

## **The Renewable Heat Incentive:** *A reformed and refocused scheme*

The Energy and Utilities Alliance (EUA) provides a leading industry voice helping shape the future policy direction within the sector. Using its wealth of expertise and over 100 years of experience, it acts to further the best interests of its members and the wider community in working towards a sustainable, energy secure and efficient future. EUA has six organisational divisions - Utility Networks, the Heating and Hotwater Industry Council (HHIC), the Industrial & Commercial Energy Association (ICOM), the Hot Water Association (HWA), the Manufacturers' Association of Radiators and Convectors (MARC) and the Natural Gas Vehicles Network (NGV Network). This joint response incorporates comments from both HHIC and ICOM.

**1. Do you agree with the proposed policy approach for degression and trigger setting?**  
*Yes / No. Please provide evidence to support your answer.*

We continue to support the principle of degression although we have reservations about how the current system can be used to achieve the Government's anticipated deployment for 2021.

Paying tariffs for heat generated under the scheme, and guaranteeing payments, gives a reasonable level of certainty to applicants, suppliers and installers so we support this continued approach. Extending degression triggers for 2016/17 on a linear trajectory from previous years is the best option to ensure stability in the scheme in the intervening months before the substantial 2017 reforms are introduced.

The Government is clear in its aim of slowing deployment of biomass, particularly small and medium installations, whilst promoting substantially increased deployment of electric heat pumps. EUA believes that this substantial and rapid shift in deployment is unlikely to occur given the levels of deployment seen for said technologies under the RHI to date. For the anticipated 2021 deployment, as outlined in the consultation document, to be reached, the number of accreditations for biomass would need to substantially reduce whilst those for heat pumps would need to increase considerably in a relatively short space of time.

The level of tariff offered for electric heat pumps has not been the sole reason for the comparatively lower levels of take-up. Biomass installations can typically be used with

existing heating systems and are therefore more familiar to consumers. Electric heat pumps, on the other hand, can have higher installation costs. The Government therefore also need to address the non-financial barriers to the wider deployment of heat pumps.

Furthermore, by not imposing individual budget caps on technologies, there is no way for the Government to ensure their preferred shift to electric heat pumps will be achieved. Biomass will continue to be able to dominate the budget if deployment continues to be far higher than for electric heat pumps.

**2. A budget cap introducing the ability to close the scheme to new deployment is necessary to ensure we can protect the budget. Do you agree that:**

**a) The budget cap should be kept as a final backstop with minimal notice periods for the implementation of closure? Yes / No. Please expand.**

Although the budget cap will contribute to the aim of ensuring the RHI does not exceed its budget, we believe that it could have unintended consequences for the effectiveness of the scheme which should be considered.

Given that an increasing proportion of the RHI budget will be taken up by committed spending on existing installations, the amount of 'new money' available for new applicants will diminish over time. An overall budget cap will exacerbate this problem as the scheme is likely to close part way through the financial year, cutting off potential deployment throughout the rest of the year.

A budget cap will also distort levels of deployment as applications are likely to be 'front loaded' in the year as applicants rush to make use of a new financial year's allocation. There would then, as the consultation document acknowledges, be a second rush if the scheme is nearing the budget cap. This could have negative consequences for suppliers and installers who could struggle to meet demand for the most popular technologies at peak times and then see installations drop off a cliff after the RHI's closure.

**b) The budget cap should only be deemed likely to be hit, and closure only be deployed when we assess that it is likely RHI commitments from plants commissioned or plants in the immediate pipeline on the verge of commissioning would consume available budgets?**

*Yes / No. Please expand.*

Yes, this is the most sensible proposal to avoid premature closure of the scheme. Any assessment of whether or not the budget cap is likely to be hit should be based on actual expenditure commitments as opposed to speculative predictions of future applications.

**c) That a 21 day notice period will allow only those plants on the verge of commissioning to proceed? Yes / No. Please expand.**

We would prefer a longer notice period as a three week notice period is unlikely to provide sufficient time for larger and more complicated plants to finalise their arrangements. A short notice period such as is being proposed could place undue pressure on applicants to commission quickly and therefore the quality of applications could be negatively affected. It could also have the effect of discouraging applications for more complex systems, meaning deployment would not come forward at all.

Whatever the length of notice period that is decided upon, we propose that an installation which cannot be commissioned before the scheme closes should be given priority once it re-opens.

**3. a) Do you agree with the proposal from 2017/18 onwards for discretion to close the Non-Domestic scheme only, noting that this would mean that that scheme could be closed before it was assessed that 100% of overall budget was committed?**

*Yes / No. Please expand.*

No, we do not agree with this proposal. The risk with this proposal is that the overall budget for a financial year could be underspent which would not boost domestic deployment, but would shackle non-domestic deployment. Serious consideration needs to be given to the possibility that closing the non-domestic scheme could mean that non-domestic deployment is stifled whilst domestic demand does not fill the gap left.

Early closure of the non-domestic scheme could also seriously damage the confidence that investors have in the scheme. This could have long lasting consequences for future deployment as potential investors become uncomfortable with committing to installations with the risk of scheme closure.

**a) Do you have any suggestions as to how best to manage any additional uncertainty from this proposal?**

If this proposal becomes a feature of the RHI, consideration will need to be given to how potential non-domestic applicants can receive adequate forewarning of the scheme's early closure. When the Department publishes its monthly assessment of progress toward the cap, domestic and non-domestic spending should also be reported separately so that the industry can assess if non-domestic deployment is much faster than under the domestic scheme. This would give an indication of whether the non-domestic scheme will close early, and therefore would give the industry some level of certainty.

