



Department  
of Energy &  
Climate Change

# Domestic Renewable Heat Incentive

A Government Response to 'Proposals for a Domestic Scheme' September Consultation

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# Contents

<b>Introduction.....</b>	<b>6</b>
<b>Conducting the Consultation Exercise .....</b>	<b>7</b>
Consultation Approach .....	7
Summary of Consultation Responses.....	8
Supporting Data .....	9
<b>Key Findings and Future Actions .....</b>	<b>10</b>
Objectives and Approach .....	10
What we proposed .....	10
What respondents said.....	11
Government Consideration.....	13
Eligible Properties (4 – 8) .....	14
What we proposed .....	14
What respondents said.....	15
Government Consideration.....	18
RHI Technologies (9 – 20) .....	22
What we proposed .....	22
What respondents said.....	24
Government Consideration.....	35
Tariff Design (21-44) .....	42
What we proposed .....	42
What respondents said.....	46
Government Consideration.....	62

Raising Performance (45-58) .....	71
What we proposed .....	71
What respondents said.....	72
Government Consideration.....	80
Delivery (59).....	88
What we proposed .....	88
What respondents said.....	88
Government Consideration.....	88
Assurance (60-62).....	89
What we proposed .....	89
What respondents said.....	90
Government Consideration.....	91
Customer Journey (63-68) .....	93
What we proposed .....	93
What respondents said.....	93
Government Consideration.....	100
Budget Management (69-75).....	101
What we proposed .....	101
What respondents said.....	102
Government Consideration.....	105
<b>Summary of Responses and Government Position .....</b>	<b>107</b>
<b>Annex 1 Consultation Respondents.....</b>	<b>125</b>
<b>Annex 2 Response Tables .....</b>	<b>127</b>
Consultation Response Tables.....	127
Objectives and Approach .....	127

Eligible Properties .....	129
Eligible Technologies .....	134
Tariff Design.....	145
Raising Performance.....	167
Delivery .....	180
Assurance .....	181
Customer Journey .....	184
Budget Management .....	188
<b>Annex 3 Consultation Activities .....</b>	<b>196</b>
Regional Events .....	196
Feedback .....	197
Workshops .....	201
Technology workshops.....	201
Issue specific workshops.....	201
Sector specific workshops .....	202

# Introduction

Heat is the single biggest use of energy in our society, with more energy used for heating than for transport or the generation of electricity. The vast majority of heating is currently supplied by fossil fuels, comprising around a third of the UK's total greenhouse gas emissions, and more than half of the UK's natural gas usage.

The UK has a target of 15% of energy coming from renewables by 2020, as set out in the Renewable Energy Directive 2009. The 2009 Renewable Energy Strategy suggested that renewable heat could contribute approximately one third of this overall energy target. In order to make that contribution, around 12% of our total heat demand in 2020 would have to come from renewables, increasing from around 2% currently. In addition, renewable heat is essential to the delivery of our carbon budgets and our target of an 80% reduction in carbon emissions by 2050. Some of this can be achieved by demand reduction, through better energy efficiency, although as we cannot reduce demand for heat to zero we will also need to reduce the emissions from the heat we will continue to generate.

The Government's vision and strategy for decarbonising heat across the whole economy is set out in the 'Carbon Plan', published in 2011. DECC's heat policy document "The Future of Heating: Meeting the Challenge", published in March 2013, sets out our policies and actions to deliver our vision for low carbon heat and how this help meet our long-term climate change target.

A key part of our approach to cutting carbon and spurring on the uptake of renewable heat is the Renewable Heat Incentive scheme (RHI), launched for industrial and commercial (Non-Domestic) customers in November 2011. A series of public consultations were conducted in 2012, including *'Providing Certainty, Improving Performance'* in July and *'Expanding the Non-Domestic Scheme'* in September. The response to the July consultation was published in February 2013 and the *"Non-Domestic Renewable Heat Incentive – A Government Response to 'Expanding the Non-Domestic Scheme' September Consultation"* is set to be published this Autumn.

The domestic heating sector is also going to have a significant role to play in bringing the UK a step closer to meeting the requirements of the Carbon Plan, Heat Strategy and Renewable Energy Directive. A consultation "Renewable Heat Incentive: Consultation on Proposals for a Domestic Scheme" was launched in September 2012, inviting views and evidence on a series of issues around the design of a domestic Renewable Heat Incentive (RHI) scheme. This included eligibility criteria, indicative levels of support, assurance mechanisms and budget management. The consultation also considered and sought views on additional measures that we might take to ensure continued improved performance of renewable installations and how to ensure that the customer experience of the domestic RHI could be as effective and user-friendly as possible.

# Conducting the Consultation Exercise

## Consultation Approach

On 20 September 2012, Government published its consultation “Renewable Heat Incentive: Consultation on Proposals for a Domestic Scheme”. The document posed 75 questions on a range of topics from scheme design to improving technical performance, and was therefore a very open consultation to which a broad spectrum of responses were expected.

To allow us to gather a comprehensive range of responses, analyse data and collect views from individuals and organisations on specific points we conducted a series of targeted engagement activities as follows:

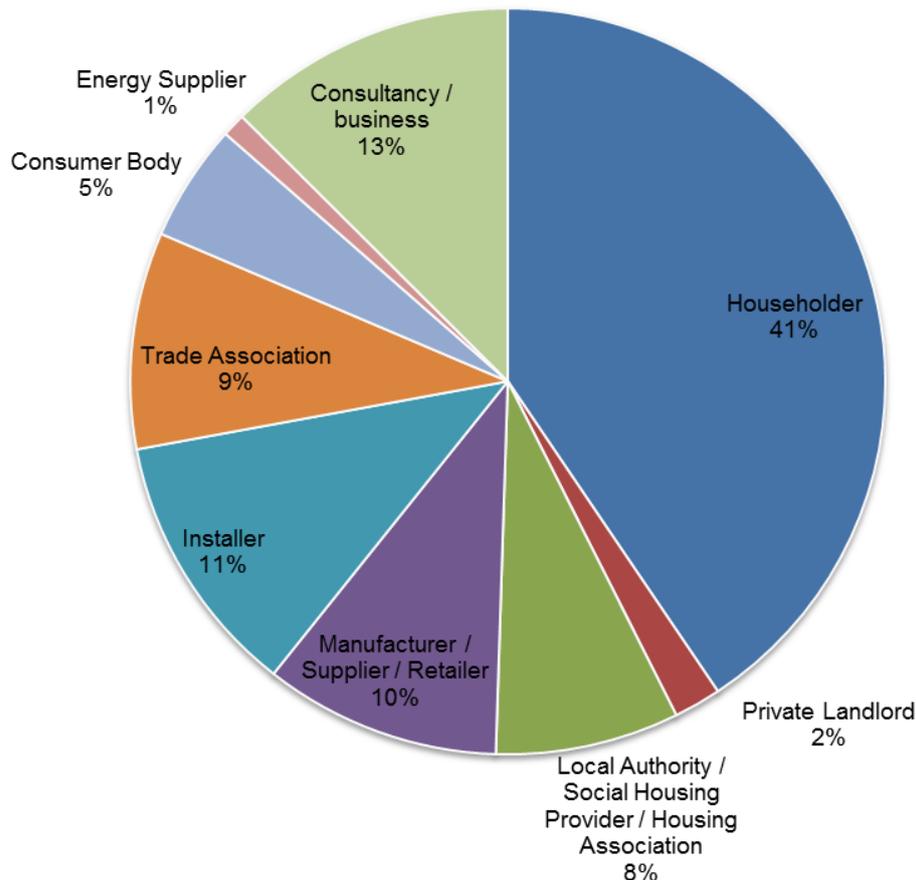
- An online consultation process, allowing responses via the web or email, with the option to respond in hard copy format as preferred;
- An introduction event for stakeholders in the first week of the consultation period to outline the policy positions in the document and to begin discussions on the options and implications of the consultation proposals;
- Ongoing digital and traditional media activities to raise awareness and gather responses, including regular updates on the DECC website, an online web chat, an article in the DECC Review (which reaches 20,000 stakeholders), and a series of articles released to trade and national media;
- A programme of regional events across Great Britain outlining the consultation proposals;
- A series of thematic workshops looking at the customer journey, including:
  - Technology-based workshops (Biomass, Heat Pumps and Solar Thermal);
  - Issue related workshops focused on specific topics such as deeming, energy efficiency and improving performance;

Full details of the consultation activities are included at Annex 3, including workshop topics, attendees and outcomes.

## Summary of Consultation Responses

In total over 400 responses to the consultation were received, 325 through the online consultation platform and a further 79 responses coming by other means. This included representations from 222 different organisations as well as individual home owners and consumers of renewable heat. These responses have been broken down by type, as shown in Figure 1 below.

**Figure 1: Proportion of Respondents by Organisation Type**



It should be noted that although there were over 400 responses to the consultation, not everyone answered all the questions. Some respondents were particularly focused on certain areas of the proposals and some questions were primarily aimed at certain sectors – such as asking for evidence from industry on specific technologies. The number of responses for each question varied from 26 to 274 with most questions garnering between 100 and 250 responses, the average being 159. The consultation response tables in Annex 2 set out the number of responses per question.

Throughout the following chapter, in the 'What Respondents Said' sections we have included responses to each question expressed as a percentage (e.g. – '75% of respondents were in favour of the proposals'), with comments from stakeholders included where appropriate. There were nine questions which received less than

100 responses, and in these cases we have expressed the results as whole numbers rather than percentages.

In addition, we have also grouped responses by sector, as per Figure 1 above. Some sectors contain too few records to carry out meaningful analysis, therefore in some cases a number of different sectors have been grouped together – such as local authorities with housing associations and social housing organisations, or consultants with 'professional organisations' (including architects, surveyors, solicitors etc.).

As the quantity of responses within each group was limited, results have been set out in whole numbers rather than percentages – for example, 'three out of four' instead of 75%. In some circumstances there were no notable differences between the overall response and responses by sector, in which case no further comment has been made.

## Supporting Data

From the various methods of engagement that were conducted over the consultation period, a large quantity of data was collected. This included real life experiences from householders who are already using renewable heat systems, opinions from stakeholders with a range of different interests and evidence from industry supporting specific policy standpoints. In addition to this, DECC commissioned the report 'Research on the Costs and Performance of Heating and Cooling Technologies' by the Sweett Group<sup>1</sup>, published in May 2013, which has contributed to the setting of tariff levels.

To supplement this data, evidence on consumers' attitudes, behaviours and preferences has been used from the Ipsos MORI and Energy Saving Trust research report "*Homeowners' Willingness to Take Up More Efficient Heating Systems*", March 2013.<sup>2</sup> This report was commissioned by DECC to aid understanding of how Government can achieve the desired change towards low carbon and renewable heating options in the domestic sector.

The Ipsos MORI research comprised three qualitative workshops with homeowners. This was followed by a survey of a representative sample of 2,850 owner-occupiers interviewed in England, Wales and Scotland (1,930 on the gas grid and 920 off the gas grid), then detailed follow-up telephone interviews with 18 survey respondents.

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<sup>1</sup>[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/204275/Research\\_on\\_the\\_costs\\_and\\_performance\\_of\\_heating\\_and\\_cooling\\_technologies\\_Sweett\\_Group.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/204275/Research_on_the_costs_and_performance_of_heating_and_cooling_technologies_Sweett_Group.pdf)

<sup>2</sup>[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/191541/More\\_efficient\\_heating\\_report\\_2204.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/191541/More_efficient_heating_report_2204.pdf)

# Key Findings and Future Actions

This section relates to the various aspects of the domestic RHI scheme that were consulted on in September 2012 and follows the chapter structure of the consultation document. For each topic, information has been set out as follows:

- What we proposed – as set out in the consultation document '*Renewable Heat Incentive: Consultation on proposals for a domestic scheme*';
- What respondents said – an overview of responses to each topic, as well as specific comments from stakeholders; and
- Government consideration – our response to stakeholder feedback, including the rationale for considering or adopting particular scheme details.

Full tables supporting 'What Respondents Said' are included separately as Annex 2, and a brief summary of these sections, broken down by consultation question, is set out in the following chapter 'Summary of Responses and Government Position'.

## Objectives and Approach

### What we proposed

We proposed and sought views on the introduction of a domestic Renewable Heat Incentive (RHI) to support households to move away from using fossil fuels for heating and to contribute to the UK's target on renewable energy deployment by 2020. We also set out the longer term objective, outlined in the "Carbon Plan" (published in December 2011), which is to prepare the country for the mass deployment of renewable energy technologies in the next decade to help meet the Government's ambitious carbon reduction targets. The Heat Strategy published in March 2012 provides the direction of travel on deployment of renewable and low carbon heating to 2050.

It was proposed that any consumer who is looking to replace their current heating with a supported renewable technology, or who has installed any such technology since the 15th July 2009, would be eligible for the scheme, provided they meet the other eligibility criteria. Support would be available for certain air source heat pumps (ASHP), biomass boilers, ground source heat pumps (GSHP) and solar thermal systems that are certified through the Microgeneration Certification Scheme (MCS) or equivalent and meet all of the required standards. Consumers would need to have undergone a Green Deal assessment process and made the requisite energy efficiency improvements to their home.

Our lead proposal was to introduce a set of bespoke tariffs which would be designed to compensate for the additional upfront and ongoing costs of renewable heat, compared to the fossil fuel alternative, taking into account non-financial barriers such as the disruption involved in getting work done.

### What respondents said

The majority (81%) of the 274 respondents who provided their views on the proposed scheme were in favour of introducing a domestic RHI scheme, with just 9% disagreeing. It was felt that this should be launched without the use of a pilot scheme or a phased approach to delivery, with only 25% of 263 respondents indicating a preference for these options.

Looking at these findings by type of respondent, a high level of support for the proposed RHI scheme was given by home owners, local authorities / housing associations / social housing providers, manufacturers and trade associations (over 80% support from each group). Support among respondents in other groups, while still the majority opinion, tended to be less robust, with at least one in four demonstrating concerns.

Positive comments included the view that market stimulation was perceived to be the key strength of the RHI scheme, in the form of helping to drive down equipment costs and making them more affordable (18%), encouraging the adoption of renewable technologies (18%) and showing commitment to those technologies (14%). It was felt that this would help stimulate or create a market for renewable heating systems and a robust supply chain (14%). The proposed scheme was also seen by some respondents (16%) as fair, simple and easy to understand.

The common theme throughout the responses was the importance of not making the scheme too onerous for consumers or the supply chain, or too complex to be understandable and attractive for consumers. Further comments put forward were that tariffs should be high enough to incentivise consumers (18%) and that these tariff levels must be right (10%).

When asked to suggest alternative or additional approaches to incentivising renewable heat deployment, 166 respondents put forward opinions. The most commonly mentioned alternatives were that there should be an 'up-front payment / grant / subsidy to cover or contribute towards cost of installation' (31%) or a 'hybrid or two-tier scheme to help with up-front costs and provide on-going support' (28%).

## Market Research Findings (Ipsos MORI report)

Respondents were asked to make a series of trade-offs between different types of 'more efficient' heating systems in a non-emergency situation. Key information was presented next to each heating system option to help inform their decision making, including up-front and on-going costs and the availability of a grant or tariff based financial incentive. Different levels of costs and incentives were tested.

*There was a statistically significant difference between 'no incentive' and provision of a tariff or grant, indicating that more homeowners would opt for renewable heat systems if there was a financial incentive.*

*There was no statistically significant difference between the 'most preferred' tariff and grant options of (a) a 20 year RHI tariff and (b) a 100% upfront grant.*

## Comments from the Consultation

*National Grid supports the RHI scheme and agrees that the scheme ought to be universally available. Customer choice ought to be maximised as much as possible especially for technologies that largely augment heat demand rather than completely displace existing systems i.e. solar thermal. However, we accept that the RHI ought to be targeted to ensure an economic level of renewable energy can be deployed from the funds available and agree that such technologies should be targeted to off gas grid customers where the mutual benefits, customer heating cost reductions and contribution to renewable targets, can be achieved most effectively. (National Grid)*

*A universally available tariff scheme will, we believe, be effective in driving down costs, increasing innovation and developing supply chains. One of the main reasons for this is that a revenue-based scheme that locks in a level of reward across a number of years is more stable and predictable for investors than alternative, grant-based, subsidy schemes. (MicroPower Council)*

*The REA welcomes the extension of the RHI into the domestic sector, agrees with the broad thrust of the consultation and mainly wants to see early implementation. (Renewable Energy Association)*

*Consumer Focus agrees that a scheme that is substantively tariff based, whilst combining planned digression points, would act as the best way to ensure value, as well as drive down technology costs. However, we feel that the current scheme, coupled with the immature stage of the technologies mentioned and the high costs associated with them, will mean that take up is narrow until the supply chain is better established and costs are substantially reduced. (Consumer Focus)*

## Government Consideration

Heat is the single biggest reason we use energy in our society. Three quarters of the heat we use is used by households and in commercial and public buildings. Without changing the way we produce and consume heat we will not meet our carbon reduction target or our renewable energy target, as set by the Renewable Energy Directive, of 15% of our energy being generated from renewable sources by 2020. To get there, we are going to have to change the way we generate, distribute and use heat in buildings.

The Renewable Heat Incentive (RHI) is a world first, and has been available for non-domestic investors for over a year. We are supporting the installation of renewable heating technologies with more than 2,000 applications having been received across all five technologies supported under the non-domestic scheme. The renewable heat which is already being generated is a key part of the Government's approach to cutting carbon and driving forward the move to more sustainable low carbon heating alternatives.

It is not just the non-domestic sector where the Government is aiming to make significant in-roads. We are determined to also help householders who want to do their bit to combat climate change, as well as lower their energy bills. **We are therefore introducing an RHI scheme for householders.**

The domestic RHI scheme will give financial support for an **eligible renewable heating system that heats a single domestic property. The property can be on or off the gas grid. Payments will go to the owner of the heating system.**

The financial support through the RHI will be **paid at a set rate per unit of renewable heat generated (kilowatt hour or kWh), for seven years.** The support rates vary depending on the technology installed. The support is set at a level designed to compensate for the difference between the cost of installing and operating renewable heating systems and fossil fuel systems, including non-financial costs such as disruption.

## Eligible Properties (4 – 8)

### What we proposed

We proposed that people who own their own homes would be eligible for the domestic RHI for a renewable heat system that is installed in that property. The RHI payment must go to the owner of the renewable installation and, as a rule of thumb, we envisaged that this would be the owner of the property as the heating system is an integral part of the home. We presumed that ownership of the technology would transfer with the sale of the property, which should therefore require the transfer of any remaining RHI payments to the new home owner.

### Second Homes

As second homes tend to be used significantly less than main residences, capital costs would remain the same whilst significantly less renewable heat would be produced. We therefore suggested that supporting these installations would give poor value for money, so proposed excluding second homes from the scheme. We anticipated that a process of self-declaration would establish whether the property an applicant was applying for was their primary or a second home.

### Private Landlords

Private landlords own individual properties that they rent out. As the homeowner, they are usually responsible for the heating system and the capital costs of replacement. However, the tenants are usually responsible for the running costs of the system.

It was proposed that installations in these properties be eligible for the RHI with the landlord as the recipient (providing the landlord is the owner of the heating system). It was highlighted, however, that there were some potential difficulties in making the shape of proposed subsidy payments work in this situation. These were in relation to the relative balance of costs and savings between landlord and tenant if the landlord is the recipient of the RHI, because of the balance of responsibilities between the two parties with regard to the heating system and its running costs.

### Legacy Applications

We proposed that consumers who installed renewable heat installations since 15 July 2009 would be eligible to apply for the domestic RHI provided that they:

- Have installed an eligible technology;
- Met the eligibility criteria on energy efficiency (except in very limited circumstances, this would have involved getting a Green Deal assessment and, in some cases, installing some additional energy efficiency measures);

- Declare any government funding or support already received for the installation of renewable heat;
- Do not have a back-up fossil fuel heating system, or if they do, are prepared or have installed a heat usage meter on which the RHI payments can be based; and
- Meet all current MCS standards. In particular, for air-source heat pumps this includes evidence of either planning consent, or that when applied retrospectively, that the installation complies with the PDR (Permitted Development Rights) procedures in the MCS system.

Where applicants meet the eligibility criteria, we proposed that any government funding already received would be subtracted from the amount of RHI payable to the householder and would be reflected in the payments received. This would be to ensure that the Government is not over compensating for the renewable heat generated whilst at the same time consumers do not feel penalised for having acted early.

In order to manage the numbers of potential applicants that could apply shortly after the scheme opened, we suggested that we were considering phased application windows for legacy applicants. We also proposed a cut-off date for legacy applications of the end of the first financial year of the scheme.

## What respondents said

### Second Homes

Views were split on this issue, although almost two thirds thought that second homes should either be included in the RHI (49%) or only excluded in some circumstances (14%). The remaining respondents (37%) agreed that second homes should be excluded from the scheme. There were 257 responses to this question.

Looking at these findings by type of respondent, home owners, manufacturers, installers and consultants / professional bodies were all fairly evenly split on this issue. Local authorities / housing associations / social housing providers (10 out of 15) and consumer bodies (6 out of 8) were in favour of including second homes in RHI, but trade associations generally took the opposite view.

Few who agreed with the exclusion of second homes made comments to support this. Of those that disagreed, the most frequently cited reasons were that the scheme should 'include all homes - aim is to increase use of renewables / decrease CO2 emissions' (22% of those who commented), that second homes could be included if they were metered (17%) or 'inhabited / let out' (14%).

Many respondents suggested that second homes may be used more than is assumed in the consultation, and that many of these would be off the gas grid. Therefore the body of opinion was that second homes can make a significant

contribution to the use of renewable heat, our carbon reduction targets and the growth of the renewable heating industry.

### Comments from the Consultation

*Second homes are more likely to be in rural locations, and therefore off the gas grid. STA proposes that owners of second homes are allowed onto the scheme for solar thermal, but only under metering rather than deeming.*  
(Solar Trade Association)

### Private Landlords

It was accepted that the treatment of the private rented sector is complex, given that the investment must come from the landlord but the benefits (and costs) or using the installed renewables would be the responsibility of the tenant.

The general nature of the 182 responses to this question provided broad support for the inclusion of private landlords but with the proviso that the rights of tenants are protected. The comments highlighted the need to ensure that there is a provision for agreements between landlords and tenants on items such as the installation of renewables and any effect on rent (34%) or to include tenant protection, such as against a rise in rent levels to cover costs (20%).

Although not making up a large proportion of respondents, private landlords commented that private rental is a growing sector and therefore represents a key focus for energy efficiency measures. However, landlords also stressed that they are business people and the installation of renewables is another business decision they have to make.

### Comments from the Consultation

*It is important that landlords can demonstrate a return on investment when considering investment in renewable heating supported through the RHI. In the absence of this market driver, the RHI will need to provide a compelling incentive to drive take up of renewable heating systems.* (British Property Foundation)

*[An upfront grant plus on-going tariff] should be more appropriate for the private rented sector and it could be structured so that landlord receives the support towards the upfront cost, while the tenant (if the bill payer) directly receives support towards the on-going running costs.* (Which)

*The proposal to incentivise landlords, rather than tenants, (in the cases where the landlord is the owner of the system) is a sensible approach given the landlord will be making the upfront capital payments. As with other customers, it is important the RHI scheme requires landlords to implement appropriate energy efficiency measures prior to uptake of renewable heat measures. (UK Green Building Council)*

## **Legacy Applications**

Respondents were emphatically in favour of the proposed treatment of legacy applications (92%), with only 4% of the 253 responses expressing disagreement.

From these responses comments in support of this position were that the expectations of legacy applicants must be honoured (25%) and that many will have installed renewables on the assumption of a domestic RHI being introduced (23%). Further to this, 19% of comments were related to the fact that those who had received support for installations under previous schemes (such as Renewable Heat Premium Payments or Low Carbon Building Programme) would not have been aware of the full requirements of RHI, so some flexibility / latitude would be needed.

Some respondents (8%) believed that RHPP legacy applicants should be exempt from the Green Deal ticks requirement, as they have already had to certify that they meet minimum installation standards.

Sixty nine respondents mentioned other types of legacy applicants that should be considered, with 25 of these proposing that any renewable system whenever installed should be considered, if they meet the eligibility criteria. Fourteen suggested that all legacy applications should be considered (even pre-2009) if they meet the eligibility criteria and 10 suggested that all applications with MCS certification should be eligible. Other suggestions, mentioned by four respondents each, included those installing under the Low Carbon Buildings Programme, installers under the Energy Saving Scotland Home Renewable grant (EESHR), the Scottish Community and Householder Renewables Initiative (SCHRI), Communities and Renewable Energy Scheme (CARES, administered by Community Energy Scotland) and those with larger boilers (eg – 45kW biomass boiler).

There was a mixed response to the proposal to phase legacy applications over the first year, with 47% of the 217 responses in favour, 24% against it and 29% unsure. Private landlords, trade bodies, energy suppliers and consultants / professional bodies tended to support phasing legacy applications over the first year, although home owners, local authorities, manufacturers, installers and consumer bodies tended to be more ambivalent on this issue.

In terms of the proposal to set a cut-off date for legacy applications at the end of the 2013/14 financial year, more than half (53%) the 217 respondents agreed with the proposals, with 22% against it and 25% unsure. Almost a quarter of respondents (24%) commented that the cut-off date was too short or that the application period should be extended.

### Comments from the Consultation

*We do not support phasing of legacy applications. We agree that there should be a deadline for applications of no longer than 3 months after scheme launch to enable effective budget management. All legacy applications should be outside of degression rules and payment alterations (deductions) to take into account received RHPP monies should be back ended to the final year of the RHI payment plan (i.e. year 7). (BEAMA)*

*It would seem appropriate that all applications for systems installed since 15th July 2009 should be, as long as they meet the full RHI eligibility criteria, be eligible for the RHI payments when they begin in summer 2013. We agree that any payments previously received for their system installations (other than RH-PP) should be deducted from their RHI payments. (Ground Source Heat Pump Association)*

## Government Consideration

### Second Homes

Whilst not representing a large proportion of the total amount of households throughout Great Britain, second homes could still offer a good opportunity to extend the uptake of renewable heat. This is particularly relevant in rural areas, a key target of the domestic RHI scheme. Therefore **having considered the case further, we believe that second homes should be eligible for the domestic RHI, provided they are not used mainly for business purposes** (such as for holiday lets, which would be usually be eligible for the non-domestic scheme). Second homes do not tend to use as much heat as a primary home, however.

To address this (which was one of the main reasons raised by stakeholders in support of the proposed exclusion), second homes will be required to install a meter to measure the heat they use from their eligible renewable heating system. Any payments will be capped at the deemed amount for the property (see Government Consideration section on Deeming and Metering, from page 62).

Solar thermal systems will be exempt from this metering requirement and payments will be based on the deemed figure only.

Applicants to the domestic RHI scheme will need to declare whether the property for which they are applying for is a second home or not. As part of its risk-based audit programme, Ofgem, the scheme administrator, may require further evidence of the status of the property at application stage or later.

### **Private Landlords**

Private rentals comprise an important sector that could make a considerable contribution to the uptake of renewable heat. The majority of consultation responses agreed with this standpoint, although some responses raised the issue of what benefit the tenant might see if they did not receive any of the RHI tariff themselves.

When considering the matter further, we assessed the possibility of splitting the tariff between landlord and tenant. However, it would be very difficult to determine an appropriate split, and the administrative complexity for the scheme would be disproportionate, especially in cases that see several tenant changes through the duration of RHI payments being made. We also felt that reducing the tariff a landlord receives would be a considerable disincentive to renewable heat uptake within this sector, given that landlords will not benefit from fuel savings.

On this basis, **we will continue with the consultation proposal of providing the full amount of the RHI tariff to the landlord** as we believe it to be the best way to encourage uptake in this sector.

Tenants in off-gas grid areas in particular should benefit too since, on average, tenants could see their heating-related energy bills drop with the introduction of a renewable heating system. A particular issue raised is that, in certain circumstances, the installation of a biomass system may see fuel costs rise for a tenant. However, we would expect the move to a new heating system to be discussed between the landlord and tenant and any necessary permissions obtained, especially since the move could be a lifestyle change (e.g. switching from a situation where the property's occupant does not 'top-up' the fuel, such as where there is an electricity based heating system, to a biomass situation where the occupant may have to incorporate into their daily or weekly routine the top-up of fuel).

Tenants are also likely to be involved in the RHI process since the requirement to have a Green Deal Assessment done (see the section on energy efficiency below) will involve a visit to the property by an approved Assessor that will include discussions around the occupant's energy use. Under Green Deal rules, a tenant will need to agree to the undertaking of the Assessment.

We will monitor the situation in this sector and look at how we address any issues as part of the first review of the policy in 2015.

## Legacy Applications

We believe it is important to give fair treatment to legacy applicants who have installed renewable heating systems in good faith following the Government's previous commitments, while ensuring the approach is fair between legacy and non-legacy applicants. During the consultation we have not received compelling evidence that we should fundamentally change our position towards 'legacy' applicants. **We intend therefore to make owners of eligible renewable heating systems installed between 15<sup>th</sup> July 2009 and the launch of the scheme eligible for the RHI.**

In order to ensure value for money for Government, it is important that we only support those applications that have been directly incentivised by the anticipated receipt of the RHI. As we have stated previously, we believe this incentive began with the announcement of the Government's plan to introduce an RHI made on the 15<sup>th</sup> July 2009. Although we understand the view of those consultation responses arguing that this should be extended earlier we do not feel that the decision to install these technologies was made on the basis of an expectation of an RHI and therefore it would be poor value for money to provide a subsidy for them. **We therefore intend to count 'legacy' applicants as those who have commissioned an eligible installation on or since 15<sup>th</sup> July 2009.**<sup>3</sup>

During the consultation and in reflection of evidence received we have considered each of the eligibility criteria and how we should apply them to legacy applicants. In general we have tried to maintain fairness between both sets of applicants. **We will therefore require, as set out in the consultation document, that legacy applicants need to meet the same eligibility requirements as for new applications including for energy efficiency.**

However, there are two cases where we feel a different approach is justified:

- **Air quality requirements:** Information on emissions from a particular product is not currently available to consumers to allow them to choose an eligible system. In addition, in most cases it would not be possible for an applicant with a system that did not meet the standard to upgrade their system to comply with it. We therefore feel it is unfair to require legacy applicants to meet the new standards and will not be requiring this.
- **Current MCS standards:** In the consultation, we suggested that applicants would have to meet current MCS standards. However, these standards have significantly changed since the scheme was first announced in 2009 and it would therefore be unfair to retrospectively impose current standards on legacy applicants. It would also present a significant delivery challenge to reassess a large volume of legacy applications. Legacy applicants will therefore need to meet only the MCS standards at the time of installation.

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<sup>3</sup> As evidenced by the commissioning date on the MCS certificate. The commissioning date must be on or after 15<sup>th</sup> July 2009. MCS certificates must be generated within 10 working days of the commissioning date, according to the rules governing the MCS database.

In order to avoid overcompensating legacy applicants we are maintaining the position set out in the consultation document that any subsidy already received for an eligible installation will result in deductions from the payments due. If the applicant has previously received public funding for the heating system, such as the Renewable Heat Premium Payment, this must be declared as part of the application process. This will then be deducted from RHI payments under the scheme. Initially, a deduction equal to one twenty-eighth of the value of the prior public funding received will be made from each quarterly payment. However, where tariffs are altered in line with RPI, the quarterly deduction will also change by the same proportion, so that the overall value of the deduction remains constant.

We also intend to take into account other forms of subsidy – for example, support from energy companies. In some cases, where subsidy has been provided in the past, RHI payments may be reduced or these installations may be ineligible. This is aimed at ensuring applicants do not receive a double subsidy to install renewable heat. We will confirm details closer to the launch of the scheme.

We are also working with Ofgem to develop an approach to phasing legacy applications over a period of time after the launch of the scheme. We will confirm our approach to phasing closer to scheme launch, but our intention at this stage is that owners of eligible legacy installations that have not received funding through RHPP will be able to apply first. RHPP participants are likely to be in the next phase, and may be staggered on the basis of when funding was received. We intend that there will be a cut-off date for applications to be made. More details on the arrangements for the phasing of legacy applications will be announced closer to the planned launch of the scheme.

