

# Future support for low carbon heat – Gemserv response

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## Gemserv's response to Future support for low carbon heat

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Gemserv is an expert provider of professional services, helping clients make the most of a world increasingly driven by data and technology. We provide professional services across energy, electric vehicles, healthcare, the public sector.

Gemserv is integral to the operation of many Government and industry led energy efficiency and renewable programmes, including the Heat Network Investment Project (HNIP), the Green Deal and the Biomass Suppliers List (BSL) which supports the Renewable Heat Incentive (RHI). Gemserv's wide-ranging expertise, including 15 years as a central industry body, means that we are involved in many of the major policy developments and industry initiatives across the energy sector.

Gemserv, as part of a consortium, is working to deliver the Heat Network Investment Project (HNIP) on behalf of the Department for Business, Energy and Industrial Strategy (BEIS). The HNIP programme aims to create a self-sustaining and transformative heat energy market which offers affordable and reliable heat by making £320m of support available to heat network projects across England and Wales.

Gemserv is the Scheme Administrator of the Biomass Suppliers List (BSL) - a list of woodfuel that has proven it meets the eligibility requirements for the Renewable Heat Incentive (RHI) scheme. It allows RHI participants to easily demonstrate to Ofgem that the fuel they are using in their biomass boilers meets the RHI sustainability criteria required to claim their RHI payments. As of July 2020, the BSL has over 5,000 Suppliers registered with over 9,000 woodfuels authorised on the scheme.

Gemserv is administrator for the Green Deal Oversight and Registration Body (GD ORB), and manages the Master Registration Agreement (MRA), ECOES database and responsibility for Green Deal Central Charges Database development.

Gemserv has a long-standing and strong track record of supporting government with the UK's transition to low carbon sources of energy and heat. We are very happy to discuss any of the detail in our response below and to continue to work with the relevant bodies make sure the appropriate rules and guidance are in place to help improve fuel and air quality.

Yours faithfully,

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## CONSULTATION QUESTIONS – GEMSERSV RESPONSE

### **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.**

No.

There are a small number of installations under 45kW under the existing RHI. The Renewable Energy Association (REA) analysis estimates that only 12% of the projects deployed under the ND RHI 'small biomass' tariff are below 45 kW's.<sup>1</sup> 45kW are not enough to support the niche circumstances described. The analysis shows that 11,400 small scale biomass projects would not have been deployed if a similar capacity cap of 45kW had been in place. Domestic RHI figures show 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.<sup>2</sup>

The 45kW cap neglects the small-scale heat decarbonisation projects that were encouraged before this consultation by BEIS. Many of these projects rely on government funding but with a cap such as this they would not be able to operate.

Based on the evidence listed, the cap therefore should be increased to 200kW. This would then include and support the small-scale heat decarbonisation projects as opposed to neglecting them.

The role of biomass should not be underestimated. It is particularly important when considering large scale developments for public sector buildings as well as commercial/industrial sites.

The REA's Bioenergy Strategy<sup>3</sup> 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/kWh across the three biomass ND RHI tariffs.<sup>4</sup>

REA has identified Delta-EE data that shows over 1.3million off-gas grid properties in the UK and suggests there could be over 468,000 off-gas grid locations<sup>5</sup> where heat pumps may not be appropriate and where biomass is the best suited option for heating the property. Biomass market has a potential to be 17 times<sup>6</sup> the size of what has already been deployed by the RHI.

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<sup>1</sup> REA consultation response

<sup>2</sup> REA consultation response

<sup>3</sup> REA (2019) REA Bioenergy Strategy Phase 2: A Vision to 2032 and Beyond, <https://www.bioenergy-strategy.com/publications>

<sup>4</sup> BEIS RHI monthly deployment data: December 2019 (Annual edition)

<sup>5</sup> 468,000 based on Delta-EE number that 64% of properties could be electrified if ground source heat pumps are the preferred technology in a 1-in-20 peak winter scenario. 36% of 1.3mn off gas grid properties equals 468,000.

<sup>6</sup> The RHI has deployed 16,954 accredited biomass boilers in the ND RHI and 9,418 accredited biomass boilers in the domestic RHI, totalling 26,372 as of May 2020.

Restricting the capacity will reduce demand, leading to increased costs for smaller scale installations. It is clear there is potential for biomass as a decarbonisation tool, and keeping the cap to 45kW is counter-productive to governments targets net zero target for 2050.