**4. a) Are there any other features of the budget cap policy that could be improved?**

We are concerned at the proposal to not publish the methodology used to assess progress towards the overall budget cap. This will inevitably cause uncertainty for the industry between monthly updates as they will not be able to accurately forecast when the scheme's closure may occur. This in turn would have consequences for investment decisions as businesses need to operate with certainty.

**b) Do you have any suggestions of how these improvements could be delivered?**

The Government could outline its methodology in the RHI regulations but retain the ability to draw on other sources of information if it deems this necessary. Should this need to occur, the Department could then update the industry on the latest methodology used.

This would balance the need for flexibility in the assessment of budget expenditure, which is necessary for the operation of a budget cap, with the industry's need for some certainty, which is a factor that will drive deployment.

**5. Can you provide any compelling evidence as to why RPI would be a more appropriate measure of inflation than CPI for all technologies across the RHI?**

We have no objections to the use of CPI instead of RPI as both rates are currently similar and CPI is being used more widely across the Government.

**6. Do you agree simplifying the rules for additional capacity as proposed will help achieve better value for money?**

*Yes / No. Please provide any evidence which demonstrates the possible impacts of making this change.*

We are concerned that this proposed change will lead to fewer existing participants adding capacity to their installations. By using overall generational capacity of an installation (both current capacity and the proposed expansion), it is likely that in most cases the tariff paid for the additional capacity will be significantly lower than that paid for the existing capacity. This will serve as a disincentive to adding capacity to existing installation which is typically far more cost effective in terms of heat generated for the subsidy paid than an entirely new installation. This would be counterproductive to the aims of spending money on the RHI in order to secure long term targets for heat decarbonisation.

This change would also bring in additional complexity to the scheme. The current rules allow existing participants to add capacity in a relatively simple way. However, if two tariffs were to be calculated and applied to a single installation, this would increase the workload

on applicants and Ofgem. Additionally, although not clarified in the consultation document, if an installation were allowed to be extended more than once, this could result in multiple tariffs being paid, further increasing the complexity of the scheme.

**7. Are there any potential heat uses which the Government should consider not supporting for new applicants to the scheme? Yes / No.**

None.

**8. a) Will the requirement to obtain and maintain appropriate permissions for new plant in order to be eligible for and continue to receive RHI support pose any barriers to deployment under the scheme? Yes / No. Please expand.**

This proposal will not adversely affect deployment in most cases as the majority of applicants to the scheme will be applying for planning permission whilst applying to the RHI.

However, the Department does need to consider how this proposal may interact with the scheme's budget cap. As planning permission can sometimes be a lengthy process, it is possible that an installation could be blocked after the 21 day notice period of closure simply because it has not yet been able to finalise planning permission. This would be counterproductive to the success of the RHI, particularly for larger installation such as bio-gas plants.

This proposal is an example of a situation in which a 21 day notice period may be disproportionately restrictive on the ability of applicants to finalise their arrangements in time for the scheme's closure. This could be avoided by giving an extension to applicants who have finalised all other aspects of their RHI application but are waiting for a decision on their planning permission.

As previously mentioned in the response to question 2 c), installations which cannot complete the application process, including gaining the relevant permissions, before the scheme closes should be given priority when it re-opens.

**b) Are there particular permissions which it may be difficult or impossible to obtain ahead of applying to the scheme? Yes / No. Please expand.**

Most plants would be able to receive outline planning permission before applying to the scheme, and in many cases this would be advisable in order to establish the viability of the installation. However, in many cases it could be impractical to obtain full planning permission before applying to the scheme, especially when early closure of the scheme is likely.

**9. Do you think that an owner of a shared loop system should be able to apply to the Domestic RHI?** *Yes / No. Please provide evidence to support your response and how this would encourage greater deployment, drive down installation costs and improve performance of GSHP.*

Yes, we support this proposal as we believe it will remove one of the barriers to deployment of GSHPs and encourage more varied use of them. As the Department has outlined in the consultation document, installing several systems with a shared loop is far more cost effective than individual installations.

However, we do not believe that developers of new build properties should be able to take advantage of this proposal as this would not represent good value for money under the scheme.

It is unlikely that consortia of households will apply to the scheme in large numbers if they are allowed to install a shared loop system under the RHI. However, this option should be opened in order to maximise deployment of GSHPs. Consideration will need to be given as to how payments will be divided between households if they share a loop; this could be calculated using metered heat demand which would also monitor the overall performance of the system.

This type of system would be of particular interest to landlords, particularly in multiple occupancy units. An applicant with overall ownership of the shared loop system would also make for a simpler application process.

**10. Do you think that an owner of a shared loop system should be able to apply to the Non-Domestic RHI with deemed heat demand?** *Yes / No. Please provide evidence to support your response and how this would encourage greater deployment, drive down installation costs and improve performance of GSHP.*

Yes. If the overall direction of the non-domestic scheme is moved from metered to deemed heat demand but shared loop systems are still required to be metered, then this could put off owners from installing these types of systems which could prove to be advantageous to the RHI's goals.

**11. Do you agree that:**

**a) If shared loop systems become eligible on the Domestic RHI, they should receive the same tariff as individual GSHP systems under the Domestic RHI?** *Yes / No.*

Yes. This proposal would help to open up the RHI to different ways of installing electric heat pumps which could boost deployment. However, if a lower tariff is offered then this

will act as a disincentive to these types of shared systems and imply a two-tier system of support for electric heat pumps.

This would add unnecessary complexity to the scheme and could be counterproductive to the aim of the Government's reforms which is to substantially increase deployment of electric heat pumps.