## RHI Technologies (9 – 20)

### What we proposed

We proposed that in order to be eligible for the domestic RHI scheme, technologies must be MCS (or equivalent scheme) certified<sup>4</sup> and adhere to certain principles. In addition, the RHI should incentivise only those technologies which:

- Are renewable under the Renewable Energy Directive (RED)<sup>5</sup>; and
- Are fully proven and commercially available and hence able to make a significant contribution to the deployment of renewable heat at a domestic level.

We proposed the following four core domestic renewable heating technologies would be eligible for the domestic RHI:

- Air source heat pumps<sup>6</sup> (ASHPs);
- Biomass boilers (Biomass);
- Ground source heat pumps (GSHPs); and
- Solar thermal.

It was understood that other MCS certified technology types were available. However, these technologies did not meet the criteria above and we therefore proposed to make them ineligible for the launch of the domestic RHI scheme. We would, however, plan to keep their eligibility under review and recognised that in the future further technologies may meet the RHI criteria proposed and could therefore potentially qualify for support.

We are keen to see the development of a renewable heating market that provides high quality, high performing and reliable renewable heating systems to the householder. We proposed that all heat pumps supported by the RHI should meet a minimum Seasonal Performance Factor (SPF) of 2.5 and put forward an assumption that heat pump systems, using technology that meets MCS efficiency specifications, should achieve this level of performance providing they are designed, installed and used appropriately.

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<sup>4</sup> 'MCS Certified' means a renewable heating system that is certified under the MCS or equivalent scheme at the time of installation, uses equipment from the MCS product list and has been installed by an MCS accredited installer.

<sup>5</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>

<sup>6</sup> We proposed that only air to water systems were included initially

We acknowledged in the proposal that good air quality is vital to human health and that the Government is committed to controlling emissions throughout the UK, as well as the fact that there are legally binding targets for air quality and nation emissions of certain pollutants.

As the combustion of biomass can increase the emissions of certain pollutants in the atmosphere, including particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>), where it replaces gas heating or electricity generation, we proposed certain emission limits and tests to assess compliance with these limits. This followed the same approach as that adopted in the non-domestic RHI, with maximum permitted emissions limits of 30 grams per gigajoule (g/GJ) net thermal input for PM and 150 g/GJ for NO<sub>x</sub>.

In order to ascertain compliance with these limits we suggested that there would be testing of one or some of the appliances in a range of boilers of the same design, rather than the whole range. A list of such type-approved certificated appliances would be held and published by HETAS on its website and we proposed that only biomass appliances on this list would be eligible for the RHI. We also proposed that the list of MCS certified products would be reviewed to assess whether it could also show which products meet the RHI's air quality criteria.

We also recognised that encouraging the uptake of bioenergy should not result in untoward environmental and social impacts. Ensuring the sustainability of feedstocks is key to minimising any such adverse impacts. We stated the importance of being proportionate in our approach to sustainability and reflect the fact that consumers are unlikely to have the time or expertise necessary to prepare a sustainability report. However, over time, the increased take up of domestic boilers that we hope to see would collectively consume a significant amount of biomass. Therefore, sustainability controls would need to be applied in the domestic sector.

We proposed that the domestic RHI take the same approach as the non-domestic scheme in the use of an approved supplier list, which would be set up, managed and monitored by a designated approval body. Biomass suppliers wanting to become an approved supplier would need to approach the list manager for approval. Part of the list manager's role would be to ensure that the suppliers were selling biomass that meets:

- (i) The UK's greenhouse gas (GHG) emissions target; and
- (ii) The 'land criteria'.

We proposed that, from April 2014, consumers would have to purchase the biomass for their boiler from one of the approved suppliers. As evidence, consumers would be asked to keep their invoices to show they had purchased from approved suppliers and to submit them annually to the RHI scheme administrator as a condition of receiving their RHI payment.

## What respondents said

### Eligible Technologies

The majority (90%) of the 236 responses to this question agreed with the proposed approach to the selection of eligible technologies for the domestic RHI scheme, with only 7% not in agreement. There was consensus that the domestic RHI should support proven and commercially available technologies that will generate renewable heat that is considered eligible under the Renewable Energy Directive.

Main areas of concern were that the scheme should be flexible enough to allow new products to enter the market (11%), there should be regular reviews of eligible technologies (11%) and that clarity was needed on the definition of the biomass technologies that are eligible (10%). A number of trade bodies also requested further clarity on how new technologies could become eligible for the scheme, such as through provision of a roadmap that demonstrates how a technology can be included in the scheme and what data and information would be required.

When asked about the specific technologies that were to be included in the scheme, the majority of the 210 respondents to this question (82%) were supportive, with 15% in disagreement. The groups where there was disagreement were consumer bodies (five out of nine agreed) and energy suppliers (three out of four disagreed).

It was stressed by some respondents that a key requirement would be that the scheme is flexible enough to allow new technologies to enter the market and be eligible for the domestic RHI (mentioned by 12% of respondents). It was recommended that an early indication on the process for inclusion would provide manufacturers with clarity on issues such as evidence requirements so that they can work towards meeting these. Respondents felt that the inclusion of further technologies should be considered in the first review period of the scheme.

A range of other technologies were suggested for inclusion, including air to air source heat pumps (11%), bivalent (hybrid) heat pumps (6%), solar PV (6%) and exhaust air source heat pumps (6%). Trade bodies made the case for the inclusion of a number of these technologies, as seen from the quotes below.

### Comments from the Consultation

*We agree with the four technologies highlighted in the consultation. The definition of ASHP should include systems sometimes known as “thermodynamic solar panels” which use a gaseous refrigerant in the panel, subject to there being a suitable MCS accreditation procedure Bio-liquids should be included in the RHI as they represent a low cost way of converting existing oil boilers to a low carbon alternative – B30K fuel. We also believe that condensing biomass boilers should be eligible in the*

*domestic RHI subject to development of a suitable MCS certification procedure that covers the environmental limits on condensate disposal. (Renewable Energy Association)*

*Mitsubishi Electric supports the proposed approach. For the heat pump market, DECC has successfully captured the main heat pump technologies with those not eligible likely to be of relatively minor uptake potential and difficult to include. (Mitsubishi Electric)*

*So-called "thermodynamic solar panels" which use a refrigerant in the solar panel should be considered for inclusion, subject to reinstatement to the MCS scheme. However, these technologies should be supported by the RHI as an air-source heat pump, since the product is essentially an air-source heat pump with the evaporator being the panel rather than a fan-blower unit. (Solar Trade Association)*

*We agree with the proposed technologies. However, we recommend ensuring that there is a smooth process for getting new innovative products to market, which can satisfy the EU definition of renewable heat and also comply with MCS standards. (Energy Savings Trust)*

There were just over 100 comments regarding the exclusion of specific technologies from the domestic RHI. Most commonly this was for large biomass boilers (45kWth+), either in general (16%) or specifically because they are already MCS approved and installed in some homes (22%). Further to this, 16% thought that either all proven technologies should be included or nothing should be excluded if a carbon saving is being made.

### **Comments from the Consultation**

*...There is also a concern over installations in domestic properties above 45 kWth. Currently these are not eligible for support yet are most appropriate for systems such as biomass heating. DECC should consider how the non-domestic RHI could be modified to allow these properties to receive a tariff. (Heating and Hot water Industry Council)*

*We do not agree with the proposal to exclude plants above 45kWth. Although this primarily affects biomass boilers, some of our members have related concerns about ground source heat pumps. Such installations would therefore be excluded from both the domestic and non-domestic parts of the*

## *RHI. (Renewable Energy Association)*

*There is significant potential for the biomass market in the south west, particularly homeowners in rural, often off-gas grid locations. Indeed, many homeowners have already engaged with the RHI in the form of the RHPP, with the south west developing the largest number of applications for phase 1. However, a significant number of these consumers will require domestic installations of over 45kWth. (Supplier / installer)*

### **Approved Suppliers for Biomass Fuel**

The majority of the 204 respondents (68%) agreed with the proposed 'approved suppliers' scheme for domestic biomass heat installations, with 23% disagreeing. Looking at these findings by type of respondent there was broad support for the proposed scheme, although there was some dissent amongst private landlords (two out of six disagreed), installers (eight out of 26), consumer bodies (four out of nine) and consultants / professional bodies (eight out of 26).

Such a scheme was perceived to have considerable benefits, notably by helping to maintain the quality of fuel and that the fuel stock is from a sustainable source. However, 19% thought that it would be difficult if people source or grow their own fuel (e.g. waste wood, logs, wood chips) and that there was a lack of clarity on the type of fuel that would be approved (14%).

### **Comments from the Consultation**

*The 'approved suppliers' scheme, or something similar, would be an appropriate approach to minimising the risk of non-sustainable supply of wood pellet fuel. The pellet supply industry is made up of a small number of moderately large producers. These companies have complete control over raw material sourcing, the production process and most of the transportation of raw materials and final product. They are therefore in a good position to manage and monitor the impact of the total supply chain. It would not be an excessively onerous task for these companies to apply for approved supplier status and comply with the requirements.*

*However, many consumers will buy from much smaller intermediary suppliers, and it is essential that this two-tier supply infrastructure is encouraged to develop in order to minimise transport emissions while maximising consumer confidence and supplier competition. If each retail supplier is required to register and carry out monitoring and reporting it is likely that many smaller potential participants would be discouraged from entering the market. This could significantly hinder the development of a*

*cost-effective and carbon-effective supply chain while potentially excluding smaller SMEs.*

*We suggest that the pellet producer or importer should be required to register as an approved supplier, and that retail suppliers are permitted to sell products from an approved supplier without registering themselves. If DECC decides that registration of the retail supplier is necessary to ensure compliance, then this retailer registration should be as simple and cheap as possible to encourage a diverse supply infrastructure. We have suggested allowing pellet importers to register, as it is perfectly possible for pellets imported from, say, Belgium to have a lower carbon footprint than pellets produced at one end of Britain and used at another. (Energy Saving Trust)*

*Yes. And the approved suppliers scheme should be accompanied by: (a) an installer accreditation scheme; and (b) a fuel quality certification scheme. There are insufficient knowledgeable and experienced installers; and poor/variable fuel quality is a continuing issue for biomass systems. (Chartered Institution of Building Services Engineers)*

*One drawback of log burning boilers is that they can be used for burning waste products and contaminated or treated timber. It will be very difficult to prove source of supply of fuel if the householder has access to 'grey market' supplies. Therefore it could be prudent to make tariff payments to biomass installations based on submission of fuel payment receipts from approved suppliers. If the householder has access to his own fuel supplies then this will be more difficult to monitor. However I expect that the majority of biomass heat generated under the domestic scheme will be from wood pellets due to in general easier handling. (H2 Solutions)*

*Scottish Renewables is supportive of proposals to introduce a sustainable fuel eligibility requirement for domestic biomass heat installations. Ensuring the sustainability of feedstocks is vital not only to the progression of the renewables industry but also in ensuring that we deliver on our carbon saving targets. (Scottish Renewables)*

*Regen welcomes the proposal to ensure that biomass use in RHI installations is sustainably sourced. Regen suggests that DECC looks to existing frameworks such as Woodsure/HETAS and the FSC scheme as sufficient to demonstrate sustainability. This is accessible to smaller suppliers and provides an easy identifier of compliant biomass suppliers to consumers. In addition, these frameworks already exist. (RegenSW)*

When asked if a level of biomass boiler efficiency could be assumed within the approved supplier scheme, around two-thirds (68%) of 168 respondents agreed with this proposal and 21% disagreed. Most comments around this topic were positive, although 12% thought it was also important to ensure / check that efficiency of boilers was high (above the MCS minimum) and 11% felt that there was a risk with assuming efficiency without testing.

There was general support for this approach when responses were grouped, with consumer bodies (three out of seven) and consultants / professional bodies (eight out of 20) being the only groups to present a level of dissent from more than a quarter of respondents.

The Micropower Council stated that boiler efficiency standards can already be assumed for MCS accredited installations. Therefore it may not be necessary to prescribe a level of boiler efficiency.

REA and some other industry bodies believed that there were aspects of the proposed scheme that were unclear. Some REA members challenged the use of the MCS minimum figure for boiler efficiency, which is 70%. If a single figure is to be used, REA considered it more reasonable to base it on an 80% seasonal efficiency. The spot efficiencies of the log and pellet boilers which meet the new air quality regulations are typically 90-95%. The lower efficiency models which may be MCS certified are very unlikely to meet the emissions level set out in the proposal.

Alternatively the specific rated efficiency of the boiler could be used, or another approach would be for the supplier to provide more accurate data of the carbon intensity of the delivered fuel. The user would then enter this information, which would be combined with the manufacturer's data on conversion efficiency, to give an overall carbon saving. The need to avoid complexity, however, is always an important consideration.

## Comments from the Consultation

*Yes it would be necessary to assume efficiency. In the UK (unlike the EU) we use gross efficiency figures. These efficiencies have minimums specified in guidance to the building regulations so these could be used (The Domestic Services Compliance Guide is the second tier document used to specify efficiencies), and HETAS publishes them as well as a list of approved appliances and their efficiencies. The UK will also take on the construction products regulations and CE Marking for these appliances in July 2012. (HETAS)*

*Yes. It will help to ensure that wood fuel suppliers use a consistent methodology when calculating the GHG lifecycle savings of their fuel. Suppliers would otherwise assume different levels of efficiency, giving different levels of GHG lifecycle savings. So wood of lower sustainable*

*qualities may achieve 60 per cent GHG lifecycle savings due to an assumption of a high boiler efficiency, rather than because of any improved sustainability of the fuel. (Energy Saving Trust)*

When asked if April 2014 was an appropriate date from which to start requiring users of domestic biomass heat installations to provide proof of meeting the sustainability criteria, just over half (52%) agreed, with 30% disagreeing out of 179 responses. Many respondents were happy with this start date as long as the scheme was in place by then (13%), and the supply chain was thought to have had sufficient time to prepare itself for that date (7%).

There was a similar response to this approach from the different respondent groups. Whilst most groups were generally in favour, private landlords were evenly split and only two out of seven consumer bodies were in agreement.

### **Comments from the Consultation**

*Government must ensure the timetable is flexible if there are delays delivering the supplier list. The supply chain needs at least 12 months to implement whatever decision is reached. (Renewable Energy Association)*

*We think it should be introduced at the same time as the RHI. A gap would run the risk of sub-standard products being subsidised and then having to be withdrawn, with the consequent difficulties for businesses which entered the market in good faith and built business plans without reference to the likelihood that their products may no longer be eligible after a period. (MicroPower Council)*

### **Air Quality**

Just over half (54%) of the 164 responses agreed with the proposed approach to air quality, and while only 9% explicitly disagreed with the proposed approach, 37% were unsure or neutral. When responses were grouped there was general agreement with this approach, although only two out of six private landlords were in favour (three were unsure) and two out of five consumer bodies agreed (two were unsure).

Those supporting the proposed approach to air quality tended to stress the importance of rigorously protecting air quality. Those expressing concerns or reservations focus on the need for research on the scale of the potential air quality

issue, although current air quality protection is thought to already be in place through regulations and equipment standards.

### **Comments from the Consultation**

*if we are to propose limits, we must also agree a test method that is acceptable to all. Limits must be stringent but attainable and realistic without resorting to measurement methods that may not be truly appropriate for this purpose. (HETAS)*

*CPL agrees that the air quality limits compliance regime outlined is acceptable. Reputable pellet and chip boiler manufacturers are already able to meet the limits. Compliance of air quality limits will however depend on both the boiler used and the quality of the pellets burnt by the boiler. It is therefore essential to set up an approved supplier scheme as soon as possible and to ensure that future pellet supply is restricted to sustainable, EN Plus A1 Scheme quality fuels. (CPL Industries)*

### **Performance standards for heat pumps**

The majority of the 197 respondents (80%) agreed with the proposed approach to energy efficiency requirements for heat pumps. Most of the comments on this issue were in favour of the proposed energy efficiency requirements, with the most frequently voiced concern being that SPF is not 100% product dependent (mentioned by 6% of respondents).

With regard to the proposed heat pump efficiency assumptions, 70% of the 192 respondents answering this question were in agreement, 15% thought that this was possibly the case, and only 4% explicitly disagreed.

Associated comments included the requirement that this 'should meet required MCS level as a minimum / any Heat Pump that qualifies under the MCS scheme should automatically be deemed to qualify for RHI' (mentioned by 10% of respondents) and that the 'SPF for a heat pump is less important than installation and radiator sizing' (mentioned by 7% of respondents). Alternative SPFs were suggested between 2.7 and 3.5 but none by more than 3% of respondents.

## Comments from the Consultation

*REAL agrees that heat pumps should meet a Seasonal Performance Factor of 2.5, although we consider this must be an absolute minimum. In the light of the European Commission's guidance, regular monitoring will be required to ensure that all heat pumps do in fact meet this SPF rating. (REAL Assurance – now the Renewable Energy Consumer Code)*

*It is important that the RHI is delivered in line with the EU and RES Directive but that we aim for SPF's higher than 2.8 to reflect the UK electricity generating efficiency. To determine this, the SPF of an installation will have to be estimated in accordance with EN 14825, as required by RES Directive. We note that the Heat Emitter Guide is based on EN 14825. Deeming delivered heat using estimated SPF's will streamline the OFGEM review and approval process and enable potential customers to understand their RHI income prior to making a buying decision. (Ground Source Heat Pump Association)*

*Mitsubishi Electric support DECC's assumption that most installations should meet an SPF requirement of 2.5 and above, and strongly support the government proposal to require all installations to perform to this level which is [in] line with formula set out the Renewable Directive and implemented across the European Union. (Mitsubishi Electric)*

## Energy Efficiency Requirements

In general most of the 220 respondents to this question agreed that the 'Green Ticks' approach to energy efficiency requirements was appropriate to the RHI, with 65% supporting the proposal and 24% against it. There was general support for this approach from all groups except for installers, where 12 of 31 respondents were in favour and 13 were not.

Many respondents agreed that the installation of cost-effective energy efficiency measures such as cavity and loft insulation was the most sensible approach to reducing energy costs and carbon emissions in the home. It was mentioned by some respondents that many homes will be difficult to make energy efficient, such as older, solid wall or listed buildings (23%) and undergoing a Green Deal Assessment would incur an additional cost or inconvenience and this may affect interest in the scheme (19%).

## Comments from the Consultation

*The MCS installer should be deemed competent to assess that the above required measures are in place and the provision of the EPC should provide sufficient evidence through the RHI application process to confirm this. (Dimplex)*

*ACE supports the 'Green Ticks approach' to an energy efficiency requirement for the RHI. We strongly agree that if there are more cost effective ways to save energy and carbon through energy efficiency measures, these should be implemented first. This is crucial so that the RHI does not distort the market with the result that support is not given to the most cost effective means of meeting carbon targets. (Association for the Conservation of Energy)*

*The requirement for the RHI should be for an up-to-date EPC, and for installation of the lower-cost measures described above. Consumers who wish to take out the Green Deal can do so but the choice should be theirs. We recommend that changes to the Energy Company Obligation (ECO) be made to provide financial support (which need not be 100% subsidy) for these lower cost measures outside Green Deal finance. (Which?)*

*We are fully supportive of the use of energy efficiency measures to lower energy demand and maximise the output from our energy resources. However, adding an extra condition to the eligibility criteria could act as an additional barrier to uptake of the RHI. (Scottish Renewables)*

With regard to the proposal that required consumers to have installed energy efficiency measures and provided proof before becoming eligible for the RHI, reactions amongst the 230 respondents varied, with 37% broadly positive, 24% expressing concerns and 39% neutral or unsure. Most groups reflected the mixed views expressed in the overall response, with just energy suppliers (two out of three) and local authorities / housing associations / social housing (nine out of 16) expressing a particular preference, both being in favour of the proposal.

Of the comments made in this area, the most frequently mentioned issues were that it was 'right to make a building energy efficient before installing renewables' (19%) and that it was 'important to have proof of energy efficiency to protect the scheme' (15%). A further 7% stated that it 'may be a barrier or inhibitor to consumers taking up renewables / participating in the RHI'. Other respondents commented that homes in most need of renewables (such as older, rural properties) are often the most difficult to make energy efficient. Concern was also expressed about the definition of 'proof' in this case.

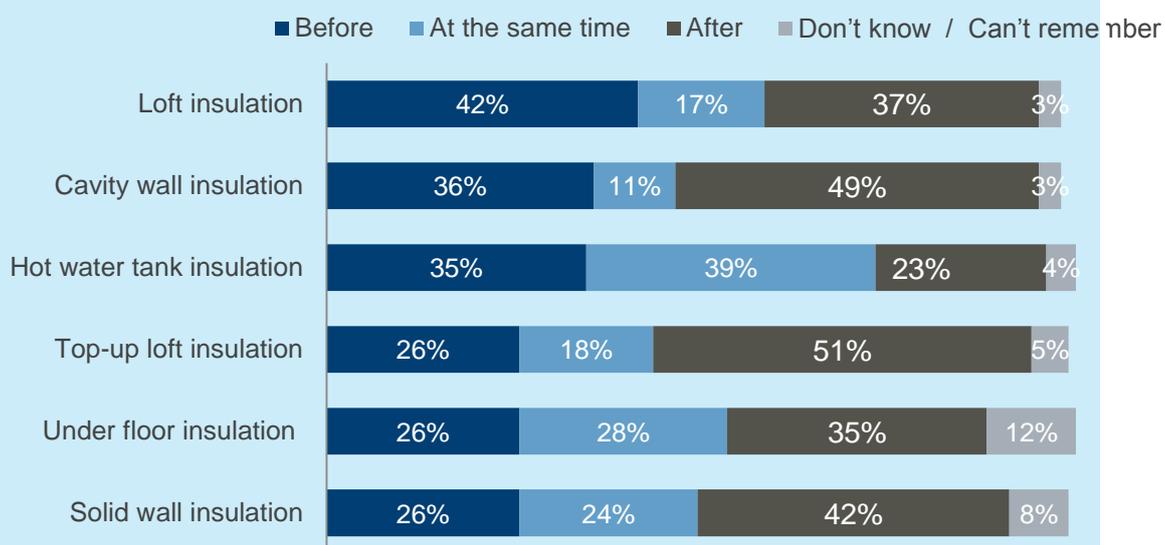
Alternative ways of ensuring that green tick measures are carried out while providing the RHI subsidy at an earlier point included 'energy efficiency measures checked / signed off by MCS installer of renewables' (16%) and having 'a pending tick – customer gets reduction or withdrawal of RHI if evidence not provided within given time period' (13%).

### Market Research Findings (Ipsos MORI report)

Respondents were asked about their willingness to install some energy efficiency measures (such as loft or wall insulation) if it were a condition of receiving finance. They were told that it has been shown that installing energy efficiency measures is likely to help you get the best out of a new heating system.

*The majority of survey respondents (70%) **would be willing** to install energy efficiency measures in these circumstances. One in five (21%) said they would not be willing however, and 10% said they did not know whether they would be willing or not.*

Survey respondents who had replaced their heating system in the past and had installed energy efficiency measures since moving into their property were asked whether they had installed these before, after or at the same time as changing their heating system. The results are set out in the chart below.



**Bases: Loft Insulation – 984, Cavity Wall Insulation – 508, Hot water tank insulation – 603, Top-up loft insulation – 910, Underfloor heating insulation – 118, Soil wall insulation – 104**

When asked about solid wall insulation, two thirds of the 230 respondents thought that solid wall insulation should either be excluded (58%) or given special dispensation (7%) from the energy efficiency requirements for RHI eligibility whilst 23% thought that it should be included. All groups were in favour of the proposals, with the only levels of agreement below 60% coming from private landlords (four out of seven agreed) and consultants / professional bodies (16 out of 28).

The main comments related to this were that installing solid wall insulation would be expensive and a barrier to adoption of the RHI (29%) and that people would not want to install it due to appearance (14%) or disruption (14%).

Insulating solid wall homes is therefore perceived to be too great a challenge in terms of cost, disruption and time required to make it a realistic and feasible requirement of RHI. A number of stakeholders commented on this, as shown below.

### Comments from the Consultation

*EDF Energy supports the exclusion of solid wall insulation at the outset of the implementation of the RHI. This physically intrusive and relatively costly measure would act as a barrier to the installation of renewable heat measures, and would deter the uptake of renewable heat in the early years of the RHI scheme. (EDF Energy)*

*We believe that introducing a requirement for solid wall insulation in a phased manner is very important. We do however acknowledge that at present, a full requirement might disproportionately prevent uptake of the RHI due to cost and consumer knowledge/acceptance of, and hassle associated with, the technology. (Association for the Conservation of Energy)*

*Building Regulations allow as standard the total performance of all building elements to be considered rather than each one achieving a set standard. Therefore the absence of solid wall insulation could be compensated by controlled ventilation and other more cost-effective measures than internal solid wall insulation where external is not possible for Planning or aesthetic reasons. (H2 Solutions)*

*We support the proposals to exempt solid wall insulation from the eligibility criteria for the RHI. Despite the aims of ECO to grow the solid wall industry, uptake is likely to be limited in the short term, and an SWI criteria and may act as a barrier prevent uptake of the RHI. However, we would strongly suggest a future phased introduction is considered. (UK Green Building Council)*

## Government Consideration

### Eligible Technologies

The vast majority of responses to the consultation were in agreement with the proposed process for selecting eligible technologies. A few concerns were raised, with the main ones being about the need to be flexible in allowing other technologies to become eligible in the future and the need to consider the 45kW capacity limit. There were also requests for more detail in order to provide more clarity on the definitions of the proposed eligible technologies.

In relation to allowing other technologies to become eligible in the future, we stated in the consultation document that we were open to this happening, provided they met RHI criteria. We have developed a separate document '*Renewable Heat Incentive – New technologies: process towards eligibility*' which has been published alongside this Government Response. It sets out the factors we would need to consider for a new technology to become eligible under the domestic RHI.

In relation to the 45kW limit, this is based on the capacity limit for MCS certification, which is not controlled by Government. To ensure consumer protection and avoid administrative complexity, we do not want to remove the requirement for MCS certification for larger domestic systems. However, based on comments received from stakeholders as part of the consultation, we are working with MCS to consider raising the limit to a level that can incorporate larger domestic systems. The process of identifying and establishing a new limit could take some time though and may not be in place in time for the launch of the domestic RHI scheme.

**Given the strong stakeholder support shown through the consultation for the proposed eligible technologies, we confirm that those identified will be eligible when the domestic RHI scheme launches.** The technologies are listed below, with additional clarification of their definitions where necessary:

#### Biomass

- Solid biomass-only boilers (meaning systems that can **only** run on solid biomass such as logs, chips or pellets and are not multi-fuel systems that can also run on fossil fuels)
- Biomass pellet-only stoves with back boilers

#### Heat Pumps

- Air to water heat pumps
- Ground and water source heat pumps

Only electrically-driven systems will be eligible at the launch of the domestic RHI scheme.

## Solar Thermal

- Evacuated tube panels
- Flat plate panels

## **Ineligible Technologies**

The consultation document also identified some specific technology types that we proposed would not be eligible at scheme launch. Having considered the comments received on these technologies, we are not convinced that the arguments put forward outweigh the reasons given in the consultation document for not making them eligible for the start of the domestic RHI scheme. Specifically:

- On biofuels, our previously stated position on not diverting them from other key sectors (such as transport) stands. In particular, we do not currently consider partly renewable options to be good value for money for the RHI scheme in its objective of reaching the 2020 renewables target;
- On solar thermodynamic panels, these are currently considered as a technology unique from standalone heat pumps or solar thermal panels. More analysis of the technology is required to understand their attributes and potential contribution to the 2020 renewables target;
- Condensing biomass boilers are currently being assessed by Government to ascertain the precise extent of the risk from any pollutants in their condensate. Given the length of time this work will take, at present we are maintaining the position that they will not be eligible at scheme launch. We will make a public announcement should this position change; and
- Our analysis of the eligibility of heat pumps has been based on electrically driven systems. Other systems have not previously been considered, in particular because, until March 2013, the European Commission had not provided any guidance on how to calculate the Seasonal Performance Factor (SPF) of heat pumps other than for electrically driven systems. This was vital in order to assess their contribution to the UK's 2020 renewables target. Further work is needed to assess the potential of non-electrically driven systems. Although this will not change our position on their eligibility for scheme launch, we will review the position in the future.

Consultation responses also included mentions of tidal energy, wind turbines and hydrogen (as a means of energy storage). These are all means of generating electricity rather than heat and have therefore not been considered further.

Finally, we wish to make two points clear regarding the technologies that we have identified as not being eligible for the launch of the domestic RHI scheme:

- We will continue to monitor the situation and may review our position in the future. Such reviews would be in line with our approach to new technologies as referred to above; and
- Our decision to make these technologies ineligible for scheme launch does not necessarily mean that they are not in themselves renewable or low carbon options that consumers can consider when making decisions in relation to heating. Eligibility for the domestic RHI scheme has to be based on certain factors beyond just the status of being a renewable technology. Therefore, the attaining or lack of RHI eligibility should not be seen as a mark of whether or not a technology is renewable or a low carbon option.

### **Approved Suppliers for Biomass Fuel**

**There was strong support overall for the proposal to establish and use an approved supplier list. We will therefore implement this proposal.** We are aware of the desire to ensure the minimisation of any administrative burden so that self- or local suppliers in particular are not subject to disproportionate bureaucracy and costs when registering to be on such a list. We will strive to ensure that this is the case as we establish such a list.

Concerns were raised about the proposed boiler efficiency assumption of 70% for the calculation regarding greenhouse gas lifecycle savings. The 70% level is the MCS minimum requirement which we believe it is appropriate to use since certification by MCS (which is currently the only approved certification scheme for the RHI) is a requirement for technologies to be eligible. The non-domestic scheme also uses the 70% assumption. Setting a separate assumption could introduce unnecessary complexity and therefore burden and cost into the registration process. **We will therefore implement the proposed approach on boiler efficiency.**

We intend that an approved supplier list will be in place ahead of the launch of the domestic RHI scheme in spring 2014 and that RHI recipients will need to source their fuel from a supplier registered on such a list. **Regarding obligations for suppliers on the list, a slightly revised approach will be introduced, detailed as follows.**

From April 2014 we intend that (taking into account the aim of reducing the administrative burdens on self- or local suppliers as much as possible), suppliers will need to:

- Demonstrate to the list administrator that the fuel they supply complies with the greenhouse gas (GHG) lifecycle emissions target of achieving 60% GHG

savings against the EU fossil fuel heat average, assuming a boiler efficiency of 70%; and

- In line with the Renewables Obligation timetable, report their performance against the relevant land criteria from the following list (although **compliance** with them will not initially be required):
  - For wood-fuel: the UK public procurement policy on wood and wood products or its equivalent.
  - For perennial energy crops planted under the Energy Crops Scheme for England or its equivalent: the sustainability requirements set by that scheme or its equivalent. This scheme may be coming to a close, so we may need to revisit this area to ensure there is no gap in sustainability requirements. In doing so, we will seek to take an approach that is consistent with the non-domestic RHI scheme.
  - For other types of solid biomass: the sustainability criteria set under the Renewable Energy Directive

The intention will be to continue to follow the Renewable Obligation timetable by making compliance with the land criteria mandatory from April 2015, subject to EU and international legislation.

The fuel sustainability requirements will apply to new and legacy applicants.

Further details will be published as we move towards the establishment of an approved supplier list.

## **Air Quality**

**Only a small proportion of respondents did not support the proposed air quality approach. Therefore, we will take it forward as part of the finalised scheme design.**

The air quality provisions may be assessed as part of the planned formal reviews of the domestic scheme (the first review being in 2015). As part of that assessment, we would take into account any new information or developments in this area, including any other air quality testing methodologies which should be applied.

These air quality standards will only apply to new applicants and not legacy applicants (those who have installed eligible systems since 15 July 2009 and before launch of the scheme).

## Performance Standards for Heat Pumps

**There was strong support overall for the proposal to limit eligibility of heat pump systems in the RHI to those that have an SPF of at least 2.5. We will therefore implement this proposal.** We will estimate the SPF of heat pumps in the RHI using their design space heating SPF only. We are working with MCS to develop the way to do this for new installations (see section on Tariff Design for further details). It will be based on the MCS document 'Heat Emitter Guide for Domestic Heat Pumps' which was suggested by consultation respondents and takes into account the heat loss of the property and radiator sizing, which were recognised by respondents as important factors in the overall efficiency of the system.

