



GSHPA response to DECC's

RHI: Non-Domestic Scheme Early Tariff Review

Introduction to the Association

The Ground Source Heat Pump Association encourages the growth and development of the ground source heat pump industry in the UK and helps to set and safeguard standards. See www.gshp.org.uk

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Introduction

The GSHPA welcomes DECC's Consultation on the RHI: Non-Domestic Early Tariff Review.

The proposals to raise the tariffs for GSHP installations are way overdue to reinvigorate GSHP installations which had stalled on the introduction of very low GSHP tariffs in 2011.

The low tariffs in relation to other renewable heat technologies were compounded by the proposal of an additional discount to RHI tariffs when ground source cooling, as well as heating, was employed. The uncertainty introduced into the RHI scheme of this approach was matched by the confusion of DECC's seeking to discriminate against the efficient use of energy, instead of supporting it. The GSHPA strongly welcomes the sentence in paragraph 78 of the Consultation that "We therefore intend to pay out on all heat produced by GSHPs".

The GSHPA believes that DECC has been underestimating the part that Ground Source Energy can play in combating climate change. The key reasons for which Ground Source Heating is beneficial to the country as a whole are given at http://www.gshp.org.uk/Lobbying_for_Ground_Source.html

The GSHPA responds to the Consultation as follows:

Consultation Questions

1 Do you support the approach to updating the VfM cap applied to RHI tariffs? Do you agree that the tariff for GSHP should be increased to the level of support provided to offshore wind? If not please state why.

Yes: we agree the approach to updating the VfM cap. Yes: we agree that the GSHP tariff should be increased to at least the level of support provided for offshore wind. We note the unobtrusive nature of GSHP installations contrasts with the nature of offshore wind from an environmental point of view.

2 Do you agree that the assumption of an average SPF of 3.6 is correct for non-domestic GSHP? Please provide any evidence you may have to support your answer.

We would expect that many GSHP installations would have a lower SPF than 3.6. Bearing in mind that many will be retrofits designed to support the displacement of fossil fuel boilers at existing buildings we would suggest that 3.2 would be more appropriate.

3 Do you agree that a 12% rate of return on the additional capital investment on the median cost installations (i.e. those installations at the upper end of the 50th percentile of the cost curve) is the right rate of return to stimulate investment in renewable heat?

Yes: a 12% rate of return would be attractive. However, this was not achieved under the original tariffs for GSHP and so we welcome the proposed increase. Our benchmarking however shows that at the levels proposed the 12% rate of return is only achieved in a minority of cases and would therefore support a larger increase.

4 Of the broader range of evidence used to identify tariff levels, as described above, are there any factors that should be excluded?

We believe that DECC is right to consider the points described in paragraph 44.

5 Are there other material factors we should consider in making judgements about the tariff levels needed?

We believe that DECC should consider the following points when considering the tariff levels:

- a. The real world effect on the *market*. Uncertainty is a significant factor so not only the level but the route to change of the tariff is important.
- b. *Technical* issues should be considered, are DECC encouraging innovation?
- c. The voice of the *industry* should be considered and reacted to quickly. This includes the employment situation in the industry which has shrunk significantly over the term of the RHI to date.

6 Do you agree that the small biomass tariff should not change from its current levels through this tariff review?

Yes.

7 If not, why should the small biomass tariff be revised and what would be an appropriate tariff? Please provide any evidence you may have to support this view.

Not applicable.

8 Do you agree that the medium biomass tariff should not change from its current level through this tariff review?

Yes

9 If not, why should the medium biomass tariff be revised and what would be an appropriate tariff? Please provide any evidence you may have to support this view.

Not applicable.

10 Do you think that the current approach of banding and tiering of tariffs may be incentivising the installation of inefficient systems? If so, what evidence do you have, and do you have any suggestions for how this could be deterred?

We strongly support the proposal to move away from two bands for GSHP and onto tiering for the GSHP tariff.

11 Do you support our rationale for proposing a tariff of 2.0p to incentivise significant deployment of large biomass (specifically 50% of the heat potential) whilst avoiding overcompensation? Are there other factors we should consider?

No comment.

Please provide any evidence you may have to support your answer.

No comment.

12 Do you support our rationale for proposing a tariff of between 7.2 and 8.2p/kWh to incentivise significant deployment of GSHPs? Are there other factors we should consider?

Please provide any evidence you may have to support your answer.

The tariffs of 7.2 and 8.2p/kWh would be the averaged tariffs if a 20% load factor applied in an individual case.