**b) *If shared loop systems remain eligible on the Non-Domestic RHI but with deemed heat demand, they should receive the same tariff as individual GSHP systems under the Non-Domestic RHI? Yes / No.***

Yes, they should receive the same tariff as individual systems for the reasons outlined in the response to question 11 a).

**c) *The heat demand limit proposed for individual GSHP systems on the Domestic RHI should be applied (25,000kWh/yr per household on the shared ground loop)? Yes/No.***

Yes, if this limit is applied to individual systems then it should be applied in the same way to each household on a shared ground loop to keep the scheme as simple as possible.

**12. a) *Do you think that the proposals relating to shared ground loops result in an increased risk of overcompensation? Yes/No.***

No. As long as deemed heat demand is used for each property, the risk of overcompensation should be minimal. Systems with shared group loops are not likely to use substantially less heat than an individual property.

**b) *How could we develop our policy to best mitigate these risks?***

Properties will need to continue to be assessed for deemed heat demand individually. This would avoid the risk of overcompensation by accurately estimating how much renewable heat each household's electric heat pumps will produce. The presence of a shared loop will not alter this.

**c) *Do you think that new-build properties should be treated differently to avoid overcompensation? Yes/No.***

No. As previously stated, the Department should avoid introducing unnecessary complexity to the scheme and encourage deployment as much as possible. Installations which are

carried out as part of new-build properties are typically even more cost effective than retrofits as their ground is already being prepared for other infrastructure.

The RHI should be encouraging these types of installations as they are the most likely to take advantage of payments for shared ground loops. Somehow treating these installations differently could jeopardise this by discouraging developers from installing shared electric heat pump systems.

**d) Do you think the number of dwellings is one of the risk factors which may contribute towards overcompensation? Yes/No.**

As stated in the response to question 12 b), this risk could be avoided by estimating heat demand for each individual property as if it had its own individual loop. The fact that several electric heat pumps share a ground loop would not affect their level of heat demand and therefore the level of support they would be entitled to under the RHI.

**e) Do you think there should be a specific limit to the number of dwellings? Yes/No.**

No. This could be an arbitrary limit which could prove to be an additional barrier to deployment. As it is not possible or desirable to connect a large number of electric heat pumps to a shared system, this would be best left to the market to determine. It is likely that applicants with shared ground loops will be small groups of householders or landlords with one block of apartments, for example. Therefore, a limit on the number of dwellings sharing a single loop would be unnecessary.

**13. a) Do you agree that these proposals should apply to social and private landlords only? Yes/No.**

No. Although landlords are likely to represent the biggest potential market for shared ground loops installed under the RHI, these proposals should not be restricted only to them. There are other instances when multiple households could benefit from this form of installation so the reformed scheme should not be overly restrictive.

**b) Do you think private homeowners who are collaborating together should be able to apply? Yes/No.**

Yes. This proposal would remove a significant current barrier to deployment for GSHPs which is high upfront costs and disruptive installation of ground loops. If several households were able to contribute towards the installation of a shared system then economies

of scale would drive down initial outlay which in itself would encourage more households to participate.

- 14. Do you agree that if deeming is introduced to the Non-Domestic RHI scheme for this type of project, metering and monitoring service packages should be mandatory to allow performance data to be reviewed by Government/user/owner? Yes / No.**

Yes. This would be the only practical way of assessing in-situ heat pump performance. This information is needed by the Department and the industry in order to drive further improvements to heat pump technologies.

- 15. Do you agree that the proposal to introduce heat demand limits will contribute to achieving the aims of the reform of the RHI? Yes / No. Please expand.**

Yes. In some respects, support under the RHI has been skewed towards larger installations, including in the domestic scheme. The fact that all heat demand is rewarded has sometimes led to unintended consequences such as participants producing as much heat as possible, and not using it as efficiently as possible, in order to qualify for a higher return under the scheme. This is particularly true of larger biomass installations.

By capping heat demand, these incentives are removed even though the vast majority of applicants would not be affected. However, by using less of the RHI budget on subsidising large installations, the potential for greater deployment is increased, thereby contributing more to the overall aims of the scheme.

- 16. a) What are your views on the limits of: 20,000kWh for AWHP; 25,000kWh for GSHP and biomass?**

We believe that the proposed limit for biomass is slightly too low given median heat demand of current domestic installations. We would propose a higher limit of 30,000kWh which would balance the need for an upper limit on subsidies with adequate support for most applicants. However, the rate of the overall tariff for biomass is likely to have much more of an impact on the rate of return than a heat demand cap.

- b) What would be the merits of higher/lower limits? Please expand.**

Higher limits than those proposed, particularly for electric heat pumps, would not address the overcompensation for large installations. Lower limits may prove to be a barrier to deployment as potential applicants, particularly those with larger properties, may conclude

that returns from the scheme would not justify the high upfront costs of installing eligible systems.

- 17. In light of the issues raised in para 5.20, do you have any alternative proposals to heat demand limits which would achieve the same aims and which would be simple for potential applicants to understand, deliverable and applicable across the GB-wide scheme? Please expand.**

No. Applying variable heat demand limits based on a range of factors such as the age or size of a property or the local climate would be difficult to administer and communicate to applicants and would add a layer of complexity to the scheme.

- 18. Do you have alternative proposals, beyond those summarised above, for further changes which may help increase deployment among those less able to pay? Please expand.**

The consultation document has framed the introduction of a heat demand cap as one of the steps which the Government is taking to make the RHI fairer and more appealing to less able to pay households. However, without a shift in resources to this group, deployment will not be boosted.

