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Department for Business Enterprise and Industrial  
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1 Victoria Street  
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London SW1H 0ET

1 July 2020

Dear Sir/Madam

## **FUTURE SUPPORT FOR LOW CARBON HEAT CONSULTATION**

Natural Resources Wales (NRW) is a Welsh Government Sponsored Body. Our purpose is to ensure that the natural resources of Wales are sustainably maintained, used and enhanced, now and in the future. We are an environmental regulator and have a wider responsibility to support Welsh Government in their responses to address the climate emergency and goal of a 95% reduction in greenhouse gas emissions from Wales by 2050. The outcome of this consultation will be important in supporting the transition to low carbon heating in Welsh homes.

We welcome the opportunity to comment on your proposals for the Green Gas Support and Clean Heat Grant schemes set out in this consultation. In this letter we set out our wider opinions on the issues you seek to address followed by responses to specific questions.

The consultation rightly recognises that decarbonisation of heat is one of the biggest challenges we face in meeting our climate targets. It also recognises that to meet net zero targets, decisions must be made to enable the mass transition to low carbon heat and that a rapid, high level of delivery in this area is essential.

In summary we support the principle of providing a mechanism of financial support to both increasing the amount of green gas in the grid and increasing the deployment of electric heat pumps to reduce the carbon intensity of energy used for space heating. It is a measure of the rapidly changing energy system in the UK that electricity is now the low carbon intensity energy source in contrast to its high emissions status just 10 years ago.

We note the short duration for which the support schemes are open – four and two years for Green Gas and Clean Heat respectively – and their intended role in promoting uptake and developing supply chains in advance of a longer-term policy pathway based on regulations. We agree that a regulations-based approach is necessary to give clarity for, and to steer, a market-based transition to low carbon heating but stress the urgency with which this long-term pathway must be developed. The regulations-based approach must fairly price carbon into energy sources for heat giving a better balance between gas and electricity in particular (<https://es.catapult.org.uk/reports/rethinking-decarbonisation-incentives-future-carbon-policy-for-clean-growth/>). The technologies necessary for us to achieve this transition are already available. The short time periods may, however, preclude any community-based schemes from making use of the support mechanism as such schemes usually require a longer development period to account for more complex organisational administration.

The low level of ambition shown in the consultation is of concern to us and it is not clear how it has been informed. The consultation impact assessment shows that the central scenario for deployment level of heat pumps and biomass units is just 25,000 over two years. Given the scale and urgency of the challenge being faced to reduce domestic emissions these figures seem to lack ambition when compared to the 1.4 million homes in Wales alone.

Whilst this consultation details the proposed support mechanisms for low carbon heating, we wish to emphasise that low carbon heating must not be addressed in isolation and must be accompanied by rapid and significant improvements in the energy efficiency of our buildings. You will be aware of the ample evidence available that clearly demonstrates the carbon reduction benefits of home efficiency improvements and that significant improvements can be achieved with basic measures such as home insulation. We note the growing numbers of organisations, respected experts and business leaders asking the UK Government to provide immediate financial support to this sector as part of a post-Covid green recovery.

The challenge to decarbonise heat has been made greater following the UK Government decision in 2016 to remove the Zero Carbon Homes standard for new build that has led to an estimated cost to householders of £1 billion in extra energy bills and unnecessary combustion of 21 TW/h of fossil fuel gas ([https://ca1-eci.edcdn.com/reports/ECIU\\_Zero\\_Carbon\\_Homes\\_Final.pdf](https://ca1-eci.edcdn.com/reports/ECIU_Zero_Carbon_Homes_Final.pdf)). It is therefore essential that new building regulation standards are urgently introduced across the UK requiring high levels of energy efficiency. We look forward to the publication of the Heat and Buildings strategy later this year and hope that immediate actions proposed to reduce emissions from buildings reflect the current scale and urgency with which change must take place to meet net zero goals.

## **Responses to specific questions.**

**Q9 What are your views on increasing the minimum percentage of waste feedstocks above 50% now or in the future? What could be a suitable new threshold?**

We favour increased use of waste feedstocks rather than expansion of production of energy crops. Maize is mainly grown for livestock feed but is increasingly grown as a feedstock for anaerobic digestion. The land area planted with it has expanded in Wales in recent years although there are no figures separating the two uses. Maize-growing generally has a negative environmental impact with risks of reduced soil carbon, low biodiversity and increased run-off, sediment and nutrient loss. (*Impacts of bioenergy maize cultivation on agricultural land rental prices and the environment* Defra 2016).

