors to cut their carbon emissions. The Scottish Government should also encourage the UK Government to do the same and to focus investment in Scotland which, as indicated earlier, is well placed to become a leader in the low carbon fuels of the future.

The Scottish Government will need to make a concerted effort to inform consumers of the implications for them of the transition to net zero and empower them to positively contribute to this effort in ways which do not cause financial hardship, as opposed to dictating exactly how the transition will be carried out and leaving consumers feeling disenfranchised.

Are there specific groups or communities that may be, or feel that they may be, adversely affected by a transition to a net-zero carbon economy? What steps can be taken to address their concerns?

As previously mentioned, those in, or at risk of being in, fuel poverty will be a key group that will need dedicated support to ensure they are not adversely affected by the transition. Early engagement and clear explanations of the options available to them will be key alongside ongoing efforts to improve the efficiency of homes and fuel poor consumers' familiarity with their heating systems.

Another key group will be older residents and those unable to use technology to the extent that most of the population can. This group is vulnerable in the sense that they could become left behind as our energy system moves towards being smarter with easily accessible and personalised data, electronic billing, tailored tariffs and time of use tariffs. When thinking about the future energy system, we often think of someone with a fairly good grasp of technology and the ability to use technology to shape how they use energy, or at least someone able to seek help with this. However, there are a great many people in society for whom this is not the case, so as we inevitably move towards a smarter and more fluid energy system, the Scottish Government will need to ensure there are sufficient safeguards to ensure this group is not pushed into fuel poverty.

Finally, the Scottish Government will also need to keep in mind the households in rural areas, off the gas grid. Many of these homes are hard to treat and would require enormous outlays to enable them to reach the levels of thermal efficiency required for heat pumps, if that is even possible. These properties, despite being a small minority, will need particular attention from the Scottish Government as they will most likely need a high level of support than for most other households. The Government should also consider the need for these properties to continue to

use high temperature heating systems; this does not preclude their contribution to the net zero agenda, however, if low carbon alternatives to current fuels are used, such as bio-LPG.