The Department has rightly identified that high initial costs are the main factor which current dissuades low income households from installing renewable heating systems. Although finance packages will provide an option to address this issue, it will not encourage much uptake as the majority of these households will not have the means to backup loan repayments should the RHI payments not be sufficient to coverage their liabilities to their finance company.

If the Government is saving money by introducing a heat demand cap, then we believe they ought to use some of this to encourage take-up amongst low income households. Part subsidising upfront costs of the more expensive, but strategically valuable, technologies would help the RHI meets its objectives whilst also helping to alleviate fuel poverty. The remaining upfront cost not covered by a subsidy could then be covered by a private loan.

- 19. a) Do you agree with reviewing the tariffs available: i. Within the range of 7.42 - 10.0p/kWh for AWHP? Yes/No. ii. Up to a maximum of 19.51p/kWh for GSHP? Yes/No.**

Yes. The higher proposed tariffs will help to address the current low levels of support for electric heat pumps that have not made them as attractive to applicants as other technologies.

**b) How would an increase to current tariffs impact deployment? Please provide evidence to support your response.**

An increase to the tariffs, coupled with a reduction for more popular technologies, would help to drive deployment of electric heat pumps. As heat pumps typically carry higher installation costs, a higher tariff would compensate for this and provide a better return for applicants.

**20. a) Do you agree further Government and industry action is required to drive up the performance of heat pumps and tackle underperforming installations on the RHI?**  
Yes/No.

Yes. Although the market for electric heat pumps has been developing already, a much more rapid expansion and improved in-situ performances will be needed to meet the Government's anticipated 2020/21 deployment figures. The Government therefore needs to go beyond support under the RHI by working with the industry to best facilitate better range and performance of electric heat pumps.

Increased support to develop the supply chains of electric heat pumps and enhance installations would be welcome additions to existing financial support.

**b) How can the RHI best be developed to tackle this and drive up deployment?**

This will only be able to occur with tailored and concerted Government and industry action, alongside the proposed higher tariffs. The Government will need to work with the industry to explore the reasons for actual performances which are lower than the ideal design performance.

The Government also needs to re-examine the support available for installers; we do not believe that the current MCS is fit for purpose, therefore the Government need to allow alternative schemes to explore better ways of accrediting and training installers. The recent Ofgem consultation into equivalents will allow this to happen.

**21. In your recent experience, what are the main financial barriers to the deployment of heat pumps in the domestic sector? In particular, what are the main reasons why the current tariffs have not achieved higher deployment levels?**  
Please provide any supporting evidence.

The main financial barrier to deployment of electric heat pumps is the upfront cost of installation. As electric heat pumps often require additional infrastructure, such as ground loops, initial outlay for the technology goes considerably beyond the unit itself.

As the average water temperature delivered by electric heat pumps is lower than that of a gas boiler, changes to a property's heating system are also often needed. This could include larger, specialist radiators and extensive insulation to avoid heat losses.

As these installation costs are substantially higher than for some other technologies in the RHI, the time taken to provide a return on an initial investment is clearly longer, even with higher tariffs. Also, some potential applicants are simply unable to afford the upfront cost and so they have typically opted for other technologies. These issues have acted as a brake on deployment.

**22. *In your recent experience, what are the main non-financial barriers to the deployment of heat pumps in the domestic sector and how can they best be overcome? Please consider how they compare to the financial barriers in terms of impact on uptake and provide any supporting evidence.***

As mentioned in the response to question 21, there are a number of alterations which often need to be made to prepare a property for an electric heat pump. Even where the cost of these alterations is not prohibitive in itself, the disruption they can cause can be. Although this is less of a barrier to uptake than the later financial return, it can still encourage applicants to opt for other technologies which fit better with their existing heating systems.

**23. *Is there a way to link payments to actual performance which balances consumer confidence with incentives for higher performing systems? Yes/No. Please provide evidence to support your response.***

No. If tariff payments are directly linked to the actual performance of a heat pump, then the participant in the RHI will be the one that shoulders the financial penalty. This could prove to be a barrier to deployment as applicants to the scheme may not wish to risk receiving lower payments than expected.

Poor in-situ performance of electric heat pumps is often not solely the fault of system owners. Installation is not always optimal and so linking the level of subsidy to actual installed performance may adversely affect RHI participants. This could reduce deployment in the future which would in turn reduce the development of the market and of better performance of electric heat pumps.

**24. a) Performance monitoring can play a key role in driving up heat pump performance. What can we do to make the RHI's metering and monitoring service package more attractive?** Please provide evidence to support your response.

No comment.

**b) Are there alternatives to incentivise the monitoring of heat pump performance?** Please provide evidence to support your response.

No comment.

**25. Do you agree that we should withdraw support for new solar thermal systems in the Domestic RHI from 2017?** Yes/No. Please provide evidence to support your response.

No. The consultation document outlines the fact that deployment of solar thermal systems under the RHI has been at very low levels; it has therefore also taken up a minimal portion of the overall RHI budget.

By withdrawing all subsidies for solar thermal systems, the Government will free up very little funding for other technologies but will further undermine the development and deployment of one of the most visible and relatable renewable technologies.

As the consultation document states, solar thermal systems are seldom installed by themselves. They are often combined with heat pumps or other similar technologies in order to boost the amount of renewable heat generated and improve the overall performance of the system. This points to a valuable role for solar thermal systems in the future, particularly if electric heat pumps are to reach the levels of deployment desired by the Government.