Although we wish to see increased use of waste feedstock and recognise this is a current and expanding waste stream, we also want to emphasise that Governments, industry, retail and householders should be putting measures in place to reduce the amount of food waste in the waste stream as a priority rather than becoming reliant on biomethane gas production to deal with the problem. Reducing food waste would have far greater carbon reduction and wider environmental benefits. Welsh Government has set out their ambition to eradicate avoidable food waste to minimise waste and maximise resource efficiency in their recent consultation on the circular economy ([https://gov.wales/sites/default/files/consultations/2020-03/consultation-circular-economy-strategy\\_1.pdf](https://gov.wales/sites/default/files/consultations/2020-03/consultation-circular-economy-strategy_1.pdf)).

It is also important to be consider potentially competing regulatory issues of increased production of organic feedstock from farms against restrictions on movement for biosecurity reasons.

**Q10. In light of recent amendments to the Renewable Energy Directive II, do you have any views on whether the UK should look to take into account similar changes for the Green Gas Support Scheme?**

The UK should take into account similar changes for the Green Gas Support Scheme. In general, the Directive is certainly a positive step towards the large-scale take up of renewable gas in the next decade. It will facilitate the access of biomethane to the natural gas grid and extend guarantees of origin from renewable electricity to renewable gas.

In our previous response to the BEIS consultation on Contracts for Difference we stated that in principle we are supportive of the use of biomass for energy generation/recovery. However, the sustainability of biomass energy conversion is a complex issue, dependent on the entire energy chain, from natural resources to energy conversion technologies, from pollution and end use, to demand. The ratio of energy returns on the energy invested for biomass is also critical and requires better understanding of its implications on the economy and society. Biomass for energy has major implications on water, land, and nutrient systems. Strategic modelling of the energy and environmental impacts of AD development in the UK should be carried out to assess true sustainability and how it can contribute to the energy transition. If there is careful calculation and monitoring of the supply chain of resources and the conversion of energy, then we support the role for biomass in the energy transition.

**Q12. What measures and technologies exist for reducing ammonia emissions from digestate and what are the barriers to their widespread deployment?**

We are aware of the process to generate biosynthetic natural gas (BioSNG) from organic and residual waste and would anticipate this process as a being a potential end user for digestate or indeed a primary user of food and biomass waste. We are not able to comment though on barriers to its widespread deployment.

<https://cadentgas.com/nggdwsdev/media/Downloads/Future%20of%20gas/The-future-of-gas-Feb-16.pdf>

**Q13. What are the reasons for the lack of commercial demand for digestate and how can the market for digestate be strengthened?**

Whilst we are not best placed to advise on evolving technologies for digestate disposal or barriers to commercial demand for it, we do wish to reiterate the potential risk to the environment from digestate if not appropriately managed in terms of both ammonia emissions and diffuse pollution. It is important to find ways of turning digestate from a waste product into a resource. Development of commercial products from digestate, such as low carbon fertiliser that can be easily stored and transported with low risk to the environment, is central to the successful longer-term expansion of AD technology.

**Q18. What are the main barriers to the deployment of biomethane plants and what potential solutions could overcome these?**

Environmental permitting can be portrayed by developers as a barrier to deployment of these plants. We wish stress the importance of having strong regulation in place to protect the environment, local communities and operators themselves and ensure safe and responsible operation. We also suggest that a strategic approach to AD development be considered taking account of proximity to grid connections and waste feedstock sources, environmental protection and facilities to process or dispose of digestate.

**Q22. Do you agree with targeting support at domestic and non-domestic installations with a capacity up to and including 45kW?**

Yes – we think this capacity will effectively target most domestic installations.

**Q23 Do you agree that support for building technologies should change from a tariff to a grant?**

Yes – our experience is that access to capital for renewable energy/low carbon schemes can be a major barrier to scheme installation. High capital costs may deter home owners from adopting low carbon heating technologies as there is currently no incentive in terms of current operating costs, particularly for gas, to move to low carbon and more efficient heating systems.

**Q24 Do you agree with our proposal to offer a technology neutral grant?**

Yes – this will be simple to administer and provide clarity for home owners, installers and manufacturers.

## **Q26 Do you agree with the recommendation for a flat rate grant?**

Yes – this again will be simple to administer and provide clarity for home owners, installers and manufacturers.

