'Future Support for Low Carbon Heat'
Key Messages and Consultation Guide for Biomass Heat.

This paper highlights the key messages the REA are including within their response to the *'Future Support for Low Carbon heat'* consultation, concerning the priority questions relating to the proposed Clean Heat Grant Scheme and the implications for biomass heat.

We strongly encourage all industry stakeholders to use this and submit their own response by the deadline the 7th July via the citizen space portal. There must be as many industry responses to the consultation as possible.

If submitting a response, we also recommend that you personalise your response to reflect how these proposals directly affect your business. Accurate data and case studies are essential for demonstrating the impact of these policy changes.

Key Messages

It is welcome that BEIS is bringing forward a support mechanism to help the decarbonisation of heat following the Renewable Heat Incentive. However, we believe the proposals for a Clean Heat Grant scheme are wholly inadequate in both scope and the level of support on offer if the intention is to drive meaningful decarbonisation of UK heat production.

Further Heat Policy is urgently needed to maintain and continue to grow the clean heat sector.

The consultation highlights how heating our homes, businesses, and industry accounts for a third of UK's greenhouse emissions, requiring a mass transition to low carbon heat. However, the proposed scheme focuses on a very small section of the heat market which, by itself, will not deliver the level of decarbonisation required to meet the UK's net-zero heat target or reignite growth of the renewable heat sector.

While we recognise that the Government are expecting to bring forward further heat decarbonisation policies, the lack of a clear strategic ambition means we urge BEIS to expand the scope of the proposed Clean Heat Grant Scheme. This includes:

- Raise the capacity cap above 45 kW. This should be in line with the small-scale biomass tariff within the ND RHI, which is up to 200 kW, to allow for a wider range of domestic and small scale non-domestic properties to install clean heat systems.
- Amend the grant so that it meets a proportion of the cost for each kW capacity being deployed. This should be based on the heat loss assessment which should be required for all applications. This should be accompanied by a low-interest loan, as seen in Scotland, to meet the remaining project costs.

- Implement tight emission and maintenance standards for urban biomass projects rather than ban them from deploying in on-gas grid areas. Such a restriction, which ignores the results that can be achieved from deploying Best Available Techniques (BAT), adopts an approach seen nowhere else in the world and sets a dangerous and difficult-to-reverse precedent which will further obstruct the deployment of renewable heat, particularly in larger buildings.

The current scope of the Clean Heat Grant Scheme will see the industry contract

The REA REview 2020[1] identified over 32,000 direct jobs in the heat pump, solar thermal, biomass boiler, biomass CHP and AD sectors combined in 2018. This grows to well over 44,000 jobs when you also include those employed in ancillary services such as the production of biomass for fuel. These are all sectors that are already contracting. The twelve-month gap between the end of the non-domestic RHI and the start of Clean Heat Grant Scheme is expected to see the sector contract further, resulting in the loss of jobs, skills exit and collapse of supply chains associated with these sectors.

With the focus of the Clean Heat Grant scheme on small-scale projects, the current supply chain is left with no future growth opportunity. As supply chains tighten and it becomes harder to access maintenance services or feedstocks, those already using renewable heat system are driven back to using fossil fuel alternatives – a trend which has already been observed. This will undermine the existing renewable heat sector, established by the RHI, as well as debilitate the ability of the Clean Heat Grant scheme to succeed.

Expanding the proposed scheme, as well as bringing forward further heat policies, is necessary if the clean heat sector is to grow in line with the UK's net-zero ambitions.

Consultation Question 22 - Do you agree with targeting support at domestic and non-domestic installations with a capacity up to and including 45kW? Yes/No. Please provide evidence to support your response

Raise the capacity cap to allow for the deployment of all small-scale clean heat projects.

Installations under 45 kW account for a very small proportion of installations deployed under the existing RHI. In the case of Biomass, REA analysis estimates that only 12% of the projects deployed under the ND RHI 'small biomass' tariff are below 45 kW's.[2] This equates to an estimated 11,400 small scale biomass projects that would not have been deployed if a similar capacity cap had been in place. Current figures under the Domestic RHI also suggest that deployment is currently so low that there is a net loss of RHI biomass boilers on the scheme in the last three quarters since Q3 2019.[3] The proposed cap is simply not suitable for biomass

[1] REA (2020) *REview 2020* https://www.r-e-a.net/resources/review-2020/

[2] REA Analysis based on FoI RHI Data as of May 2018. Given very low deployment rates since 2018, 12% is expected to be a reliable estimate.

[3] BEIS RHI Monthly Deployment Data as of March 2020.

projects and will not even deliver the limited number of 'niche' biomass projects identified within the consultation.

The 45kW cap creates a huge policy gap, excluding many small-scale heat decarbonisation projects the scheme is meant to be focused on. BEIS should reconsider the cap in line with the data they have on what has been deployed at the small scale of the RHI and what size of projects represent the best value for money. A cap of at least 200 kW (in line with the small biomass tariff in the current ND RHI) should be implemented to ensure continued deployment of heat projects across all technologies, while further heat decarbonisation policies are brought forward for larger projects.

The potential for Biomass Heat is underestimated within the Clean Heat Grant Scheme.

The renewable heat sector has huge potential for sustainable growth in the UK. The REA's Bioenergy Strategy [4] identified the contribution from bioenergy alone could sustainably increase by a factor of 2.3 by 2032 to 113 TWh (20% of UK heating needs). Biomass heat, utilising efficient biomass boilers burning wood chip or pellet, could sustainably deliver 42 TWh of this by 2030, making a sizable contribution to the UK's heat decarbonisation.