The RHI should therefore continue to provide support to solar thermal in order to avoid narrowing the scheme to a small number of technologies. Flexibility is an inherently essential aspect of the RHI as not all technologies are suitable for every property. This flexibility should apply to solar thermal systems, especially given that they can improve the performance of electric heat pumps, a key concern currently surrounding that technology.

**26. a) Do you agree that limiting the use of some feedstocks will deliver more cost effective carbon abatement?** Yes/No. Please provide evidence to support your answer.

Yes. In order to boost the development of biogas from wastes and residues, which deliver higher levels of carbon abatement, the use of other types of feedstock should be restricted.

**b) Apart from wastes and residues, are there other feedstocks which should not be subject to payment restrictions?** Yes/No. Please provide evidence to support your answer.

No comment.

**27. Do you prefer option 1 or 2 as a method of limiting payments in respect of biogas / biomethane derived from crops?** Option 1 / Option 2. Please provide your reasons and include any evidence.

We prefer option 2 as completely ending support for biogas not derived from wastes and residues could unnecessarily restrict the deployment of biogas plants. As biogas production from wastes is still a developing market, option 1 could restrict RHI expenditure on biogas to the point where innovation could be stifled.

Waste-derived biogas is clearly the preferred option for the Government, therefore option 2 would provide a balance between not overly restricting the market whilst ensuring that investing in waste-derived plants is a more appealing prospect.

**28. a) Do you agree that from spring 2017 the tariffs for new biomethane installations are likely to require resetting to bring forward new deployment?** Yes / No. Please provide evidence to support your answer.

Yes. Given the proposed reforms to the RHI, including the overall budget cap, the tariffs for biomethane are likely to be too low to adequately encourage deployment. Biomethane is another technology that the Government is classing as strategically valuable and so the RHI will need to support new deployment from 2017.

**b) Do you agree this should not include resetting the tariffs for biogas?** Yes / No. Please provide evidence to support your answer.

No. We believe that if support for biogas is intended to be refocused towards waste-derived biogas, then the associated tariff may also not be adequate from 2017. If the market for waste-derived biogas is to be developed further, then the Department may need to re-examine the tariff paid in order to boost deployment.

**29. a) Do you agree that adding capacity to existing biogas and biomethane installations could result in payments which are not targeted towards the most cost effective biogas and biomethane production?**

*Yes/No. Please provide evidence to support your answer.*

No. Adding capacity to existing biogas and biomethane plants is a cost effective way of developing higher levels of production as the associated infrastructure and supply chains are already in place. If support for extra capacity is removed or restricted, then the RHI will not be facilitating the levels of deployment required to reach the anticipated figures for biogas and biomethane in 2020/21.

**b) If yes, how can the risks be mitigated?**

N/A.

**30. a) Do you agree with proposals to increase auditing requirements?**

*Yes / No. Please expand.*

No comment.

**b) Do you think there are any wastes which should not be subject to unlimited payments? Yes/No.**

No comment.

**c) Is there additional evidence that could be used to demonstrate that a generator intends to use waste? Yes / No. Please expand.**

No comment.

**31. Do you agree with the proposal to remove support for heat used to dry digestate for new installations? Yes / No. Please provide evidence to support your answer.**

No comment.

**32. Are there other uses of biogas heat which you do not consider a good use of the RHI payment? Yes / No. Please provide evidence to support your answer.**

No comment.

**33. a) Do you agree that the current tariff levels for heat pumps in the non-domestic sector strike the right balance between value for money for the tax payer and providing sufficient returns to drive deployment? Yes / No.**

Yes, although there are a limited number of situations in which electric heat pumps would be an appropriate technology to install. Biomass has clearly dominated the non-domestic RHI to date, largely due to relative ease of installation.

**b) If no, how could they be adjusted to strike this balance appropriately?**

*Please provide evidence in support of your answer.*

N/A.

**34. In your recent experience, what are the main financial barriers to the deployment of heat pumps in the non-domestic sector? In particular, what are the main reasons why the current tariffs have not achieved higher deployment levels?**

*Please provide any supporting evidence.*

The cost of initial installation for electric heat pumps, as outlined the in the response to question 21, also apply to the non-domestic RHI.

**35. In your recent experience, what are the main non-financial barriers to the deployment of heat pumps in the non-domestic sector and how can they best be overcome? Please consider how they compare to the financial barriers in terms of impact on uptake and provide any supporting evidence.**

The logistical challenges associated with installing electric heat pumps and their necessary infrastructure, as outlined in the response to question 22, also apply to the non-domestic RHI.

**36. a) Do you agree we should amend the scheme rules to allow heating and cooling AWHPs (paying on the renewable heat generated only)? Yes / No. Please expand.**

No, we do not agree that heating and cooling AWHPs should be allowed under the scheme. This proposal would allow systems which are in fact chillers, not heat pumps, to receive RHI support. Whilst these systems are producing heat, this is not in keeping with other eligible heat pump technologies. Allowing such systems to apply for the RHI risks a large amount of funding being spent on installations which are not designed to meet the objectives of the RHI and would most likely have been fitted anyway.

However, we also believe that other alternative technologies could make a valuable contribution to the objectives of the RHI. Solar thermal has a developed supply chain and the flexibility to be used alongside other technologies. If additions to the scheme are being looked at, then consideration should be given to other developing technologies.