We recognise that it is possible that some heat pump systems may not reach an SPF of 2.5 or more when heating domestic hot water (DHW) as opposed to space heating, especially ASHPs, which are generally less efficient than GSHPs – but we want DHW to be heated by heat pumps where the heat pump is also providing the space heating, because otherwise it is likely that the DHW will be heated using electricity via an immersion heater. A heat pump with an SPF greater than 1.0 saves carbon emissions and reduces running costs compared to immersion heating. We want to avoid a situation where heating hot water with a heat pump is effectively penalised, as this would otherwise incentivise people to use electricity to heat DHW.

It should also be noted that the Heat Emitter Guide SPF calculations for ground-source heat pumps – and by inference air-source heat pumps – include a nominal amount of electricity for the primary central heating circuit circulation pump(s) and are therefore calculated to a wider system boundary than required in the latest European Commission guidance. This should make the Heat Emitter Guide conservative compared to the rules governing when heat may be counted towards our renewable energy targets under the RED. See the section on 'Raising Performance' for further details on system boundaries.

More widely, we strongly support the use of solar thermal for heating domestic hot water, and note that the performance of heat pumps (and biomass) is usually enhanced when accompanied by a good quality solar thermal heating installation.

## Energy Efficiency Requirements

Responses indicated general agreement that a 'fabric first' approach was appropriate, since the energy efficiency of a property is an important factor in the running of the heating system. However, concerns were raised about the particular approach set out in the consultation document. They included issues of excessive cost, time and hassle involved in installing all recommended green tick measures showing on a Green Deal Assessment Report (GDAR). It was also felt that the installation of potentially numerous measures would involve an excessive amount of 'players' in the RHI process, since there could be multiple installers involved.

Furthermore, there were concerns that many properties would not be able to install all the measures recommended on a GDAR in cases where, for example, the property was a listed building. Whilst we accepted in our consultation document that this might occur and stated that it would not necessarily prevent receipt of RHI support, we did propose that applicants would need to provide valid evidence outlining reasons for non-installation when they submitted their RHI application.

**Having considered the matter further in light of the comments received, we have concluded that a slightly revised approach to energy efficiency is necessary.**

We will retain the link with the Green Deal as part of our criteria since we remain convinced that it is important for a number of reasons. The Government is committed to improving the energy efficiency of the country's housing stock.

A GDA provides a good opportunity for a consumer to assess the energy efficiency of their property, understand what further action they can take on it and, if they so wish, install additional insulation measures beyond what the domestic RHI requires (either using Green Deal finance or their own finances).

Green Deal Assessments provide tailored advice in that the Occupancy Assessment aspect of the GDAR takes into account the occupant's actual use of the property when making recommendations about which energy efficiency measures are cost-effective (including those that we will require – see below). This goes a step further than a standard Energy Performance Certificate, which only makes assumptions about the use of the house.

In addition, the EPC from the Green Deal Assessments will be used for deeming space heating systems on the scheme. Green Deal Assessments are performed using a standardised methodology by trained assessors. Utilising them will therefore ensure that our deeming calculation for RHI payments is based on a fixed approach to assessing a property's heat use.

Finally, the Green Deal offers a route through which, in some situations, consumers could get an amount of finance to help towards funding the installation of a renewable heating system through a Green Deal Plan. Where appropriate, it also ensures consumers may be able to access any additional subsidy that they might be eligible for (eg Energy Company Obligation).

However, whilst we will retain our requirement for a Green Deal Assessment, we believe that a slight revision to the minimum energy efficiency requirements is needed to remove potentially significant barriers to uptake of the RHI which could impact on our ability to contribute to the UK's 2020 renewables target. Details of the revised approach are set out below.

Before applying for RHI support, all applicants, including legacy applicants, will need to ensure that:

- a) a Green Deal Assessment (GDA) has been carried out to find out which energy efficiency measures are cost-effective for the property;

- b) loft insulation (to 250mm) and cavity wall insulation have been installed where these measures are recommended by the GDA; and
- c) the applicant is able to provide proof of installation through either the Energy Performance Certificate (EPC) completed as part of the GDA, or where the GDA shows the required loft and cavity wall insulation is yet to be installed, an updated EPC is obtained following installation (or in exceptional circumstances, valid evidence is provided to Ofgem proving why installation was not possible)

The only exception is for self-builders, whose properties will already be energy efficient since they are built to current building regulation standards, so these applicants do not need to complete a GDA. An EPC is nevertheless required by law upon completion of a self-build property. Its details will have to be provided when applying for the RHI.

We believe that this approach is appropriate since it addresses the concerns of stakeholders regarding excessive cost, time and hassle. Loft and cavity wall insulation are generally considered to be fairly cheap and straightforward to put in and installers of one tend to also install the other, meaning the number of players involved in the process is reduced.

The approach is also similar to those of the Renewable Heat Premium Payment scheme and the Green Deal Cash back Scheme and should therefore be more widely understood and accepted by consumers. Furthermore, requiring only loft and cavity wall insulation means the number of cases in which RHI applicants are not able to install the required measures should be significantly reduced. This will have a positive impact from a scheme administration perspective, since less time will be spent by Ofgem and applicants discussing individual circumstances, thereby improving the efficiency and cost of running the domestic scheme.

We will assess our energy efficiency approach in the 2015 scheme review and will consider whether we should move to a more ambitious energy efficiency requirement; for example, requiring installation of all Green Deal green tick measures.

## Tariff Design (21-44)

### What we proposed

#### Proposed Approach

We proposed the introduction of a bespoke tariff scheme for the domestic renewable heating sector that would pay domestic consumers on a quarterly basis over a number of years for generating renewable heat. The tariffs, which would be available to all consumers who meet the eligibility criteria, would be designed to compensate the consumer for the financial costs of:

- The 'additional' capital cost of the renewable heat installation – that is the difference between the cost of the renewable heating system and the replacement fossil fuel system that the consumer would otherwise have to install; and
- The difference in operating costs of renewable heat generation taking into account the assumed lifetime of the technology

The tariffs would also aim to help the consumer overcome some additional non-financial barriers associated with switching to renewable heat. These barriers could include the cost of additional building work in the house and/or garden, lost space within the property (due to the fitting of a hot water tank, needing space for solid fuel or fitting larger radiators, for example). It might also include compensation for some of the perceived risks associated with the installation of renewable heat and the receipt of a government subsidy over a number of years.

The proposed approach to tariff setting also aimed to provide compensation for the costs of financing the additional upfront installation costs, assumed at 7.5%. The indicative tariffs were based on paying tariffs over seven years for heat generated over 20 years. However, other options were put forward for consideration for the shape and length of the subsidy payment.

#### Indicative Tariff Levels

The calculation of the tariff levels included within the consultation document was based on a number of underpinning assumptions which we acknowledged were subject to change. We have undergone a period of refining, updating and verifying our evidence, which included the publication of the Sweett Group<sup>7</sup> report in June

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<sup>7</sup>[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/204275/Research\\_on\\_the\\_costs\\_and\\_performance\\_of\\_heating\\_and\\_cooling\\_technologies\\_Sweett\\_Group.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/204275/Research_on_the_costs_and_performance_of_heating_and_cooling_technologies_Sweett_Group.pdf)

2013. We acknowledged in the consultation that the final tariff rates would almost certainly be different to those set out in the proposals.

The ranges set out in the table below, as included in the consultation, were therefore intended to indicate the potential variation in final tariffs resulting from this update in evidence rather than to fix upper and lower bounds. For solar thermal, the existing evidence base suggested that the costs were such that the whole range of possible tariff levels would be above the value for money cap (17.3p, the marginal cost of renewables). Similarly, the upper end of the tariff range for GSHP was capped at 17.3p.

The addendum to the consultation that we published in November 2012 clarified that this cap did not take into account the fact that not all of the heat generated by heat pumps counts as renewable under Annex VII in the Renewable Energy Directive. We noted that recalculating the tariff cap to account for the fact that not all of the heat from heat pumps is renewable would result in a lower cap, and suggested that an alternative approach would be to pay only for renewable heat generated (i.e. net of any electrical input required to generate the heat) rather than all heat (as proposed in the consultation document). This would mean RHI payments would be higher for installations with a higher Seasonal Performance Factor (SPF).

	ASHP	Biomass	GSHP	Solar Thermal
Tariff (p/kWh)	6.9 – 11.5	5.2 – 8.7	12.5 – 17.3	17.3

We understood that without sufficient deployment levels in any particular technology, cost efficiencies and other economies of scale that reduce the long term costs were less likely to occur, with public awareness and acceptance of the technology less likely to be realised. Therefore, although tariffs above 17.3p may not be cost effective in terms of meeting the 2020 renewables target alone, going beyond the cap with the longer term aim of degressing the tariff may be justified in terms of achieving our broader objectives from the policy.

We therefore invited views on the capping of tariffs as well as inviting evidence and opinions on the range of tariffs set out in the consultation.

## **New Build**

We recognised that renewable heat should ideally be incorporated into newly built homes, since it costs more to retrofit a house with a renewable heating system, than to install it during the construction process. We therefore considered whether we should offer support to the new build sector through the domestic RHI.

In considering the case for supporting this sector, we suggested we would need further evidence, since the associated costs of inconvenience and disruption would not apply in new build and, similarly, the installation costs would be significantly reduced. We therefore asked for evidence on any additional costs and / or savings that we should take into account when developing a tariff for new-build dwellings.

We were aware that there are alternatives to incentivising the installation of renewable heat in this sector, e.g. Part L of the Building Regulations (England). This sets carbon emission targets and allows the house-builder to choose the most cost-effective and practical way of meeting carbon requirements. At present, in off-gas grid areas, house-builders tend to install renewable electricity technologies that can be subsidised through the Feed-In-Tariffs rather than renewable heat technologies. Citing the Government's proposals to strengthen the Building Regulations as part of the trajectory towards zero-carbon homes in 2016, we therefore asked respondents whether there were alternative ways to incentivise the uptake of renewable heating in the sector.

## **Social Landlords**

We recognised that Registered Social Landlords could potentially play an important role in the development of the renewable heat market, but without sufficient evidence to support a bespoke tariff, we felt that they would not be eligible for the scheme. We therefore asked whether this was the right approach to take.

Unlike individual home owners, we suggested that Registered Social Landlords often have large property portfolios, which means that they are able to access cheaper finance and negotiate cheaper purchase costs for equipment. We sought views as to whether these assumptions were correct and if evidence was available to support this. Finally, if we were to offer a tariff to social landlords, we asked whether it should be at a lower subsidy level and over a longer period of time.

## **Metering vs Deeming**

The proposals outlined in the consultation set out a tariff payment based on the amount of heat used by the consumer. We acknowledged that we did not think it appropriate or economic to meter every single domestic installation, therefore proposed on the most part to pay the domestic RHI on the basis of 'deemed' heat with metering being required for:

- Situations where the consumer has chosen to keep and continue to use a fossil fuel system as well as their renewable heating system;
- A statistically significant number of installations for evaluation, MCS surveillance and learning purposes; and
- Any additional metering that could result from the implementation of the options included in the 'Raising Performance' section.

We also set out that the installer, as a trained heating engineer and the closest connection to the consumer, should be responsible for the deemed figure used for calculating payments. We invited views as to the most appropriate calculation to use for this process.

## **Bivalency**

Bivalency refers to the running of two or more heating systems alongside each other. We accepted that there were some situations where bivalent systems may be necessary and proposed the following approach for each type of heating system:

- Solar thermal installations – allow bivalent systems as this technology is unable to meet the entire heating needs of a household;
- Air source heat pump installations – allow bivalent systems, with the requirement that the consumer pays for a meter to be installed and RHI payments will be made on the basis of metered heat.
- Biomass boilers – to not allow bivalent systems except for electric immersion heaters for hot water and solar thermal, due to the risks involved around the consumer switching back after 7 years;
- To allow bivalent systems for legacy applicants if they have been installed, with the heat load to be calculated based on metered readings;
- Individual LPG, gas and electric room heaters would be allowed except for the unlikely combination of biomass plus mains gas room heater. Such heaters would not be taken into account in ensuring that the renewable system covers 100% of the heat load.
- Where pre-existing fossil fuel Rayburn range cookers are in place, we propose that these need not be removed but that the range cooker should be disconnected from the heating pipes and boiler, allowing the householder to continue to use the cooking facilities. These systems would not be taken into account in ensuring that the renewable system covers 100% of the heat load.

- Where pre-existing Aga range cookers are in place, for safety reasons we propose that these could remain connected to the boiler but they should be disconnected from the radiators.

## **Finance**

The consultation recognised that a tariff scheme would still require the upfront costs of the heating system to be funded by the applicant, with the expectation that a range of options would be used to cover these costs such as savings, extensions of mortgages and bank loans.

Given that the RHI would provide consumers with a regular income stream over 7 years, it was expected that the market would respond by creating specific funding packages around the RHI such as loans or other finance schemes to help consumers with the initial capital outlay for their renewable heating systems. This was something Government would monitor as part of its market intelligence and review process.

The consultation also highlighted the potential of Green Deal finance to fund renewable heat measures. While the high costs associated with renewable heat measures mean they are unlikely to be fully fundable through the Green Deal, there might be some cases where renewable measures could be part-financed under the Green Deal, up to the limit permitted by the 'golden rule' intrinsic to the scheme.

We therefore asked for views on whether financing offers were likely to come forward from the market to provide support for renewable heat in conjunction with the RHI and, if not, whether there was anything DECC could do to support this. We also asked for views on the extent to which the ability for some consumers to fund renewable heat installations through the Green Deal could improve deployment of renewable heat.

## **What respondents said**

### **Proposed Approach**

Two thirds (67%) of 248 respondents agreed that a seven year period for RHI tariff payments was suitable and appropriate, with 23% offering alternative arrangements including around 20 years (6%) and around 10 years (6%). Those who suggested a longer time period than seven years cited a number of reasons for this, including the risk of consumers switching back to fossil fuels once the tariffs have finished.

## Market Research Findings (Ipsos MORI report)

Respondents were presented with different tariff options, in a scenario where they were considering replacing their heating system in a non-emergency.

*Provision of a seven year 'RHI 2012 consultation level' tariff for ground and air source heat pumps and biomass boilers, resulted in an increase of +1.9% (from 1.5.% to 3.4%) choosing these technologies, compared to a base scenario.*

*Results showed that the period of time over which the tariff was paid did not substantially alter the level of interest in these three renewable technologies. All tariff lengths tested (3 to 20 years) increased the appeal of ground and air source heat pumps and biomass boilers, although a slightly increased share of respondents opted for ground and air source heat pumps when the tariff was offered over 20 years.*

**Base: All homeowners shown options in choice experiment (2,828)**

*The appeal of solar thermal was tested separately to main heating systems. Any set-up of tariff payment increased the proportion of respondents likely to install solar thermal alongside their current system, in particular if they were offered a higher annual payment for a short period i.e. over three, five or seven years as opposed to over 12 or 20 years.*

**Base: All respondents who own the roof on their property (2,521)**

## Comments from the Consultation

*Whilst there are issues surrounding 'switch back' to non-renewable or sustainable fuels after the initial 7 years, we believe that front loading the payments will make it a more attractive scheme for consumers to take up. And whilst the tariff scheme should aim for the majority of technologies to fit in within the 7 years, we can see a place for technologies such as biomass to have a lower 7 year tariff, coupled with longer lasting support to cover higher fuel costs as outlined in the policy options. (Consumer Focus)*

*[The new proposals for paying the RHI over a 7 year period for domestic schemes rather than the 20 year period originally proposed] would be very welcome news as the upfront capital cost – plus the cost associated with financing the installation – is a serious impediment to households such ours who have looked at making the swap but after taking into account borrowing the money to fit a system find it hard to justify. (Householder)*

*For those people in their 60's and 70's 20 years is too long. The scheme is more attractive to this age group with a 7 year payment period. For younger people, free heating for 20 years may be more attractive. Perhaps a choice should be given. (Householder)*

There were less than 100 respondents who commented on the potential lifetimes of renewable heating technologies, with this information mainly coming from manufacturers, suppliers, installers and trade associations. Of those commenting on this question, 15% claimed that it was difficult to give estimates as the current technologies have not been in place for long enough and there is therefore no hard evidence in place yet.

Among those who did respond, the following comments were made:

- A good quality biomass boiler will last 20 years (23%);
- All technologies will last 20+ years (22%); and
- Technologies will last 20+ years if installed and maintained properly (5%).

### **Comments from the Consultation**

*A 20 year lifetime is achievable as demonstrated in commercial applications, but as with all heating systems, actual lifetime will depend strongly on the quality of the system design, installation and maintenance regime. (Heating and Hot water Industry Council)*

*Domestic heat pumps are a growing market in the UK and therefore evidence from other countries is more useful. We have heard evidence from a member of heat pumps lasting as long as 30 years. Member feedback suggests a 20 year lifetime is achievable but this will depend on the quality of the system and maintenance regime. (BEAMA)*

*HETAS has no history of installed biomass boilers from 20 years ago. We feel that good quality biomass boilers should last 20 years if properly serviced and maintained. (HETAS)*

*The basic lifetime of a quality biomass boiler is likely to be 15-20 years for the water jacket heat exchanger but this will be dependent on good installation. However this is comparable with lifetimes being experienced for*

oil boilers today. (H2 Solutions)

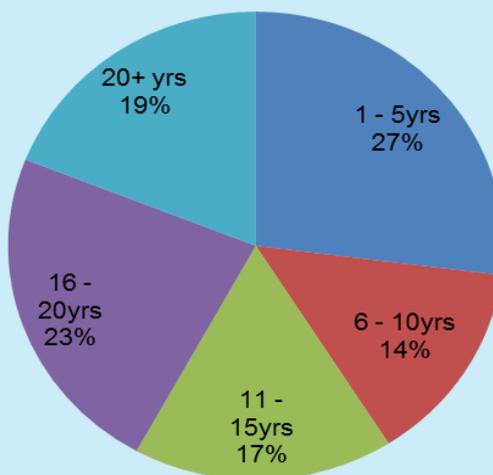
*Evidence from STA members supports an expected lifetime for solar thermal of between 20 and 35 years. Hot water cylinders can need replacement on a ten year cycle in hard water areas, but this would be needed without the solar equipment. . EN12975-1 tests that panels are made of materials to provide a minimum 20 year life. Other than the pump (which is cheap to replace) there are no moving parts of a ST system to fail. (Solar Trade Association)*

### Market Research Findings (Ipsos MORI report)

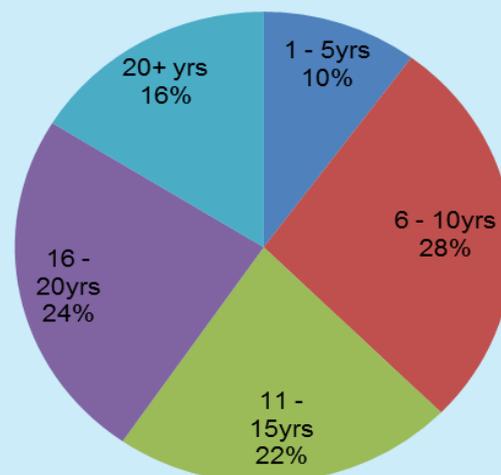
*System breakdown was the most common reason that respondents gave for replacing their heating system in the past (30% gave this as the main reason). 'Non-emergency' situations where the heating system was still working but coming towards the end of its life were also commonly cited. The most common reason other than actual or anticipate breakdown was as part of a wider property renovation (13% gave this as a main reason).*

*When asked about the future, most (70%) stated they would only consider a pre-emptive system replacement if their heating system started to need considerable repair/s. Over half (58%) of respondents expected to replace a heating system at least every fifteen years, with 23% expecting to replace their heating every 16-20 years and 19% anticipating waiting more than 20 years.*

**Expected Frequency of Replacing Heating System**



**Expected Lifetime of Heating System**



**Base: All respondents who do not currently heat their home using an air or ground source heat pump, biomass boiler or heat network (2,848)**

Respondents did not believe that there was a significant risk of switching back from renewable heating to fossil fuel systems. Only 3% of 208 respondents thought this was likely for solar thermal and 5% for heat pumps, although 26% thought that switching back from biomass was *more likely* than with the other technologies. This was due to possible cost and availability of biomass fuel as well as the cost and effort of running and maintaining the system. However, it was felt that this risk can be mitigated through regular servicing and maintenance.

There was little support for an alternative structure to the biomass tariff, spreading the tariff over 20 years instead of seven to mitigate the risk of switching back. Out of 139 respondents 17% supported the first option proposed (splitting out part of the tariff for on-going costs and spreading that over 20 years) and even fewer (13%) supported the next option of a secondary tariff if biomass fuel costs were to rise.

Respondents identified some other risks of paying a tariff over a period of seven years while assuming heat delivered for 20 years. Of the 139 comments received in this area, risks mentioned included a change in home ownership or use (9%) and the equipment not lasting 20 years (9%), with potential mitigation measures including extending the payment period to between 10 – 20 years (14%) consumers being allowed to switch if better technologies were developed (12%) or imposing spot checks and penalties (9%). These suggestions came with a note of caution from respondents, in that the scheme should not become too complex or confusing for consumers, particularly as the issue of switching back is expected to be unlikely in most cases, as already indicated.

### Comments from the Consultation

*Customer satisfaction and cost of switching will determine how long a piece of heating equipment is kept. In the case of renewables, high quality design, appliances and installation is key. (HETAS)*

*Switch back risk is an issue that has been discussed at length within industry forums. CPL supports the conclusions of many in the biomass sector that this should not be a major concern. [evidence was supplied to support this position] (CPL Industries)*

### Indicative Tariff Level

Of the 175 responses to this question a third (33%) thought that the proposed tariffs were at the right levels, with the majority (58%) in favour of higher tariffs, and just 9% thought the tariffs were poor or unfair. Common comments included that the costs assumed did not reflect real life costs (12%), they were too low / lower than expected (11%), they should be consistent with the non-domestic RHI scheme (10%) and that more work was needed on the tariff levels (10%).

Manufacturers / suppliers (16 out of 23), installers (15 out of 26), trade associations (five out of six) and consumer bodies (seven out of eight) were particularly likely to express concern about the indicative tariff ranges.

Many respondents, particularly trade associations, communicated with DECC directly on the cost of installing renewable technologies and recommended tariff levels, either through direct consultation or by contributing to analysis conducted by the Sweett Group. A number of supporting documents relating to costs and tariff levels were also provided through the consultation process by other industry organisations.

Some of the evidence provided, particularly from householders, was difficult to use as the assumptions behind costs were unclear. This included a lack of clarity on the size or technical specification of the heating system used and uncertainty as to whether labour and other costs had been included. Some of the more robust evidence that has been provided is summarised in the following table, although for the reasons outlined above this data should be treated with caution.

Respondent	Estimated Cost of Installation			
	ASHP	Biomass	GSHP	Solar Thermal
Energy Savings Trust	£6k-£10k	£11.5K	£9k-£17k	£4,800
Dimplex	£8.7k-£10.2k for 6kW system, depending on performance			
H2		£16.5k-£19.5k for 15kW system £18.75k-£22.4k for 25kW system £24.4k-£29k for 45kW system (all plus fuel costs)		
HETAS		£6k-£8k for 12-15kW system £12k-£20k for		

Respondent	Estimated Cost of Installation			
	ASHP	Biomass	GSHP	Solar Thermal
		25kW system		
Renewable Living		£7k-£12k for 15kW installation depending on model & location		£2k-£3k minimum for 2 panel system
Perthshire Biofuels		£9k - £20k		

In general, the indicative tariff levels (and the assumed costs used to derive the tariffs) set out in the consultation were thought to be too low.

DECC commissioned Sweett Group to look at cost, performance and use data<sup>8</sup> for renewable technologies across the domestic and non-domestic sector. The Sweett report provides a detailed breakdown of the evidence collected which has been used to set tariffs for the domestic scheme.

## New Build

Over two thirds of the 230 respondents (69%) supported a bespoke tariff for new build in the domestic RHI, while 27% did not support it. Support was strong in all groups (at least two thirds of respondents in favour) except for installers, where 16 of 30 were in favour, and energy suppliers, where all three rejected the proposal.

There were a range of comments on this matter, including contrasting suggestions for a lower tariff to reflect the lower cost of installing in a new build (20%) and for it to be the same as retrofit installations (13%). Many thought that installing renewable heating systems should be covered by Building Regulations (15%) or that Building Regulations should enforce the use of renewables (10%). Further to this, 15% mentioned that new homes are energy efficient and therefore need less heat anyway.

<sup>8</sup>

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/204275/Research\\_on\\_the\\_costs\\_and\\_performance\\_of\\_heating\\_and\\_cooling\\_technologies\\_\\_Sweett\\_Group\\_.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/204275/Research_on_the_costs_and_performance_of_heating_and_cooling_technologies__Sweett_Group_.pdf)

### Comments from the Consultation

*I think RHI for new build is appropriate, and would deliver additional benefits towards the goal of CO2 reduction. There are probably additional opportunities in new build for mandating increased energy efficiency measures. Homeowner*

*We consider that the domestic RHI should be made available for self build new build properties, as this is an important early adopter market which is very often off-gas grid. The housebuilder market is less relevant, and should be driven by building regulations. (British Gas)*

*We do not support a tariff for new build. This is because we believe the appropriate fora for driving improvements in new build are the Building Regulations... This would also make sure the RHI remained consistent with other government policy like the current RHPPs scheme. However, we do support the introduction of the RHI tariff for new build in the case of self-build properties. (MicroPower Council)*

*Yes, unless the building regulations are upgraded to make installation of renewable heating mandatory. It is easier to fit these technologies ab initio than retrofit them. Genersys*

When asked if any evidence was available showing the percentage cost reductions associated with installing a renewable heating system into a new building, compared with retrofitting, only a small number of the 157 answering the question offered evidence or opinions. Ten respondents stated that it would cost less as renewables could be built into design at an early stage.

Consumer Focus noted that all of the main non-cost barriers for consumers, such as associated insulation works, installation of under floor heating and installation of a GSHP loop or borehole, are considerably easier to deal with at the point of building construction.

### Comments from the Consultation

*Based on feedback from member companies that specialise in working with new-build clients, the STA estimates that the cost of installing in new build to be between 10% and 35% lower than retrofit Given our estimated range of cost reductions, it seems that the eventual owner of the solar thermal system will not be paying less than a retrofit cost once the developer adds a*

*reasonable margin.* (Solar Trade Association)

*No, everyone is different. Some are straightforward, others complex. A new build will be easier (cheaper) if done at the design stage. Often architects don't find out what is required early enough, eg fuel storage capacity and accessibility on biomass. Boiler rooms are not big enough.* Forest Heat Energy

A total of 75 respondents suggested alternative ways of incentivising the uptake of renewable heating in the new build sector. Two thirds of these respondents suggested that building regulations should ensure and / or enforce the use of renewables in new builds, with 12 respondents suggesting that the benefits of renewables should be promoted to builders and developers separately to the RHI.

## **Social Landlords**

The majority of the 163 respondents (80%) supported the introduction of a domestic RHI for social landlords, with only 12% disagreeing. Looking at these findings by grouping, the 23 respondents that were local authorities, housing associations or social housing providers were totally in favour, as were the four private landlords and two energy suppliers, and there was strong support for the among all other sectors.

Responses recognised the importance and size of the social housing market (estimated at 5m homes) and the need to offer appropriate incentives to stimulate this sector. Social housing is generally felt to be vital to not only the success of the domestic RHI, but also to the achievement of the Government's EU carbon reduction targets. The need for their inclusion is demonstrated by uptake under the RHPP scheme, where a significant number of systems were installed in social housing.

When asked about the most appropriate timeframe for tariff payments to social landlords, the most popular option amongst the 134 responses was to adopt the same seven year period as the standard scheme (46%). There was also support for payment over 20 years (29%) and a range of other solutions (18%).

There was stronger support for the seven year payment period from manufacturers, installers and trade bodies, otherwise respondents tended to be split between the seven and 20 year periods.

When asked for evidence relating to potential cost savings for social landlords when compared with standard domestic installations, only 20 respondents offered comments. Although there was a view that the purchasing power of social landlords may reduce the cost of installing renewables, it was also suggested that savings are counter-balanced by additional costs to the landlord in terms of

management, tenant education and support. In addition, the installation of renewables represents a large capital cost, even with possible savings from bulk purchases.

### Comments from the Consultation

*Social landlords can and should play a vital role in the roll out and eventual mainstreaming of renewable heat technologies. The key objective in the first instance should be to increase the uptake and public acceptance of renewable heating in the early days and social landlords have an important part to play in achieving this objective. Several of our members have been piloting the installation of renewable heating systems<sup>1</sup> and several have been successful under the RHPP social landlords' competition, although it has to some extent become clear that there has been mixed feedback on schemes, some that is positive and some that is negative. Significant costs have resulted in the need to engage with tenants following renewable heat installations. What is evident from projects is that householder education is an important factor to improve both the acceptance and operation of renewable heating systems. (Community Housing Cymru Group)*

*We strongly believe that housing associations and co-operatives should receive a domestic RHI tariff. The social housing sector has been key in developing the renewable heat industry and supply chain, and has the potential to provide the consistent demand for products and services to help achieve DECC's aim of mainstreaming renewable heat technologies. These tariffs should be no lower than those proposed for the current scheme. Housing associations and co-operatives face significantly higher costs if they are to install renewables rather than traditional heating systems. (Scottish Federation of Housing Associations)*

*We believe social landlords should be included in the domestic RHI scheme (currently not included in the proposals) and recommend a dedicated domestic RHI tariff for social landlords, including housing associations equivalent in value to that for individual households. Social landlords have the expertise to drive the step change the Government wants in renewable heating but need the right incentives to offset the additional costs to achieve the necessary scale. Without an appropriate domestic RHI tariff for social landlords, it is unlikely that there will be any step change in the adoption of renewable heating.*

*While the consultation suggests that social landlords can achieve economies through their purchasing power, there is not a clear case for a reduced tariff for social landlords at present because most of their projects have been small scale. Such schemes do not realise savings through*

*economies of scale, particularly where installations can be more dispersed. Even with incentives we anticipate it will take time for social landlords to develop larger schemes where economies of scale might be realised and so should receive the full tariff initially because they would not be over compensated. It could, however, be a different design, such as a combination of upfront payment and lower 7-year tariff. (National Housing Federation)*

In total 55 respondents suggested alternative ways of incentivising the installation of renewables in social housing. The most common suggestions were as follows:

- Capital grants / upfront payments (15 responses);
- Incentives for multiple installations, in both social and private housing (14 responses);
- Find ways of lowering energy use / waste before introducing schemes (11 responses);
- Advertising and promotion of renewables / RHI (10 responses).

### **Comments from the Consultation**

*Providing housing associations and co-operatives access to the domestic RHI at the same level as that proposed for individual home owners would be the most sensible and easy to administer approach... Housing associations have the maintenance programmes, the staff resources and the skills to provide the demand for components and services that will see the renewable heat industry grow, reduce costs and mainstream the technologies. This will not be achieved, however, without the input of the RHI to support the roll out of the technology. (Scottish Federation of Housing Associations)*

### **Metering versus Deeming**

Deeming was thought to be the most appropriate basis for the calculation for RHI payments amongst the 237 respondents to this question, with 70% of respondents agreeing with this proposal compared to 15% who preferred metering. This preference was reflected in all groups, although eight out of 31 consultants / professional organisations and seven out of 34 installers preferred metering.

Among those respondents favouring deeming, the main reason given was that deeming is a simpler, better approach (25%), whilst metering was thought to be an expensive option (9%).