## **Q28 Please provide any relevant views to help inform development of delivery mechanisms (Clean Heat Grant)**

This consultation includes proposals to support water source and ground source heat pump technology. Some open loop system designs may require an abstraction licence for water taken from either surface or ground water sources where the abstraction is greater than 20 m<sup>3</sup>/day). Some closed loop water source installations may still require licensing if it involves diversion or abstraction of flow out of a stream or river to supply flow to an offline collector. Flood Risk Activity Permits or Ordinary Watercourse Consents may also be required for bankside or in channel works. A Groundwater Investigation Consent may also be required. We note that the Clean Heat grant is only open for a two-year period. The determination process for abstraction licences has maximum statutory timescales of up to four months. An Environmental Permit may be required for discharge to a surface water or ground source. The delivery mechanism should therefore consider the potential cost and time implications of securing these environmental consents. Permit requirements would be assessed on a case by case basis. We would be happy to discuss permit requirements with BEIS in more detail if further information is required.

With heat pumps as the preferred technology for decarbonising domestic space heating, longer term consideration should be given to managing the spatial distribution of ground source units where separate schemes in close proximity can lead to thermal interference with subsequent influence on system effectiveness. In the longer term it might be advisable for a spatial approach to GSHP deployment to be developed in key urban areas.

## **Q31 Do you agree with the proposed air quality requirements set out above?**

We agree with the proposed air quality requirements for biomass as set out in this consultation. Whilst there is significant uncertainty around the exact contribution, domestic burning of solid fuels is now understood to be the largest single contributing source of the UK's levels of PM2.5. The contribution of domestic wood-burning to PM2.5 concentrations can also be significant especially in urban areas where cleaner fuels (natural gas) are readily available and therefore the use of biomass should not be incentivised. The Clean Air Plan for Wales has ambition to reduce, and in time eradicate, all emissions from domestic sources including through burning of solid fuels. It is however recognised that a proportion of people in Wales do rely on solid fuels as a primary means to heat their home where there are no alternatives available. Welsh Government are also considering the impacts, risks and potential benefits of different interventions including prohibiting the sale and use of the most polluting solid fuels (which current evidence suggests is wet wood and traditional house coal), legislating to ensure only the most efficient appliances are available and regulating to ensure appliances are regularly maintained by a qualified professional. This aligns well with proposals set out in this consultation.

**Q32 Do you have any comments on how best to ensure ongoing compliance with fuel sustainability and quality requirements following the redemption of a grant?**

We believe that use of the existing Biomass Suppliers List (BSL) list remains appropriate. The support for biomass units proposed through this scheme will be for high efficiency systems so that they are clean burning and as such will require high quality fuels. This approach will work well for pellet fuels that can be bought from a limited number of suppliers/distributors. This is likely to make regulation of pellet fuel quality and sustainability easier. It will be harder to regulate the quality and sustainability of fuels from chip and log suppliers, many of whom who may be more informal but more widely distributed in rural areas where impact on air quality may be less. Welsh Government is currently considering interventions such as prohibiting sales of polluting wood fuels under their Clean Air Plan.

**Q38 Do you agree with not supporting process heating under the Clean Heat Grant?**

Yes – we think the scheme should remain targeted to domestic low carbon space heating and any associated hot water heating.

**Q40 Do you agree with not supporting solar thermal systems under the Clean Heat Grant?**

Yes as we believe this is an established technology with mature supply chains. We wish to point out however that solar thermal deployment has the potential to play an important role in decarbonisation of our homes and future support for the technology must be considered whether directly through financial support or indirectly through full and balanced carbon pricing of fuels.

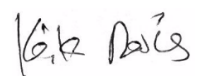
**Q42 What improvements could be made to the proposed approach for tackling non-compliance for participants under the Green Gas Scheme?**

We wish to re-iterate the need for applicants to demonstrate that all necessary environmental permits have been secured prior to installation construction and that measures are in place to ensure that schemes must operate in full compliance with permits to be eligible to receive support payments.

**Q44 What would be the most important features of an audit regime to minimise the risk of non-compliance?**

Similar to the Green Gas support scheme we wish to re-iterate the need to ensure that all installations eligible for support have the necessary environmental permits in place before they are commissioned – these relate specifically to the requirements for open loop water source and ground source heat pump installations in the context of the Clean Heat scheme.

Yours faithfully

A handwritten signature in black ink that reads "Keith Davies". The signature is written in a cursive style with a distinct loop at the end of the last name.

Keith Davies

Sustainable Places Land and Sea Manager