BEIS data demonstrates that using wood fuels also provides the lowest cost heat decarbonisation option, with an average of £463/kW across the three biomass ND RHI tariffs.[5]

The role of biomass has previously also been identified by BEIS as being particularly important within larger residential developments and for commercial and industrial sites. This was the reason for the 2018 ND RHI reforms which encouraged larger-scale projects. Having pivoted the biomass heat sector towards these projects, which government argued represented the best value for money, the current design of Clean Heat Grant scheme is now incentivising only a very limited number of very small-scale biomass applications.

The scope of the Clean Heat Grant scheme must, therefore, be widened to realise this potential. As a minimum, the capacity cap must be raised to include all small-scale projects under 200 kW.

Consultation Question 23 - *Do you agree that support for buildings technologies should change from a tariff to a grant?*

No, current proposals do not address the serious problems associated with previous grant schemes.

A tariff system ensures that payments are only made for low carbon heat used. It drives people to use their low carbon heating systems rather than leaving them idle and heating with cheaper fossil fuels instead. If tariff levels are set correctly, allowances like 'assignment of rights' can overcome the requirement for up front capital expenditure, as has been the case at some

[4] REA (2019) *REA Bioenergy Strategy Phase 2: A Vision to 2032 and Beyond*, https://www.bioenergy-strategy.com/publications

[5] BEIS RHI monthly deployment data: December 2019 (Annual edition)

scales within the RHI. Strong design, installation and maintenance standards are needed to accompany a grant scheme to ensure quality installations are installed and used.

Consultation Question 25 - *Do you agree that £4,000 is an appropriate grant amount to meet the aims of the scheme?*

The grant level should be flexible, meeting a proportion of the cost for each kW capacity being deployed. This can be match-funded by the developer and could be accompanied by a low-interest loan to meet the remaining project costs.

The current grant of £4000 is not an incentive for most small-scale heat decarbonisation projects to deploy. Annual Domestic RHI Data for 2019 indicates that the average cost of an Air Source Heat Pump ranges from £8,220 for less than 10 kW up to £22,500 for 45 kW (an average of £15,060 across the range). The range for biomass boilers is similar, from £13,000 for 10 kW up to £25,000 for up to 45 KW (an average of £16,425 across the range).[6] As such, the proposed grant of £4000 is highly unlikely to incentivise renewable heat projects of any technology type much above 10kW. If projects are deployed above this, they are likely to be of low quality, or undersized, as developers and consumers are disincentivised to consider better designed projects where the grant will cover less of the total project costs.

A flat grant, set at a level based on the deployment of sub 10 kW air source heat pump, cannot be considered technology neutral when no other size or technology is incentivised to deploy. While it is recognised that the grant is only expected to meet a proportion of the whole cost, the grant needs to be proportionate to the size of the project, increasing for each kW of capacity provided. This will allow the grant to incentivise both a range of technologies and a range of sizes.

Given the proposals to require a heat loss assessment, to determine if a heat pump is appropriate for a building, the same report could also be used to determine the capacity of installation required and a grant issued in accordance with the required size.

To further enable larger projects to deploy, a low-interest loan should also be offered in conjunction with the scheme to help cover the remaining cost of the project. This will also help mitigate low quality or undersized projects. Such a loan is likely easiest supplied by Government but could also come from the private sector if the scheme is appropriately designed. The Carbon Trust and Siemens collaborated on such a loan scheme from around 2004 to 2013, which proved successful at supporting market growth across all technologies.[7]

[6] BEIS RHI monthly deployment data: December 2019 (Annual edition)

[7] For further details see: https://news.siemens.co.uk/news/the-carbon-trust-and-siemens-launch-new-green-finance-deal-worth-550-million-to-green-businesses-in-the-uk

Consultation Question 31 - Do *you agree with the proposed air quality requirements set out above? Yes/No. Please provide further evidence to support your response.*

Biomass projects, regulated with high emission and maintenance standards, should be allowed to be deployed in on-gas grid areas.

Biomass, due to its ability to meet higher and varying heat loads, has a particularly strong role to play in commercial applications, including public sector buildings such as hospitals, schools, public swimming pools, council offices and innovation in district heating schemes. Such buildings are commonly located within on-gas grid areas. As such, the proposed restriction ignores the results that can be achieved from deploying Best Available Techniques (BAT), adopts an approach seen nowhere else in the world and sets a dangerous and difficult-to-reverse precedent which will further obstruct the deployment of renewable heat, particularly in larger buildings.

As has been demonstrated to BEIS during the last urban biomass consultation, emissions from biomass boilers are not an issue where good practice in design and operation are followed, and where flue gas filters are fitted. These are mature technologies which are readily available. Where tighter emission and maintenance standards are put in place, biomass boilers meet emission levels that cause no issues for urban air quality. A survey conducted of WHA members during the previous consultation demonstrated average PM of 5.18 grams per GJ from currently operating installations - a fraction of the RHI's PM restrictions of 30 grams per GJ net heat output. Such levels do not pose a threat to urban air quality. [8]

Examples for how standards, in conjunction with support mechanisms, can be effectively used to incentivise high-quality urban biomass installations can be taken from across Europe. In Germany, support is tiered based on the emissions profile of a system, ensuring that the highest levels of subsidy support are only awarded to the best-performing systems. This combination drives installations which are appropriately sized, optimised for efficiency and which are suitably clean for urban areas. This model should be replicated within the Clean Heat Grant Scheme and future heat policies, ensuing the installations built within urban areas meet high emission and maintenance standards, rather than excluding on gas grid installations entirely.

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If you have any questions relating to this consultation and the REA's response please contact heat@r-e-a.net

[8] WHA and REA response to BEIS RHI Consultation – Biomass Combustion in Urban Areas https://www.r-e-a.net/resources/beis-rhi-consultation-biomass-combustion-in-urban-areas/