## Comments from the Consultation

*We recognise the costs and challenges associated with metering heat from every household with the RHI. We therefore consider deeming an appropriate approach to calculating heat use in most homes (with a percentage metered for evaluation), providing it is tailored to the property. As a safeguard, we support the proposal of making installations 'meter ready', so that metering technology can be fitted if appropriate at a later date (Which?)*

*We support the use of deeming while heat metering remains relatively expensive, and as a way to encourage efficient generation and use of heat. However, we agree that there should be a metering programme to monitor the actual running costs and heat output of systems, in order to check on the accuracy of the deeming process. This should be done across different property types. Over time we would expect heat metering to become affordable, and to be installed as standard with deemed levels used as a check for fraudulent claims. (Consumer Focus)*

*Deeming heat loads is less administratively burdensome, and a number of methodologies already exist, e.g. SAP 2009, RdSAP, and some MCS standards... Deeming also offers a degree of budget control over the RHI through being a more predictable method of determining the tariff level to be paid to the consumer. (MicroPower Council)*

*We agree with your proposal of using deeming, rather than metering, as the basis for the RHI payment calculation. However, there needs to be a very clear, accurate and standard approach. There will be an incentive for an installer to overestimate deemed heat, and there is a risk of a customer shopping around for the installer who gives him the largest deemed number. We agree with the criteria outlined in the consultation document, but urge that it must be simple for a householder to understand and to evidence to Ofgem. (British Gas)*

*We agree that deeming is most appropriate; although metering would provide a far more accurate picture of heat generation and use within the domestic market, it is unfortunately cost prohibitive.*

*The method of deeming is critical:*

- It is apparent that in retro-fit situations, a green deal check will already be carried out, hence an up to date EPC should indicate the average heat load of the building. The GSHP (or other) system, would then be sized accordingly with payments made on that assumption.*

- *In new build it is likely to be using SAP, which will eventually be linked to EN14825; with the heat load of the building estimated, the system sized accordingly and payments made on that basis.*

*We also suggest however, that a random selection of a minimum of 250 installations of each technology are metered (with the costs being covered by DECC), allowing a much clearer and more accurate evidence base for the performance of these systems 'in-loco'. This in turn will help with managing the RHI tariff rates. (Ground Source Heat Pump Association)*

*EDF Energy supports metering of all eligible installations under the RHI with a reasonable cap being set on the maximum tariff payment (based on property size) any consumer can gain. EDF Energy understands industry concerns that requiring metering from the outset will add to installation costs. However, it is our view that the market will rapidly recalibrate so that heat metering technologies are provided at the point of installation in all instances. (EDF Energy)*

When asked if a calculation by the MCS installer (or equivalent) was the best approach and whether the criteria proposed were adequate for developing an effective calculation, the majority of the 222 respondents (71%) agreed, with 24% disagreeing. Almost a third of respondents supplemented this with positive comments about the installer carrying out these calculations, with a similar amount expressing concerns about the accuracy or expertise of installers.

There was general agreement for the proposed approach from all groups apart from energy suppliers, where two out of three disagreed. There was also some difference of opinion amongst consultants / professional bodies, where 15 out of 28 agreed and 12 disagreed.

A key requirement expressed by respondents is simplicity and ease of understanding for the consumer. With that in mind there was some support for a 'look-up table', which respondents believed would offer transparency to the householder, providing certainty of the tariff that can be expected.

Respondents were also asked for their views on which calculation methodology would be most appropriate for deeming heat. There were 87 responses to this question, with the most popular being that 'SAP / RdSAP is the industry standard / reliable tool' and that calculations needed to be simple and easy to understand (17 responses each). Twelve respondents also stated that the 'proposal from 2009 to take heat need and multiply by 1314 hrs to get kWhs seems to work'

## Comments from the Consultation

*Overall, RdSAP is likely to be more practical to implement but less accurate; MCS would be more difficult to implement but more accurate. Consideration should also be made in relation to initial estimates for the consumer (for example through an RHI calculator) and what methods are used for this. If we had to recommend one then we would lean more in favour of RdSAP given the practicalities. Either way, whichever is used should be applied to both the initial assessment (e.g. calculator) and the actual design. (Energy Saving Trust)*

*A lookup table based on property size, age and occupancy would be the most appropriate. This would be simple enough for consumers to understand and would reduce the possibility of fraud. A more complex system will be open to gaming and will provide consumers with different end results depending on the competency of the installer carrying out the calculations. (Heating & Hot Water Industry Council)*

*Standardised house type look up tables will be the simplest method but their development could be calibrated against a typical house type using average EPC data for a house type. (BEAMA)*

*There is currently inconsistency between the Solar Thermal standard used in MCS and the other heating standards in how they estimate the hot water usage from a known occupancy. This discrepancy (which is to the disadvantage of solar thermal) should be corrected as a matter of urgency. (Solar Trade Association)*

*Yes. As long as the MCS installer is appropriately qualified and fully understands the processes for calculating the heat load of the building (whether using Green Deal procedures or RdSAP) and that the MCS installer is equally knowledgeable to judge appropriately the most appropriate system type to suit a range of applications. The Heat Emitter Guide, worked on by DECC's Chief Scientific Advisor and his team, in conjunction with EST, IDHEE, BEAMA, HHIC, HPA, UHMA and the GSHPA, should be used at every opportunity, as intended to aid the MCS installer with this process. Using the MIS3005 v3.1 calculations should result in more accurate system sizing for ground source heat pumps and is the suggested preferred calculation method. (Ground Source Heat Pump Association)*

## Bivalency

Three-quarters of the 153 respondents (74%) agreed with the treatment of bivalent systems as outlined in the proposal, with 24% disagreeing. Support was high amongst all types of respondent, although over a third of installers and consumer bodies disagreed with the proposed approach.

The main comment regarding this, put forward by 22% of these respondents, was that all central heating systems which are auxiliary or bivalent must be heat metered, to ensure that any auxiliary / bivalent system is not drawing RHI payments for heat which is not renewable.

### Comments from the Consultation

*From our analysis we see bivalent heating systems as a strategically important to the future energy system and the least cost option in achieving climate change targets. Whilst we understand the concerns made with respect to mitigating perverse behaviours or fraud, we believe that further consideration should be given to the inclusion of heat metering costs for bivalent systems that may act as an additional up front barrier to deployment. (National Grid)*

*HHIC fully agree with the inclusion of bivalent appliances and systems [but had a series of specific comments]. HHIC have discussed the definitions of bivalent and hybrid appliances and systems with its membership and concluded that due to the number of variants, it is difficult to have a generic classification. HHIC therefore intends to develop a document that shows all types that are, or likely to be, on the market in time for the RHI. (Heating and Hot water Industry Council)*

*Yes, we agree with the approach. For solar thermal systems it is relatively common to have more than one heat load. (Solar Trade Association)*

## Finance

There was some uncertainty amongst the 157 respondents over whether financing offers were likely to come forward from the market to provide support for renewables in conjunction with the RHI, with 45% saying it was likely, 31% saying it was unlikely and 21% saying it was possible but not certain. The majority of manufacturers / suppliers, installers and private landlords were all optimistic about the provision of financing offers, as were three out four consumer bodies, with the remaining groups less certain.

While many thought the industry and financial sector were usually creative in bringing forward financing mechanisms tailored to incentive schemes, there was some doubt as to whether consumers would be able to borrow the necessary funds at an interest rate within the 7.5% rate of return figure factored into the tariffs. However, responses were clear that Government should not be managing the availability of financing offers.

Opinion was also divided on the extent to which consumers' ability to fund the installation of renewable heat systems through Green Deal and RHI would improve deployment. Although 42% of the 185 respondents believed that deployment would be improved in this way, 34% thought it unlikely and 22% were unsure.

Of the different groups of respondents, those most confident that the availability of funding through Green Deal and RHI would improve deployment of renewable heat were private landlords (three out of five) and trade bodies (eight out of 14). Conversely, half of the 28 installers, 11 of 27 manufacturers / suppliers and eight out of 20 consultants / professional organisations disagreed with this assumption.

Generally, there was some concern that as RHI income would not be taken into account when assessing the 'golden rule', the level of capital costs that could be funded through the Green Deal would be too low to have any appreciable effect on deployment.

### **Market Research Findings (Ipsos MORI report)**

Many of those surveyed would opt to pay for a new heating system through their savings (47%), although a significant proportion did not have savings (14%) and so would need to rely on a range of finance mechanisms to cover the upfront cost. The most popular would be a mortgage (9%) or personal loan not secured to property (8%). However, the workshops and follow-up interviews revealed that most homeowners who felt they had insufficient savings would only take out finance if they were in an emergency situation, as a last resort.

During follow-up interviews, more homeowners said they would be willing to take out finance on a short-term loan (including some who have savings) if a one-off grant was available which was paid to them soon after installation. However, reassurances would need to be given about how guaranteed this grant was and how soon after the installation it would be paid. Homeowners were generally not willing to take out finance if only a tariff payment was available, as this would not help them cover the upfront cost. For many this was the major barrier to being able to consider installing one of these technologies.

***Base: All respondents who do not currently heat their home using an air or ground source heat pump, biomass boiler or heat network (2,848)***

## Government Consideration

### Overall Approach

**On the basis of responses received, we will be pursuing a seven-year tariff scheme for all technologies.** Although there was some limited support for an alternative approach for solar thermal, such as a grant scheme, on balance we believe that it is preferable to keep a consistent approach across all technologies, both from a delivery perspective and for consumers.

**We will not be pursuing the alternative options outlined in the consultation for splitting the biomass tariff into a seven year tariff to cover capital costs and a 20 year tariff for operating / fuel costs.** Respondents felt the risk of switchback from biomass is low, and very few supported either of the options proposed. Our updated evidence base supports this view, showing that we would expect a small saving on running costs for biomass compared to an oil boiler. We also want to avoid adding further complexity to the scheme. Respondents recognised that regular servicing and on-going maintenance are key to maintaining performance and cost savings of biomass systems, and participants in the scheme will be required to confirm annually that they are maintaining their system in line with manufacturer's instructions. However, in light of the uncertainty around future biomass prices and oil prices, we will keep this issue under review and take action as necessary to mitigate the risk of switching back in the future.

The anticipated lifetime of renewable heating technology is uncertain as much of the market is relatively new. Respondents said that it is difficult to give estimates as the current technologies have not been in place for long enough and there is therefore no hard evidence. DECC has therefore used an assumption of a 20-year lifetime across all renewable heating technologies to ensure parity across technologies as this was generally supported by respondents.

### Tariff Levels

The tariff levels for each technology are set out below. **These tariff levels are per kWh of renewable heat, not all heat as proposed in the consultation document.**

	ASHP	Biomass	GSHP	Solar Thermal
Tariff (p/kWh renewable heat)	7.3	12.2	18.8	19.2 <sup>9</sup>

<sup>9</sup> This tariff is capped by reference to the level of support offered to offshore wind. The tariff will be at least 19.2p, and possibly up to 21.7p, depending on the decision on the appropriate level of the vfm cap following the outcome of the non-domestic tariff review consultation. The announcement on the final tariff will be made in the Autumn.

The tariffs have been set using the same methodology as within the consultation document. However, the data underlying the tariffs has been extensively reviewed and updated. As well as data received from the Sweett Group exercise, evidence on cost and performance collected from the Renewable Heat Premium Payments scheme (RHPP) was used to sense check and provide depth to the analysis. In addition to an improvement in cost and performance data, input data on fossil fuel prices, carbon values and grid intensities have been updated in the RHI model using up to date data published by DECC. Further detail on the tariff setting methodology and data is included within the Impact Assessment that accompanies this document.

### **Value for money cap**

The solar thermal tariff is capped at the support cost of offshore wind, to ensure value for money of the scheme. As part of the non-domestic tariff review DECC is considering whether the current benchmark for value for money should be revised. There are additional factors that could be taken into account when determining the cap for RHI tariffs.

The previous cap was based on the support that offshore wind receives from the Renewables Obligation (RO); it also took into account the support received from Levy Exemption Certificates (LEC). Taking into account the latest assumptions about the value of the RO and LEC increases the VfM cap to around 19.2p/kWh over 7 years (in 14/15 prices) – corresponding to 10.0p/kWh over 20 years.

Also, in setting the original cap, the impacts of the Carbon Price Floor (CPF) and the EU Emissions Trading Scheme (ETS) on the wholesale electricity price were not taken into account.

While neither the EU ETS nor the CPF are subsidies paid to the renewables sector, they impose costs on fossil fuel based forms of electricity generation. This provides an additional advantage to renewable electricity producers, such as producers of offshore wind. If these costs were factored into the cap calculation, the price of support would be up to around 21.7p/kWh over 7 years (in 14/15 prices) corresponding to 11.3p/kWh over 20 years.

The appropriate level of cap is being consulted on as part of the on-going tariff review: the range of the proposed cap is 10p to 11.3p/kWh over a 20 year tariff or 19.2p to 21.7p/kWh over a 7 year tariff. The cap level and therefore the final solar thermal tariff will be announced in the Autumn.

## GSHP tariff

The data on GSHPs gathered through the Sweett Group exercise was primarily from borehole installations and the tariff is therefore designed to compensate GSHPs with boreholes, which are typically more expensive than those with horizontal loops. We will not be introducing a differentiated tariff. We believe this is appropriate because there are relatively few horizontal loop opportunities for GSHPs (even though these currently dominate the market), and we want to see widespread take-up of this technology in off-gas grid homes and social housing, where boreholes are particularly likely.

## New Build

**We are not providing a tariff for new-build properties (with the exception of individual self-builders) for the following reasons:**

- Firstly, the 2008 Energy Act only permits us to give a payment to the owner of the renewable heat technology. We cannot therefore give an on-going tariff to a builder / developer as they will not remain the owner of a domestic installation. Feedback from the house building industry indicated it would be difficult to make the tariff model work in this case, as houses with renewable heating systems do not currently attract a premium from buyers.
- Secondly, in the period since this consultation was launched, research has indicated that a significant number of air source heat pumps are already being installed in new-build technologies off-the-gas-grid, rendering a tariff in this sector poor value for money.

We will also continue to incentivise renewable heating systems that supply heat to multiple dwellings in new-build developments through the non-domestic RHI. We believe that this scheme is sufficient to incentivise new-build developments in off-gas grid areas. The example of Cranbrook New Town in Devon, which is planning to apply for the non-domestic RHI in 2017, illustrates this point.

**We are, however, providing a tariff for the individual self-builder.** Unlike the house-builder, the self-builder continues to own the renewable heat technology and is therefore eligible for a tariff-based scheme. We are also keen to support the Government position of incentivising self-building to increase housing supply and recognise that individual self-builders do not benefit from the same economies of scale that housing developers or even collective-build schemes can achieve.

## **Social Landlords (Registered Providers of Social Housing)**

**We are providing a tariff for social landlords at the same tariff as individual domestic households for the same seven-year length.**

We believe that social landlords will be a critical early driver of renewable heat uptake and it is important they are supported through the domestic RHI. Through the consultation process social landlords submitted evidence that demonstrated the existence of additional costs and burdens that individual householders do not have, such as tenant engagement and facilities management. Moreover, much of their housing stock is disparate in rural areas so they may not be able to benefit from economies of scale in carrying out multiple installations. We have decided to offer them the same tariff length to streamline delivery of the scheme and incentivise uptake in this key market.

## **Metering versus Deeming**

**We will be using a deemed approach to calculate the majority of payments, an approach supported by the majority of respondents.** In making this decision we have balanced the need for accuracy against the costs and risks of delivery. As responses to the consultation argued, although metering has advantages in terms of the accuracy it delivers, there was a consensus that it would not currently be feasible to implement for the number of installations expected under the RHI. **However, we will review the situation at the first review point and if the metering elements of the scheme progress well, it is our intention that we will transition to metering for all new applicants in due course.**

Although deeming will be the default approach, there will be some situations where metering as a basis for payment will be required. We will require space heating systems defined as bivalent and space heating systems installed in properties defined as second homes to install metering equipment which we will base payments on. These will be required in order to protect the scheme from overpaying in situations where we expect to see significantly lower generation than the deemed figure. In both situations the metered amount will be capped at the deemed figure for the property. These requirements do not apply for solar thermal systems.

We are publishing a document titled “Metering for Payment Technical Supplement” alongside this consultation response. Please refer to this document for details of our policy for metering for payment and worked examples<sup>10</sup>.

Although the consultation responses in general agreed with the proposed approach of using a calculation by an MCS installer, it became clear through the consultation period that there was in fact a wide range of views among key stakeholders about

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<sup>10</sup> This can be found on <https://www.gov.uk/government/consultations/renewable-heat-incentive-proposals-for-a-domestic-scheme>

which was the best deeming approach. In making the decision we have balanced a number of criteria including accuracy, costs, simplicity for the customer and risk of fraud and gaming. We considered all of the options proposed by stakeholders including the current MCS methodologies, SAP, RdSAP, Green Deal occupancy assessments and look-up tables.

Each of these options was judged against the criteria and it was felt that for **biomass and heat pumps, the use of the RdSAP methodology was the most suitable approach**. It is more accurate than the current MCS calculation or look-up tables, links with the energy efficiency requirement (because it is used for Green Deal Assessments), benefits from stronger independence of assessor over a number of the other options and is therefore less open to gaming or fraud, and will be relatively low cost and easy to understand for the consumer. We will continue to feed into the improvement process for SAP to ensure that the accuracy of the methodology improves over time.

The deeming calculation for biomass and heat pumps will therefore be the estimated heat use (in kWh) of a property after the installation of the required energy efficiency measures. Where an applicant already has these installed, the figure will be taken from the Energy Performance Certificate (EPC) done as part of the Green Deal Assessment (standalone EPCs cannot be used). Where the Assessment identifies that the measures still need to be put in place, the figure will be taken from the updated EPC completed after their installation.

### **Deeming for solar thermal**

We agree with the consultation responses which highlighted that solar thermal requires a different deeming methodology to space heating technologies, to accurately account for its contribution to heating hot water. **To deem solar thermal systems, we will therefore use the estimate of performance in kWh that is calculated as part of the Microgeneration Installation Standard MIS 3001, which is based on Appendix H of SAP.**

This will give a more accurate estimate of the heat output from a solar thermal system than an approach based on the hot water load figure from an EPC, and because it takes into account the characteristics of the collector installed, will reward better performing systems. This figure is currently recorded on the MCS certificate, so all solar thermal systems will already have an estimate that can be used for deeming purposes.

## **Paying on renewable heat**

Following the publication of the addendum to the consultation, and subsequent discussions with stakeholders, we have been examining the case for paying the tariffs on a different basis to that proposed in the consultation document. Our own analysis and work with stakeholders identified various options that could be pursued, including paying on the basis of renewable heat, stepped tariffs based on estimated performance, or for primary energy savings.

To evaluate the options, we conducted analysis to look at the additional costs of installing a better performing system, and the relationship between rate of return and performance under the different options. We also took into account the impact on deliverability, customer journey, and potential for fraud. **On balance, we have decided to pay on the basis of renewable heat only. In practice, this only makes a difference for heat pumps because all of the heat generated by biomass systems and solar thermal systems is considered renewable. We believe this approach gives the best balance of incentivising performance, value for money, and deliverability:**

- For most heat pump installations, it offers a reasonable incentive for better performing installations, with a level or increasing rate of return with better design performance – due to the combined benefit of the additional RHI income and increased fuel bill savings.
- It is aligned with the main objective of the scheme, which is to deliver renewable heat, as it pays the same tariff to all installations per unit of renewable heat generated.
- It is supported by key heat pump stakeholders
- It is relatively straightforward for people to understand, and does not add complexity to the degression mechanism.
- Although paying on all heat output has attractions in terms of the simplicity and ease of delivery, it results in lower rates of return for higher performing installations, which is undesirable.
- The other options considered of paying on primary energy savings or higher tariffs for higher performing installations both offer very good incentives for higher performing installations, but weaken the value for money of the scheme in renewable heat terms – because both involve paying more for a unit of renewable heat from a better performing installation, add significant delivery complexity and risk, and represent a greater fraud risk because of the level of extra incentive involved for higher performing systems.

## Estimating the performance of heat pumps

In order to pay for renewable heat for heat pumps, the performance of systems will need to be estimated at the beginning, rather than measured – which does leave the system open to errors and fraud. Initially, we are planning to use installer estimates of designed performance, based on an existing document called the Heat Emitter Guide, which was designed to be used in conjunction with the current MCS heat pump standard MIS3005, as a basis for estimating the efficiency of a heat pump system.

This approach was suggested in several consultation responses, and has been discussed further following the consultation with key stakeholders. Installers are already required to make an estimate of performance using the Heat Emitter Guide as part of MIS3005, so this is a relatively straightforward and practical way to make performance estimates at the start of the scheme. This estimate will also be used to determine whether a system meets a design SPF of 2.5 and is therefore eligible for the scheme.

This efficiency estimate will be combined with the total heat demand figure from the EPC to produce an estimate for the renewable heat generated by the heat pump. We are working with MCS to develop a robust way to record and audit these performance estimates, and will continue to work on an improved tool to estimate performance. We also have a programme of work planned to design the audit regime for this element of the scheme, to help mitigate fraud risk.

Audit will be a critical element of ensuring that this element of the scheme is successful, without which, poor-quality, dishonest installers could squeeze out higher-quality, honest installers. We are also looking into the idea of training and educational workshops for installers to both support their delivery of this approach and ensure they understand the risks to them and their customers of attempting to defraud the system.

We would like to emphasise that we expect the payments we are making to be *indicative* of the amount of renewable energy an installation generates but we accept that they will not be precisely accurate. This is inevitable when using estimated figures and simplifications to make the scheme easy to understand and deliver. We will gather information on the design performance of heat pumps through MCS, and how this compares to actual performance through our metering programme. This will enable us to evaluate this approach at the first review point.

Heat pumps installed before the launch of the scheme (i.e. legacy applicants) will be given a default SPF of 2.5 for the purposes of calculating payments, as they will not have had a performance estimate calculated as part of the installation process for their system. Applicants can arrange a full assessment by an MCS installer to demonstrate a higher rating if they wish, but this will require compliance with the current version of the MCS standard. The date when these assessments are available will depend on the progress of our work with MCS, described above.

## Bivalency

In the majority of cases we expect renewable heating systems to completely replace the previous fossil fuel system (other than solar thermal, which will almost always need to be installed alongside another heating system, either renewable or fossil fuel). However, we understand that there are a few situations where it may be desirable to install the renewable heating system alongside a fossil fuel system for engineering reasons or due to consumer preference. This approach is backed up by the evidence we received as part of the consultation process.

**For heat pumps we are therefore adopting the position set out in the consultation; that heat pumps will be allowed to be installed alongside a fossil fuel system providing that the heat pump is metered. This includes hybrid systems. The same rule applies to heat pumps installed alongside another renewable space heating system.**

In our original proposals we said that biomass systems installed alongside a fossil fuel system would not be eligible, due to concerns about of the consumer switching back to the fossil fuel system after seven years. However, as explained in the section on 'Overall approach', the responses received argued that this risk has been overestimated, and our updated evidence base supports this view.

**Our revised position is therefore that biomass systems will be allowed to be installed alongside a fossil fuel system providing that the heat pump is metered. This includes hybrid systems. The same rule applies to biomass installed alongside another renewable space heating system.**

We will not be requiring disconnection of range cookers connected to the heating system, but the renewable system in these cases will need to be metered.

As solar thermal systems are always installed alongside another heating system, we will not require metering for solar thermal.

We are publishing a document titled "Metering for Payment Technical Supplement" alongside this consultation response. Please refer to this document for details of our policy for metering for payment and worked examples<sup>11</sup>.

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<sup>11</sup> This can be found on <https://www.gov.uk/government/consultations/renewable-heat-incentive-proposals-for-a-domestic-scheme>

## Finance

**Responsibility for funding the upfront costs of installation of a heating system should rest with applicants.** On the basis of the consultation responses it is reasonable to expect the market to create specific funding packages around the RHI, such as loans or other finance schemes, in order to help applicants with the initial capital outlay. There may also be scope for companies to explore possible leasing arrangements with either the finance company or the property owner eligible to claim the RHI depending on the arrangement in place. Government has committed to monitoring developments in this area as part of its market intelligence and review process.

The Government also believes that, for some householders, the Green Deal will provide an effective way to part-finance a renewable heating system. The Green Deal lets people pay for energy-efficiency improvements, including renewable heating systems, through savings on their energy bills, although the amount of Green Deal finance offered towards the cost of a renewable heating system will depend on the expected fuel bill savings from the system in the particular property. People will be able to use Green Deal finance and claim the RHI.

## Raising Performance (45-58)

### What we proposed

Efficient renewable heating installations will reduce energy bills, build awareness and confidence in the technologies and generate more renewable energy and greater carbon savings. The use of high-performing equipment, thorough design and installation and appropriate use by the end-user will be needed to achieve high levels of efficiency.

It is in the interest of consumers to reduce the amount of heat they require due to the proposal to base payments on deeming. It is also in consumers' interest to acquire efficient equipment, ensure the system is well designed and competently installed and to use it appropriately. This is because a higher efficiency reduces running costs for a recipient without reducing their RHI payments. However, these benefits will only be achieved if systems perform as well as they have been designed to. We are aware that systems installed in the past have not always worked as well as they should and that consumers have not always known this.

We invited views as to whether we should take any additional action through the domestic RHI specifically aimed at raising the performance of renewable heating installations. We set out five options in our consultation; as follows:

- Option 1: Additional financial support for systems that include a Metering and Monitoring Service Package;
- Option 2: Varying RHI tariffs for heat pumps so that they are linked to the Seasonal Performance Factor (SPF) measured by the Metering and Monitoring Service Package;
- Option 3: Introducing a higher SPF for heat pumps as an eligibility requirement for the RHI;
- Option 4: Enhanced monitoring of installations for evaluation of the Domestic RHI (including all installations to be meter-ready); and
- Option 5: An uplift in tariff for systems with solar thermal installed alongside other renewable technologies.

We also asked for alternative approaches that could drive continuous improvement of the performance of technologies.

## What respondents said

### Option 1: Additional financial support for systems that include a metering and monitoring service package

Respondents generally agreed with the proposed metering and monitoring approach outlined in the consultation, with 70% in agreement and a further 14% 'possibly' in agreement out of 170. Respondents did stress the importance of monitoring performance. There is over 60% support for this proposal from respondents in all groups, although 13 of 66 home owners and seven of 30 installers disagreed with this approach.

Of the few respondents that did not agree to some extent (15%), potential difficulties were raised with regard to monitoring the many different variables. The different technologies, types of properties and different types of household and household behaviour may require different approaches. Accommodating this range of scenarios is thought to run the risk of making the process too complicated.

#### Comments from the Consultation

*The Energy Saving Trust would welcome any incentive for heat pump monitoring that educates the user and installer of the system. Monitoring not only allows us to technically evaluate heat pump performance but it also allows the householder to get to know their system and the installer to review the installation. All systems installed under the scheme should be 'meter ready', as many heat pumps on the market already are. (Energy Savings Trust)*

*HHIC agrees that monitoring can be beneficial in order to learn how renewable heat is deployed and to build best practice. However there is a question on who would be paying for these meters and the cost of administering the monitoring service. Would the additional tariff uplift cover these costs and what would this do for degeneration? If it led to fewer renewable installations, HHIC would not believe this to be a positive development. (Heating and Hot water Industry Council)*

*Yes this can drive improvements through accountability for the installer but mostly through ensuring the customer is engaged with the heat pump's operation characteristics. We would advocate use of integrated meters and sensors for heat output, immersion run hours and electricity consumed. (BEAMA)*

*In principle we think it would be an effective way of measuring performance, as well as incentivise consumers to use their system most efficiently. It would also have the effect of improving the reliability and lowering the costs of heat meters, something that will help with administering the RHI scheme in the future. However, we recognise that the detail of any approach needs to be considered in the light of the Addendum for SPF standards, and final information from the Sweett Group data collection exercise. (Consumer Focus)*

Respondents were split on how a tariff uplift should be paid, with 36% out of 133 wanting a flat-rate increase and 40% preferring an upfront payment. Generally home owners and (to a slightly lesser extent) consumer bodies preferred the option of a flat rate increase to the RHI tariff, whereas a one-off upfront payment is preferred by local authorities, housing associations, social housing providers, surveyors and other professional bodies as well as the supply chain (manufacturers and installers).

A number of responding organisations emphasised the need for certainty and consistency. For example, if the meter shows the deemed amount is too high or low it would be important to have no retrospective changes to the deemed levels, which the householder will have used to make the decision to purchase the renewable heat product.

### **Option 2: Varying RHI tariffs for heat pumps so that they are linked to the Seasonal Performance Factor (SPF) measured in the metering and monitoring service package**

The 139 respondents to this question were divided on whether tariffs for heat pumps should vary according to the measured or estimated performance of the system, with 44% supporting that approach and 38% rejecting it. Home owners and both social and private landlords tended to be supportive of the tariff varying according to the measured or estimated performance of the system, whereas the supply chain tended to be slightly against this approach.

The detailed comments provided also reflected this division of opinion. Although some respondents believed that customers would prefer certainty of tariff level (14%), others believed that having tariffs that vary according to system performance would act as an incentive for installers to provide a quality service (12%) and manufacturers to produce effective technologies (9%). However, respondents also pointed out that the performance of the heating system depends on other factors apart from the quality of equipment and installation, such as the type and size of building the systems is installed in, location and consumer behaviour (11%). Further to this, 9% of respondents thought there was a risk that the RHI tariff scheme would become too complex and confusing for consumers, which may act as a barrier to interest in renewable heat systems and the RHI.

The consultation asked a supplementary question, as to whether installers were likely to offer performance guarantees for heat pumps if Option 2 was adopted as part of the RHI. Home owners and social and private landlords tended to think that installers would offer performance guarantees, whereas the supply chain and consultants thought not. Overall, 20 out of 73 respondents believed that installers would offer performance guarantees, with 37 stating they would not.

### Comments from the Consultation

*We believe that there is merit in rewarding heat pumps that achieve better SPF's but do not think that installations that achieve lower SPF's should be penalised, as this will put off customers through the increased risk perceived. In practice we believe that there will be limited demand for options 1 and 2 due to the disruption involved (unless the rewards are significant) but they will allow for the collection of valuable information that can help to raise future performance. (Renewable Energy Association)*

*HHIC strongly disagrees with altering the RHI tariffs for heat pumps based on assumed performance. There are a number of ways to calculate the performance of a system and there are a multitude of external factors that could affect the calculations, factors that may not always be in the control of heating system designers. (Heating and Hot water Council)*

*It is unlikely that manufacturers would offer performance guarantees without having access to more data, and therefore the benefits of adopting this approach are not clear. However, this should be reviewed once more information and expertise in this area becomes available. (EDF energy)*

*The focus of the RHI should be to drive behaviour change, including incentivising uptake of efficient and cost-effective systems. This approach should inform the decision. (Consumer Focus)*

### Option 3: Introducing a higher SPF for Heat Pumps as an eligibility requirement for the RHI

From the 122 responses received, most tended to agree that setting a minimum SPF higher than the EU minimum for air source and ground source heat pumps would be an effective driver of performance, with 57% agreeing compared to 24% disagreeing. Eight out of 11 trade bodies, four out of six consumer bodies and both energy suppliers that responded to this question were in agreement, with more than half of respondents from most other groups in favour.

## Comments from the Consultation

*Yes, we agree that there is merit in getting off to the right start by setting a more demanding SPF than that required by the RED, and a figure of 2.7 seems a reasonable starting point, to be reviewed in 2014. This issue needs to be assessed in the light of the guidance that the European Commission is expected to publish by the end of 2012. (Renewable Energy Association)*

*The introduction of the Energy Related Products directive, probably from 2014, will be a key piece of legislation in driving performance standards. DECC should liaise with the DEFRA team responsible for introducing ERP. (Heating and Hot Water Industry Council)*

*This is very much dependent on how DECC defines the system boundary but if RESD is used then it is likely to need to be higher than 2.5.. perhaps 2.8 to reflect a broader system boundary that includes hot water production. (BEAMA)*

*We want to see on-going monitoring of performance through further field trials, with results made accessible to consumers. We also support the principle of setting as an eligibility requirement for the RHI a minimum performance standard higher than the EU minimum SPF, which is currently 2.5. (Which?)*

*The need to ensure that the most cost-effective technologies are being deployed should be the key to this policy, and heat pumps are an area where value for money has to be demonstrated. We would support the bar being set for best-performing technologies, and setting the bar as high as practicable. (Consumer Focus)*

There were 94 responses to this question, with most (62 respondents) believing that the SPF required should increase over time, if this approach were taken, with 17 respondents disagreeing. Although private and social landlords, trade bodies, consumer bodies and energy suppliers tended to be in favour of this proposal (at least three-quarters of respondents), the majority is less defined amongst manufacturers / suppliers (11 out of 21 in favour), installers (half of respondents) and consultants / professional organisations (11 out of 19).

