

# **EUA response to the New Build Heat Standard: scoping consultation**

## **About us**

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 (UN), the Heating and Hotwater Industry Council (HHIC), the Industrial & Commercial Energy Association (ICOM), the Hot Water Association (HWA), the Manufacturers' Association of Radiators and Convectors (MARC), the Gas Vehicle Network (GV Network) and the Manufacturers of Equipment for Heat Networks Association (MEHNA)

EUA represents all the main heating manufacturers in the UK along with the majority of major installation companies, training providers and component manufacturers. Approximately 98% of heating measures installed in UK homes comes from an EUA member.

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## **Response**

**1. Do you agree with the above key outcomes? Please explain your view.**

EUA agrees with the outcomes and need to decarbonise heating. However, we believe that the solutions need to be more technology agnostic and allow all zero to near zero carbon technologies be installed in Scottish homes in the future.

**3. Do you agree with limiting this Standard to 'new buildings' as defined within section 2.2?**

EUA agrees.

**4. Do you agree with: (a) our approach taken to require future installed heating systems to be zero direct emissions only, and (b) our approach taken to focus on direct/ point of use emissions that a building owner has responsibility over only?**

EUA does not agree with the requirement for new heating systems to be zero direct emissions only.

This would exclude hydrogen boilers from being installed in Scottish new homes in the future. Hydrogen boilers emit a very low level of NOx which have been identified by this consultation as an 'emission'.

Hydrogen boilers will however be zero carbon at point of use.

We believe that the guidance needs to allow for all zero carbon technologies to be eligible for installation in the future.

The Scottish Government is helping to fund extensive trials of hydrogen for heating, it would appear counter intuitive if there were also to ban them from new homes.

There may be situations where heat pumps or heat networks are not practical or affordable and where hydrogen in the future could be an appropriate fuel.

Also, if hydrogen is a cheaper fuel in regard to running costs those in new build homes would be disproportionately penalised.

We accept that it is likely that most new build homes will utilise heat pumps, but we also don't believe the Scottish Government should be reducing consumer choice and picking winners.

EUA does not agree that only direct point of use emissions should be considered. Electrical heating also has emissions associated to it and it would not be appropriate to discount that from considerations. Especially as NOx emissions from power production is often very high.

EUA believes that the focus should be on carbon emissions. We need to cut these by 100% by 2045 for Scotland, hydrogen and some biofuels like bio propane and bio-oil may be appropriate technologies for new build homes.

## **6.What are your views on section 2.6, specifically regarding what mechanism the Scottish Government could use to ensure compliance with the Standard?**

We believe that continuing with the existing methodology is the simplest and easiest for developers and designers. A technology list could create unfair exclusions.

## **10.Do you agree with the Scottish Government's proposal to introduce this Standard in 2024? What are your views on this Standard being brought into force for new buildings consented earlier than 2024?**

EUA agrees as it would be broadly consistent with other GB regions.

**13. What are the key challenges for the energy networks regarding the deployment of zero emissions heating in new developments? How could this sector be supported to address those challenges?**

EUA believes that the Scottish Government needs to engage with the electricity networks to ensure that the network can be used to reach all potential new sites at an affordable level. This new standard will increase demand for electricity in potential rural locations and so a feasibility study seems sensible in the circumstances.

It would also be sensible to determine what the time frame is for a hydrogen roll out as this could create a new energy vector that this consultation would exclude.

**16. What approach should be taken when considering new non-domestic buildings, and what are the specific challenges and opportunities relating to new non-domestic buildings?**

EUA supports the proposals to use Zero Carbon Emission technologies in new non-domestic buildings, however, due consideration must be given to the difference between domestic and non-domestic buildings. There are a small number of domestic building designs, whereas there are many different designs of non-domestic building.

There is a need to understand the complexity of non-domestic building designs, from a large open spaced warehouse, to the requirements of a multi-discipline hospital as well as hotels, schools, prisons and many more types of building. Each type of building requires a different approach to designing the space heating and DHW (Domestic Hot Water) supply.

The use of heat pumps for space heating and point of use appliances for DHW is an acceptable solution for smaller buildings, however, when large amounts of domestic hot water are required for hotels, sports halls etc, then the need for large volumes of hot water at a higher temperature will cause issue of supply. In these cases, there is a need for an appliance which can provide large volumes of hot water and this is more suited for a boiler. There is the option of electric boilers, however, the increased electrical load to the

building needs to be considered as to whether upgrades to the electric supply are needed, with the extra costs involved.

A proposal is the use of hydrogen to cover the peak demands and the supply of hot water and it is accepted that the ability to use hydrogen is a few years away, however, the use of hybrid systems should be considered as an interim solution. A hybrid system would use heat pumps to give a base load with a gas or oil boiler giving the top up when required. This will reduce the greenhouse gas emissions in the short term and then when hydrogen becomes available, the system will have zero greenhouse gas emissions.

In order to understand the range of buildings that will be affected by a zero carbon emission policy, we propose that a survey of the space heating and DHW requirements should be carried out over a wide range of building types, such as hotels, hospitals, distilleries, sports halls etc. The purpose of the survey would be to firstly determine the energy demands of each building and then determine whether the building can perform using heat pumps on their own or whether a hybrid system is needed. Also, the cost of electrical infrastructure improvements should be considered when installing heat pumps and probably EV charging points.

It is acknowledged that the current gas grid has the capacity to cope with severe winters and it is important that, whatever system is used to heat buildings and supply DHW, then it does not cause a reduction in the energy supply or the customers comfort requirements. Hydrogen would achieve this as it will operate as natural gas does at present.

Heat networks are a major consideration when considering the reduction of greenhouse gas emissions and we fully support their implementation. The comments made above also relate to the energy centre supplying the hot water to space heating and DHW in the system.

An issue that does not seem to have been considered is that of water treatment of space heating systems and domestic hot water systems. It is a proven fact that the efficiency of a hot water system, irrespective of the heat source, will be reduced if the system has build up

of deposits or scale. This will then mean that the energy required for the system to achieve its design target will be increased whereas the consultation is looking at reducing the amount of energy used in the building.

The methods used vary between space heating and domestic hot water, however the need to maintain a clean system is paramount in ensuring that energy is not wasted. Also, a clean system ensures the long life of the components in the system, whether it is a heat pump, boiler, pump or valve.