As far as heat pumps are concerned, gas absorption heat pumps could provide renewable heat with less carbon as natural gas is used for compression rather than electricity which remains dependent on coal for its production. GAHPs also have a number of additional benefits:

- They operate at higher temperatures than electric heat pumps, reducing the need for extensive property system upgrades, meaning lower costs and less disruption.
- During colder days, they retain a high level of efficiency as they incorporate a condensing gas burner as part of the sorption process, meaning they run at higher temperatures and are less affected by ambient temperature.
- They deliver a renewable energy, from air, ground or water, just like electric heat pumps, but can save consumers money as gas is 90% of fuel used to run them, rather than electricity which is currently three times the price of gas.
- Gas heat pumps are recognised as a renewable technology under the EU Renewable Energy Directive.

Including this technology would also provide another avenue by which deployment of heat pumps could be increased.

For off-grid properties in particular, which often rely on LPG as their main source of heat, we believe that biopropane could provide a renewable and simple to implement alternative. This renewable gas would sit well with, and compliment, biogas and biomethane under the RHI as they are very similar.

Analysis presented in a recent report from EUA demonstrated the potential for biopropane as a heating fuel for the off-gas grid housing sector. By supporting biopropane through the domestic RHI scheme, the Government could take an important step towards meeting its renewable energy targets.

At a tariff of 1.85p/kWh of delivered renewable heat, biopropane would require less support per unit of heat than any of the existing options, without necessitating any change in behaviour or upfront capital expenditure by the householder. Moreover, it would provide much-needed support for the deployment of low carbon heat in a sector that has seen limited uptake of RHI technologies.

Further information can be found in EUA's report entitled "Biopropane for off-grid sector".

## **b) What other scheme rules could be eased which would drive deployment?**

*Please provide supporting information.*

No comment.

**37. a) Do you agree further Government and industry action is required to drive up the performance of heat pumps and tackle underperforming installations on the RHI?**  
Yes / No.

Yes. See the response to question 20 a) for further comment.

**b) How can the RHI best be developed to tackle this issue and drive deployment?**

Yes. See the response to question 20 b) for further comment.

**38. a) Do you agree the proposals set out in this document will be sufficient to drive an increase in deployment of efficient heat pump systems in the non-domestic sector in this Parliament?** Yes / No.

No.

**b) If no, what else do you believe Government should be doing consistent with its overarching objectives for RHI reform and energy policy?**

As mentioned in the response to question 36 a), the case for gas absorption heat pumps should be considered, especially in the case of installations that combine with low carbon gas such as biomethane, biogas, biopropane and synthetic natural gas. A GAHP has the same benefits as other types of heat pump and is classed as a renewable heating product under the EU's Renewable Energy Directive. Additionally, the non-domestic market for GAHPs is already advancing, with many manufacturers looking to develop domestic versions of their products; support for GAHPs under the non-domestic RHI would help to further develop the overall market.

**39. a) Do you agree that the proposed single biomass boiler tariff should be tiered?**  
Yes / No.

Yes. This would ensure that large systems are not overcompensated compared to small and medium installations.

**b) What is the appropriate tiering threshold at which participants should move from the Tier 1 to Tier 2 tariff? Please express your answer as a percentage, where 100% equals a system running constantly at full capacity.**

*Please provide any available evidence in support of your response.*

We agree with a tiering threshold of 35%, however for the tiering system to operate effectively, it is essential that the heat load is correctly sized. If the heat load is not correctly sized then payments would not be accurate and would therefore not benefit RHI recipients or the Government.

**40. a) Do you agree that the appropriate tariff level for Tier 1 support for biomass boilers is in the range of 2.03 – 2.90p/kWh? Yes / No.**

No. We believe that this proposed tariff would represent a disproportionately large reduction in support for biomass. We believe that the tariff level for tier 1 should be set at above the maximum 2.9p/kWh level proposed in the consultation, and that a modified tariff structure may be needed to drive sufficient uptake.

Whilst biomass is being viewed as a short to medium term technology with regards to meeting renewable heat targets, it has been responsible for the majority of renewable heat generated under the RHI so far. It is clearly the most popular technology and so a substantial reduction in its tariff, such as is being proposed, could damage the success of the RHI in meeting its overarching objectives.

Reductions in the biomass tariff will not in and of itself lead to an increase in the deployment of electric heat pumps. The operating processes of biomass and heat pumps are very different and so, particularly in non-domestic settings, a heat pump is not always a viable alternative to a biomass installation. A potential outcome of a sharply reduced biomass tariff is that conventional commercial boilers could be used instead for ease of use and reduced cost.

We recognise and support the objective of achieving the best possible value for money from the RHI budget. However, we are concerned that the proposed tariffs would not deliver the levels of deployment set out in the impact assessment (IA), and would lead to a shortfall in delivery of renewable heat. The key reasons for this are as follows:

- Large heat loads that are suitable for RHI biomass are nearly always on the gas grid, and a higher tariff is needed to compete with gas than with the 50/50 gas oil mix assumed in the IA.
- While there are large heat loads in the industrial and process sector that are technically suitable for biomass, there are significant barriers to uptake. These barriers include a shortage of investment capital in the relevant sectors and a hurdle rate well above the returns offered by RHI.

- While there is a large number of available heat loads in the social housing sector, very few are of the size implied in the IA.
- The proposed tariffs would make “small” and “medium” biomass boilers uneconomical. These systems have accounted for 93% of the biomass capacity installed under RHI to date, and we would expect further volumes in this segment to fall to minimal levels under the proposal.

We believe that in order to meet its deployment goals, RHI will need to continue to support deployment of installations of 500kW. We suggest tariff levels to support this, and a tariff structure that would support 500kW installations appropriately without overcompensating larger systems.