Respondents were generally unsure of the rate at which the minimum SPF should increase over time, with a 0.1 increase per year the approximate rate suggested. However, the general feeling was that the required SPF should be under review over time and amended as and when technology improvements justified it.

## Comments from the Consultation

*Yes, the SPF should be required to increase over time to encourage the market to improve energy efficiency of systems as the scheme progresses. We would not suggest an increase until the review in 2014 and from there a clear trajectory to give installers and consumers' confidence in the market. (Renewable Energy Association)*

*Yes it should rise perhaps in line with % minimum energy performance improvements within lot 1 of eco-design and over the same timeframes. (BEAMA)*

*We do not see why standards in the UK should be significantly lower than in Germany, and agree that the UK minimum standard should be raised over time to drive improvements. (Which?)*

*Yes, we support the policy option laid out in the consultation of reviewing this figure annually, initially, until a performance plateau has been reached. As noted above, this should be based on real-world performance data. (Consumer Focus)*

## Option 4: Enhanced monitoring of installations for evaluation of the Domestic RHI (including all installations to be meter-ready)

Generally there was agreement that the RHI budget should be used to pay for metering for policy evaluation, with 58% of 165 respondents approving of this proposal and 30% against it. Private landlords, social housing providers, trade bodies and consumer bodies overwhelmingly supported this proposal. Homeowners, manufacturers and installers provided a mixed response.

The importance of evaluation was stressed by those supporting the use of the RHI budget for metering. It was thought that metering would provide real data to help validate deeming assumptions and also help improve MCS standards. Those against this proposal felt that the budget should be spent on the primary objectives of the scheme, namely increasing the use of renewable heating systems and saving carbon.

## Comments from the Consultation

*Very good idea. Metering should really be a standard part of the system to help monitor and manage performance. A checklist, based on experience informing good practice is a good way of raising standards. Professional*

*bodies such as CIBSE and the representative body MCS could work together on this in partnership with DECC/Ofgem. (Chartered Institution of Building Services Engineers)*

*[We are supportive but] we would expect metering to be used primarily in dwellings where the customer wants the option to measure higher renewable heat output from higher SPF's. A smaller percentage can be randomly selected. (BEAMA)*

Respondents were overwhelmingly in favour of sharing evaluation data with MCS Certification Bodies in order to improve MCS installer surveillance. In total 92% of 174 respondents supported this proposal with only 4% of respondents opposing it.

### **Comments from the Consultation**

*We would see this as a positive step, and would act as one area which would help the industry 'self-regulate'. We would, however, expect that all data is anonymous and is only used for performance and efficiency monitoring, rather than for marketing or follow-up purposes. (Consumer Focus)*

*We would support this proposal. However this proposal raises data protection issues that would need careful consideration if sites were to be identified. (REA)*

There was general agreement with the proposal to require all installations to be meter-ready, through use of an Installer Checklist, with 75% of 180 respondents indicating their agreement and 16% disagreeing. When responses were grouped there was widespread agreement with this proposal, including 18 out of 30 installers being in favour. Whilst all 13 local authorities / housing associations / social housing organisations were in agreement, only two out of five private landlords supported the proposal.

When asked if there should be a financial penalty for consumers who do not ensure that their installation was meter ready, most of the 187 responses (67%) disagreed, and it was pointed out that this would be difficult to enforce as most consumers would be unaware of the requirements for installations and would therefore be unable to comply with them. Respondents overwhelmingly felt that it should be the responsibility of the installer to ensure the installed renewable heat system is meter ready. The only group that was in favour of a financial penalty for consumers was local authorities / housing associations / social housing organisations, where seven out of 13 were in agreement.

Trade bodies such as HHIC and BEAMA, as well as consumer bodies such as Consumer Focus, objected on principle to consumers having financial liability for this. Penalising consumers would have negative implications for both the RHI and the reputation of the renewable heat industry.

### Comments from the Consultation

*There should not be a financial penalty. If the above proposal is carried out, we see no reason why the consumer should be penalised for something that installers will be required to do. In some instances depending on the space allowed for the existing heating system in the property, it may be physically impractical to make a system “meter ready”. We would want to see the burden placed on installers, who should have a greater knowledge of the requirements.*

*We would feel strongly about consumers having additional concerns regarding penalties over complex paperwork. This is likely to have the effect of warning off potential consumers worried about this possibility. (Consumer Focus)*

*[There should be] no financial penalties as this adds uncertainty to the scheme. It would make more sense to penalise the installer through MCS sanctions such as extra site visits/surveillance which are chargeable. (BEAMA)*

### Option 5: An uplift in tariff for systems with solar thermal installed alongside other renewable technologies

Three quarters of the 171 respondents (75%) agreed that it would be appropriate to provide a tariff uplift where solar thermal is installed alongside other renewable technologies, while 15% disagreed. The only group where there were not at least 70% of respondents in support of the proposal was consumer bodies, where three were in favour and three were not.

### Comments from the Consultation

*Solar Thermal can provide an uplift in performance on renewable heating systems by reducing the amount of hot water they need to produce. Often hot water production is the least efficient part of a renewable heating system. (Heating and Hot water Industry Council)*

*An excellent proposal. Solar thermal is a particularly good fit with heat pumps, which have a lower coefficient of performance when heating domestic hot water than when space heating. (Solar Trade Association)*

*We would support tariff uplift for systems where solar thermal is installed. Solar thermal is a particularly good fit with heat pumps, which have a lower coefficient of performance when heating domestic hot water than when space heating (Renewable Energy Association)*

Respondents were asked if they had any evidence on the size of tariff that should be provided in order to encourage the deployment of these systems. There were 26 responses to this, with nine stating that the tariff should 'cover the expense of installing the technology'. Nine more thought the tariff should increase by either 40% (five respondents) or between 10 – 19% (four respondents). A further five thought that payment should be at least £1,000.

### **Comments from the Consultation**

*We think that DECC can play a key role ensuring the timely analysis and dissemination of information on the performance of monitored systems supported under the domestic RHI. It is important that the information be shared with industry and fed back into future revisions of the RHI in a transparent way. (Renewable Energy Association)*

### **Other options for driving continuous performance improvements of renewable heating systems**

A total of 113 respondents suggested other approaches that could drive continued improving performance of renewable heating systems. The most popular responses were as follows:

- Ongoing & regular servicing / maintenance of systems (28%);
- Market forces (23%);
- Initial cash subsidies / payments to increase take up / financial help (18%);
- Advertising / promotion / consumer communications on RHI & renewables (14%);
- Better installation standards / training / skills (12%);
- Tariff based system /RHI (12%).

## Government Consideration

### Option 1: Additional Financial Support for Systems that include a Metering and Monitoring Service Package

In light of positive feedback regarding this proposition, **DECC will offer a financial uplift of a total of £200 per year for biomass systems and £230 per year for heat pumps each year until the relevant installation stops receiving RHI payments.** Metering and Monitoring Service Packages for which this payment is to be awarded will need to fulfil some minimum technical criteria which are listed below. For biomass installations, DECC will only support Metering and Monitoring Service Packages for pellet biomass boilers; this excludes pellet stoves with back boilers and any non-pellet biomass boilers because of the cost and complexity of instigating a similar measurement approach for such systems. In addition, DECC will not support Metering and Monitoring Service Packages for solar thermal installations because of the relatively high cost of metering such systems in an equivalent manner to metering biomass boilers or heat pumps, particularly considering the relatively lower typical proportion of energy generated by solar thermal systems in comparison to the other technologies considered here.

Payments for Metering and Monitoring Service Packages will be available on a first come, first served basis to 2,500 applicants in total across all technologies in the first year of the scheme. There will be a limit on the number of packages per RHI participant, to ensure compliance with State Aid rules.

We are publishing a separate document titled “Metering and Monitoring Service Packages Technical Supplement” alongside our response to the consultation, which contains more detailed information regarding our policy on Metering and Monitoring Service Packages, including worked examples and requirements for data presentation<sup>12</sup>. Please refer to it for further information about our policy regarding these packages.

For a Metering and Monitoring Service Package to be eligible for payments it must meet our requirements. These are summarised in two tables below. The tables specify some items as requirements and others as recommendations for what we suggest would be good practice and of most benefit to consumers. For example, for temperature sensors, we recognise that there will be a number of possible types of sensors and as such, we have not limited the manner in which this measurement may be undertaken, but have recommended a level of accuracy and resolution that we feel would be helpful in order to understand system performance.

Specifications that are recommendations are marked in green, whilst specifications that are requirements are marked in blue.

The first table is for air- and ground-source heat pumps; the second is for biomass boilers. Any provider is encouraged to expand on these criteria to produce a more

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<sup>12</sup> <https://www.gov.uk/government/consultations/renewable-heat-incentive-proposals-for-a-domestic-scheme>

comprehensive Metering and Monitoring Service Package but they must meet the minimum criteria in the tables. The tables refer to several European standards including the Measuring Instruments Directive (MID)<sup>13</sup> and the relevant IEC standard for temperature measurement<sup>14</sup>.

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<sup>13</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:135:0001:0080:EN:PDF>  
Directive 2004/22/EC of the European Parliament and of the Council of 31 March 2004 on measuring instruments

<sup>14</sup> IEC 60751 Industrial platinum resistance thermometers and platinum temperature sensors

## Heat Pump Metering and Monitoring Service Package Requirements and Recommendations

Sensor type		Minimum resolution	Minimum accuracy	Example number required
1	<b>Heat metering of all heat output from heat pump and heat metering of any additional fossil fuel boilers</b>	$[Resolution\ of\ heat\ meter] \leq 3\% \cdot [min.\ non-zero\ heat\ output\ in\ 2\ minutes]$  (Note that where draw-off from a DHW cylinder is to be metered, then this should always be conducted using at least a 1 pulse per 1 Wh resolution heat meter.)	Class III of Measuring Instruments Directive	1 x sensor required for heat pump with 2-pipe output 2 x sensors required for heat pump with 4-pipe or 3-pipe output or bivalent system with 2-pipe heat pump 3 x sensors required for bivalent system with 4-pipe or 3-pipe heat pump (Fewer meters may be used if manufacturer has integrated metering to their unit.)
2	<b>Metering of all electrical supplies to heat pump included in heat measurement plus DHW cylinder where this is supplied by heat pump</b>  (In addition, we recommend that all internal and external supplementary heaters are metered.)	(We recommend using high resolution meters but heat meter resolution need not be finer than 1 pulse per 1 Wh)	Class A of Measuring Instruments Directive	1 x sensor where heat pump is incorporated into single unit 2 x sensors where heat pump is composed of two units. + 1 x sensor for immersion heating where DHW is supplied by heat pump
3	<b>Metering of all electrical supplies to heat pump included in heat measurement plus DHW cylinder where this is supplied by heat pump</b>	$[Resolution\ of\ electricity\ meter] \leq 3\% \cdot [min.\ non-zero\ electricity\ input\ in\ 2\ minutes]$	Class A of Measuring Instruments Directive	1 x sensor where heat pump is incorporated into single unit 2 x sensors where heat pump is composed of two units. + 1 x sensor for immersion heating where DHW is supplied by heat pump
4	<b>(In addition, we recommend that all internal and external supplementary heaters are metered.)</b>	(We recommend using high resolution meters but electricity meter resolution need not be finer than 1 pulse per 1 Wh)	We recommend Class B for RTDs (equivalent accuracy for other types of temperature sensor at typical measurement temperature)	3 x temperatures sensors - includes space heating flow metering, DHW flow metering (where DHW supplied by heat pump), internal temperature
5	<b>Gas metering of inputs to heat pump (for hybrid heat pump with integrated gas boiler)</b>  Note that if it is possible to meter the heat output from fossil fuel source instead (as in Row 1), then heat metering should be conducted as in Row 1 and the gas supply need not be metered.	10 L per pulse	Class 1.5 of Measuring Instruments Directive	1 x meter to monitor gas input to heat pump only (if a hybrid system has an integrated gas boiler) if not possible to meter heat output from gas boiler as in Row 1.
6	<b>Measurement of internal temperature, space heating flow temperature and DHW flow temperature, where this is supplied by the heat pump.</b>  (Note that this may need to be separate to temperature measurements involved in heat metering)	We recommend 0.1 degrees C	We recommend Class B for Resistance Temperature Detectors (RTDs) (equivalent accuracy for other types of temperature sensor at typical measurement temperature)	3 x temperatures sensors - includes space heating flow metering, DHW flow metering (where DHW supplied by heat pump), internal temperature

### Pellet Biomass Boiler Metering and Monitoring Service Package Requirements and Recommendations

Measurement type	Minimum resolution	Minimum accuracy	Example number required
<b>1 Heat metering of heat output from biomass boiler and heat metering of any additional fossil fuel boilers</b>	<p><i>[Resolution of heat meter] ≤ 3 % * [min. non-zero heat output in 2 minutes]</i></p> <p>(Note that where draw-off from a DHW cylinder is to be metered, then this should always be conducted using at least a 1 pulse per 1 Wh resolution heat meter.)</p>	Class III of Measuring Instruments Directive	1 x sensor for single biomass system 2 x sensors where overall system contains a fossil fuel boiler in addition to the above.
<b>2 Metering of all electrical supplies to biomass boiler included in heat meter measurement, plus any auxiliary electrical input to DHW cylinder where DHW is also supplied by biomass unit</b>  (We recommend that all internal and external supplementary electric heaters are metered.)	(We recommend using high resolution meters but heat meter resolution need not be finer than 1 pulse per 1 Wh)	Class A of Measuring Instruments Directive	1 x sensor for biomass unit + 1 x sensor for immersion heating where appropriate
<b>3 Metering of all electrical supplies to heat pump included in heat measurement plus DHW cylinder where this is supplied by heat pump</b>	<p><i>[Resolution of electricity meter] ≤ 3 % * [min. non-zero electricity input in 2 minutes]</i></p>	Class A of Measuring Instruments Directive	1 x sensor for biomass unit + 1 x sensor for immersion heating where appropriate
<b>4 (In addition, we recommend that all internal and external supplementary heaters are metered.)</b>	(We recommend using high resolution meters but electricity meter resolution need not be finer than 1 pulse per 1 Wh)	Recommended Class B for RTDs (equivalent accuracy for other types of temperature sensor at typical measurement temperature)	3 x temperature sensors
<b>5 Gas metering of any gas inputs to biomass boiler</b>  <b>Note that if it is possible to meter heat output from fossil fuel source instead (as in Row 1), then heat metering should be conducted as in Row 1 and the gas need not be metered.</b>	10 L per pulse	Class 1.5 of Measuring Instruments Directive	1 x meter to monitor gas input to biomass boiler (if a hybrid system has integrated gas boiler) only if not possible to meter heat output from gas boiler as in Row 1.
<b>6 Measurement of indoor temperature + flow and return temperatures at location of heat meter</b>	We recommend 0.1 degrees C	We recommend Class B for Resistance Temperature Detectors (RTDs) (equivalent accuracy for other types of temperature sensor at typical measurement temperature)	3 x temperature sensors

All data needs to be logged on a 2-minute time period.

We note that there are strict safety requirements for the installation of gas meters and stress that any installer would need to be appropriately trained, qualified and registered in accordance with the requirements of the Gas Safety (Installation and Use) Regulations 1998 and ensure that the gas meter is installed according to manufacturer's specifications.

Where metering for payment is being met through a Metering and Monitoring Service Package, the RHI payments will be calculated from the appropriate metered data. In this case, any fault identified with the Metering and Monitoring Service Package may be considered by Ofgem to imply that there is also a fault with meter readings being taken by the same system for payment and warrant further investigation. Where a Metering and Monitoring Service Package is to be installed on a deemed RHI heating system then the RHI tariff payment will continue to be based on deeming.

Our policy is that it is also a requirement that DECC is given access to anonymised data from Metering and Monitoring Service Packages as required. We anticipate that this will be necessary to inform our understanding of in-situ performance of heat pumps and biomass boilers. The financial incentive will only be available for packages which comply with this requirement. We will provide more details about this requirement before the launch of the scheme

We noted the split in consultation responses between those who preferred upfront payment and those who preferred an annual financial contribution. DECC has concerns that an initial upfront payment will not encourage continual maintenance of the monitoring equipment over the full seven-year period and/or regular use of the data. That being the case, we intend to offer regular payments upon confirmation that a package continues to operate. The delivery mechanisms for this process and regularity of payments (annual or quarterly) are being considered but in each case, a confirmation that the package continues to operate will need to be provided before payment is released.

We are working with MCS to consider the best way of implementing the Metering and Monitoring Service Package requirements so that consumers can be confident that the system that they have installed will be eligible for the RHI uplift.

## **Option 2: Varying RHI tariffs for Heat Pumps so that they are linked to the Seasonal Performance Factor (SPF) measured in the metering and monitoring service package**

Earlier in the document we explained how payments made to heat pump installations will vary according to the design SPF, as the proportion of renewable heat on which payment will be received will be higher for installations with a higher SPF. Therefore heat pump installations that are designed to extract more renewable heat from the ground or air will receive a higher payment as well as benefitting from reduced running costs. Our analysis shows that generally this will more than compensate for the higher installation cost of a more efficient system, and should incentivise consumers to purchase systems designed to perform well. It will also provide a guaranteed payment. Not providing a guaranteed payment was one of the problems with option 2 most commonly cited by respondents.

In light of the consultation responses we will not implement this option for the launch of the scheme. In addition to the consultation responses, we are also concerned that this option may deter installers and manufacturers from offering Metering and Monitoring Service Packages,

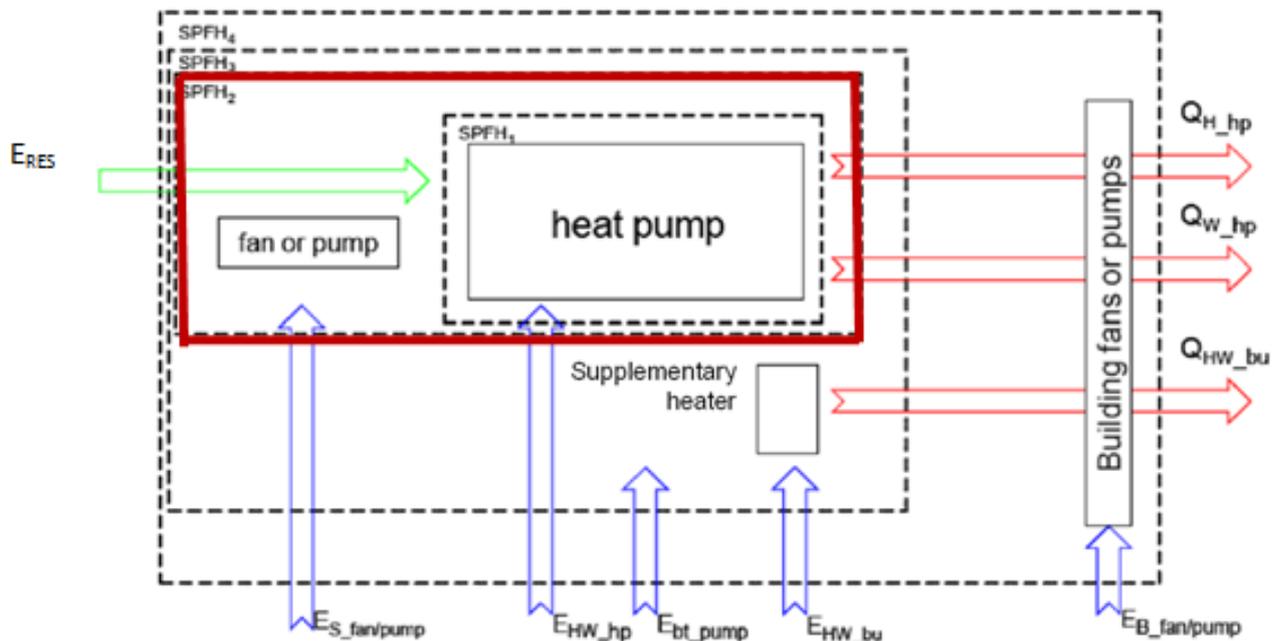
when we want to encourage people to look at real-life data from systems. It also recreates a risk of metering equipment that has been installed incorrectly preventing or delaying RHI payments, which is something we want to avoid as far as possible.

This option was included in the consultation because we want the supply chain to take responsibility for the equipment that is installed. Over the longer-term we intend to make payments for all systems on the basis of metered renewable heat. Doing so would effectively implement this option.

**Option 3: Introducing a higher SPF for Heat Pumps as an eligibility requirement for the RHI**

The European Commission have now published guidance defining the Seasonal Performance Factor used to determine whether or not heat from a heat pump qualifies as eligible renewable heat<sup>15</sup>. The SPF required “towards 2020” is 2.5. The system boundary is  $SPFH_2$  using SEPEMO definitions, which is shown in Figure 2 below.

**Figure 2: System boundaries for measurement of SPF and Qusable.**



Source: SEPEMO build

Earlier in the document, we explained the rationale behind using the Heat Emitter Guide in MCS to determine the designed performance of heat pumps. The SPF calculations for ground-source heat pumps – and by inference air-source heat pumps – include a nominal amount of electricity for the primary central heating circuit circulation pump(s) and are therefore calculated to a wider system boundary than required in the latest European Commission guidance. This

<sup>15</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:062:0027:0035:EN:PDF>

should make the Heat Emitter Guide conservative compared the rules governing when heat may be counted towards our renewable energy targets under the RED.

The current version of the Heat Emitter Guide has 6 Temperature Star Ratings that result in 6 steps of SPF. This means that the first ASHP Temperature Star Rating that would be eligible for the RHI is 3 stars, corresponding to an ASHP SPF of 2.7 (0.2 higher than the European Commission requires).

**For these reasons, we have not explicitly stated a higher SPF than the minimum required to meet our 2020 renewables target, nor have we stated a rate at which the minimum SPF will increase. However, we will reconsider this issue at the first review of the scheme in 2015.**

We also recognise that setting a higher SPF than 2.5 at the start of the scheme may potentially result in undesirable exclusion of some non-standard (off-gas grid) projects that cannot achieve low heat emitter temperatures despite them generating renewable energy, carbon savings and bill savings.

#### **Option 4: Enhanced monitoring of installations for evaluation of the domestic RHI (including all installations to be meter ready)**

We continue to see the value of metering installations as we described in the consultation. Metering programmes coordinated by the Energy Saving Trust have been used very constructively by industry previously (in conjunction with DECC) and we think that there are more opportunities to use metered data in the future. We intend to make maximum use of the data we have been collecting through the Renewable Heat Premium Payment scheme to this end.

With the backing of the consultation responses, **it remains our intention to conduct statistically-significant metering programmes in the RHI and to share the data (respecting data protection requirements) with MCS Certification Bodies to improve their surveillance.** We can also use the data to evaluate the policy and improve standards, training and industry best practice guides as well as improving the accuracy of our renewable energy statistics. However, we acknowledge that this work will take time to conduct and the impacts of this policy measure may therefore not be seen for several years.

The responses to the consultation regarding financial penalties for consumers have been extremely helpful from the perspective of developing our policy further. The concept of having a 'meter-ready' requirement inside MCS, as raised several times in the consultation responses and at consultation events, is more attractive than the option we proposed in our consultation to have a financial penalty for installers for several reasons:

- It improves the customer journey;
- It makes the RHI simpler to administer;
- There are sanctions in place for installers not following the requirements; and
- It potentially allows more rapid updates as installation practices develop.

**We are therefore working with MCS to ensure enforceable 'meter ready' requirements are in place before the launch of the scheme. We will not therefore go further to implement the idea raised in the consultation to have a financial penalty for consumers whose installations are not meter ready, but will rely on the MCS requirements.**

### **Option 5: An uplift in tariff for systems with solar thermal installed alongside other renewable technologies**

We want to encourage solar thermal to be installed alongside other renewable technologies, because it improves the efficiency of the overall system – for example, reducing the need for heat pumps to supply hot water, which they generally do at a lower efficiency than space heating, and reducing biomass 'cycling' in the summer. In principle, where solar thermal is installed alongside another renewable technology, the deeming calculation of the space heating technology should be reduced to account for the contribution of solar thermal to heating the hot water. However, in light of the efficiency benefits of a solar thermal system installed alongside a biomass or heat pump system, we have decided that **both systems should receive the full deemed amount**. This effectively provides a payment uplift for solar thermal systems installed alongside other renewable technology, rewarding the efficiency and environmental benefits delivered by installing the two together. Consultation responses were supportive of this approach. In addition, as the applicant will have incurred the full cost of both systems, this ensures that applicants installing two renewable systems are appropriately compensated, and does not give rise to overcompensation. Alternative approaches would also lead to significant additional delivery complexity.

### **Other options for driving continuous performance improvements of renewable heating systems**

A lot of the options proposed during the consultation relate to what Government refers to as 'learning by doing'; the idea that performance will improve as the number of installations grows. We include this effect when we model deployment and the costs and benefits of the policy. However, a lot of the responsibility for ensuring continuous improvement lies with the supply chain. DECC is investing in the RHI to increase demand for domestic renewable heating installations. We encourage members of the supply chain to also invest in initiatives like performance metering, training and best practice programmes to drive continuous performance improvements and further improve the reputation of renewable heating.

In relation to the top suggestion in the consultation responses (Ongoing & regular servicing / maintenance of systems), we think the Metering and Monitoring Service Package that we have described in this section of the document will enhance the maintenance offers installers and manufacturers are able to make to customers. We strongly believe that regular inspection of data and maintenance visits to check / improve performance will allow installers to offer a better service to customers as well as learn from their installations.

## Delivery (59)

### What we proposed

We recognised that there were several options for how and when payments to participants could be made. We committed to working with Ofgem to identify the optimum option from a delivery cost perspective.

Householders will usually pay any borrowing on a monthly basis, but it would be extremely costly for Ofgem to be paying homeowners on such a regular basis. We therefore sought views from stakeholders on the pattern of payment that would be most attractive to homeowners between quarterly or annual payments, and payments in advance or in arrears.

### What respondents said

In terms of pattern of payments, the preferred frequency of payments of the 134 respondents was quarterly (62%), rather than annually as proposed (19%) although respondents were divided on whether payments should be up front (26%) or in arrears (34%). When responses were grouped, most still supported quarterly payments (60% or higher in favour), with the level of agreement less pronounced amongst home owners and private landlords – although it was still the most preferred option.

#### Comments from the Consultation

*We believe that consumers will expect to receive quarterly payments as a minimum for the space heating technologies. Whilst advance payment would undoubtedly be welcomed we can see the rationale for making payments in arrears, in particular where payments will be based on metered readings. For solar thermal the annual sums are rather small, so annual in advance is the preferred option. (Renewable Energy Association)*

*We consider the most attractive option for consumers is for payments to be as regular as possible. We would support monthly payments (in line with most other similar consumer income and outgoings) unless the cost for doing so is significant and well documented. (Consumer Focus)*

### Government Consideration

**Payments to the majority of scheme participants will be made quarterly and in arrears.**

This is the approach favoured by the respondents to the consultation, and balances the need to match payments to applicants' financing and electricity bill payments, with the processing/cost implications of more frequent payments.

## Assurance (60-62)

### What we proposed

#### Consumer Protection

The consultation acknowledged that, as less than 1% of UK homes currently have a renewable heating technology installed, there is a lack of information available to consumers. A lack of awareness of renewable heat may also make consumers more vulnerable to mis-selling and less able to assure the quality of installations than would be the case in a more established market sector. Social research strongly suggests that prospective consumers may lack the confidence to begin to proceed down the customer journey at all without some trustworthy independent advice, and knowledge that there is consumer protection in place.

We proposed minimum quality standards for heat pumps as part of the eligibility criteria for receiving the RHI, and set out options for ensuring that the RHI policy effectively supported the high performance of technologies. We also proposed to offer the option for those consumers installing heat pumps to keep a bivalent fossil fuel system so as to provide additional reassurance.

The proposed standards and certifications to be met before eligibility for the scheme is granted are important to protect consumers effectively and a key mechanism that was put forward was the requirement that all installations would need to be certified under the MCS or a recognised equivalent scheme. This would mean that both the technology and the company installing it would need to be certified under MCS or equivalent scheme.

#### Maintenance

The proposals for the RHI scheme set out in the consultation were designed to subsidise the use of renewable heating systems over the assumed lifetime of the equipment. Systems installed under the RHI scheme must therefore not only run as well as they can when first installed, but also continue to do so over their lifetime. We therefore considered whether maintenance should be included as a scheme requirement to ensure this.

The consultation proposed the use of an annual consumer self-declaration system (similar to tax self-assessment), supported by further risk-based enforcement activities such as spot checks where necessary. We felt that this approach would keep scheme administration costs low and minimise possible barriers to uptake.

#### Fraud

We have a duty to ensure that the design of the domestic RHI scheme, from a policy perspective, does not pose an unduly high risk of being gamed or defrauded. The consultation outlined key areas which were thought to pose the most obvious fraud risks, alongside the protective measures that could be built into the scheme to mitigate them.

The consultation highlighted our plan to do further work with Ofgem, our delivery partner, to help understand and mitigate fraud risk. Once the scheme approaches launch it will be for

Ofgem, to protect against fraud through the checks and balances that it puts in place to administer the scheme. Anyone receiving RHI subsidy under false pretences could be committing fraud and subject to criminal prosecution.

## What respondents said

### Consumer Protection

The majority (64%) of the 191 respondents believed that MCS or an equivalent certification scheme would provide sufficient consumer protection, with a further 21% agreeing but with some reservations. Only 11% disagreed with this proposition. This opinion was reflected when responses were grouped into sectors, although three out of five consumer bodies disagreed with the proposal.

Of those who commented on this proposal, 12% thought that it was 'important to ensure that guarantees / warranties are robust / enforceable' and the same proportion thought that the issue of mis-selling needed to be avoided.

### Comments from the Consultation

*It is worth noting that European experience of introducing renewable technologies has involved significant government backed customer assurance programmes for initial design and installation with subsequent back up when performance did not live up to expectations. (Chartered Institution of Building Services Engineers)*

*REAL supports DECC's proposal to require RHI-eligible products and installers to be MCS-certified or equivalent. However, there some important ways in which MCS certification must be boosted if it is to provide effective consumer protection. In particular, the scrutiny that MCS Certification Bodies provide for installers must be substantially increased. (REAL Assurance – now known as the Renewable Energy Consumer Code)*

### Maintenance

There was strong support (87%) for an approach involving annual consumer self-declaration supported by spot checks. Only 6% of the 194 respondents disagreed with this approach.

Despite overall agreement with the proposed approach, a number of reservations or concerns were expressed, with a quarter (25%) of respondents stating that there should be a penalty (payments stopped or refunded, or a fine levied) for non-compliance. Further to this, 21% thought that a condition should be 'regular / annual servicing or checking of the system (by installer or other third party)' and 15% thought that there should be frequent self-declaration.

## Comments from the Consultation

*EDF Energy believes that the only robust approach which will provide the desired outcomes is the payment of all tariffs to be based on heat meters. An annual self-declaration from consumers that all required maintenance is taking place should also be required. (EDF Energy)*

*As the majority of installations supported under the domestic RHI will be paid on the basis of deemed rather than metered heat, the issue of maintenance should only have a minor impact on spend. Nevertheless it is clearly important for renewable heat installations to operate optimally in order to minimise owners' operating costs and reduce environmental impact. Given that maintenance costs have been factored into the tariff calculations we agree that it is reasonable to include a maintenance requirement within the RHI and an annual self-declaration is probably the least intrusive way of achieving this (with spot checks). (Renewable Energy Association)*

*We would support the light touch approach to reduce costs of the scheme. However, it is important that installations are being maintained to the manufacturer's guidelines. We would like to see supporting documents of any maintenance that has been carried out having to be sent in with the annual self-assessment forms, in addition to the proposed spot-checks. (Consumer Focus)*

## Fraud

When asked if there were any risks of fraud or gaming other than those identified in the proposal, only 40 respondents proposed additional concerns. Ten of these respondents thought that there was a risk of organisations which were selling the systems not being accredited or scrupulous but a similar amount (nine) thought that there would not be a problem as long as checks were 'strict / robust'. Further to this, seven thought it was important to clearly define terms (primary / secondary residence) and six thought 'mis-selling to the public' was a risk.