If the cap is to be limited to 45kW, there needs to be consideration for supporting installations above this by extending the Non-Domestic RHI.

**23. Do you agree that support for buildings technologies should change from a tariff to a grant? Yes/No. Please provide evidence to support your response.**

The £4,000 grant alone is not of sufficient magnitude to achieve the goals of the scheme. The Clean Heat Grant, plus a repayment mechanism, through an energy bill could be a stronger incentive for consumers, supporting the uptake of green technology.

Gemserv have recently conducted a review of the Green Deal mechanism to see how it could be adapted to support the journey to net zero. The review highlighted the need for a government type subsidy/grant to support the uptake of energy efficient technologies, particularly by those less able to pay.

A grant gives consumers the upfront capital to invest and is simpler to administer, but it will only be effective if coupled with a repayment mechanism to support consumers in improving the energy efficiency of their property. We are happy to share a copy of our review with you if requested.

There are ongoing operational costs for renewable heat technologies, a one-off grant will not address this and will disincentivise consumers as a result. The REA notes that in 2019 the average domestic unit cost for electricity was 16.6 p/kWh compared to an average unit cost for gas of 3.79 p/kWh. A consumer switching from a gas boiler to a heat pump will see significant increase in running costs which is not addressed by a one-off grant. The same can be said for ongoing cost of biomass heating compared to burning oil.

Ongoing requirements for maintenance are vital to ensure air quality standards are met. This will be harder to achieve and enforce with a grant scheme.

There is still a significant lack of consumer and installer knowledge regarding low carbon technologies compared to their traditional fossil fuel heating systems. A comprehensive public awareness campaign will be needed to educate consumers about a grant and the technologies supported. In addition, a nationwide installer upskilling programme will be needed to ensure that installers are not left behind and are able to adapt to the transition to low carbon heating solutions.

Through Gemservs government scheme management experience, we can ensure we support raising consumer awareness, creating clear guidance on the grant and ensuring knowledge is shared across the industry.

**24. Do you agree with our proposal to offer a technology-neutral grant level? Yes/No. Please provide evidence to support your response.**

We do not believe the proposal is not technology neutral. With the exclusion of solar thermal and discouraging biomass, then the grant is pitched to support only small-scale Heat Pumps. It is also worth noting that there are considerable differences in capital expenditure between the eligible

technologies which means that the proposals are not technology-neutral in practice due to the grant structure and size.

We agree that the grant should be technology-neutral although, we would argue that the consultation does not detail a 'technology-neutral grant'. The proposal is comparatively less attractive for biomass than ASHPs. Biomass is excluded from urban areas, and solar thermal, biofuels and hybrid systems are also not included. This means we would not consider this technology neutral.

A technology-neutral grant could be achieved through a flexible grant level, or other funding mechanism, based on the capacity deployed. This would help cover the partial cost of each kW, no matter the technology. This would allow developers to assess a property and its heat requirements, allowing for the design of a heat installation in accordance with the need of the building. The continued use of heat loss assessments will also ensure BEIS's strategic objective of primarily delivering heat pumps, with biomass where it is most appropriate to do so, is also met.

**25. Do you agree that £4,000 is an appropriate grant amount to meet the aims of the scheme? Yes/No. Please provide evidence to support your response.**

No.

The grant should be flexible meeting a proportion of the cost of each kW capacity deployed. It can be match-funded by the developer, accompanied with low-interest loan to meet remaining costs. The current grant of £4000 is not sufficient to enable most small-scale heat decarbonisation projects to deploy Heat pumps or other technologies. The grant should acknowledge the installation costs and maintenance costs. The grant at this level currently would not support biomass installations above 10kW.

It will not cover the VAT for projects at the upper end of the capacity range.<sup>7</sup> REA has found that VAT on energy saving materials, which includes domestic renewable heat technologies including biomass and heat pumps has increased. VAT on energy saving materials has increased from 5% to 20%. Therefore, a significant proportion of grant will be the government applied tax on that technology. Hence why the grant must be flexible and meet a proportion of the cost for each kW capacity deployed.

