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BEIS consultation – RHI support for biomass combined heat and power

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

According to Government statistics, 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. A significant number of NFU members from the poultry, horticultural and grain drying sectors were impacted by the unexpected introduction of the Statutory Instrument (SI 718) on 1st August 2016, which decreased payments to new biomass CHP systems where the apparent power efficiency is lower than 20%. Industrial stakeholders were given only 21 days' notice, and the NFU estimated that at least 27 small and medium-sized projects were affected, totalling over 103 megawatts of heat capacity, which were about to or had already started construction.

Following protracted industry lobbying involving a coalition of trade bodies and interests, including the NFU, we were pleased by the Government's willingness to listen – when the 20% 'power efficiency' requirement for a biomass CHP plant was reduced to 10% for a transitional period.

However, we recognise that this concession does not necessarily resolve the problem for our members with biomass-CHP plants with power efficiencies of less than 10%. Overall, we believe that restricting access to the biomass-CHP tariff discourages low-carbon innovation (contrary to the Government's stated ambitions in its Industrial Strategy Green Paper and forthcoming Emissions Reduction Plan), in this case the addition of Organic Rankine Cycle and other small CHP systems to biomass heating plant for livestock housing and horticulture, where the optimum balance of electricity and heat is demonstrably less than 20%.

Consultation questions

The NFU would like to submit the following responses to the consultation questions, in addition to the comments made above on the wider policy context.

*Q1. Do you agree it is appropriate to limit access to the biomass-CHP tariff for plant which produce only low levels of power, and support some of the heat use provided for by such plant under the standard biomass tariff?
Yes / No. Please expand.*

On balance, the NFU considers it may be appropriate to apply a partial restriction, but it should be made permanently subject to the 10% 'power efficiency' requirement and not 20%. We agree with other stakeholders such as the Renewable Energy Association and Wood Heat Association that small-scale co-production of modest amounts of electricity, together with meeting more substantial on-site heat demand, allows some of our members' businesses to become entirely self-sufficient in renewable energy, thereby reducing their carbon emissions.

By adding Organic Rankine Cycle and other small CHP systems to biomass heating plant, these farmer and grower businesses can still have access to high-quality heat, while also delivering electric power for their other on-site operations. The NFU agrees with other stakeholders that the poor grid infrastructure in the rural locations of many farm businesses often limits their potential to export electric power, meaning that conventional CHP is not an option to meet on-site needs. We also recognise that small-scale novel CHP systems are likely to reduce the load demand on the local distribution network, contributing to the Government's objective to have a smart, flexible energy system that requires less investment in grid upgrades.

Q2. Do you agree that the use of a power efficiency threshold is the best way to determine the extent to which a plant's heat output is paid for under the biomass-CHP tariff, with the remainder paid for under the biomass tariff? Yes / No.

Yes – the NFU believes that the proposed power efficiency threshold is the preferred mechanism.

Q3. If 'No' to Question 2, what method would be more appropriate, and why?

N/A

Q4. Do you agree a power efficiency threshold of 20% is appropriate? Yes / No

No – the NFU understands, from this consultation and from contact with the other relevant trade associations, that the 20% power efficiency threshold has its origins in the Combined Heat and Power Quality Assurance Programme, which was based on existing large-scale CHP plant. Such conventional CHP systems can achieve a power efficiency of 20% through good design and best practice, but they are not representative of small-scale innovation in biomass CHP plant. We understand that in small installations it is desirable to limit power generation as a fraction of total energy throughput, in order to maintain the return steam temperature and pressure at levels which can be used for process heat or space heating.

Q5. If 'No' to Question 4, what threshold would you suggest, and why?

The NFU supports a 10% threshold, for the reasons stated above in Q1 and Q4. We understand that this is actually quite an appropriate level, since it is just a little higher than what many small commercial systems can currently achieve – thus providing a strong incentive to the market to improve technical performance and the resultant carbon savings.

Q6. Does your interest in the RHI relate to the operation of the scheme in a particular geographical area? (select all that apply)

a) England

b) Wales

c) Scotland

Responses which indicate the respondent's interest relates mainly to the operation of the scheme in Scotland or Wales will be shared with the Scottish or Welsh devolved authorities respectively, unless such respondents explicitly state they do not wish for their response to be shared.

England and Wales.