## Government Consideration

### Consumer Protection

People that buy renewable heating systems that are MCS certified, and installed by an MCS installer, are protected by consumer protection schemes that cover the products and their performance as well as the quality of the installation and service from the installer. This protection is an important part of the reason why **we have made MCS or equivalent certification a condition of the RHI scheme**. The two key consumer protection schemes available currently are the MCS and the Renewable Energy Consumer Code (RECC). We will continue to work closely with MCS and RECC in the lead up to the scheme launch to ensure

that the standards of both schemes are being properly enforced, and that consumers have a clear route for complaints.

## **Maintenance**

We did not receive any further evidence throughout the consultation period that the proposed approach should be changed. We are therefore intending to **continue with the requirement of an annual self-declaration** as part of the scheme. This will need to set out that the system is still in good operational order and has been maintained to the manufacturers' guidelines. It will be both the responsibility and to the benefit of the consumer, to ensure that their system is performing well. We therefore feel this requirement, backed up by a risk-based audit programme by Ofgem, will be sufficient.

## **Fraud**

We have been working closely with Ofgem and will continue to do so to ensure that there is a robust and fit for purpose regime in place to deal with fraud or gaming, including a programme of risk-based auditing of applications for and recipients of RHI support.

We are also confident that the link with the Green Deal, through our energy efficiency requirements, is covered regarding potential fraud or gaming. The Green Deal framework incorporates various levels of checks to ensure that the players involved are acting correctly.

## Customer Journey (63-68)

### What we proposed

A key part of ensuring the success of the domestic RHI scheme, and the overarching RHI policy, is understanding the journey that potential consumers would take when considering or actually applying for support under the scheme.

The proposal set out our intention to help consumers benefit from RHI payments by preventing or mitigating, as much as possible, the impact of any issues that could adversely affect the customer journey. We hoped to achieve this through the provision of information and through taking steps to address the practical aspects of the journey. We recognised that it may not be possible to resolve all the issues that have been or will be identified, but we would look to reduce the impact of these issues where possible.

With regards to the provision of information, we would seek to improve consumer awareness of the scheme and its benefits. We would also make sure sufficient information is made available from the start and during the customer journey so that consumers are given assurance about the scheme and to enable them to make informed decisions about their participation. This would include guidance on consumers' right of redress.

On the practical aspects of the journey, we would look at how we might influence, for example, the availability of loans and make sure support to consumers is provided throughout the customer journey. We also stated that ensuring the relationship between the Green Deal and the RHI is as seamless as possible would be a key issue and that we would seek to minimise disruption related to installing measures and the time involved.

### What respondents said

When asked what role Government should play in communicating the RHI scheme to consumers and other interested parties, there were 189 responses with the key roles considered to be consumer education (41%), as well as public relations and advertising for renewables (35%) and the RHI (28%). Some respondents would like to see Government providing a website (14%) and continuing to offer policy and financial support to the industry (11%).

The most popular choices amongst the 79 home owners that responded were that Government should provide consumer education (32 responses) and publicity or advertising for either renewables (25 responses) or the RHI (17 responses). Consumer bodies were in favour of publicity or advertising for renewables (recommended by four out of five consumer bodies) or the RHI (three out of five) above other choices.

## Comments from the Consultation

*Finance is not the only barrier to, and benefit from, installing renewable heat, and Government also need to take action to enable and improve the consumer experience.*

*We consider that different organisations (including installers, REAL Assurance, EST/ESAS, OFGEM) have different roles to play in the communication process, however there are several key roles for government.*

*We recognise the restrictions on Government funding in the current economic climate. However, there are a number of initiatives and existing programmes underway, which could be used to help promote the RHI scheme. (Consumer Focus)*

*Government's role is vitally important along with other stakeholder parties such as TA's. Government has a pivotal central role to pull together the various interested parties (assessors, manufacturers, installers etc). This consultation rightly draws attention to customers requiring as independent advice as possible. The Government should fund an awareness campaign and its web site [should] give some basic customer advice (e.g. obtaining second opinion/3 quotes) or obtaining performance warranties. Publish examples as has been included in the consultation however it would be good for them to be quantified into actual running costs etc. (Heat Pump Association)*

## Market Research Findings (Ipsos MORI report)

Respondents who had replaced their heating system in the past were asked which source of advice they consulted when deciding which type of heating system to install (multiple response given).

*Around two in five respondents (42%) had consulted a boiler repairman for advice, while just under a quarter (24%) had consulted friends, family or colleagues. Other sources were an energy supplier (14%) and builder (14%) followed by a general internet search (6%) and through an independent organisation like the EST (5%), while 11% had consulted no-one.*

**Base: All who have replaced their heating system in the past, and who do not currently use GSHP, ASHP, biomass boiler or heat network to heat their home (1,807)**

*A potential barrier to some homeowners replacing heating systems they were dissatisfied with was a low level of awareness of the available alternatives. This was particularly apparent among workshop participants in off gas grid areas, especially those living in urban areas. Although many of these homeowners had aspirations for a different way of heating their homes, they generally believed their current electric system was the only possible solution for their property and area type.*

**Base: 3 x 2 ½ hour workshops with 9-12 participants in each.**

Respondents were asked about the level of awareness they had about particular renewable heating systems (single response given).

Technology	Heard of it and know what it is	Heard of it but not sure what it is	Never heard of it
Air Source Heat Pump	17%	15%	68%
Biomass	24%	23%	53%
Ground Source Heat Pump	28%	19%	53%
Solar Thermal	60%	24%	17%

**Base: All respondents (2,900)**

Even for workshop participants who had not heard these terms before, the names did have some immediate connotations. For instance, a few linked 'biomass' with wood pellets but were unsure how these were used to provide central heating. Some felt 'ground source heat pump' referred to a system using natural thermal springs. Although some homeowners claimed to have seen ASHPs on the side of buildings, it is likely that these were air conditioning units.

**Base: 3 x 2 ½ hour workshops with 9-12 participants in each.**

Homeowners were asked how aware they were of renewable heating systems.

*The highest level of awareness was solar thermal (83%), with 47% having heard of ground source heat pumps and biomass. Almost a third (32%) had heard of air source heat pumps. The survey showed that homeowners from more affluent social groups (ABs) were the most likely to have heard of these heating systems.*

**Base: All respondents (2,900)**

When asked how RHI information to support and guide consumers could be provided, a number of suggestions were provided by the 163 respondents. These included publicising and advertising RHI and renewables generally (19%), providing consumer education (17%) and by having a specific website for the RHI (13%) or information on the DECC website (12%). The use of impartial bodies such as the Energy Saving Trust and Energy Saving Scotland (11%) or other independent help / advice services (9%) were also suggested.

## Comments from the Consultation

*We think installers should be the first point of contact for consumer queries or concerns, as required by the REAL Assurance scheme. Free, trusted, independent face to face advice should also be provided, for instance by the Energy Saving Trust, including on technical aspects of renewable heat as is already the case in Scotland. This should be linked to the existing Energy Saving Advice Service (ESAS). Ofgem also should have a duty to provide information and respond to customer queries on the administration of the RHI scheme itself. Government also has a number of roles, including ensuring that relevant advice is available and accessible for consumers, even if not actually producing that advice: (Consumer Focus)*

*Other than the installers, very few people understand the products. This includes architects and well trained people. It also includes installers - who understand their product but may not understand a competing product or a slightly different technology. The Energy Savings Trust is very good, but they are limited in how far they can go in terms of which technology is better in different situations. They are probably your best bet. Support is therefore linked to website and telephone support. (Installer)*

*From our work with businesses in the south west, we have supported a number of RHI applications from inception through to accreditation. One of the biggest barriers to deployment is the lack of clear guidance for customers regarding eligibility and risk. We would like to see more guidance for the customer, written in plain English, which sets out their responsibilities regarding energy efficiency and site eligibility. (RegenSW)*

Other key comments relating to the consumer journey were about the need to keep the scheme clear and simple. This included a clear and straightforward explanation of RHI and how the scheme works (24%) and a simple overview of the tariffs (10%) as well as information and advice relating to energy efficiency and the Green Deal (9%). There were 119 responses to this question.

## Comments from the Consultation

*Any promotional exercises should draw on existing best practice in related areas such as energy efficiency. Consumer Focus has carried out research into how energy efficiency projects have maximised the benefits of and reduced the barriers to take up of energy efficiency measures, for instance by ensuring the benefits promoted are tailored to the measure itself and the audience. (Consumer Focus)*

*REAL advises consumers to seek at least three quotations before signing a contract. This may not always be practical, for example in the case of biomass boilers. REAL considers it essential that the strongest possible sanctions are applied to those who miss-sell renewable heating systems. This includes factors such as: the likely output, the likely income and more specific issues such as the amount of mains electricity a heat pump is likely to use. (REAL Assurance – now known as Renewable Energy Consumer Code)*

### Market Research Findings (Energy Savings Trust, Purple Research)

The Energy Saving Trust highlighted some of the key findings of their research (Consumer Journeys, Purple Research May 2011) which identified the key levers and barriers, both financial and non-financial, for the adoption of renewables.

	Financial	Non-Financial
Barriers	<ul style="list-style-type: none"> <li>High upfront cost of installation</li> <li>Long payback period</li> <li>Lack of savings / access to money</li> <li>Awareness / knowledge of FITs / RHI</li> <li>Complexity of FITs / RHI</li> </ul>	<ul style="list-style-type: none"> <li>Awareness / knowledge of technologies</li> <li>Perceptions that renewables are not suitable for homes</li> <li>Concern about installers (skills, experience, costs)</li> <li>Apathy – renewables not perceived to be needed</li> </ul>
Levers	<ul style="list-style-type: none"> <li>Financial support (FITs / RHI) and making them more transparent and comprehensible</li> <li>Finding way of reducing up-front costs (to £5k) and payback period (to 5 years)</li> <li>Focus on investment rather than cost</li> <li>Focusing on value added to home by installing renewables</li> </ul>	<ul style="list-style-type: none"> <li>Promotion (advice &amp; information) for renewables, including applications &amp; benefits</li> <li>Taking advantage of trigger points (moving home, refurbishing, replacing heating system)</li> <li>Development of specific guidance at household level (surveys, EPCs, etc.)</li> <li>Installer guidance / training</li> <li>Reinforcing environmental / sustainability messages</li> </ul>

When asked about specific customer journeys that would be helpful to analyse, 63 respondents identified areas of interest:

- The whole customer journey from finding out about technologies through to installing them / the whole journey (16 responses);
- Researching / finding the best renewable solution (12 responses);
- Customer journey for people with difficult to treat / old / listed / older / solid wall properties (12 responses);
- Financing / raising finance (9 responses); and
- Green Deal (6 responses).

## Comments from the Consultation

*It is important to map full the range of potential consumer journeys, including the different options of financing renewable heat and the related energy efficiency requirements:*

- *Consumers using RHI and installing energy efficiency measures with Green Deal finance*
- *Consumers using RHI and installing energy efficiency measures without Green Deal finance*
- *Distress purchasers, including those installing energy efficiency measures with or without Green Deal finance (the customer journey for this group should clarify the different relationship required in the supply chain)*
- *Consumers installing renewable heat measures with ECO Affordable Warmth support (we consider this journey to be unlikely without extra uplifts for renewable heat and note that Affordable Warmth ECO should focus on low cost measures)*
- *Consumers installing insulation measures with ECO Carbon Saving Obligation (for instance loft insulation with solid wall insulation)*
- *Legacy applicants*
- *Consumers living in social housing where providers have used RHI to install renewable heat, quite possibly as part of a broader package of improvements funded through a variety of funding mechanisms.*

*(Consumer Focus)*

*To maximise the take-up of RHI, the key group to target is the 'Contemplation' group as: (1) our own research indicates this represents a large group – 37 per cent of householders fall into this category and (2) if action can be taken to "shift" this group to the next stage "preparation" then they will be more sold on the idea of installing a renewable heat technology. To do this there are three barriers to overcome (with suggestions on how to overcome them below):*

- *Lack of detailed knowledge of technologies - more in-depth advice is needed here...we need to identify who will be developing this advice and who will communicate it*
- *Inability or unwillingness to pay up-front capital cost - it is important to manage expectations; the estimated capital cost should be communicated as early as possible but with the knowledge on and insight of longer term returns.*
- *Low awareness/understanding of financial support/levers - this relates to understanding of the scheme in general, which again relates to awareness raising.*

*(Energy Savings Trust)*

*CIBSE think it is important to characterise the archetypal customer cohort and run virtual trials of the process to find out what motivates or discourages interest, test the description of the journey and their understanding, how committed they are to starting the journey and what they find irritating /encouraging or would make them drop out or not apply. It is important to use socio/behavioural techniques to be sure the target market is as well understood as possible. The work of the social science team on the EPSRC funded CALEBRE project, led by Prof Denis Loveday at Loughborough University may be highly relevant. (Chartered Institution of Building Services Engineers)*

*DECC should hold regular briefings with enforcement bodies including Trading Standards departments, Advertising Standards Authority, Citizens Advice. This will ensure that the purpose of the RHI is well-understood and enable these bodies to channel any feedback they receive effectively to the right channels. (REAL Assurance – now known as Renewable Energy Consumer Code)*

Suggestions on making the RHI and Green Deal relationship seamless tended to focus on training assessors to make sure they have enough information on the RHI (38%) and to train / inform installers (26%) on the Green Deal. Almost a quarter of the 114 respondents (23%) thought that the 'Green Deal assessment should include suggestions / recommendations on the best renewable technology for the property'. Furthermore, 17% thought it was important to keep the schemes simple, clear and uncomplicated and 21% thought that the schemes should be kept separate.

There were a small number of comments on the customer journey on the whole, further to those already set out above. They included the need to keep the scheme simple, implement it sooner rather than later and have independent advice available for consumers.

## Government Consideration

Responses to questions about the customer journey provided valuable suggestions regarding approaches to communicating the existence and details of the domestic RHI scheme and providing guidance about it to consumers and interested parties in industry. We are working closely with key delivery partners – Ofgem, EST, MCS and Green Deal colleagues – in order to identify ways in which we can:

- Raise awareness of and provide guidance on the domestic RHI scheme (including within the Green Deal framework);
- Raise awareness of and provide further guidance on the relevant technologies;
- Offer additional support to consumers and installers through the customer journey; and
- Reduce the complexity of the application stage in the journey and make it as straightforward as possible

We will continue to collaborate with our partners to finalise and, where applicable, publish our work in these areas ahead of the launch of the scheme. We will also be working with stakeholders from a variety of sectors to develop and implement our marketing and communications strategy, which aims to raise awareness and promote uptake of the domestic RHI scheme.

EST will handle enquiries from anyone interested in the domestic RHI, through the Energy Saving Advice Service (ESAS) in England and Wales and EST Scotland in Scotland. They will provide information on the scheme's eligibility requirements, though they will not provide advice on whether specific installations may or may not be eligible. Enquiries in relation to submitted applications will be handled by Ofgem as part of their administration of the scheme.

Industry's involvement will also be vital to the success of our outreach efforts and we hope to liaise with representatives to identify ways in which to achieve this, for example, at events they run, their own training programmes, or through the distribution of publications produced to address the above-mentioned issues.

## Budget Management (69-75)

### What we proposed

In the consultation we established that the RHI is funded through Government spending and good budget management was therefore an essential element of the scheme. Without a mechanism to control spending we could jeopardise the long-term future of the RHI. It is vital that we promote investment in renewable heat and encourage the uptake of eligible installations, so that we can meet our 2020 renewable energy targets and the Carbon Plan. Our approach to budget management must ensure that the domestic RHI is financially sustainable and that the deployment of renewable heat continues to be good value for money for the taxpayer. For Government, budgetary controls must enable us to be responsive to what is a demand-led scheme. The approach must limit the possibility of overspend whilst also providing transparency.

We proposed that budget management for the domestic RHI take a similar approach to that proposed for the non-domestic scheme; using a system of degression and reviews. The key elements of this system were set out as follows:

- A system of degression (or lowering) of tariff rates;
- Degression would only occur if deployment (and costs) exceeded pre-set trigger points;
- Tariff rates would be reduced by fixed percentages if individual tariff trigger points were met;
- Tariff rates would also be reduced if total domestic deployment hit an overall trigger point;
- We would monitor deployment levels of eligible renewables technologies at regular intervals, and provide advance notice before any reductions in tariff rates took place;
- We were considering whether to build in greater flexibility to the system of degression for each tariff where overall deployment is much lower than expected;
- We were considering the treatment of legacy applicants, including whether they should count towards trigger points and whether they should be subject to degression over a certain time period; and
- We would carry out periodic reviews of the RHI scheme.

We also discussed alternatives to degression, such as limiting the number of applications that can be made in a given period, or a fixed annual budgetary cap that would suspend the scheme once spent. We proposed that we would not offer enhanced preliminary accreditation for the domestic scheme.

## What respondents said

Respondents agreed with the proposed system of degression, as a means of controlling costs of the domestic RHI scheme. Although only 108 respondents gave an answer to this question, 69% of these agreed with the system of degression and a further 18% agreed but with reservations.

The proposed system was perceived to be a suitable approach to control costs. Those few respondents with reservations about this approach believed that it would act as a disincentive to taking up RHI (7% of the 108 respondents) and stressed the importance of a clear explanation of degression (5%) and giving consumers as much notice as possible before it may be applied (6%).

Respondents also agreed that the system should have flexibility so that degression might not occur if overall deployment levels are low (58% agreed, 26% agreed but with reservations out of 115 responses). The 11 respondents in the group of consultants / professional organisations were divided on this though, with three in favour and another four in favour but with reservations. Of the 16 manufacturers / suppliers that responded, nine agreed entirely and four more agreed but with reservations, and amongst consumer bodies one agreed entirely and a further three of the five agreed but with reservations.

### Comments from the Consultation

*We agree that there should be greater flexibility in this case and have already provided detailed analysis to DECC on how this could be done. One option would be to set up a rule such that tariff degression would not occur for cost-effective technologies if overall RHI deployment is below a certain level. We believe restricting this provision to the more cost-effective technologies is vital in order to safeguard the scheme's value for money. In the context of the RHI as a whole, however, it is unlikely that any of the domestic RHI tariffs would be regarded as 'more cost-effective'. (Renewable Energy Association)*

*Yes. We suggest that the degression mechanism follows the current Feed in Tariff mechanism, but without the automatic nine month degression. This has been an accepted system under FIT's, and allows the market to know well in advance when the next degression (if any) will take place. (Solar Trade Association)*

*HHIC agrees with the degression as outlined. However flexibility must be inbuilt to ensure that low take up is considered and not adversely penalised. Degression should also be in line with DECC deployment targets, as outlined in the last 'Carbon Budget'. If there is low deployment DECC should have a mechanism to increase tariffs in order to attract greater demand. (Heating and Hot water Industry Council)*

*In each take up period, certainty is required as to the level of subsequent degression. if*

*take up is too low, then the offer has to be made more attractive and/or easier to access in the next period. Regen SW*

*The system of tariff degression, proposed under the RHI consultation, is a viable way to attain budgetary certainty and maintain value for money. Dimplex*

## Timing and Frequency of Degression

There was little appetite for a tariff announcement every two months (with a 1-2 week notice period), with almost half (47%) of the 153 respondents preferring quarterly announcements with up to one month's notice and 42% opting for a different time period

When responses were grouped, most preferred quarterly announcements with a one month notice period, with the only support for announcements every two months, with a shorter notice period, was from nine of the 58 home owners and two of the 22 manufacturers / suppliers. Three out of four consumer bodies preferred adopting a different time period, as did 15 out of 23 installers and 25 out of 58 home owners.

## Comments from the Consultation

*We think consumers would prefer the longest time period for certainty, and would support an even longer rate of planned reductions. We think quarterly would give enough scope for this, as well as guard against overspend. However, if there was an introduction of an EPA, this would give greater scope and certainty to consumers. (Consumer Focus)*

## Triggers

There was broad agreement with the options presented for setting degression triggers amongst the 123 respondents, with comments relating to consumer confidence in tariff levels (18%), being based on number of installations not pounds spent (13%) and avoiding tariff reductions for existing customers (12%).

Two-thirds (66%) of respondents agreed that the mechanism should recognise legacy applications when calculating trigger points. When responses were grouped, opinions reflected this general agreement, with the exception of seven of the 10 trade bodies who disagreed. There was also some disagreement amongst manufacturers / suppliers (six of the 17 disagreed) and installers (six out of 15 disagreed).

When asked if the degression calculations and triggers should be based on pounds spent or an alternative approach, such as installed capacity or renewable heat produced, the 109 respondents were divided. Half (49%) agreed that it should be based on pounds spent, with 44% preferring that it was based on renewable heat generated (30%) and / or installed

capacity (28%). When responses were grouped, there was a similar mix of views. There was agreement from three out of four consumer bodies, two out of three private landlords and both energy suppliers, as well as 11 of the 18 manufacturers / suppliers. Conversely, 18 of 37 home owners, four of the eight local authorities / housing associations / social housing organisations, nine out of 14 installers and 6 out of 11 consultants / professional organisations did not agree.

### Comments from the Consultation

*The depression should be split between technologies so that there is an equal incentive. Otherwise rapid cost reductions arising from high volume production in one technology would trigger a depression and disadvantage the other technology which was already falling behind in the strategic introduction rate. (H2 Solutions)*

*This should be based on pounds spent since this is what the mechanism is intended to control. Whilst the spend in pounds should be the trigger, this should also be translated into indicative MW and MWh based on standard published assumptions to provide greater transparency of the market. (REA)*

*Pounds spent is a clear way to manage depression. However HHIC would like to also know the volume of product deployed. This recognises the volume of renewable heat installed and means it can be calculated against the outlined 'Carbon Budgets'. (HHIC)*

### Enhanced preliminary accreditation

The 100 responses to this question were divided on the issue of Enhanced Preliminary Accreditation (EPA), with 42% of the opinion that EPA or a similar option should be applied to the domestic RHI scheme and 45% believing that it should not. Comments highlighted the benefit EPA would have for consumers; in that it would 'give confidence / security / certainty' (12%) or it would be a 'good idea / fair to consumers' (10%). Further to this, 11% thought it would be 'good for more difficult installations e.g. ground source heat pumps, large biomass boilers'.

There was a range of responses within each group, with the only occurrences of more than half of respondents explicitly agreeing or disagreeing being amongst local authorities / housing associations / social housing organisations, where five out of eight disagreed, installers (nine out of 14 disagreed) and consultants / professional organisations (eight out of 12 agreed).

## Comments from the Consultation

*No it would overly complicate the scheme and out off households in investing. This is a domestic scheme and must remain simple. (Professional Services firm)*

*EPA may be required where consumers are seeking finance to fund their installations. It is not unreasonable to expect that financial institutions will need some guarantee of the level of payback to be certain that the consumer is able to repay the money borrowed. AD Heating*

*If Social Landlords (or large private Landlords) were to produce a programme of installations, and indeed to deliver the savings suggested are available to Social Landlords this would be necessary, then EPA would be required to allow such programmes to be funded and organised. New Linx Housing Trust*

## Government Consideration

Good budget management is an essential part of the RHI. A proportionate and responsive budget management mechanism will ensure the scheme is able to incentivise deployment of renewable heat through a range of technologies, while being financially sustainable and good value for money for the taxpayer. We therefore intend to take forward a degression based mechanism that sets out transparently what we will do to if demand for the scheme is higher than we anticipate. Degression (gradual lowering of tariffs) provides the right balance between controlling spend, ensuring value for money and providing certainty to those considering installing renewable heat. It controls spend by allowing tariffs to decrease should demand exceed anticipated levels; it provides value for money for the tax payer, as tariffs reduce over time so installations become less expensive per kWh; and it provides certainty for those applying to the scheme, as the size and circumstances of any tariff reductions are set out in regulations..

To provide extra budgetary control, we are considering combining degression with a cap i.e. a level of budget at which the scheme could be suspended to new applicants until the following financial year if the budget was at risk. A cap provides additional ability to ensure that the scheme does not go over budget, but the risk of the scheme being stopped could discourage people from choosing renewable heat. We will continue to consider this and may introduce a cap if we conclude that we require additional ability to control costs. If we do introduce a cap it will be set out in regulations and a suitable notice period would be provided of any suspension coming into effect.

We intend to announce further details on the budget management policy for the domestic RHI in the Autumn.

## **Degression Triggers**

Degression triggers will be set for each tariff in the scheme until the end of 2015-16. Degression triggers for 2016-17 onwards will be set out once the Spending Review for that period has concluded. If a tariff trigger was hit, that tariff would be reduced by a set percentage. We are working on the detail of degression triggers and the frequency and size of reductions when a trigger is hit. We anticipate making this information available for 2014-15 and 2015-16 in the Autumn.

Degression triggers set for each tariff mean that a tariff will only be degressed if deployment of that particular technology is higher than we anticipate. They ensure that one technology does not dominate the whole budget, allowing space for technologies that are more expensive now but may be more cost effective in the longer term to grow.

We have considered the calls from respondents for regular and timely data to be made available and for applicants to be given as much notice as possible of a degression. Updates of progress towards the triggers will therefore be published on the DECC section of the gov.uk website.

## **What happens when a trigger is hit?**

Degression announcements will take place periodically, with the dates set out in the Regulations. Advance notice will be provided of any reduction of tariffs. The notice period will be set to allow applicants enough time to submit an application for installations that are already complete, while reducing the risk of a rush of applications during the notice period that would reduce budgetary control. Applicants who are accredited onto the scheme after the notice period ends will receive the new tariffs. Those who have already been accredited on to the scheme will continue to receive the previous tariffs.

The decision on whether to reduce tariffs will be based on the previous period's applications to the domestic scheme. It will not be affected by applications to the non-domestic RHI. Legacy applications will not count towards the decision on whether to reduce tariffs in financial year 2014-15 as they were deployed before the start of the scheme and are not representative of the effect of current tariffs on the market. This will ensure that legacy applicants do not trigger a degression that could drive tariffs too low to incentivise new deployment.

# Summary of Responses and Government Position

The consultation set out 75 questions relating to various aspects of scheme design and delivery. These are separated out by topic area, as per the original consultation document. For each question the following information has been provided:

- The original question, as set out in the consultation document;
- Responses to the question, in terms of a percentage for or against the proposal and / or specific comments put forward to support a particular point of view;
- The Government response to these views (in **bold**), sets out the final policy position and how this affects the domestic RHI scheme.

No.	Questions on Scheme Objectives and Approach
1	What are your views about the proposed approach of a universally available tariff scheme? Is a tariff scheme the most efficient way to drive down technology costs, increase innovation and value for money, together with developing a home grown supply chain? Please include reasoning for your response.
81% of respondents indicated their support for the scheme. <b>The scheme will go ahead following the general objectives and approach outlined in the proposals.</b>	
2	Do you think that there would be advantages in phasing or piloting roll out of the scheme? On what basis do you think it might make sense to phase or pilot the scheme?
Only 25% indicated a preference for phasing or piloting, with 61% stating it was not required. <b>There will not be a pilot phase preceding the full launch. However, we intend to phase the applications of legacy applicants, and will announce further details on this closer to the launch of the scheme.</b>	
3	Do you think that there may be alternative or additional approaches to incentivising renewable heat deployment that we should pursue? What approaches do you think might add most value?
Respondents recommend a number of alternative or additional approaches to incentivise renewable heat deployment. However there is overall support for the approach outlined in the proposals.	

**The scheme will follow the approach set out in the consultation.**

#### **No. Questions on Eligible Properties**

**4** Do you have any comments on the proposed exclusion of second homes from the RHI?

Only 37% agreed that second homes should be excluded. 49% of respondents disagreed, with 14% only agreeing that second homes should *sometimes* be excluded.

**Second homes will be included in the scheme, with the condition that applicants for second homes will have to install a meter which will measure the amount of heat used, on which payments will be based. Solar thermal systems will be exempt from the metering requirement.**

**5** Do you have any comments on the proposed approach to private landlords and their tenants under the RHI? Have you any suggestions about how to ensure that the RHI incentivises the installation of renewable heat in the private rented sector and does not disadvantage tenants?

It is difficult to quantify overall reactions, as this was an open question. The general nature of responses indicated broad support for inclusion of private landlords with the proviso that tenants' rights are protected.

**A private landlord will be able to apply for a property or properties that they own (provided they own the heating system). The landlord will receive the RHI payments. However, they must get the necessary permissions from their tenant(s).**

**6** What are your views on our proposals for the treatment of legacy applications for installations between July 2009 and the opening of the scheme?

92% of respondents agreed with the proposed treatment of legacy applications.

**Owners of renewable heating systems installed on or after 15th July 2009 will be able to apply to the scheme providing they meet all of the eligibility requirements.**

**7** Are there any other legacy applicants (aside from those that have received RHPP, a Home Renewables Loan or installed renewable heating systems since 15 July 2009) that you think we need to consider?

Only 18% mentioned other legacy applicants for consideration, beyond those described in Q6, with the majority (56% of this group) suggesting that there should be no cut-off date for legacy applications.

**The scheme will proceed with a cut-off date of installation on or after 15 July 2009 for legacy applicants. We will not be extending the scheme to other groups other than owners of eligible systems installed on or after 15<sup>th</sup> July 2009.**

**8** What are your views on phasing legacy applications over the first year and the option of setting a cut-off date for legacy applications?

Just under half (47%) of respondents agree with the proposal to phase legacy applications over the first year, with a further 29% unsure or neutral.

**There will be phasing of legacy applications, and we will confirm the exact details of this closer to the launch of the scheme.**

#### No. Questions on Eligible Technologies

**9** Do you agree with the proposed approach to the selection of eligible technologies for the domestic RHI scheme? Please include reasoning for your response.

The majority (90%) agreed with the proposal, with just 7% disagreeing.

**We will implement the approach proposed in the consultation.**

**10** Do you agree with the proposed eligible technologies set out above? Are there others that should be considered for inclusion?

82% agreed with the proposal, with 15 disagreeing.

**We will implement the consultation proposal.**

**11** Do you agree that an approved suppliers scheme is the best option for domestic biomass heat installations to demonstrate their use of sustainable fuel? Please provide reasoning with your response.

Over two thirds (68%) agreed that an approved suppliers scheme was the best option, with 23% disagreeing.

**An approved supplier list will be established and made available before the scheme launches. The list will be the same as that being established for the non-domestic RHI scheme.**

**12** Do you agree that as part of the approved biomass supplier list we should assume a level of boiler efficiency? Please provide evidence to back up your response.

Over two thirds (68%) agreed that a level of boiler efficiency should be assumed, with 21% disagreeing.

**We will implement the consultation proposal.**

**13** Do you agree that April 2014 is an appropriate date from which to start requiring users of domestic biomass heat installations to provide proof of meeting the sustainability criteria? Please provide reasoning with your response.

More than half (52%) of respondents to this question agree with the proposed start date, although 30% disagreed.

**We will implement the consultation proposal to introduce biomass sustainability requirements from April 2014. From that point, we intend that suppliers will need to demonstrate to the list administrator that the fuel they supply complies with the greenhouse gas (GHG) lifecycle emissions target and report their performance against the relevant land criteria. Our intention is to make compliance with the land**

**criteria mandatory from April 2015, subject to EU and international legislation.**

**14** Is the air quality approach set out appropriate for the domestic RHI sector? Please provide your reasoning with your response.

More than half (54%) of respondents agree with the proposed approach to air quality. While only 9% explicitly disagree with the proposed approach, 37% are unsure or neutral.  
**The approach to air quality in relation to biomass systems will proceed as proposed.**

**No. Questions on Excluded Technologies**

**15** Do you have any views on our proposals for excluding certain technologies? If you would like to suggest changes, please provide evidence to support your view.

Around a quarter of respondents suggested various additional technologies or approaches for inclusion in the scheme.

**The eligibility of new technologies will be decided by gathering and analysing evidence to check whether it meets DECC's criteria for support. A process involving public consultation and legislation will then be necessary to make the technology part of the scheme. Further details on this have been published alongside this consultation response.**

**No. Questions on Heat Pump Standards**

**16** Do you agree with our proposed approach to efficiency requirements for heat pumps?

Most (80%) of the respondents agreed with the approach set out in the consultation, with only 15% disagreeing.

**We will proceed with the approach proposed in the consultation.**

**17** Do you agree with our assumption that heat pump systems, using technology that meets MCS efficiency specifications, should meet an SPF requirement of 2.5 providing they are designed, installed and used appropriately?

