



## **A Renewable Heat Incentive: A Reformed and Refocused Scheme**

### **Consultation Response**

#### **Introduction**

BEAMA welcomes the opportunity to provide evidence and feedback to the latest RHI consultation and will continue to support DECC officials in developing and supporting the policy up to and beyond the shift to new regulations in 2017. However, it must be stressed that there are some very significant actions necessary to ensure a sustained and supportive heat pump industry that has not realised the growth intended in the original scheme and remains a long way from the levels of deployment needed to meet the Climate Change Committee's projections beyond 2020. DECC should note that the industry has not only seen a flat line in sales (with some sub sectors down year on year) but also a worrying signal from MCS statistics that shows high heat pump installer churn. Our response is confined primarily to domestic heat pumps as reflected by our membership terms of reference and the key themes are:

- MMSP light is a preferred option for performance reporting
- MCS needs similar 'radical' reform to meet the DECC aspirations for performance improvement
- The less able to pay and smaller dwelling sectors will need an alternative air source heat pump tariff to deliver an effective rate of return
- Shared ground loop systems should be covered by the non-domestic stream
- A minimum of 10p/kWh is required to stimulate air source heat pump deployment in systems with heat demand above 10,000 kWh
- Heat demand limits will not deliver higher deployment for the less able to pay

We have additionally stated that solar thermal systems should remain within the scheme linked to heat pump installations.

BEAMA would welcome the opportunity to develop the proposals included within this response.

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

No. The general principle of depression and triggers is acceptable but we remain concerned that DECC has not listened to our recommendations previously to make provision for reverse depression... i.e. raising tariffs due to under-deployment as a consequence of variable factors such as counter-factual fuel price changes. This latter point has had a major impact on heat pump deployment alongside the over subsidy for biomass which took most of 2014 to begin to rectify. The monthly accreditation rates for 2014 below clearly show that by incorrectly setting a tariff for one technology versus another there can be a long lead time to restoring balance to the system... this balance can be achieved faster with a tariff uplift

Number of applications and accreditations per month by technology, Great Britain, April 2014 to January 2016

New installations

		Applications				Accreditations				
		ASHP	GSHP	Biomass	Solar Thermal	ASHP	GSHP	Biomass	Solar Thermal	
2014	April	3	2	18	2	1	1	2	0	
	May	31	9	55	28	16	6	36	14	
	June	117	4	96	51	183	6	88	43	
	July	120	28	150	96	183	19	126	81	
	August	127	25	250	113	183	18	211	94	
	September	223	52	235	117	194	41	251	101	
	October	243	47	347	151	289	48	299	134	
	November	353	71	643	141	294	62	463	139	
	December	272	76	1,817	137	271	66	1,366	119	
	2015	January	281	74	188	114	225	77	627	105
		February	396	131	286	115	313	103	326	122
		March	763	119	1,789	226	782	109	972	181
April		563	188	74	144	372	35	348	127	
May		522	70	128	182	489	66	345	89	
June		385	62	1,039	136	488	83	834	123	
July		711	119	58	124	713	104	453	144	
August		497	181	89	85	458	129	189	85	
September		500	121	535	119	518	115	483	107	
October		482	187	48	132	436	97	185	120	
November		596	176	128	131	681	170	131	84	
December		447	127	457	187	475	105	273	103	
2016	January	516	164	36	91	485	156	139	77	

2. Budget Cap... 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**

No. Any risk of short notice closure would affect investor confidence and we suggest a longer path to scheme suspension rather than closure.

9. Do you think that an owner of a shared loop system should be able to apply to the domestic RHI?

**Yes/No Evidence re greater deployment, driving down installation costs and improving performance**

No. We have liaised with the GSHPA on this point and agree with them that Shared Loop Systems should remain in the Non-Domestic RHI with the same tariff as present but with an adjustment to the payment period down to 7 years. The underlying principle for moving to domestic includes a number of negatives:

1. Less than half the rate of return
2. No Tariff Guarantee
3. No properties can ever be added to the ground loop after commissioning
4. No other heat sources can be used – such as heat recovered from cooling
5. No checks on the designs by OFGEM

One important distinction with the BEAMA response is that we do not believe the RHI should be supporting new build properties at all. The budget is stretched and already we are seeing a strong case for higher tariffs at the lower heat demand end. Deployment in new build should be handled by CLG's Part L consultation later in 2016.

