

To: Energy and Climate Change Committee

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## NFU submission to the Energy and Climate Change Committee inquiry on 2020 renewable heat and transport targets

The National Farmers' Union of England and Wales (NFU) represents 47,000 farm businesses throughout England and Wales. In addition we have about 40,000 countryside members with an interest in farming and rural affairs.

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, 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 2020, 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).

### **Does the Government have the right policies in place to meet its 2020 renewable energy targets in the heat and transport sectors, and if not where are policies missing or inadequate?**

The NFU recognises that UK renewable electricity production has continued to grow since the 2015 General Election, as shown by data from government and industry, in spite of a number of policy setbacks and a lack of consistent energy policy direction. However, government data on renewable heat use are not so readily available, so it is harder to track the slower progress in delivering renewable heat against national and European policy goals. Meanwhile, DECC figures on transport biofuels show that consumption actually fell in 2015, reflecting the stagnation of investment in the face of hesitant policy-making, and suggesting that Britain will fail to meet its 10% sub-target for renewable energy in transport by 2020.

The NFU agrees with the Renewable Energy Association analysis that the present shortfalls in renewable heat and transport may have to be made up by renewable electricity delivering not 30%, as forecast, but over 40% of UK power generation, in order to approach the overall EU renewable energy target for 2020.

### *Renewable Heat*

In our responses to previous Government consultations, the NFU expressed satisfaction that DECC recognised 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 hoped it would be possible in the future for farm businesses to provide heating services and renewable fuels (solid, liquid and gas) to rural communities, e.g. where new development and refurbishments are made to 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.

However, we are discouraged by the present DECC consultation on the Renewable Heat Incentive (RHI) scheme, which proposes to limit support to around £1bn/year, a fraction of the present £3-4bn/year levy support for renewable electricity. Given that heat is responsible for around half of UK energy supply, and one-third of GHG emissions, this does not seem proportionate.

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. Yet the projected future level of government support (just 65 large non-domestic biomass installations per year by 2021) represents a huge reduction in RHI deployment compared with more than 7000 smaller biomass systems in 2014 and over 3000 in 2015. Farmers have been making up 30% of applicants to the non-domestic RHI, installing mostly small and medium sized biomass systems, and it is hard to see how the biomass boiler supply chain can adapt at the pace now proposed by DECC. The present focus on large-scale biomass heat threatens UK progress since 2011 in developing supply chains mostly around small and medium sized installations, in common with other EU member states. Cutting support for biomass is not going to increase uptake of electric heat pumps since these 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 likely sources of low-carbon heat beyond 2020, also appears to be poorly developed. 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. Government policy measures on low-carbon heat are required to deliver this need, as previously identified in the 2012 Bioenergy Strategy but not since implemented.

### *Renewable Transport*

Although sales of light electric and plug-in vehicles are growing more rapidly now, their use of electricity is very unlikely to make up the shortfall in consumption of biofuels by 2020, contributing perhaps 1-2% of transport energy use at most. Biofuels remain the most practicable and deployable form of renewable transport energy, but the industry has been plagued by a lack of policy certainty making it difficult to secure inward investment fostering growth.

Transport Ministers have been uncompromising in their view that we will meet our targets; however the NFU does not share their confidence. The indirect land use change (ILUC) debate came to a conclusion in Brussels in April 2015, and twelve months later we are yet to see a published consultation setting out options for UK implementation. We presently understand this consultation will be released "during the summer", but such procrastination has not helped to build confidence in an industry recovering from the uncertainty caused by ILUC.

Under the ILUC directive all member states are required to set a “crop cap”, which will limit the volume of crop-based biofuels in road transport fuels: the level of cap is at individual member states’ discretion, but the maximum permitted is 7%. The NFU has seen detailed modelling work setting out potential policy options, but the DfT have suggested a crop cap as low as 1.5% would be appropriate. This concerns us for a number of reasons.

Firstly, we understand that other member states seek to set their crop cap at 7% and we struggle to understand why the UK Government wishes to put the UK at a competitive disadvantage. Under a 1.5% cap investment will be directed elsewhere in Europe where conditions are more favourable. Secondly, as industry relocates, the UK will lose out on the high quality animal feed produced as a co-product of biofuel processing. We could find ourselves in a situation where we export raw materials to the EU, only to import back renewable fuel and animal feed. As we currently import 70% of our protein requirement for livestock feed (for cattle, pigs and poultry) the NFU thinks it would make much more sense to strengthen domestic production.

The UK Government’s reluctance to set the crop cap at 7% appears to stem from fears over any potential increased uptake of crop-based biodiesel. This fuel has been tarnished with the suggestion that it causes more carbon emissions than it saves, but this is a view rejected by the NFU. By their nature biofuels tend to replace the most marginal and high-carbon liquid fossil fuels, meaning that if biofuels did not exist these hard-to-extract fossil alternatives would have to be found, resulting in yet higher carbon emissions. Current policy proposals support the use of waste-based biodiesel. Although sound in principle, we would point out that in order for the UK to have sufficient supply of used cooking oil (and other waste feedstocks) we would need to import millions of tonnes of feedstock from around the world, causing their own indirect effects. Such indirect impacts have not yet been quantified, but the NFU questions whether we should be relying exclusively upon imported feedstocks to meet our renewable transport sub-target.