Most (70%) of the respondents agreed with the assumption, with a further 15% thinking that this was 'possibly' the case. Just 4% disagreed.

**We will proceed with the approach proposed in the consultation. We will estimate the SPF of heat pumps in the RHI using their design space heating SPF only. We are working with MCS to develop the way to do this for new installations.**

**No. Questions on Energy Efficiency Requirements**

**18** Do you think that the 'Green Ticks approach' to an energy efficiency requirement is appropriate to the RHI? Please provide reasoning for your response and further information on any exceptional cases you think might arise.

Almost two thirds (65%) of respondents agreed with this approach, with 24% disagreeing.

**Before applying for RHI support, all applicants, including legacy applicants, will need to ensure that:**

- a. a Green Deal Assessment (GDA) has been carried out to find out which energy efficiency measures are cost-effective for the property;
- b. loft insulation (to 250mm) and cavity wall insulation have been installed where these measures are recommended by the GDA; and
- c. where the GDA shows the required loft and cavity wall insulation is yet to be installed, an updated Energy Performance Certificate (EPC) is obtained as proof of installation (or in exceptional circumstances, provide valid evidence proving why installation was not possible).

**The only exception is for self-builders, whose properties will already be energy efficient since they are built to current building regulation standards. They will, however, still need to obtain an EPC upon completion of the property.**

<b>19</b>	What are your views on our proposal to require consumers to have installed energy efficiency measures and provided proof to Ofgem before they become eligible for the RHI? Can you suggest an alternative approach that guarantees the installation of the Green Tick measures, but provides RHI subsidy at an earlier point?
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Of those respondents giving an opinion on the proposal (just over half), reactions varied, with 37% broadly positive, 24% expressing concerns and 39% neutral or unsure.

**See above (Q.18).**

<b>20</b>	Do you think that solid wall insulation should be excluded from the energy efficiency requirements or be introduced in a phased way? Please provide evidence for your response.
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Two-thirds of respondents believe that solid wall insulation should either be excluded (58%) or given special dispensation (7%) from the energy efficiency requirements for RHI eligibility. 23% thought it should be included as a requirement.

**The RHI scheme will not include solid wall insulation as a requirement. However, we will review energy efficiency requirements at the first review point of the scheme in 2015.**

## No. Questions on Tariff Design

<b>21</b>	Do you think that 7 years is a suitable time period for tariff payments under the RHI to be made? Would a different time period for tariff payments suit different technologies? Please provide evidence to support your view.
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More than two-thirds of respondents (67%) believe that a seven year period for RHI tariff payments is suitable and appropriate, with 23% disagreeing with this proposal.

**The RHI scheme will make tariff payments over a period of seven years, as proposed.**

22	Please provide evidence on the potential lifetimes for the different renewable heating technologies, particularly where they are expected to last less than the 20 year period that we are assuming.
<p>There were less than 100 respondents comment on the potential lifetimes of renewable heating technologies, mainly from manufacturers, suppliers, installers and trade associations. The general indication was that 20 years was an acceptable assumption for the lifetime of the different renewable heating technologies.</p> <p><b>The RHI scheme is based on an assumed lifetime of 20 years for newly installed systems.</b></p>	
23	What is the risk of switchback after the period over which tariff payments are made? Do you think this applies solely to biomass?
<p>Respondents did not believe that there is a significant risk of switchback. 26% thought that switchback from biomass was more likely than other technologies. Just 5% thought switchback from heat pumps was likely and 3% for solar thermal.</p> <p><b>The RHI scheme will make tariff payments over a period of seven years, as proposed.</b></p>	
24	Do you think that either of the proposed solutions would mitigate the risk of switchback? Which approach would be better? Is there any other action we could take to ensure the continued use of biomass in this way?
<p>Of the 139 respondents answering this question, over half did not see a need for further solutions to mitigate that risk, with only 17% supporting option 1 (splitting out part of the tariff for on-going costs and spreading that over twenty years) and even fewer (13%) supporting the option of a secondary tariff if biomass fuel costs rise.</p> <p><b>Neither of the solutions proposed will be adopted in the scheme, but the situation will be kept under review.</b></p>	
25	What do you think are the other risks associated with paying a tariff over a shorter period, say 7 years, but assuming heat delivered for 20 years? How do you think we should mitigate these risks?
<p>Some risks were identified, with the most frequently mentioned being 'change in home ownership or use' and 'equipment not lasting 20 years' (both 9%). Possible solutions included 'extending the payment period to 10 - 20 years' (14%), 'consumers being allowed to switch if better technologies are developed' (12%) and 'spot checks and penalties' (9%).</p> <p><b>The scheme will pay tariffs over a seven year period, with risks managed through the application process, eligibility criteria and audit process.</b></p>	
26	Do the tariff ranges above accurately reflect the costs faced by consumers installing renewable technologies? Where possible we would welcome cost-based evidence that supports your views.
<p>One third (33%) of respondents gave a positive reaction to the tariff levels, with 58% giving a negative reaction or want higher tariffs. Further detailed evidence was received from</p>	

stakeholders to support positions on specific tariff levels.

**The tariffs are as follows:**

	<b>Biomass</b>	<b>ASHP</b>	<b>GSHP</b>	<b>Solar thermal</b>
<b>Tariff (p/kWh renewable heat)</b>	<b>12.2</b>	<b>7.3</b>	<b>18.8</b>	<b>19.2<sup>16</sup></b>

#### **No. Questions on Solar Thermal Tariff**

**27** What are your views on the support for solar thermal as set out? What evidence is there to support a tariff higher than the renewable energy cap? Do you have any suggestions / views on other ways in which a subsidy for solar thermal could be paid, for example, through a capital grant or through increasing the tariff beyond the cap?

There were a variety of suggestions from over a third of respondents regarding support for solar thermal, with the most commonly mentioned being 'one off grant to help with up-front cost of installation' (28%), 'increase tariffs above the cap' (20%) and a general agreement that solar thermal should be 'supported / promoted' (18%).

**Solar thermal will be supported by a tariff through the domestic RHI, as set out under question 26.**

#### **No. Questions on GSHP Tariff**

**28** What are your views on the support for ground source heat pumps as set out? What evidence is there to support a tariff higher than the renewable energy cap?

Respondents generally supported the inclusion of ground source heat pumps in the RHI scheme (35%) and some thought that the indicative tariff should be increased above the value for money cap (23%).

**Ground source heat pumps will be supported by the RHI scheme. The tariff is set out under question 26. The required tariff is less than the value for money cap.**

**29** What are your views on differentiated tariffs for ground source heat pumps?

Regarding differentiated tariffs for borehole and ground array GSHPs, more than half (51%) of respondents agree that there should be different tariffs to reflect the different costs with a further 6% suggesting a separate grant for the cost of the borehole. 25% thought there should be one single tariff.

**There will not be a differentiated tariff for borehole and ground array GSHPs. The tariff has been set based mainly on cost data from borehole GSHPs.**

<sup>16</sup> This tariff is capped by reference to the level of support offered to offshore wind. The tariff will be at least 19.2p, and possibly up to 21.7p, depending on the decision on the appropriate level of the vfm cap following the outcome of the non-domestic tariff review consultation. The announcement on the final tariff will be made in the Autumn.

30	Do you have any data that you can share on the current market split between borehole and ground array GSHPs, associated costs and the likely future demand of these?
<p>A variety of responses were received on the differences between ground array and borehole GSHPs, and detailed data was provided.</p> <p><b>For Government position, see question 26 and 29.</b></p>	
31	Are there other factors which should be taken into account when calibrating the tariff levels for either air source heat pumps or biomass boilers if the value for money cap were to become applicable to those technologies?
<p>In total 90 respondents make comments on the tariffs for air source heat pumps and biomass boilers. From this, 12% thought that the biomass tariff should reflect running costs and 10% thought it should address upfront costs. In terms of air source heat pumps, 9% thought a higher tariff was required to raise interest / kick start the industry with 8% suggesting the tariff should address upfront costs and 6% that it should reflect running costs.</p> <p><b>The tariffs are set out under question 26.</b></p>	
<p><b>No. Questions on New Build</b></p>	
32	Do you believe that the introduction of a domestic RHI tariff for new build is appropriate? If so, what additional costs and/or savings should DECC take into account if setting a new build tariff?
<p>Just over two-thirds (69%) of respondents support the introduction of a domestic RHI tariff for new build, with 27% not supportive. Further to this, over a third (37%) mentioned that installing in a new build would be easier / incur lower costs, with 20% suggesting this should result in a lower tariff. A quarter mentioned that this is / should be covered by Building Regulations (15%) or that Building Regulations should enforce use of renewables (10%). 15% stated that new homes are energy efficient and therefore need less heat anyway.</p> <p><b>New build properties will not be eligible for the scheme, except for individual self-build homes.</b></p>	
33	Do you have any evidence on the percentage cost reductions associated with fitting a renewable heating system into a new building, compared with retrofitting it?
<p>Of those answering this question (less than 40% of total respondents), only a small number offered any evidence or opinion on the difference in costs between fitting renewables into new build compared to retrofit into existing buildings. The most common response (by just 6%) was that costs would be less as renewables can be built into design at early stage.</p> <p><b>There will be no differentiation in tariff levels for self-build installations, when compared with standard tariff levels.</b></p>	
34	If you do not agree with a domestic tariff for new build along the lines proposed, can you propose alternative ways to incentivise the uptake of renewable heating in the

	sector?
<p>A total of 75 respondents suggested alternative ways of incentivising the uptake of renewable heating in the new build sector. Of these, 65% made the link with building regulations and 16% suggested that the benefits of renewables should be promoted to builders / developers separately to RHI.</p> <p><b>New build properties will not be eligible for the scheme, except for individual self-build homes.</b></p>	
No. Questions on Social Landlords	
35	In light of the above, do you think we should introduce a domestic RHI tariff for social landlords? Why / why not?
<p>The majority (80%) of respondents support the introduction of domestic RHI for social landlords, with only 12% disagreeing.</p> <p><b>Social landlords will be able to apply for a property or properties that they own, and will receive the RHI payments.</b></p>	
36	Do you think that the proposed 7 year period for tariff payments would be appropriate for social landlords too or would another timeframe within the 20 year life of equipment be more appropriate?
<p>Respondents tended to opt for the same seven year period for tariff payments for social landlords (46%), although there was some support for extending that period to twenty years (29%). 18% offered a range of other solutions</p> <p><b>The payment period for social landlords will be the same as for other applicants.</b></p>	
37	Do you have any evidence on the percentage differences to costs/benefits of fitting individual renewable heating systems into social housing?
<p>Only twenty respondents offered evidence or comments relating to the percentage differences to costs and benefits of fitting renewable heating into social housing, with some suggesting a 10% reduction would be appropriate and others that the resources used to promote / manage such a scheme would mitigate any economies of scale.</p> <p><b>Social landlords will be eligible for the same tariff levels as all other applicants.</b></p>	
38	Is there an alternative way in which you think we should incentivise renewable heat in the social housing sector?
<p>In total 55 respondents suggest alternative ways of incentivising the installation of renewables in social housing including 'capital grants / up-front payments' (27%), 'incentives for multiple installations – for social and private housing' (25%), 'find ways of lowering energy use / waste before introducing schemes' (20%), 'advertising and promotion of renewables / RHI' (18%) and 'keep it simple /consistent - no need for different level /approach for social housing' (13%).</p> <p><b>Social landlords will be eligible for the same seven year payment period as all other</b></p>	

**applicants. We are working with industry and the social housing sector on marketing and communications activity ahead of the launch of the scheme.**

**No. Questions on Metering versus Deeming**

**39** Do you agree that deeming, as opposed to metering, is the most appropriate approach on which to base the calculation of RHI payments? If not, why not?

Deeming was thought to be the most appropriate basis for the calculation for RHI payments, with 70% of respondents agreeing with the proposal and 15% thinking metering is the most appropriate method.

**A deeming calculation will be used to work out how much heat is generated, which will result in an estimate of the property's expected annual heat usage.**

**40** Do you agree that a calculation by the MCS installer, or equivalent, is the best approach and that the above criteria are adequate for developing an effective calculation?

A calculation by the MCS installer or equivalent is generally considered the best approach to deeming, with 71% agreeing with this proposal and 24% disagreeing.

**The deeming calculation for biomass and heat pumps will therefore be the estimated heat use (in kWh) of a property after the installation of the required energy efficiency measures. Where an applicant already has these installed, the figure will be taken from the Energy Performance Certificate (EPC) done as part of the Green Deal Assessment (standalone EPCs cannot be used). Where the Assessment identifies that the measures still need to be put in place, the figure will be taken from the updated EPC completed after their installation. For solar thermal systems, the calculation will be performed by the MCS installer.**

**41** Do you have any views on which calculation would be most appropriate for deeming heat? Please provide evidence to support your claim.

A total of 87 respondents suggested methods of deeming calculation, with the most popular being 'SAP / RdSAP is industry standard / reliable tool' (20%), 'proposal from 2009 to take heat need and multiply by 1314 hrs to get kWhs seems to work' (14%), 'heat loss calculations in MCS requirements' (10%) and 'Microgen Installation Standard MIS3005 V3.1a' (8%). One in five specified that calculations need to be simple / easy to understand.

**See response to question 40.**

**No. Questions on Bivalency**

**42** Do you agree with the approach outlined here for the treatment of bivalent systems?

Almost three-quarters (74%) of respondents agreed with the treatment of bivalent systems as outlined in the consultation, with 24% disagreeing.

**Heat pumps or biomass systems will be allowed to be installed alongside a fossil fuel system providing that the system is metered. This includes hybrid systems. This**

**will also apply to heat pumps or biomass systems installed alongside another renewable system. Solar thermal can be installed alongside a fossil fuel or renewable system and no metering for the solar thermal will be required.**

#### No. Questions on Financing

**43** Do you anticipate that financing offers will come forward from the market to provide support for renewable heat in conjunction with the RHI? If not, is there anything DECC could do to support this?

There was a general consensus that there would be financing offers available, with 45% thinking this was 'likely' and 21% 'possibly'. 31% thought it was unlikely. The most popular suggestion for what DECC could do to support this would be to 'promote RHI to financial institutions / make it more widely known' (13%).

**We will engage with the financial community as we prepare to launch the scheme.**

**44** To what extent do you believe the ability for some consumers to fund their renewable heat installations through Green Deal and the RHI will improve deployment of renewable heat?

Opinion was divided on the extent to which consumers' ability to fund the installation of renewable heat systems through Green Deal and RHI will improve deployment. Although 42% of respondents believe that deployment will be improved in this way, 34% thought it unlikely and 22% were unsure.

**Consumers will be able to part-fund their renewable heat installation through the Green Deal, with the amount of finance available dependent on the expected fuel savings.**

#### No. Questions on Raising Performance

**45** Do you agree that a metering and monitoring service package like the one we have outlined would be effective at driving long-term system performance improvements?

Respondents generally agreed with the proposed metering and monitoring approach, with 70% agreeing that it would be effective and a further 14% thinking that it would 'possibly' work. 15% did not think it was likely to be effective.

**The RHI will offer those householders that install heat pumps and biomass systems the option of an additional annual payment for purchasing a Metering and Monitoring Service Package, as suggested in the consultation.**

**46** Do you think that the additional financial support in option 1 should be distributed as a flat-rate increase to the RHI tariff, a one-off upfront payment or in some other way?

Respondents are divided on the means of distribution of additional financial support for metering, with 36% preferring a flat rate increase to the RHI tariff and a slightly higher 40% opting for a one-off up-front payment.

**An annual payment will be made, which has been designed to fully reimburse the householder for the cost of the package over the seven year period of RHI payments.**

**47** Do you offer a system that already provides some of the requirements in option 1?

Some industry stakeholders offered support in this area.

**There was ongoing stakeholder engagement throughout the policy development process.**

**48** Should consumers' RHI tariffs for heat pumps vary according to the measured or estimated performance of the system? Please comment on option 2. Do you think installers would offer performance guarantees if this was offered in the RHI?

Respondents were divided on this matter, with 44% supporting this approach and 38% against it. Comments on this subject included 'consumers prefer certainty to varying and unpredictable payments / tariffs' (14%), it 'will be incentive for the installer to ensure installation quality' (12%) and 'performance of the system varies /depends on other factors e.g. type and size of dwelling, consumer behaviour, location, weather' (11%). Only 27% thought installers would offer performance guarantees if this was offered in the RHI.

**Tariffs for heat pumps will not vary according to measured or estimated performance. However, as payments will be based on renewable heat, total RHI payments will vary depending on estimated design performance of the system.**

**49** Do you think that setting a minimum SPF higher than the EU minimum for air source and ground source heat pumps could be an effective driver of performance? What figure do you think might be suitable?

Just over half (57%) of respondents agreed with this, with a further 9% suggesting that this would 'possibly' be an effective driver of performance. 24% did not agree. The most commonly recommended SPF figure was the EU level, which is 2.5 (13%) followed by 2.8 (7%) and 3.0 (6%).

**Only heat pumps with an SPF of 2.5 and above count as renewable, and will be eligible for the RHI.**

**50** If we took this approach, should the minimum SPF required increase over time? Please comment on how quickly you think the required SPF should rise and to what level it should rise.

Two-thirds (66%) of respondents believed that the SPF required should increase over time, if this approach were taken, with 18% disagreeing. Only 11 respondents suggested timeframes and levels for increase.

**It is planned to review the RHI scheme in 2015 and 2017, with the aim of bringing in any changes identified in 2016 and 2018 respectively. The scope of these reviews is likely to include issues including tariff levels and performance standards of heat pumps. It is possible that a tariff review would be undertaken sooner than this, if it were necessary.**

51	What are your views on the use of the RHI budget to pay for metering equipment to be installed for the purpose of policy evaluation?
<p>Generally respondents agree that the RHI budget should be used to pay for metering for policy evaluation, with 58% approving of this proposal and 30% disagreeing.</p> <p><b>Metering equipment, for the purposes of policy evaluation, will be funded as part of the RHI scheme.</b></p>	
52	What are your views on the proposal that we should share data with MCS Certification Bodies so that it can be used to improve MCS installer surveillance?
<p>Respondents were overwhelmingly in favour of sharing evaluation data with MCS Certification Bodies in order to improve MCS installer surveillance. In total 92% supported this proposal with only 4% of respondents against it.</p> <p><b>We will share data with MCS Certification Bodies as proposed.</b></p>	
53	What are your views on the requirement to make all installations meter ready and the use of an Installer Checklist?
<p>Respondents generally agreed with the proposal that requires all installations to be meter ready and that an Installer Checklist be used, with 75% indicating their agreement with the proposals and 16% disagreeing. In terms of comments, 22% thought it was a 'positive idea / essential' and 11% thought that it should not be required for legacy installations.</p> <p><b>DECC is working with the Microgeneration Certification Scheme (MCS) to make it an MCS Installation Standard requirement that all systems installed in the domestic RHI are 'meter-ready' where possible.</b></p>	
54	Do you agree that there should be a financial penalty for consumers who do not ensure their installation is 'meter ready'?
<p>Over two-thirds (67%) of respondents disagreed with the proposal of a financial penalty for consumers who do not ensure that their installation is 'meter ready', with 32% agreeing that this was a good idea. It was pointed out that most consumers would be unaware of the requirements of installations and would therefore be unable to specify such requirements.</p> <p><b>There will be no financial penalty for consumers if their installations are not 'meter ready'.</b></p>	
55	Should the penalty for consumers who do not make their installation 'meter ready' be the loss of the first year of their RHI payments or a reduction of all of their payments? What other penalty might be appropriate?
<p>The majority of respondents did think a financial penalty was appropriate (see Q.54).</p> <p><b>There will be no financial penalty for consumers if their installations are not 'meter ready'.</b></p>	
56	What are your views on providing a tariff uplift for systems where solar thermal is installed alongside other renewable technologies?

The majority (75%) of respondents agreed that it was appropriate to provide a tariff uplift when solar thermal is installed alongside other renewable technologies, with 15% disagreeing.

**If solar thermal is used together with a renewable system for space heating, each system will receive its full deemed amount.**

**57** Do you have any evidence on the size of tariff that should be provided in order to encourage the deployment of these systems?

There were only 26 responses to this question, with more than a third (35%) of these just stating that it should 'covers the expense of installing the technologies'. There were five suggestions each for 'more than 40% uplift / increase' and '£1,000 or more payment' and four for a '10 – 19% uplift / increase'.

**See response to question 56.**

**58** Are there any other approaches that you think could drive continued improved performance of renewable heating systems?

A total of 113 respondents suggested other approaches that could drive continued improving performance of renewable heating systems. Popular suggestions included 'ongoing & regular servicing / maintenance of systems' (28%), 'market forces' (23%), 'initial cash subsidies / payments to increase take up / financial help' (18%) and 'advertising / promotion / consumer communications on RHI & renewables' (14%).

**DECC will continue to encourage improved performance and increased uptake of renewable heating systems as part of its overall Heat Strategy.**

## No. Questions on Delivery

**59** What are your views on the options for the proposed pattern of payments

In terms of the pattern of payments, the preferred frequency of payments was quarterly (62%), although respondents were divided on whether payments should be up front (26%) or in arrears (34%).

**The majority of participants will receive RHI payments quarterly in arrears for a period of seven years.**

## No. Questions on Consumer Protection

**60** Do you think that MCS (or equivalent schemes) will provide sufficient consumer protection for the RHI or should additional consumer protection be built into the scheme? If you think more is necessary, please explain what you think is required.

Most (64%) respondents agreed that MCS (or equivalent) would provide sufficient consumer protection, with a further 21% agreeing but with some reservations. Only 11% disagreeing with this proposition. Of those that made further comments, the most common were 'current / suggested consumer protection is fine' (24%), 'need to address risk of mis-selling / mis-selling must be avoided' (12%) and 'consumer protection is an important part of the scheme' (11%).

**The two key consumer protection schemes are the Microgeneration Certification Scheme (MCS) and the REAL Consumer Code (RECC). We will be working closely with MCS, RECC, consumer protection groups and industry in advance of launch of the scheme to ensure that consumer protection is as robust as possible.**

#### No. Questions on Maintenance

**61** Do you agree that our proposed approach of an annual consumer self-declaration, supported by supplementary spot checks is the best way to ensure that equipment installed under the RHI continues to be operational and generate heat optimally over time? What should the penalties for non-compliance be? If you think that the proposed approach is not the best or could be improved, please set out your reasoning and any evidence to support that.

There was strong support (87%) for an approach involving annual consumer self-declaration supported by spot checks. Only 6% disagreed with this approach. A quarter (25%) suggested that the penalty for non-compliance should be 'payments stopped / refunded / consumer fined', with 21% suggesting that a condition should be 'regular / annual servicing or checking of system by installer or other third party / accredited installer'.

**All scheme participants will be required to regularly confirm their ongoing eligibility to receive payments under the scheme. This means completing an annual declaration which will include confirmation that the system is in working order and being maintained in line with manufacturer's instructions. This will be backed up by a risk-based audit programme by Ofgem.**

#### No. Questions on Fraud

**62** Are there other risks of fraud or gaming that we have not identified in the table above?

Only 40 respondents commented on risks not identified in the consultation document, with 10 stating that there was a 'risk of organisations selling the systems not being accredited or scrupulous' and nine of the opinion that there 'won't be a problem as long as checks are strict / robust'. Other comments were that it was 'important to define terms – primary residence, second home, unoccupied, etc.' (seven people), there was a 'risk of mis-selling to the public' (six people) and there was a 'risk of installers not being qualified / having skills' (3 people).

**We will implement a robust and fit for purpose regime to deal with fraud or gaming, including a programme of risk-based auditing of applications for and recipients of RHI support.**

#### No. Questions on the Consumer Journey

**63** In terms of communicating the RHI scheme to consumers and other interested parties, what do you consider that the role of government should be?

The key roles for government are considered to be 'consumer education' (41%), plus 'PR and advertising for renewables in general' (35%) and the RHI scheme itself (28%). Many respondents would like to see government providing a website (14%) and an 'impartial help

and advice service' (6%). 'Continued support for industry through policy, financial support etc.' was also mentioned by 11% of respondents.

**We will work with industry to support the RHI scheme through a range of marketing, awareness raising and information services.**

**64** Do you have any comments on how RHI information to support and guide consumers along the journey should be provided? If so, please set them out.

A number of suggestions were made as to how consumer guidance could be provided, including general comments recommending 'publicity / advertising / PR' (19%) and 'consumer education' (17%) as well as tools to do this such as 'dedicated website for RHI' (13%), 'DECC website' (12%) and 'other impartial or independent help / advise services' (9%). 11% suggested services could be provided by the Energy Savings Trust / Energy Saving Scotland.

**Information on the scheme's requirements and how to apply will be available on the GOV.UK and Ofgem websites. There will also be an enquiry line – the Energy Saving Advice Service in England and Wales, and EST Scotland in Scotland - so that applicants can discuss any questions on the scheme with an expert adviser before applying.**

**65** Do you have any comments on or additions to the identified events and issues affecting the consumer along the Customer Journey? If so, please set them out.

Other key areas relating to the consumer journey include 'a clear and straightforward explanation of RHI and how the scheme works' (24%), 'clarity / simplicity generally' (15%) and a 'clear and simple explanation of tariffs / what they mean in terms of actual payments' (10%).

**Information services will be provided as set out in Q.64.**

**66** Are there any specific customer journeys that you feel would be helpful to analyse? If so, please set them out.

Only 63 respondents identified specific customer journeys that would be useful to analyse. These included 'the whole customer journey from finding out about technologies through to installing them /the whole journey' (25%), 'finding the best renewable solution' (19%), 'customer journey for people with difficult to treat / old / listed properties or with older /solid walls' (19%) and 'financing' (14%).

**In finalising the RHI policy, we have analysed a range of customer journeys to ensure the policy works for as many groups as possible. We are working with Ofgem to ensure the application process is suitable for different applicant types.**

**67** Do you have any comments on or additions to the actions identified here? If so, please set them out.

There were very few responses to this question, with comments generally relating to the need for simplicity in the scheme, a (perceived) lack of trained assessors and the desire to see the scheme launched as soon as possible.

**N/A**

68	In particular, do you have any comments on how to make the RHI and Green Deal relationship as seamless as possible in order to minimise disruption to the consumer? If so, please set them out.
<p>Suggestions on how to make the RHI and Green Deal relationship seamless included training / information for Green Deal Assessors (38%) and installers (26%) as well as the 'Green Deal assessment to include suggestions / recommendations on best renewable technology for property'. 17% thought there was a need to 'keep the schemes simple, clear, uncomplicated' and 21% thought the schemes should be kept separate.</p> <p><b>The RHI and Green Deal teams will continue to work together to offer consumers a coherent package of incentives to install energy efficiency measures and renewable heating systems.</b></p>	
<b>No. Questions on Budget Management</b>	
69	Do you agree that the system of degression described would provide us with a sufficient means of controlling the costs of supporting the domestic RHI scheme? If you would prefer a different approach to budget control then please set out what that might be and how it might operate.
<p>Although only 108 respondents gave an answer to this question, 69% of those agreed with the system of degression proposed and a further 18% agreed but with reservations. Just 7% disagreed with the proposal.</p> <p><b>We intend to pursue a policy of degression to control costs. The details of the cost control policy will be confirmed in the Autumn.</b></p>	
70	Do you agree that we should build in greater flexibility to the system such that degression might not occur if overall deployment levels are low? If yes, how do you think this could be achieved?
<p>Although only 115 respondents gave an answer to this question, 58% of those agreed that there should be greater flexibility built in to the system and a further 26% agreed but with reservations. Just 7% disagreed with the proposal. Specific comments on this included 'degression should not occur if numbers are low' (14%), 'scheme should be clear and easy to understand' (14%) and that it 'seems sensible' (10%).</p> <p><b>The details of the cost control policy will be confirmed in the Autumn.</b></p>	
71	How do you think we should set triggers which would result in tariff reductions to ensure fairness, value for money and certainty? Do you agree with the options presented, or would you prefer we took an alternate approach?
<p>Of the 112 respondents that answered this question, 45% agreed with the options presented, 13% thought that 'triggers should be based on number of installations, not pounds spent' and 12% thought that the scheme should 'avoid tariff reductions for existing customers / where renewables already installed'. Further to this, 18% stated that 'consumers must have certainty / confidence in tariffs they will receive'.</p> <p><b>The details of the cost control policy will be confirmed in the Autumn.</b></p>	

72	<p>Would you prefer a system which announces any tariff rate reductions every two months (with up to a one or two week notice period before the reduced rate comes into effect), or on a quarterly basis (with up to a months' notice period)? If you would prefer a different period please set this out and explain why.</p>
<p>The most common preference was for quarterly announcements of any tariff reductions with a 1 month notice period (47%). 7% would prefer reductions announced every 2 months with 1-2 week notice period, with a further 42% suggesting a range of other announcements and notice periods.</p> <p><b>The details of the cost control policy will be confirmed in the Autumn.</b></p>	
73	<p>Do you agree that the system should specifically recognise legacy applicants when calculating whether trigger points have been met? Do you agree with the options presented, or would you prefer we took an alternate approach? If yes, then please provide details.</p>
<p>Two-thirds (66%) of respondents to this question agreed that the system should recognise legacy applications when calculating trigger points, with 24% disagreeing.</p> <p><b>The details of the cost control policy will be confirmed in the Autumn.</b></p>	
74	<p>Do you agree that we should base degression calculations and triggers on pounds spent, or do consider it would be more appropriate to use an alternative approach, such as installed capacity and renewable heat produced? Please provide reasons for your preferred approach?</p>
<p>Of the 109 responses received for this question, almost half (49%) agreed with the proposal to base degression calculations and triggers on pounds spent. 44% suggested other factors (heat generated / installed capacity) that calculations could be based on.</p> <p><b>The details of the cost control policy will be confirmed in the Autumn.</b></p>	
75	<p>Do you agree that we should not apply EPA or a similar option to the domestic scheme? If not, why not? How could this work?</p>
<p>Of the 100 responses received for this question, 42% thought that EPA or similar option should be applied to the domestic scheme, although a similar amount (45%) thought that it should not be applied.</p> <p><b>We do not intend to apply EPA or a similar option for the domestic scheme. The details of the cost control policy will be confirmed in the Autumn.</b></p>	

# Annex 1 Consultation Respondents

A list of the 225 organisations who submitted written responses to the consultation is included below. A further 180 individuals submitted written responses.