**Question 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.**

Yes. However, in line with other sections of our response (question 20), we believe these should all be subject to the MMSP light proposal to ensure customer achieve consistent SPF performance.

**Please provide evidence to support your response and how this would encourage greater deployment, drive down installation costs and improve performance of GSHP.**

**Targeting the Less Able to Pay**

We believe the consultation offers little motivation for take up in the less able to pay sector and by making this change there is scope for greater deployment with the social housing sector. However, whilst deemed heat demand takes some of the risk out of the scheme for landlords, we do still believe that MMSP light should be used with an annual submission of data to OFGEM.

**Cost effectiveness**

We have engaged with the GSHPA and they inform us that there are substantial cost savings (up to £500) per property through removing the regular metering requirement. However, bear in mind that there would still be some cost involved with the introduction of MMSP light which could reduce that saving to £400 per dwelling.

**Better performance**

Again, we engaged with both members and the GSHPA on this subject and larger shared ground loop systems tend to encourage better design expertise which should have a direct impact on SPF's.

**Question 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**

No. See question 9. There is not enough return in the domestic scheme.

**b) 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**

No, see response to Q.15 and 16.

**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. As already stated, we favour a universal MMSP light for all domestic heat pump installations but only if linked to MCS systems.

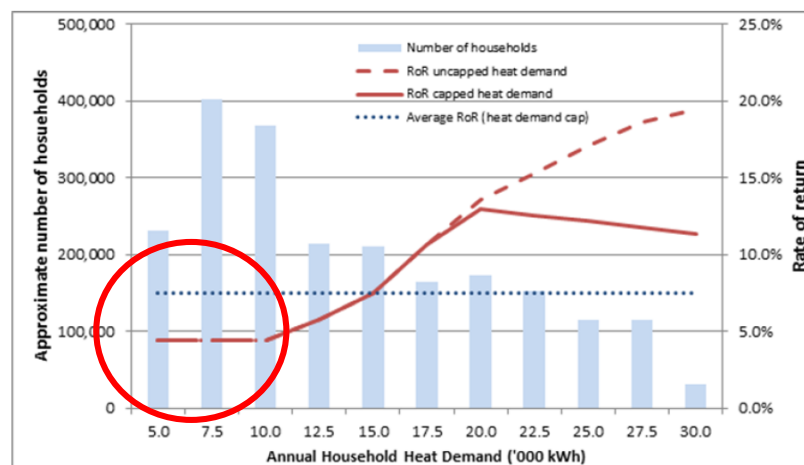
**15. Do you agree that the proposal to introduce heat demand limits will contribute to achieving the aims of the reform of the RHI? Yes/No. Please expand.**

No. If the aim is to ensure larger dwellings do not claim against the scheme then this will work to satisfy political motivations but it is a blunt instrument to prevent incorrect sizing and the well-known problem of heat dumping with biomass which cannot occur with heat pumps due to tighter MCS rules. The only way to do this fairly for all dwellings is to introduce stepped tariffs to lower the incentive for higher

demands as the CAPEX economies of scale begin to be realised. However, we have discussed this with DECC officials before and have been informed that this is not an option. As long as all incentive payments cover renewable heat generation then there need not be a limit. We have to also take into account that for a fledgling supply chain, larger projects are preferred due to the MCS certification burden of high volumes of smaller projects (our installer survey and workshop in 2015 identified that each project costs in excess of £300, including RECC notification and design process).