**b) Within the range 2.03 – 2.90p/kWh what is the appropriate Tier 1 level of support for biomass boilers?** *Please provide any available evidence in support of your responses.*

Given that in future depression and the budget cap could affect the tariff paid for biomass boilers, we believe that the tier 1 level of support ought to start at the top end of the proposed scale to ensure that the deployment of biomass boilers is not restricted.

**41. a) Do you agree that the appropriate tariff level for Tier 2 support for biomass boilers is in the range 1.80 – 2.03p/kWh?** *Yes / No.*

Yes. This proposed tier 2 tariff does not represent a disproportionate reduction compared with current tariffs.

**b) What is the appropriate level of Tier 2 support for biomass boilers, within the range 1.80 – 2.03 p/kWh?** *Please provide any available evidence in support of your response.*

Given that in future depression and the budget cap could affect the tariff paid for biomass boilers, we believe that the tier 2 level of support ought to start at the top end of the proposed scale to ensure that the deployment of biomass boilers is not restricted.

**42. a) Do you agree we should maintain a 4.17/kWh CHP biomass tariff (please consider the below question on tiering when providing your responses)?** *Yes / No.*

Yes. Maintaining the tariff at the current level of 4.17p per kWh would avoid restricting deployment of CHP systems.

**b) Are there any types of plants (e.g. heat-led, power-led plants, plants of certain capacities) that may be overcompensated through the receipt of the 4.17p/kWh tariff? Yes / No. Please provide any evidence you may have to support your answer.**

No.

**43. a) Do you agree with the introduction of tiering for all new biomass CHP participants? Yes / No.**

Yes. We agree in principle with tiering for biomass CHP installations as this brings the technology in to line with other biomass which simplifies the scheme overall. However, this needs to be balanced with the need to maintain an appropriate level of tariff payments which will need to be higher than for more developed alternatives such as biomass boilers.

**b) Do you agree with the proposed tier threshold of a 35% load factor? Yes / No.**

No. As outlined in the response to question 39 b), we feel that a 35% load factor would be too low, particularly given the large gap between the tier 1 tariff (4.17p/kWh) and the tier 2 tariff (1.8p to 2.03p/kWh).

**c) What is the appropriate level of the tier 2 tariff, within the range 1.8 – 2.03p/kWh?**

If this tariff is to be finalised, the best option would be to set the CHP tariff at the higher end of this range.

**44. Do you agree with our proposal to retain the existing tariff level for deep geothermal plant? Yes / No. Please provide evidence to support your response.**

No comment.

**45. Do you agree that we should withdraw support for new solar thermal systems in the Non-Domestic RHI from 2017? Yes/No. Please provide evidence to support your response.**

No. We believe that there is a continued role for solar thermal, particularly as part of a combination with other renewable technologies. In a non-domestic setting, solar thermal, when used in conjunction with a well-engineered heating system, provides real financial benefits to the end user. Solar thermal can also play a role in large strategic installations, such as heat networks, by providing carbon free pre-heat. See the response to question 25 for further comment.

**46. a) Our policy on tariff guarantees is that they should only be available to projects with long-lead times and which involve high capital expenditure. Do you agree installed capacity is a reasonable proxy measure for these criteria? Yes / No.**

Yes. Estimated installed capacity is the best measure of a large project's eligibility.

**b) If No, what alternative proxy would you suggest?**

N/A

**c) Do you agree with the suggested capacity limits for eligibility for tariff guarantees as set out in paragraph 11.15? Yes / No.**

Broadly yes, although we believe that biogas should be placed in the same category as biomethane, as it is in every other respect under the RHI, meaning that biogas plants of any capacity would be able to apply for tariff guarantees. We believe that this would provide the best certainty for developers of biogas plants which is beneficial to the objectives of the RHI, particularly in promoting waste-derived biogas.

However, for biomass installations we believe that 2MW is too high a starting point for the tariff guarantee to be beneficial to the process. Biomass in the current medium tariff category has relatively long lead times from the finalising of the finance for the project and the commissioning of the plant. When the cost viability of the project is considered for financial approval, the fact that the tariff is proposed at a much lower level related to the current tariff, the pay back calculation, means it is much harder to give an accurate result when degression is a possibility. A lower starting point for tariff guarantee would be beneficial. Biomass projects will suffer if the level is not reduced as this would promote budget under-spend which in turn would be bad news for the RHI process.

**d) If No, what capacity limits would you suggest?**

*Please provide evidence in support of your answer.*

The starting point for tariff guarantee is proposed at 500kW.

**47. a) Please provide your views on the application process outlined in paragraphs 11.27 – 11.56, specifically: i. Can this process work for industry (i.e. does it fit with business planning and management of projects)? ii. What modifications could be made to improve it?**

The process detailed in paragraph 11.30 needs to be robust and clear to applicants.

11.31 – Stage One needs to be started at the sign off by the applicant when the decision is made to start the project. The applicant must be sure that the figures in the financial proposal will not change; therefore the guaranteed tariff needs to be in place at this time in the process. The quarterly review as detailed in 11.30 will then ensure that the elements of 11.31 are being adhered to and the project is progressing.

Overall, the industry must be confident that the calculations on value for money on a given project are achievable and that the guaranteed tariff will give security.

***b) We propose to award the tariff guarantee at stage two of the application process, as described in paragraphs 11.33 – 11.36, but are interested in stakeholder views and evidence which may support the awarding of a tariff guarantee at stage one instead.***

Please see the above response to question 47 a).