We believe that the level of deployment of GSHP will continue to be low at the level of 8.2p/kWh. Our benchmarking has shown that a 10.8p/kWh will be needed to have any chance of delivering the Ministers aim "It is our ambition that this (the non-domestic RHI scheme) will drive a step change in the way we produce heat."

13 How much more deployment would you expect to see from a tariff of 8.2p/kWh as opposed to 7.2p/kWh?

The take up of GSHP has been very low and the supply chain for commercial GSHP is now seriously depleted. At a level of 10.8p/kWh our industry will derive the volume required to rebuild, expand and deliver installation cost savings through economies of scale.

14 How much greater would the potential for cost reduction be from a tariff of 8.2p/kWh as opposed to 7.2p/kWh?

The main opportunity for cost reduction in GSHP installations is the cost of drilling boreholes. The cost of drilling boreholes is substantially cheaper in other countries where there is an experienced market in providing this. We anticipate that there is scope for cost reduction as the drilling of boreholes becomes a standard service in the UK and when there is enough work for drilling to be provided at a regional level, rather than on a national level where the costs of working far from the driller's base are material. There is also scope for cost reductions from use of packaged plant rooms, larger installation teams and more regular work.

15 Do you agree that a ground source heat pump tariff should be between around 3 or 4 times higher than a tariff for air to water heat pumps?

Yes. The value of GSHP systems is higher to the buyer in terms of increased performance (cost saving and carbon saving) and in terms of length of service (GSHPs last longer than ASHPs, partly as they are housed indoors and partly as they have fewer moving parts. The life of the underground heat collecting circuits of GSHP systems [a significant capital cost] will last many times longer than the 20 year life of the RHI).

From the point of view of national electricity supply the government should be encouraging the use of GSHP ahead of ASHP because the electric demand for GSHP is significantly less than ASHP at times of peak demand in very cold weather. In very cold weather, a GSHP can function as efficiently at night (when electricity is much cheaper and in less demand) as it can by day (when electricity is more expensive and in high demand). An ASHP, having no access to any thermal storage has no means of acting to shift the timing of the demand and supply of heat energy.

For these reasons there is a strong case for the calculated rate of return on GSHP installations to be higher than for ASHP installations which are currently gaining market penetration without any RHI.

16 Do you agree that the tiering methodology is the correct approach for GSHPs? If not, please provide evidence on:

a. what the minimum reasonable usage should be

We agree that a tiered method is appropriate in order for the tier 1 tariff to compensate for additional capital costs, and the tier 2 tariff to compensate for additional running costs.

From our benchmarking, we have determined that a blended tariff of 10.8p/kWh is required for a level playing field across the technologies. Calculations suggest that on the assumed 20% load factor, a tier 1 tariff of 13.1p and tier 2 tariff of 3p would provide the relevant blended tariff. This assumes that the existing ratio between the 2 tiers is maintained.

The minimum reasonable usage will vary greatly from lighter usage (schools do not need heating in holidays) to heavy usage (residential care homes for the elderly). We agree that, to avoid complexity, one load factor should be used and, to avoid complexity, the load factor should be considered the same across all renewable technologies. However, GSHPs are often used to provide DHW (or DHW pre-heat) throughout the year and will therefore normally have a higher load factor than biomass boilers which are unlikely to be providing DHW in summer.

b. what the tier 2 tariff, i.e. operating cost should be set at.

As detailed above, for a blended tariff of 10.8p to be achieved, the tier 2 tariff should be set at 3p/kWh.

The operating cost of a GSHP increases as load factors increase and the marginal CoP will be significantly below the SPF: the CoP decreases as more heat is extracted from the ground and particularly where the GSHP is used to generate DHW (at a higher temperature than that required for space heating).

17 Do you support an increase to the solar thermal tariff to within the range set out in paragraph 39? If yes, please provide reasons.

Yes, solar thermal is valuable technology in addressing carbon saving and should be encouraged.

18 Will increasing the tariff to within this range bring forward projects that would otherwise not have received investment? If yes, please provide evidence.

We believe it would help.

19 Is a tariff in this range tariff likely to stimulate cost reduction in solar thermal technology?

No comment.

20 What do you perceive as the main opportunities and risks of the (solar thermal) industry's proposal for a seven year tariff option?

The Association holds a neutral view on the introduction of a 7 year tariff option. If it is decided that a 7 year tariff is appropriate, then a similar case should be considered for ground source heat pumps.

21 Do you agree with our intention that any changes to tariffs following this consultation should only affect those installations accredited from 21 January 2013? If not, please state why.

We agree with this approach and emphasise the critical importance of getting certainty on this and the tariff levels into the public domain as quickly as possible.