Government also needs to be aware that if its aim is to drive deployment at the lower end of dwelling heat loads and perhaps the less able to play, this does not achieve this aim. In fact, **there is nothing currently within the consultation that will achieve this aim** (apart from some potential with shared ground loop systems). Chart B11 of the Impact Assessment shows clearly that the rate of return for air source heat pumps is just too low with capped heat demand at the lower end of 10,000 kWh and below. A rate of return below 5% will not attract necessary finance which is vital to realise the capital expense of heat pump systems. Note also that chart B11 shows the greater potential for deployment in terms of market size (by household numbers) at the lower kWh heat demand level so to claim the average rate of return at 7.5% is not entirely equitable as the actual rate is below 5% for the very homes DECC wishes to target.

Chart B11: Financial returns for ASHPs



According to chart B11 the tariff for air source would need to exceed 10p/kWh to a level of around 14p to provide suitable cover for fixed installation costs (including the higher burden of certification already mentioned) and the finance likely to be required for uptake. If the tariff can be raised for the lower heat demand then there is a possibility to impose heat demand limits and not affect the potential for target renewable heat generation. **DECC officials must remember, individual households do not make investment decisions made on average rates of return, they need actual return (particularly if finance is the only option to unlock initial capital cost barriers).**

16. a) *What are your views on the limits of 20,000kWh for AWHPs; 25,000 for GSHP and biomass?*  
 b) *What would be the merits of higher/lower limits? Please expand*

See response to Q.15 but we have not seen any evidence to suggest over-compensation for heat pumps of any type, which calls into question the need to apply it unless the driver is biomass and the adoption of the same policy in heat pumps is motivated by equity drivers. However, even if this were the case, you do not over-compensate for correctly sized heat pumps and as DECC is still requiring the use of

MCS, heat pumps are 100% sized. This is an important point to note... for heat pumps, **all generated renewable heat is necessary heat** and if Government wants to tackle the non-financial barrier of reluctance to change then it needs to provide suitable incentive to cover all investment.

We have engaged with the GSHPA and they advise that imposing the upper limit for ground source would necessitate a higher tariff of 24p/kWh and we share this logical view, not least of all the due to the fixed cost elements of MCS and bringing drillers to site. Naturally this would require a lifting of the value for money cap for ground source. We also share the GSHPA's view on heat demand limits encouraging bivalent systems in ground source projects. BEAMA is very much in favour of bivalent deployment (with air and ground source) where necessary i.e. to prevent the need to upgrade to a 3 phase supply or to mitigate costs for customers with limited budgets, but not to be a top up once the optimised limit is achieved for ground source.

Besides the above points, by introducing heat demand limits, DECC is introducing complex frameworks which are difficult to explain and sell to customers. How does an installer explain the 6 key drivers for DECC in the living room and the need to ensure deployment in smaller buildings? It is completely impractical.

***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 but this is because we do not believe there is over compensation for heat pumps and sizing rules prevents gaming.

***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.***

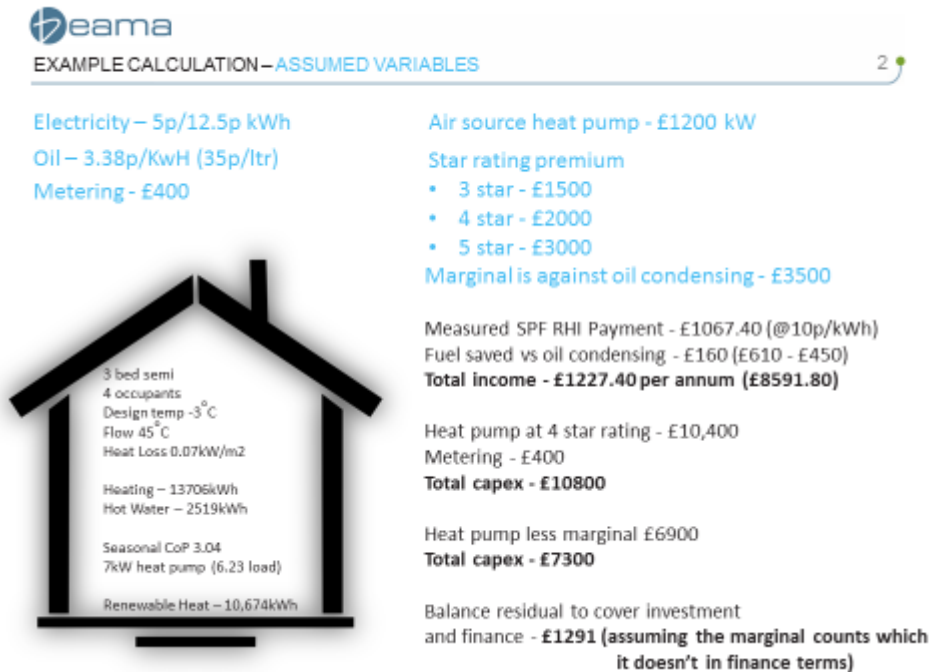
BEAMA welcomes the provision for assignment of rights but questions whether there is enough rate of return to attract investment and our analysis of a 3 bed semi-detached house with 4 occupants only shows a return when factoring in fuel cost savings (modest compared to oil condensing boiler currently due to fuel prices) and the assumption the customer will have the marginal cost of an oil boiler (for example) available. A 7kW 4 star air source heat pump system will cost in excess of £10,000. Removing the marginal of £3,500 for an oil condensing boiler means there is still some £6,500 to be financed with RHI payments at 10p/kWh only providing £7,469 which has to cover the cost of finance and some of the marginal, which of course it doesn't.