***48. It will be critical to the success of the tariff guarantee scheme that plant owners are able to provide accurate maximum plant capacities and reliable expected annual eligible heat output or injection rates.***

***a) We therefore invite stakeholder views on the approach described at paragraphs 11.48 – 11.49 which proposes limiting the level of RHI payment based on the declared maximum capacity of plants.***

We have concerns surrounding the proposed process for adding additional capacity. See the response to question 6 for further comment.

***b) We also invite views on the proposals to require applicants to provide separate evidence that substantiates heat loads; as well as alternative approaches to this issue.***

The heat loss calculations for a building will prove the heat load and could easily be part of the application process.

***49. We require a high degree of certainty that a tariff guarantee for large Ground and Water Source Heat Pumps can operate within the proposed framework.***

**a) We welcome evidence of whether the requirement to reach financial close as it is currently proposed can work for Ground and Water Source Heat Pumps.**

No comment.

**b) Please suggest any alternative approaches to financial close, or minor modifications to the application process to improve its operation with regard to large heat pumps. Any approach would need to provide DECC with sufficient assurance that large Ground and Water Source Heat Pump projects will go ahead and commission.**

No comment.

**50. a) Do you agree with the suggested capacity limits for Air to Water Heat Pumps and to Ground and Water Source Heat Pumps who wish to apply for preliminary accreditation? Yes / No.**

No comment.

**b) If No, what capacity limits would you suggest?**

*Please provide evidence in support of your answer.*

N/A.

**c) Please provide any evidence and reasoning to support the extension of tariff guarantees to Air to Water heat pumps, and suggest what capacity limit should apply, if any.**

No comment.

**51. Tariff Guarantees would provide larger plant with certainty of the tariff they will receive ahead of their commissioning, provided they meet eligibility criteria including demonstration that financial close has been reached on the project.**

**Do you agree that a plant granted a tariff guarantee should be protected from any scheme closure if the budget cap (described in Chapter 3) is subsequently assessed as likely to be hit, meaning that it will still be able to commission and be accredited or registered onto the scheme? Yes / No.**

Yes. This is essential for larger projects with large lead times and complex application processes. As outlined in the response to 2 c), not protecting large installations from the budget closure mechanism could cancel projects that would make a significant and valuable contribution to the RHI. Not protecting projects with a tariff guarantee would also unnecessarily add risk to potential investments in large biogas plants, for example. This would have negative effects on the renewable heat market and be counterproductive to the objectives of the RHI.

**52. Do you have any thoughts as to how to minimise the above risk of counting committed spend from plant awarded a tariff guarantee and the potential this has to result in premature scheme closure?**

Committed spending on schemes not yet accredited onto the scheme should only be counted if their application has progressed to the point where they are likely to complete the process in the near future. If the Department includes plants which are a long way from completing then it risks closing the scheme prematurely.

Consideration should therefore be given to the proposed commissioning date of a plant and if that is in the next financial year, then its budget allocation should be in the following year and not in the current year in order to prevent the premature closure of the scheme.

**53. Does your interest in the RHI relate to the operation of the scheme in a particular geographical area?**

D. We are a trade association with members across Great Britain.

**54. We are interested in stakeholders' experience of our regular RHI deployment statistics publications.**

**a) Do you use these statistics?** Yes / No.

Yes.

**b) If yes, for what purpose?**

We use the statistics in a monthly report to members which allows them to effectively monitor the status of the renewable heating market.

**c) Is there any information within the statistics that you find especially useful?**

Yes / No. Please expand.

Yes. Tables 2.1, 2.4 and 2.7 in particular.

**d) Is there any information not provided in the statistics that you would find useful?**

Yes / No. Please expand.

It would be useful to also have the total installed capacity of biomethane installations under the RHI as they take up a large portion of the budget but a small portion of heat delivered.

**55. Do you have any further comments or suggestions on the proposals included in this consultation, or on the RHI in general?**

We believe that the potential of green gases have still not been fully explored or realised under the RHI. Although support for biomethane is available, we remain convinced that more could be done to support the growth of this vital market which has enormous potential to decarbonise gas, the most widely used heating fuel in the UK.

As previously mentioned, biopropane should be added to the RHI's renewable gas options given that it can provide large carbon savings where it displaces LPG. Indeed, EUA's report has estimated that biopropane could reduce emissions from domestic LPG usage to 17% of current levels; all the while avoiding the need for expensive and disruptive wholesale infrastructure and appliance replacement.

In terms of biomass, there is currently a problem with oversizing non-domestic installations under the current tariffs as the perception is that larger systems will give a higher payback. This is incorrect and, in fact, an oversized system will operate at a lower efficiency due to cycling of the combustion process. The proposed changes to the non-domestic tariffs are likely to reduce this problem, however, we suggest that more robust checking of the system design at the time of application needs to be introduced in order to give higher system efficiencies and therefore reduce carbon emissions produced.

Additionally, the calculation used to determine the carbon saved by using biomass against oil and gas fuelled appliances contains the assumption that biomass is replacing oil in 40% of cases. We have discussed this with our members and for non-domestic installations, we consider this figure to be too high. As most biomass systems use gas as the secondary fuel, if gas is available on the site then it is gas which is being replaced. The replacement of oil-burning products is likely to be less than 10% of all installations.

We also believe that in order to meet the Government's long term renewable heating targets, the RHI's resources could be more effectively spent in several respects. As part of

our response to this consultation, we have produced a report which explains our primary concerns with the scheme as it stands.

Our analysis has identified that the scheme could be better focussed, for example by prioritising support to households that use electric storage heating, as in these households the marginal effects from switching to renewable heating will be largest – both in terms reductions in carbon emissions and bill savings to the homeowner. We would be happy to provide the Department with a copy of our report if it would be of use.