The RHI recognised the need to incentivise users to adopt renewable heat technologies. The £4k grant is unfortunately not such an incentive. An example has been provided for current energy prices of a domestic property - gas is 3.6p/kWh, electricity is 13.97p/kWh. With a heat pump SPF of 2.8 means that 1 unit of heat from a heat pump will cost 4.9p/kWh. Based on this, the incentive is not clear. Consumers are unlikely to pay a minimum £4k for an ASHP (including £4k grant) as compared to £1.5k for a new gas boiler and have heating bills go up 38% p.a. Information for consumers needs to be made very clear to reduce the likelihood of being miss-sold.

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. To further enable larger projects to take off, we strongly believe a low-interest loan should 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.

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<sup>7</sup> 2019 Domestic RHI Annual Deployment Statistics.

**26. Do you agree with the recommendation for a flat-rate grant? Yes/No. Please provide evidence to support your response.**

No.

See our response to question 25.

**27. If you believe a variation by capacity should be considered, please provide evidence to justify a process and level for varying the grant.**

Yes.

There needs to be a sufficient incentive to install the most appropriate and appropriately sized technology to meet the demand.

**28. Please provide any relevant views to help inform development of the delivery mechanism.**

A heat loss assessment should not only be used to ascertain if the right technology is being installed, but if the right capacity of being proposed on all Clean Heat Grant Scheme Applications. The value of the grant is then based on this assessment, with £/kW paid out on the actual capacity required. This should avoid people being able to benefits from wrongly sizing installations or gaming the system to get more vouchers.

The current scope of the Clean Heat Grant Scheme will see the industry reduce, phasing out of biomass technology and jobs. The REA identified over 32,000<sup>8</sup> direct jobs in heat pumps, solar thermal, biomass boilers, biomass sectors. The twelve-month gap between the end of the Non-Domestic RHI (ND RHI) and the start of Clean Heat Grant Scheme is expected to see the sector reduce further. This would mean job losses, skills shortage and a fall in supply of renewable heating installations. Those using renewable heating systems will be forced back to cheaper fossil fuel alternatives, something that is already happening. This will mean the work done by RHI is undermined and leaves a poor foundation for Clean Heat Grant to be built upon.

A clear implication of what is being proposed is that biomass heat, including all woody sources are less likely to be supported and moreover actively avoided within future heat strategy. This is also of concern to the BSL members as it will mean a reduction over time in the volumes of fuel and commensurate reductions the number of suppliers, fuels and income to support the administration and duties of the scheme.

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. The Clean Heat Grant should not be deployed in isolation but should be accompanied by regulation to nudge consumers towards low carbon heating systems, and phase out high carbon fossil fuels. Gemserv's review of the Green Deal mechanism could contribute to this.

Gemserv's experience in delivery and administering Government schemes such at the Green Deal, Microgeneration Certification Scheme and the Biomass Suppliers List could support the

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<sup>8</sup> *The REA Review 2020*

development of the delivery mechanism, e.g. through the development of an application portal and providing industry monitoring. We would look to use lessons learnt from previous Government schemes to ensure non-compliance is addressed quickly, preventing miss-selling and encouraging uptake through education.

**29. Do you agree with the minimum efficiency requirements for heat pumps and evidence requirements? Yes/No. Please provide further evidence to support your response.**

No.

We agree that installations need to demonstrate a Seasonal Coefficient of Performance (SCOP) but the removal of the heat meter will remove the possibility for establishing the true efficiency of the installation. A heat meter is a small additional cost to achieve this aim and will allow users to monitor their systems, make changes where necessary and challenge installers for poor design and potential mis-selling. Government should use this data to establish true efficiency and value for money of the scheme. Also, adequate metering and measuring is necessary to prove efficiency of the building so measuring heat or electricity without data on dwelling performance is unrepresentative.

**30. Do you agree with the proposal to require electricity metering for all heat pump installations? Yes/No. Please provide further evidence to support your response.**

Yes.

See answer to the Q29.

There should be a requirement to install heat meters on the output of the heat pumps as well.

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

No.

We agree that all biomass installations should require an emissions certificate from a certified body, use approved fuel listed on the BSL, and that an industry standard for maintenance checks is needed.

Government should 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.

Commercial buildings are located on-gas grid areas and biomass is the most appropriate form of renewable heat due to high-efficiency heat load. By restricting biomass in urban areas this hinders this progress towards net zero for these larger scale commercial sites.

What is proposed in this consultation, directly contradicts support biomass in urban areas.