For the less able to pay, scheme such as ECO – with its proposed new fuel poverty focus - should have built in incentives for suppliers to promote at least the marginal as a subsidy.

**19. a) Do you agree with reviewing the tariffs available:**

**(i) Within the range of 7.42-10,0p/kWh for AWHP Yes/No**

No. See our response to question 15 regarding low heat demand dwellings. We believe that the 10p/kWh level is the absolute minimum required to provide an incentive to stimulate take up for larger properties. Our estimate is based on the details below for a 3 bed semi-detached dwelling displacing an oil boiler.



You will notice from this exemplar that the benefit only really kicks in if you assume the marginal is discounted but in real terms this is a false logic as the £3,500 still needs to be found and this is a planned investment rather than a distress purchase in which the marginal must be found somehow anyway. The only cost in here that is perhaps open to debate is the metering cost but if this is required for performance proving purposes then will need to be factored in for the incentive.

**(ii) Up to a maximum of 19.51p/kWh for GSHP? Yes/No**

Yes, although we do question whether there may be a need to re-consider the cap based on new information regarding counter-factual fuel costs.

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

The heat pump industry has been disappointed with deployment levels to date. The table in the response to Q1 shows a low level of take up since 2014. BSRIA statistics also show that deployment of heat pumps from 2013 to 2014 declined across all metrics.

UK Heat Pump market data analysis, annual / quarterly comparison by calendar year						
Total Value	Q1	Q2	Q3	Q4	Total	Evolution over previous year
2008						Market coverage for that year
2009	7,492.1	7,349.5	6,834.9	8,682.4	30,358.9	78%
2010	8,816.0	7,611.0	8,606.5	9,734.3	34,769.8	69%
2011	11,583.7	9,781.3	11,324.2	11,652.0	44,341.2	128%
2012	12,839.4	8,667.6	10,371.2	11,770.6	43,648.8	98%
2013	11,213.7	8,958.5	10,110.8	9,864.2	40,147.2	92%
2014	10,765.5	8,630.4	8,723.0	8,434.4	36,553.3	91%
2015	10,417.0	9,264.3			19,681.3	54%

Total Volume	Q1	Q2	Q3	Q4	Total	Evolution over previous year
2008						Market coverage for that year
2009	2,312	2,426	2,368	2,790	9,896	80%
2010	2,745	2,734	2,982	3,328	11,789	119%
2011	4,162	3,236	3,652	3,970	15,020	127%
2012	5,018	3,038	3,695	4,995	16,746	111%
2013	4,881	3,725	3,905	3,852	16,363	98%
2014	4,701	3,260	3,292	3,256	14,509	89%
2015	4,445	3,470			7,915	55%

