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BEIS call for evidence – Heat in Buildings: The Future of Heat - Non-domestic buildings

The National Farmers' Union of England and Wales (NFU) represents 55,000 members with an interest in farming and the rural economy.

Our trade association is the largest farming organisation in the UK, providing a strong and respected voice for the industry and employing hundreds of staff to support the needs of NFU members locally, nationally and internationally. We are engaged with government departments covering agriculture, rural affairs, environment, energy, climate change and transport issues, directing policy into real economic opportunities for rural diversification and job creation. The NFU champions British agriculture and horticulture, to campaign for a stable and sustainable future for our farmers and growers.

With 75 per cent of national land area in the agricultural sector, NFU members have a significant interest in land-based renewable energy production, where they can benefit directly as energy producers themselves or as hosts for energy plant developed by others. Our own market research, as well as that of other organisations, suggests that more than one-third of farmers and growers have already invested in some form of renewable energy production for self-supply or export to other users. We estimate that farmers own or host around 60% of Britain's solar power capacity, over half of AD capacity and the majority of wind power, while playing a significant role in the supply or fuelling of renewable heat.

The NFU believes that domestic land-based renewable energy can deliver up to a quarter of UK clean energy needs by the early 2020s, faster and cheaper than many other low-carbon energy options. This message is consistent with our vision for farming delivering a wide variety of goods and services to the UK economy, centred upon but not limited to food production. We are especially supportive of farmer-owned small and medium scale renewables projects, particularly schemes which deliver multiple benefits from the land or which help farmers to achieve local environmental objectives (e.g. resource protection, biodiversity).

General comments

The purpose of this Call for Evidence is not entirely clear - it is given as "to test what we have learned so far and to seek feedback...to support future policy development". We note that the questions are a subset of those in the related Consultation on "The Future of Heat: Domestic Buildings", which is more specifically targeted at heating system manufacturers and installers.

However, the NFU recognises that this is an important subject area, since non-domestic buildings are responsible for a significant fraction of national energy use and GHG emissions. Farmers account for around 30% of the uptake of the non-domestic Renewable Heat Incentive (RHI) scheme, installing mostly small and medium sized biomass systems, so we rephrase here some of the evidence and policy asks we have made previously, in the light of more recent developments. The NFU has responded in the past to Government consultations on the Heat and Energy Saving Strategy (2009), the Renewable Heat Incentive (2010, 2012, 2012 and 2016), the Business Energy Tax review (2016) and the Energy Technology List (2016). Some of the themes of our previous responses are listed below:

- the role of public procurement in stimulating uptake of low-carbon heating
- the need for planning presumption in rural areas in favour of nearby farmers having the opportunity to provide energy services
- enhanced support required for district heating schemes and other local energy networks
- supply chain opportunities for local agricultural biomass and energy crops as fuel for rural heating boilers
- potential benefits of the RHI to farm businesses and rural communities, many of which are not connected to the gas grid and are reliant upon more expensive heating fuels
- simplification of non-domestic RHI heat metering requirements

The NFU has previously expressed satisfaction at official recognition of the potential opportunities in renewable heat supply and use for farm businesses and rural communities, many of which are not connected to the gas grid and are reliant upon more expensive heating fuels. We hope it will be possible in the future for farm enterprises to provide heating services and renewable fuels (solid, liquid and gas) to rural communities, e.g. where new development and refurbishments are made to business units or affordable rural housing.

In other EU member states such as Austria, heat from wood fuels, agricultural residues such as straw and farm biogas plants is supplied to large local heat users and local communities through district heating networks. The NFU would like to see similar business opportunities for bulk heating supply from about 200 kW to 3MW actively encouraged by UK government policy.

Contrary to recent Government statements that biomass is a “scarce resource”, the NFU believes that a wide variety of both domestic and imported bioenergy fuels, amounting to tens of millions of tonnes per year, will continue to be required in the following decades.

Consultation questions

The NFU would like to submit the following responses to selected questions posed in this Call for Evidence, in addition to the comments made above on the wider policy context.

Q1. What are your views on how we can maximise the potential to reduce energy consumption and reduce carbon emissions, including through decarbonising the heating supply in non-domestic buildings? Consider in your answer what existing statutory or voluntary standards are most effective and why.

The NFU is concerned that this Call for Evidence appears to overlook the very substantial potential of locally-sourced solid biomass fuels for non-domestic heating (in addition to the other technologies mentioned, such as biogas, hydrogen and heat pumps)

Under the RHI to date, biomass heating has been the most successful technology by far, accounting for about 95% of installation numbers as well as capacity installed. Recent cuts to RHI support for biomass boilers is not going to increase uptake of electric heat pumps, since the two technologies occupy different market niches and are rarely in direct competition. Likewise, the changes proposed to

RHI support for heat from biogas and biomethane are likely to stifle growth in the AD sector and disadvantage smaller-scale deployment, further limiting the range of opportunities for many farmers.

The government's longer-term heat strategy, including identifying the UK's likely sources of low-carbon heat beyond 2020, also appears to be poorly developed. Alternatives to the current reliance on natural gas need to be deployed across the domestic, commercial and industrial sectors, at a rate much faster than current buildings and capital assets can be upgraded – which suggests that technologies best-suited to energy-efficient building envelopes and processes (such as heat pumps) will not be sufficient.

Q5. What action should Government take to reduce the use of coal and oil in buildings? Over what period of time should the transition occur? Which levers should be deployed to support buildings that are harder to heat? Is there a fuel use connection in off gas grid non-domestic buildings between heat required for processes and for heating?

Drop-in replacement technologies such as biomass heating boilers made rapid strides initially under the RHI for reasons of their convenience and comparative familiarity for users. The Government could make more rapid progress in reducing the use of coal and oil by targeting a more attractive level of RHI support for biomass more specifically at off-gas areas, where biomass fuel is likely to be locally available.

The NFU believes that government officials had exaggerated expectations of the extent to which new technologies like heat pumps could be retrofitted to existing buildings or deployed in new buildings by 2020. We agree that in some cases the cost of the required energy delivery infrastructure and the required energy efficiency upgrades could exceed the lifetime energy cost savings. However, we accept that in the longer term, towards 2030, it is more likely that a greater proportion of heat will be provided by low-carbon electricity – but there may still be barriers to high levels of market penetration, such as slow progress in energy efficiency upgrades to building stock, making it less suitable for electric heat delivery.

Many large agricultural buildings do indeed involve a process (e.g. drying and storage of grain or bulbs) or a form of production for which a high level of background heating is needed (e.g. intensive poultry or pig production).

Q6. What other innovative solutions or opportunities exist that may have a tangible impact on emissions from heat in buildings, either in the next two Carbon Budgets or out to 2050? Please provide any supporting evidence.

There may be further scope for innovation in earth-sheltered buildings, exemplified by the Gloucester Services buildings on the M5 motorway close to the boundary of the Cotswolds AONB. These BREEAM "Excellent" rated facilities employ a degree of earth sheltering together with a landscaped "green roof" of grass. While there is scope for such architecture to be adopted more widely for commercial and public sector buildings, the NFU notes that the necessary low cost of many agricultural buildings is likely to preclude the adoption of such innovative low-energy construction in the absence of strong, targeted incentives - although in some circumstances these might be provided through the planning system.