Advanced biofuels have a vital role to play in the future fuel mix, and the NFU supports the use of waste feedstocks. However, many of the required technologies require huge capital investment if they are to reach commercialisation, and this investment will be stifled if the UK Government does not offer future policy certainty to industry. We understand that the DfT is considering introducing an advanced biofuels target, but they must clarify whether and which specific feedstocks or technologies will be eligible for extra support.

The biofuel market is an important outlet for UK arable crop production, often putting a “floor price” in volatile commodity markets. A cap of 1.5% would not only reduce the flexibility for UK Government in reaching 2020 targets, but would also have huge implications for UK farmers. Over the last year farmers have seen markets shrink, and in one case disappear with the closure of the Ensus plant in Teeside. This has done little to provide farmers with the security to invest in increased crop production.

The NFU agrees that future renewable transport policy needs to foster new technologies, but it must also support the existing industry. The level of demand needs to be lifted to enable further investment in both crop-based and advanced biofuels. In order to give the biofuel industry the kick-start it needs, we believe the UK Government must immediately raise the Renewable Fuels Transport Obligation (RTFO) with a clear trajectory to 10% by 2020, and set the “crop cap” at 7%.

### **How could a whole systems approach across the power, heat and transport sectors be utilised to ensure the 2020 targets are met?**

Given the growing prominence of land-based renewable energy technologies, many of which involve NFU members as producers or users - bringing substantial diversification and job creation opportunities to the rural economy - we remain anxious that government departments are taking a ‘silo-based’ rather

than a 'whole systems' approach to the low-carbon economy, including power, heat and transport. The NFU is engaged with DECC, Defra, DfT, DCLG and BIS in trying to direct climate change and renewable energy policy into real economic opportunities for our members - yet they are often frustrated by the planning system, or by denial of reasonable access to energy networks, in their ambitions to deploy renewable energy projects. Moreover, we see little evidence of a joined-up industrial strategy that recognises the opportunities and incentives required for Britain to play a prominent role in deploying new technologies such as solar power, advanced biofuels, and electrical or thermal energy storage.

The NFU is concerned that DECC has not done enough yet to harness the full potential of land-based renewables, and that Defra has provided only modest support, given the substantial rural diversification opportunity. DECC should acknowledge the substantial energy potential of the land-based sector, and Defra should more explicitly recognise how energy diversification supports profitable farming. DECC and Defra should collaborate to recognise and mobilise the UK's domestic bioenergy resource potential, which the NFU estimates is at least 10 million tonnes from a wide range of sustainable feedstocks like straw, wood fuel, perennial energy crops, wholecrop maize, beet, rye, grass, etc. in addition to wastes and residues. In our April 2015 NFU Manifesto, we specifically called upon the new administration to establish with industry a cross-Government land-based agri-renewable energy strategy for the land-based sector.

### **To what extent is electrification of heat and transport a viable approach up to 2020 and beyond?**

The NFU believes that DECC officials previously had exaggerated expectations of the extent to which new technologies like heat pumps and electric vehicles could be deployed by 2020. Drop-in replacement technologies such as biomass heating boilers and liquid biofuels made rapid strides initially for reasons of their convenience and comparative familiarity for users. In the longer term, towards 2030, it is more likely that a significant proportion of heat and transport services 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) and the technological limitations of electricity storage in heavy goods vehicles.

### **What are the challenges (regulatory, technological, behavioural, and others) to decarbonising heat and transport over the longer-term and how might these be overcome?**

Regulatory challenges include the potential lack of a European renewable transport sector target post-2020 in the RED II Directive, and possible plans to reduce the "crop cap" in the future, squeezing first-generation biofuels out of the market. The NFU believes there is a real risk that renewable energy in transport will make only a negligible contribution to the overall 2030 goal – yet the EU's own impact assessment suggests a contribution of around 15% renewable energy in transport is necessary, which will only be achieved through a targeted and stable policy environment. There is still much uncertainty about the science surrounding ILUC, and unfavourable new European studies such as the GLOBIOM modelling report are opaque and appear to be strongly influenced by NGO campaigning.

Technological challenges include the commercialisation of cost-competitive advanced biofuels, and the upgrading of infrastructure, logistics and technician training (e.g. at service stations and garages) required by the expected use of a wide variety of fuel blends, types of fuels and vehicle drivetrains in the longer term.

Behavioural challenges are likely to include the consumer acceptance of higher-blend biofuels such as E20 (20% ethanol in petrol). Given the lower specific energy content of ethanol, which becomes more significant at higher blends, there may need to be a compensating adjustment in UK fuel duty.