Total kW Capacity	Q1	Q2	Q3	Q4	Total	Evolution over previous year
2008						
2009	27,528	27,808	24,453	34,782	114,571	
2010	31,897	28,079	29,244	33,004	120,224	105%
2011	43,396	35,569	39,854	43,485	162,304	135%
2012	50,077	36,319	40,587	46,970	173,952	107%
2013	47,569	41,170	42,876	41,625	173,240	100%
2014	46,594	35,642	36,812	35,040	154,088	89%
2015	44,737	39,698			84,435	55%

What this proves is that the RHI tariff level did not stimulate growth and this was further hampered by over-compensation for biomass due to a poorly set tariff. Our response to part a) of this question demonstrates that there is some return possible (besides the marginal) to cover investment, however, we would not expect this to impact on take up in the less able to pay market.

**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. However, we should state that there is still a lack of detailed evidence for reasons for poor performance and this is urgently required to define actions and how much these cost to implement when considering the tariff levels.

Our agreed industry position is to propose a mandatory MMSP light approach for all heat pump systems for up to two years of the scheme from 2017. This light approach would involve an electricity and heat meter measuring data locally to the system boundary of at least H3. Cumulative data to be supplied by the customer to OFGEM and shared with MCS if a high ratio of an installer's installations are outside of an agreed tolerance of performance which would need to be a minimum SPF of TBC.

BEAMA has already held a number of discussions with the designate Chair of the MCS Trustees and outlined the need for this as it aids learning. MCS has indicated a willingness to explore this option in a period when it is itself considering the role it has to play in driving up performance .... Not forgetting of course that the RHPP monitoring report consisted of a majority of higher level heat pump MCS

standards. The responsibility for this objective rests not only with industry and RHI regulations but also MCS operations.

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

There are differences of opinion across our membership on this point as a logical step would be to introduce a sliding tariff scale that will reward higher performance. However, the limited budget will make this difficult as it will reduce the out turn and could be complex to administer. One option can be to incentivise the installer through bonus MMSP payments that are paid direct to him/her. We believe that the scheme should be making payments for MMSP to installers but perhaps there can be one off single bonus payments for proven SPFs above a threshold level (which we should debate with DECC post consultation). This targets the very market actor that has the most impact on SPF, the installer. Note, no extra payment is necessary for the customer here as they will realise better bill savings.

***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.***

- Counterfactual fuel price – oil is now priced at 35p/litre versus over 70p at the time of consultation in 2012/13.
- Indirect MCS costs – duplicate notification payments to MCS and certification bodies, over £2,000 entry fees
- Design and RECC costs – each project attracts a minimum £300-350 just to be able to provide a detailed cost estimate
- Technical bias of tariffs in the early stages (see BSRIA stats above)
- 7 year payback model does not cover up front costs
- Network upgrade costs are still being applied to customers by DNOs which can run into many thousands of pounds. We have pushed DECC on this many times but with no action taken.

***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 the terms of impact on uptake and provide any supporting evidence.***

- Time and planning
- Switching from a tried and trusted technology
- Tailing off of installation capacity and little positive marketing by Government or industry via MCS
- Unclear and disparate advice and information from EST, DECC and SAP

***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. We do not support the principle of linking payments to actual performance where customers have an element of risk associated with an underperforming system. However, we do support using MMSP to check performance and initiate actions through MCS to rectify poor performance. In other words, metering for payment is not a good idea but metering to *prove performance* and enhance satisfaction is. BEAMA has already held discussions with the Chair of MCS Trustees and shared the rationale.



**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.**

MMSP light as mentioned before.

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

No. We believe there are two reasons to maintain support for solar thermal systems.

1. Solar thermal has a supporting role to improve the performance of complementary technologies including heat pumps. This position is supported by Energy Saving Trust consumer advice for heat pumps <http://www.energysavingtrust.org.uk/domestic/air-source-heat-pumps> and within the consultation impact assessment paragraph 150/page 44.

2. The removal of support sends the wrong signal to the market re solar thermal in terms of profile and value of renewable heat. This point is also picked up in the impact assessment.

We understand that additionality is an issue for DECC here and perhaps a compromise is to encourage solar thermal uptake through provision of support when linked to a primary heat generation system such as a heat pump.