In biomass in urban areas consultation BEIS stated emissions from biomass boilers are no area of concern so long as quality filters are fitted. Maintenance standards and air quality standards must be put in place, so biomass boilers are able to provide renewable heat in urban areas. REA in their response have noted a survey conducted of WHA members during the previous consultation demonstrated average PM of 5.18 grams per GJ from current installation, 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.

By working closely with Ofgem and Defra, Gemserv can support by analysis data held on the BSL portal, creating more targeted campaigns, comparing data based on where fuel is sold, where it is burnt, and matching this with air quality monitoring data. This will also help make more informed policy decisions for biomass going forward.

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

Gemserv supports schemes like the BSL to incorporate the required fuel quality standards into its criteria. The Renewable Energy Association (REA) also supports the work that has been done with the BSL to examine the options for delivering the required fuel quality standard.

There is a poor understanding among RHI participants around who can utilise waste wood feedstocks with a valid BSL number. As there is no distinction between a waste wood BSL number and virgin material BSL number, participants could mistakenly use waste wood - believing themselves to be compliant by using a BSL registered fuel. This, however, is relatively straight forward to fix, with it being made clear to consumers which BSL numbers are waste wood materials and that such material cannot be burnt in a standard, non-chapter IV compliant, boiler.

Pre consumer waste wood should be banned for sites that do not hold a valid Environmental Permit to use such material. We would like to work closer with Ofgem and Defra to ensure there is a joint up approach to improving air quality, undertaking data analysis to better inform policy decisions.

**33. Please provide views on the appropriate requirements for the heat loss calculation, as well as the minimum heat loss value that should need to be demonstrated.**

We believe that bringing forward energy efficiency targets and placing emphasis on the improvement of energy efficiency in residential properties is crucial to the UK's ambitions to achieve net zero.

A fabric first approach should be used as part of the heat loss assessment, providing advice on all energy efficiency options available. The standard of assessments need to be closely monitored to ensure that outputs are consistent and unbiased.

**34. Please provide views on any other criteria to ensure that biomass support is focused on hard to treat properties only.**

It has not been made clear why biomass is not a suitable technology.

Biomass is more appropriate where house grid connections might not support the running of a larger heat pump or a local grid might not be able to support a heat pump. Biomass provides energy security in harsh winters. Furthermore, value for money per kW installed or pounds per tonne of carbon saved could be a useful criterion to show the appropriateness of biomass, as biomass might represent better value for money where a larger installation is required.

Another criterion is the possibility of a district heating system where it is clear multiple properties could benefit from large scale biomass system. It is key here that biomass should not be banned in urban areas. The cost of a green electricity tariff in that area, impacting running costs. Heating via electricity is only green if the electricity being used is coming from a renewable energy tariff.



**35. What do you consider to be the main consumer protection risks of providing support through an upfront grant and how might they be mitigated? Please provide evidence to support your response to question.**

The grant could lead to miss-selling where the technology is not appropriate for the property.

Gemserv conducted a Green Deal Mechanism Review through March and April 2020. We conducted more than 20 stakeholder sessions, testing ideas and capturing lessons learnt across industry regarding the energy efficiency loan. It was highlighted that consumer protection can be improved if there is a clear route for accountability and redress using a simple and trusted supply chain.

**37. Do you agree that quarterly grant windows would prevent overspend and manage demand to ensure an even spread of deployment? Yes/No. Please provide evidence to support your response.**

No.

Not enough detail has been provided around how the quarterly caps would be set for industry to be able to support the proposal.

**38. Do you agree with not supporting process heating under the Clean Heat Grant? Yes/No. Please provide evidence to support your response.**

Yes.

As long as it will be supported under other initiatives. The grant will need to be sufficient for process heating and £4,000 is not.

**40. Do you agree with not supporting solar thermal systems under the Clean Heat Grant? Yes/No. Please provide evidence to support your response.**

No.

In 2019, solar thermal accounted for approximately 3.5% of applications to the Domestic RHI and less than 1% of applications to the Non-Domestic RHI. In order to be technology-neutral, solar thermal should continue to be supported.

**41. Do you agree with not supporting hybrid systems under the Clean Heat Grant? Yes/No. Please provide evidence to support your response.**

No. Same as the above, provided that the heat pump is providing the majority of the heating.

**43. What are the main risks of non-compliance, fraud or gaming associated with the Clean Heat Grant?**

A problem with all grants is that they can tend to push prices up by the value of the grant if there is already an existing demand. Mechanisms need to be designed and implemented in place to prevent this.

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