Aberdeen City Council	Consumer Focus	FBC (Renewable Energy Installer)
Aberdeen Renewable Energy Group	Country Land & Business Association (CLA)	Finn Geotherm UK Ltd
Aberdeenshire Council	CPL Products	Ford and Etal estates
AD Heating Ltd	Crispie Limited	Forest Heat Energy Ltd
AES Ltd	Cuckoo Farm Partners	Forever Fuels Ltd
Arms Length Manangement Company	Cunnane Straton Reynolds	Freshfield energy
Arriba Cooltech Ltd	D&G Christopher	Gemserv
Aspire Housing	Daikin Airconditioners Ltd	Genersys Plc
Association for the Conservation of Energy (ACE)	Dimplex Renewables	Geothermique Ltd
Aster Property	Dobson:Owen	Glass & Glazing Federation
AWS Ocean Energy	Duncan Renewables	Glendevon Energy Company Ltd
Bardon Aggregates	Dunedin Canmore Group	Grant Engineering Ltd
Berneslai Homes	Dunster Heat	Green & Co Renewables Ltd
Britain's Energy Coast Business Cluster	Energy Asset Advisors (EAA)	Green Light Energy Solutions
British Electrotechnical and Allied Manufacturers' Association (BEAMA)	Earlswood Services Ltd	Greenfields Consulting
Building and Engineering Services Association (B&ES)	Earthtest Energy	Greenright Homes
British Gas	East Riding of Yorkshire Council	Ground Source Heat Pump Association (GSHPA)
British Property Federation	Eco Angust Ltd	GTC (Utility Networks Provider)
Calor Gas Limited	Eco Fires and Solar Ltd (T/A Cilcain Fires)	H2 Solutions Ltd
Carillion	Ecoliving	Hastoe Housing Association
Changeworks Resources for Life	Ecotec Services Ltd	Heat Pump Association (HPA)
Chartered Surveyors (unspecified)	Ecovision	Heating & Hotwater Industry Council (HHIC)
Chartered Institution of Building Services Engineers (CIBSE)	Ecuity Consulting LLP	Hendre Properties
Circitas Limited	EDF Energy	HETAS
City Council (unspecified)	Edge Renewables	Highgate Climate Action Network
Clifford Jones Timber Ltd	Electrical Contractors' Association	ICAX Limited
Climate Consulting Ltd	Electrical Plant Design	Invicta Clean Energy Limited
Coed Esgair-las LLP	Engence Ltd	Island Pellet Stoves Ltd
Colnebiomass Ltd.	Energy Agency (unspecified)	ISO energy
Combined Heat and Power Association (CHPA)	Energy Conservation and Renewables (ENCR)	Itron
Community Energy Solutions	Energy Jump Ltd	JJ & E Hardyment
Community Housing Cymru Group	Energy Networks Association (ENA)	John Cantor Heat Pumps Ltd
Confor	Energy Saving Trust (EST)	Joyce Associates LLP
	Energy Technologies Institute	JTec Energy and Automation
	Estate Office (unspecified)	Kate de Selincourt
	Euroheat	Kensa Engineering
	Exenergy	Kent Downs AONB Unit
		Kingdom Housing Association

Knowsley Housing Trust	Plumbing Trade Supplies (PTS)	Strathblane Community Council
Leeds Solar	Private Forestry Consultant	Stratton Reynolds
Lewis BioEnergy Ltd	Private Installer	Strutt & Parker LLP
Lister Housing Co-operative Ltd	QMSA Ltd	SunGift Solar
Llanisolar Ltd	Qube Engineering Support Services Ltd	Surface Power
Love Solar Renewables	R A Brown Heating Services Ltd	Synergy Boreholes and Systems Ltd.
Mammoth Willow	Real Assurance	The Builders Supply Company (Kendal) Ltd
Marches Sustainable Housing Partnership	Regen SW	The Design Partnership
Mark Group	Renewable Energy Association (REA)	The Hyde Group
Marshalls Charity	Renewable Energy Systems Limited	The Renewable Shop Ltd
Microgeneration Certification Scheme (MCS)	Renewable Heat Services Ltd	The Wood Heating Company (Biomass) Ltd
MicroPower Council (MPC)	Renewable Living Ltd	Tilgate Forest Estates Ltd.
Mimer Energy Ltd	Renewable Warehouse Ltd	TiSUN GmbH
Mineral Wool Insulation Manufacturers Association (MIMA)	Renewables Now	Town & Country Housing Group
Mint Renewables Ltd	Richard Griffin: Architect	Transition Town Kingston-upon-Thames
Mitsubishi Electric	Robert Potter and Partners	Treco Ltd
Moat Homes Ltd	Robur	Uaine Limited
Myriad CEG	Rockwool Ltd	UK Energy Research Centre
National Energy Action	Rumm Ltd	UKLPG
National Grid	RWE npower	Vaillant Group
National Housing Federation	S H Marston Forestry	Wall-Lag group of companies
National Inspection Council for Electrical Installation Contracting (NICEIC)	Saint-Gobain	Wealden District Council
Nottingham Community Housing Federation (NCHA)	Savills	Welsh Government
Netherdale Estate	School (unspecified)	Wessex Biomass Ltd
New Linx Housing Trust	Scottish Federation of Housing Associations	West Sussex County Council
Newcastle City Council	Scottish Renewables	Westminster City Council
NIBE Energy Systems Ltd	SEAM Centre - Inverness	Westwater Homes
North Energy Associates Ltd	College UHI	Which?
North Malvern Ltd	SH Energy	Wolseley
Northumbria Renewables	Sharp Laboratories Europe Ltd	Woodsure
Old Stataion Partnership	Scottish and Northern Ireland Plumbing Employers Federation (SNIPEF)	Worcester Bosch Group
Oil Firing Technical Association (Oftec)	Snowhill Parish Meeting	Waste Recycling Environmental Ltd (WREN)
Orkney Housing Association Ltd	SolaPlug Ltd	Yercombe Trust
Oxford Ecotechnology Ltd	Solar Engineering	Yorkshire and Humber Microgeneration Partnership (YHMP)
Oxford Renewables Ltd	Solarae	Zero Carbon Future Ltd + Fair Energy Ltd
PassivSystems	Solicitors Firm (unspecified)	
Perthshire Biofuels Ltd	Source Energy Ltd	
Peter de la Haye Engineering	SSE (Renewable Energy & Gas Supplier)	
Piping Hot	Solar Trade Association (STA)	
Procure Plus	Starfish Communities Limited	
	Stovesonline Ltd	

# Annex 2 Response Tables

## Consultation Response Tables

### Objectives and Approach

- 1 **What are your views about the proposed approach of a universally available tariff scheme? Is a tariff scheme the most efficient way to drive down technology costs, increase innovation and value for money, together with developing a home grown supply chain? Please include reasoning for your response.**

Views on proposed tariff scheme	Total responses (274)
Support tariff scheme	81%
Do not support tariff scheme	9%
Unsure	9%

Comments in support of the proposed tariff scheme	Total responses (273)
Will help drive down equipment costs / make more affordable	18%
Will encourage adoption of renewables	18%
Fair / good / appropriate / straight forward / easy to understand	16%
Encourages long term use / commitment to renewables	14%
Will help stimulate /create a market or supply chain in UK	14%
Proven to work /worked with FITs scheme	11%
Will help reduce CO2 /carbon emissions /environmentally friendly	11%

Comments in support of the proposed tariff scheme	Total responses (273)
Helps with running costs	10%

Reservations and Concerns	Total responses (273)
Tariffs must be high enough to incentivise consumers	18%
Many uncertainties over long term e.g. energy prices, performance of equipment	14%
Important to get tariff levels right /right first time	10%
Installation of technologies is expensive /disruptive	10%
Need to help up front cost of installation / Need one off payment	9%

- 2 **Do you think that there would be advantages in phasing or piloting roll out of the scheme? On what basis do you think it might make sense to phase or pilot the scheme?**

Views on advantages of phasing or piloting scheme roll out	Total responses (263)
<b>Yes – piloting / phasing should be done</b>	25%
<b>No – not required</b>	61%
<b>Unsure / No preference</b>	15%

Comments on the need to phase or pilot RHI	Total responses (261)
Already been delays / should have been launched in 2009/2010 / no more delays	32%
Phasing in will create more uncertainty among consumers	12%

Comments on the need to phase or pilot RHI	Total responses (261)
Sensible / prudent to pilot or phase in scheme	8%
Piloting / phasing will allow any errors to be corrected before roll out	7%
Already piloted through RHPP / non-domestic RHI / FiTs	7%
Will not give the certainty / stability required by industry	5%
Would take too long / be too long a delay	4%

- 3 Do you think that there may be alternative or additional approaches to incentivising renewable heat deployment that we should pursue? What approaches do you think might add most value?**

Alternative or additional approaches	Total responses (166)
Up-front payment / grant / subsidy to cover or contribute towards cost of installation	31
Hybrid or two-tier scheme, grant / tariff - to help with up-front costs and provide on-going support	28
Link to Green Deal / renewables paid for through savings on energy bills	11
Linking payments to energy costs	7

### Eligible Properties

- 4 Do you have any comments on the proposed exclusion of second homes from the RHI?**

**Reaction to proposed exclusion of second homes from RHI Total responses (257)**

Reaction to proposed exclusion of second homes from RHI	Total responses (257)
Agree with exclusion of second homes	37%
Partially agree – second homes should sometimes be excluded	14%
Disagree – second homes should be included in RHI	49%
Unsure	1%

Reaction to proposed exclusion of second homes from RHI	Total responses (257)
Include all homes - aim is to increase use of renewables / decrease CO2 emissions	22%
Second homes could be included if metered	17%
Second homes could be included if inhabited or let out	14%
Wrong to exclude any homes - all homes can benefit	9%
Give a lower tariff to second homes	7%

- 5 Do you have any comments on the proposed approach to private landlords and their tenants under the RHI? Have you any suggestions about how to ensure that the RHI incentivises the installation of renewable heat in the private rented sector and does not disadvantage tenants?**

Reaction to proposed exclusion of second homes from RHI	Total responses (182)
Include all homes – aim is to increase use of renewables / decrease CO2 emissions	22%
Need to have clear agreement between landlord & tenants – on installation, effect on rent, etc.	34%
Win-win situation – landlord receives RHI, tenant has lower bills	26%

Reaction to proposed exclusion of second homes from RHI	Total responses (182)
Needs to include tenant protection e.g. against rise in rent to cover cost	20%
Do not differentiate between owners and landlords – have one tariff for all	18%
Landlords will only act if there is a financial benefit, so tariffs need to be higher	15%
Keep it simple / do not over-complicate / minimise admin / bureaucracy	12%
Agree with DECC proposals	10%

**6 What are your views on our proposals for the treatment of legacy applications for installations between July 2009 and the opening of the scheme?**

Reaction to proposed treatment of legacy applications	Total responses (253)
Agree with proposed approach	92%
Disagree with proposed approach	4%
Unsure	3%

Comments on proposed treatment of legacy applications	Total responses (253)
Expectations of legacy applicants must be honoured	25%
Many will have installed renewables on assumption of RHI being introduced	23%
Installations under previous schemes (RHPP, LCBP, etc.) were not aware of full requirements of RHI -some flexibility /latitude needed	19%
Seems fair	8%

Comments on proposed treatment of legacy applications	Total responses (253)
Should not be necessary for green ticks if installed by accredited installer / MCS accreditation should be sufficient to satisfy energy efficiency requirements	8%

**7 Are there any other legacy applicants (aside from those that have received RHPP, a Home Renewables Loan or installed renewable heating systems since 15 July 2009) that you think we need to consider?**

Other legacy applications that should be eligible	Total responses (69)
ANY renewable system whenever installed should be considered, if they meet eligibility criteria	36%
ALL legacy applications should be considered (even pre-2009) if they meet eligibility criteria	20%
All with MCS certification	14%
Those installing under Low Carbon Buildings Programme	7%
Those who installed shortly before the cut-off date in 2009 - some flexibility should be shown if they are otherwise eligible	6%
Installers under Energy Saving Scotland Home Renewable grant (EESHR), the Scottish Community and Householder Renewables Initiative (SCHRI), Communities and Renewable Energy Scheme (CARES administered by Community Energy Scotland).	6%
Those with larger boilers eg 45kW biomass boiler	6%
Other buildings e.g.sheds, garages, swimming pools	1%

**8 What are your views on phasing legacy applications over the first year and the option of setting a cut-off date for legacy applications?**

Views on phasing legacy applications over the first year	Total responses (217)
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<b>Views on phasing legacy applications over the first year</b>	<b>Total responses (217)</b>
Agree to phasing legacy applications over first year	47%
Disagree to phasing legacy applications over first year	24%
Unsure / neutral	29%

<b>Views on setting a cut off date for legacy applications</b>	<b>Total responses (217)</b>
Agree with setting a cut-off date for legacy applications	53%
Disagree with setting a cut-off date	22%
Unsure / neutral	25%

<b>Other legacy applications that should be eligible</b>	<b>Total responses (69)</b>
Cut-off date / application period should be extended / too short, tight	24%
Legacy applications should be priority	12%
Enough time should be allowed for green tick checks / remedial actions to get green ticks	6%
Phasing unfair / unjust on those waiting for RHI	6%
Flexibility needed to deal with applications / don't be too rigid	5%
Number of Green Deal Assessors may limit processing of applications	5%
Concept of phasing fine / phasing fine	5%
Phasing is sensible and practical	4%
Phasing should not affect the RHI payments received	4%

Other legacy applications that should be eligible	Total responses (69)
Not too complicated	4%
RHPP installers should be contacted by DECC / Ofgem to ensure they are aware of RHI	4%
Should NOT be a cut-off date	2%

## Eligible Technologies

- 9 Do you agree with the proposed approach to the selection of eligible technologies for the domestic RHI scheme? Please include reasoning for your response.

Agreement with proposed approach to selection of eligible technologies	Total responses (236)
Yes, agree with proposed approach	90%
No, disagree	7%
Unsure	3%

Comments supportive of proposed approach to selection of eligible technologies	Total responses (236)
Proven / tried and tested products included	19%
MSC is suitable standard	12%
Seems reasonable / sensible	9%
Ensures that standards are maintained	7%
Ensures that RHI is simple / practical / not complex to run	5%

<b>Comments supportive of proposed approach to selection of eligible technologies</b>	<b>Total responses (236)</b>
Gives consumer confidence / assurance	4%
Good to limit products	3%
Complies with key directives	3%

<b>Concerns and reservations over proposed approach to selection of eligible technologies</b>	<b>Total responses (236)</b>
Should be flexible to allow new products to enter market	11%
Regular reviews of eligible products needed	11%
Clarity needed on definition of biomass technologies that are eligible / not eligible	10%
Larger biomass boilers 45KWth should not be excluded	5%
Too exclusive / restricted	4%
Biomass should NOT be eligible - uncertain fuel supply, concerns over air pollution	4%
Heat pumps should NOT be eligible for retrofit	3%
Solar thermal not effective and should NOT be included	3%

**10 Do you agree with the proposed eligible technologies set out above? Are there others that should be considered for inclusion?**

<b>Agreement with proposed eligible technologies</b>	<b>Total responses (210)</b>
Yes, agree with proposed eligible technologies	82%

Agreement with proposed eligible technologies	Total responses (210)
No, disagree	15%
Unsure	2%

Recommendations on proposed eligible technologies	Total responses (210)
Air to air source heat pumps	11%
Bi-valent (hybrid) heat pumps (eg: oil or gas / air source)	6%
Solar PVT	6%
Exhaust air source heat pumps	6%
Gas fired absorption heat pumps	5%
Log burning stoves	4%
Water source heat pumps (but few in market)	4%
Larger biomass boilers 45KWth+ should be included	3%
Ensure Biomass includes Wood Gasification Boilers that burn logs	3%
Bio-fuel boilers (e.g. B30k)	2%
Condensing Biomass	2%
Pellet stoves	2%
Domestic wind turbine	2%

**11 Do you agree that an approved suppliers scheme is the best option for domestic biomass heat installations to demonstrate their use of sustainable fuel? Please**

**provide reasoning with your response.**

<b>Agreement with proposed 'approved suppliers' scheme</b>	<b>Total responses (204)</b>
Yes, agree with proposal	68%
No, disagree	23%
Unsure	9%

<b>Comments on proposed 'approved suppliers' scheme</b>	<b>Total responses (204)</b>
Seems sensible /reasonable	67%
Difficult if people source or grow their own fuel e.g. waste wood, logs, wood chips	19%
Lack of clarity on type of fuel approved - pellets, wood chip, logs	14%
Unclear who will run approved supplier scheme - HETAS?	11%
Scheme may be too onerous or bureaucratic for smaller suppliers	8%
Will ensure fuel is renewable /environmentally friendly	7%
Will ensure biomass fuels production does not cause enhanced carbon emissions through soil damage or removal of old-stand forest	7%

- 12 Do you agree that as part of the approved biomass supplier list we should assume a level of boiler efficiency? Please provide evidence to back up your response.**

<b>Agreement that 'approved suppliers' scheme should assume a level of boiler efficiency</b>	<b>Total responses (168)</b>
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Agreement that 'approved suppliers' scheme should assume a level of boiler efficiency	Total responses (168)
Yes, agree with proposal	68%
No, disagree	21%
Unsure / neutral	11%

Comments on 'approved suppliers' scheme assuming a level of boiler efficiency	Total responses (168)
Assumed efficiency is fine	30%
If manufacturer and installer are MCS accredited, safe to assume efficiency of boiler	15%
Also important to ensure and check that efficiency of boilers is high - above MCS minimum	12%
Risk of assuming efficiency without testing	11%

- 13 Do you agree that April 2014 is an appropriate date from which to start requiring users of domestic biomass heat installations to provide proof of meeting the sustainability criteria? Please provide reasoning with your response.**

Agreement on starting date for biomass sustainability requirements	Total responses (179)
Yes, agree with proposal	52%
No, disagree	30%
Unsure / neutral	18%

Comments on starting date for biomass sustainability requirements	Total responses (179)
Yes, assuming scheme is in place by then	13%
Proposed date 2014 is fine /sensible	12%
Bring it forward to 2013 /start of RHI so that potential users know all the facts /requirements	10%
Gives industry / supply chain time to act	7%
Allowance must be made for self-sourced products	7%
Creates bureaucracy - barrier to uptake of RHI and biomass technology	6%
Put it back to 2015 to allow industry /supply chain to act	6%
Not worth introducing /creating more problems than it solves	5%
Problem is to prove sustainability of home produced fuels and to avoid the combustion of waste materials in an uncontrolled way	5%
Two levels /tiers: either fuel from Approved Suppliers to be used or the boiler should be able to operate to a specified level of efficiency with less ideal fuel types	4%

- 14 Is the air quality approach set out appropriate for the domestic RHI sector? Please provide your reasoning with your response.**

Agreement with proposed Air Quality approach	Total responses (164)
Yes, agree with approach	54%
No, disagree	9%
Unsure / neutral	37%

Comments on proposed Air Quality approach	Total responses (179)
Research required on the density of biomass installations that would cause air quality problems	10%
MCS approval of boiler /installer should check air quality	9%
Air quality is already protected by clean air measures - boilers and stoves have to meet these standards anyway - possible to reinforce these	7%
In rural areas systems are likely to be dispersed so that air quality is not adversely affected and so blanket application of this air quality approach is not appropriate	6%
Biomass is most appropriate off mains gas, rural areas - air pollution less of an issue	5%

- 15 Do you have any views on our proposals for excluding certain technologies? If you would like to suggest changes, please provide evidence to support your view.**

Objections to the exclusion of specific technologies	Total responses (118)
Larger biomass boilers 45KWth+ are already MCS approved and installed in homes	22%
Larger biomass boilers 45KWth+ should be included	16%
All proven technologies should be included/ nothing should be excluded if carbon saving is being made	16%
Air to Air Source Heat Pumps - a good option	8%
Bio-Fuels - there is much evidence to support the carbon savings available from either the installation of new products or from converting existing stock	6%
Log burning stoves	6%
Exhaust air source heat pumps	5%

Objections to the exclusion of specific technologies	Total responses (118)
Stove back boilers - modest cost and therefore accessible to many people	4%
Solar Thermodynamics - this alternative to solar thermal/air source heat pumps may be a more acceptable renewable	3%
Condensing Biomass Boilers - there are NOT 'high levels of pollution in the condensate'	3%
Bio-fuel boilers (e.g. B30k)	3%

**16 Do you agree with our proposed approach to efficiency requirements for heat pumps?**

Agreement to proposed approach to energy efficiency requirements for heat pumps	Total responses (197)
Yes, agree with approach	80%
No, disagree	15%
Unsure / neutral	5%

**17 Do you agree with our assumption that heat pump systems, using technology that meets MCS efficiency specifications, should meet an SPF requirement of 2.5 providing they are designed, installed and used appropriately?**

Agreement with pump efficiency assumptions	Total responses (192)
Yes, agree with approach	70%
Possibly	15%
No, disagree	4%

Agreement with pump efficiency assumptions	Total responses (192)
Unsure / neutral	12%

- 18 Do you think that the ‘Green Ticks approach’ to an energy efficiency requirement is appropriate to the RHI? Please provide reasoning for your response and further information on any exceptional cases you think might arise.

Agreement with the Green Ticks approach to energy efficiency	Total responses (220)
Yes, agree with approach	65%
No, disagree	24%
Unsure / neutral	11%

Positive comments about adopting Green Ticks approach	Total responses (220)
The Green Deal tie-in is felt to be sound and appropriate	15%
It is felt to be right to make the building energy efficient before renewable heat technologies are installed	15%
EPC should be pre-requisite for RHI	7%
The approach is felt to be simple and easy to understand	7%

Negative comments about adopting Green Ticks approach	Total responses (220)
Many homes will be difficult to make energy efficient, such as older, solid wall or listed buildings	23%
Getting a Green Deal loan is perceived to be an inhibitor or barrier to the adoption of renewables due to the cost and inconvenience	19%

Negative comments about adopting Green Ticks approach	Total responses (220)
Green Deal and RHI should be kept separate as combining them is a risk	10%
Energy efficiency measures may affect the look / appearance of some homes	9%
People may not be able or willing to take up Green Deal finance for improvements	6%

- 19 **What are your views on our proposal to require consumers to have installed energy efficiency measures and provided proof to Ofgem before they become eligible for the RHI? Can you suggest an alternative approach that guarantees the installation of the Green Tick measures, but provides RHI subsidy at an earlier point?**

Agreement with proposal to require consumers to have installed energy efficiency measures and provided proof to be eligible for RHI	Total responses (230)
Yes, agree with approach	37%
No, disagree	24%
Unsure / neutral	39%

Alternative ways of ensuring that green tick measures are carried out while providing RHI subsidy at earlier point	Total responses (221)
Right to make building energy efficient before installing renewables	19%
Important to have proof of energy efficiency to protect scheme	15%
May be a barrier or inhibitor to consumers taking up renewables / RHI	7%
Insulation important to avoid wasting heat	5%

Alternative ways of ensuring that green tick measures are carried out while providing RHI subsidy at earlier point	Total responses (221)
Many homes will be difficult to make energy efficient e.g. rural, old, listed, solid wall	4%
Making homes energy efficient and providing proof will delay installation	4%
Makes scheme too complex / bureaucratic / difficult to understand	3%
Changes to the property fabric will alter heat loss calculations & affect specification of installed measure	2

Alternative ways of ensuring that green tick measures are carried out while providing RHI subsidy at earlier point	Total responses (221)
Energy efficiency measures checked / signed off by MCS installer of renewables	16%
A pending tick – customer gets reduction or withdrawal of RHI if evidence not provided within given time period	13%
Simpler system / any scheme that the consumer will find easier to understand	8%
EPCs / CfSH certificates to be used	6%

- 20 Do you think that solid wall insulation should be excluded from the energy efficiency requirements or be introduced in a phased way? Please provide evidence for your response.**

Agreement with proposal to exclude solid wall insulation from energy efficiency requirement of RHI	Total responses (230)
Yes, agree it should be excluded	58%
Yes, it should be phased in	7%
No, it should be included	23%

Agreement with proposal to exclude solid wall insulation from energy efficiency requirement of RHI	Total responses (230)
Unsure / neutral	12%

Comments on proposal to exclude solid wall insulation from energy efficiency requirement of RHI	Total responses (220)
SWI is expensive / will be barrier to adoption of RHI	29%
People will not want to change appearance / aesthetics of home with SWI	14%
SWI is disruptive / a hassle for homes	14%
Solid wall homes would benefit from renewables	9%
There are many solid wall homes in the housing stock	7%

## Tariff Design

- 21 Do you think that 7 years is a suitable time period for tariff payments under the RHI to be made? Would a different time period for tariff payments suit different technologies? Please provide evidence to support your view.

Agreement with 7 year time period for RHI tariff payments	Total responses (248)
Yes – agree with 7 year time period for payments	67%
No – disagree	23%
Neutral / unsure	9%

Appropriate period suggested for tariff payments	Total responses (248)
7 years	67%

Appropriate period suggested for tariff payments	Total responses (248)
Around 10 years	6%
Around 15 years	4%
Around 20 years / same as FiTs	6%
Around 25 years	4%
Should relate to expected lifetime of equipment	3%

- 22 Please provide evidence on the potential lifetimes for the different renewable heating technologies, particularly where they are expected to last less than the 20 year period that we are assuming.**

No data tables for this question.

- 23 What is the risk of switchback after the period over which tariff payments are made? Do you think this applies solely to biomass?**

General comments on risk of switching back after RHI payments cease	Total responses (208)
Risk of switching back is generally low	44%
It is too expensive to switch back	21%
Depends on the reliability & performance of renewable technology	13%
Switch back risk lower off-gas grid	6%

**Comments on risk of switching back for specific technologies**

**Total responses (208)**

Comments on risk of switching back for specific technologies	Total responses (208)
Switch back from biomass is more likely than from other technologies	26%
Switchback from biomass unlikely if properly serviced and maintained	10%
Switch back from heat pumps likely	5%
Switch back from heat pumps unlikely	4%
Switch back from solar thermal likely	3%
Switch back from solar thermal unlikely – too disruptive, requires less maintenance	5%

- 24 Do you think that either of the proposed solutions would mitigate the risk of switchback? Which approach would be better? Is there any other action we could take to ensure the continued use of biomass in this way?**

Agreement with proposed solutions to mitigate risk of switchback	Total responses (139)
Neither of those solutions / no need for further solutions / keep to 7 year payments	51%
Yes to first solution - part of tariff for on-going costs split out & spread over 20 years	17%
Yes to second solution - secondary tariff if biomass fuel costs rise	13%
Unsure	19%

- 25 What do you think are the other risks associated with paying a tariff over a shorter period, say 7 years, but assuming heat delivered for 20 years? How do you think we should mitigate these risks?**

Risk mitigation measures for paying tariff over 7 years for heat provided over 20 years	Total responses (163)
Extending the payment period to 10 - 20 years	14%
Consumers being allowed to switch if better technologies are developed	12%
Spot checks and penalties	9%
A trade in scheme to allow equipment replacement or upgrades	6%
Extending the payment period	6%
Manufacturer warranties	6%

Risks of paying tariff over 7 years for heat provided over 20 years	Total responses (163)
Change in home ownership or use	9%
Equipment not lasting 20 years	9%
Equipment performing poorly after a period / performance declining	4%
Better technology coming on to the market / existing equipment becoming out of date	2%

- 26 Do the tariff ranges above accurately reflect the costs faced by consumers installing renewable technologies? Where possible we would welcome cost-based evidence that supports your views.**

Do indicative tariff ranges accurately reflect costs faced by consumers installing renewables?	Total responses (175)
Positive reaction to indicative tariff ranges	33%

Do indicative tariff ranges accurately reflect costs faced by consumers installing renewables?	Total responses (175)
Negative reaction / higher tariffs required	58%
Neutral / unsure	9%

Comments on the proposed tariff scheme	Total responses (175)
The tariffs seem right / appropriate / fair	22%
Biomass tariff does not reflect the cost of installation	13%
Costs assumed by DECC do not reflect the real cost of installation generally	12%
Biomass tariff too low / lower than expected	11%
Tariffs too low / lower than expected generally	11%
Tariffs need to be consistent with the non-domestic RHI	10%
More work on the tariffs is needed	10%
Tariffs are poor / unfair	9%
Payback based on tariffs over 7 years underestimate real capital costs	7%
RHI caps unfair / not consistent with FiTs	6%
It is important to see typical actual annual return given by tariffs	6%
Heat pump tariffs are attractive	5%
Heat pump tariff does not reflect actual costs	5%
Solar thermal tariff needs to be higher to give level playing field	5%

- 27 What are your views on the support for solar thermal as set out? What evidence is there to support a tariff higher than the renewable energy cap? Do you have any suggestions / views on other ways in which a subsidy for solar thermal could be paid, for example, through a capital grant or through increasing the tariff beyond the cap?**

Comments on the proposed support for solar thermal	Total responses (154)
Solution is a one off grant to help with up-front cost of installation	28%
Tariff should be increased above cap	20%
Solar thermal should be supported /promoted	18%
Can be installed TOGETHER WITH other technologies	8%
Tariff is NOT sufficient /will not encourage take up	8%
Solar thermal is cleanest of heating technologies	5%
Solar thermal has been popular without incentives	5%
Keep tariff at suggested level	5%
Tariff is sufficient /will encourage take up	4%
Expensive to install relative to heat generated	4%

- 28 What are your views on the support for ground source heat pumps as set out? What evidence is there to support a tariff higher than the renewable energy cap?**

Comments on the proposed support for ground source heat pumps	Total responses (124)
Ground source heat pumps should be supported /promoted	35%

Comments on the proposed support for ground source heat pumps	Total responses (124)
Tariff not sufficient / should be increased above cap	23%
Tariff is sufficient /will encourage take up	13%
Expensive to install	12%
Not a renewable source of heat - should NOT be promoted /supported	10%
Keep tariff at suggested level	10%
Should be installed in tandem with other technologies e.g. solar	5%

## 29 What are your views on differentiated tariffs for ground source heat pumps?

Views on differentiated tariffs for ground source heat pumps	Total responses (109)
Yes /agree /good idea to have differentiated tariffs	51%
No /disagree /should be one tariff	25%
Provide separate grant for cost of borehole	6%
Unsure	18%

Views on differentiated tariffs for ground source heat pumps	Total responses (109)
Difference in installation costs /extra expense of bore holes should be addressed by different tariffs	43%
Bore holes can be used for multiple installations	11%

Views on differentiated tariffs for ground source heat pumps	Total responses (109)
Should be one tariff /rule - same as for other products	7%
Dual system too complex /complicated /will add admin or bureaucracy	7%
Keep it simple	6%
Dual system confusing for consumers	6%

- 30 Do you have any data that you can share on the current market split between borehole and ground array GSHPs, associated costs and the likely future demand of these?**

No data tables for this question.

- 31 Are there other factors which should be taken into account when calibrating the tariff levels for either air source heat pumps or biomass boilers if the value for money cap were to become applicable to those technologies?**

Comments on tariffs for air source heat pumps	Total responses (90)
Higher tariff required to kick start industry /raise interest	9%
Tariff should address up front costs	8%
Tariff should reflect running costs	6%
Expensive to install	4%
Should not be encouraged	4%
Not a renewable source / use of electricity	3%

Comments on tariffs for biomass boilers	Total responses (90)
Tariff should reflect running costs	12%
Tariff should address up front costs	10%
Higher tariff required to kick start industry /raise interest	4%
Cost estimates need to take into account other factors e.g. flue, storage unit, feeder, disruption	4%

- 32 Do you believe that the introduction of a domestic RHI tariff for new build is appropriate? If so, what additional costs and/or savings should DECC take into account if setting a new build tariff?**

Agreement with proposal to introduce a domestic RHI tariff for new build	Total responses (230)
Yes - support domestic RHI for new build	69%
No - do NOT support	27%
Unsure / neutral	4%

Comments supporting RHI for new build	Total responses (220)
Should be a lower tariff to reflect lower cost of installing in new build	20%
Should be same tariff as for retrofit	13%
Slightly lower costs for new builds	11%
Cost of renewables will be more than for fossil fuel system and so needs incentive	10%
Without RHI no incentive for builders to include renewables	10%

Comments supporting RHI for new build	Total responses (220)
Easier to install in new build /do not have to 'undo' existing system	6%
New builds suitable for heat pumps	5%
Cost of technology & installation will be same	5%
Previous communications on RHI indicated that new builds would be eligible for RHI	5%
Less hassle /disruption	3%
Should be half the tariff	3%
FITs available for new builds, so RHI should /should be consistent	3%

Concerns and reservations over RHI for New Build	Total responses (220)
Is /should be covered by Building Regulations	15%
New homes are energy efficient and need less heat anyway	15%
Building Regulations should enforce use of renewables	10%
An up-front grant towards installation of renewables more effective	7%
Grant for the developer /builder as they will not benefit otherwise	6%
Renewables should be installed in new builds without incentives	5%

- 33 Do you have any evidence on the percentage cost reductions associated with fitting a renewable heating system into a new building, compared with retrofitting it?**

Evidence on cost differential of fitting renewables into new build compared to retrofit	Total responses (157)
Is /should be covered by Building Regulations	59%
Cost less as renewables can be built into design at early stage	6%
Costs less for heat pumps	4%
Cost of installation slightly lower	4%
Costs for new build and retrofit the same /similar level	4%
New build installation 10%-20% lower costs	4%
New build installation 25%-30% lower costs	3%
New build about half the cost	3%
Cost of equipment /technology the same	3%
Unsure	2%

- 34 If you do not agree with a domestic tariff for new build along the lines proposed, can you propose alternative ways to incentivise the uptake of renewable heating in the sector?**

Alternative ways of incentivising uptake of renewable heating in new build sector	Total responses (75)
Building regulations should ensure that new builds are 'renewable ready' and CAN have renewables easily fitted e.g. have a hot water tank	31%
Is /should be covered by Building Regulations	17%
Building Regulations should enforce use of renewables	17%

Alternative ways of incentivising uptake of renewable heating in new build sector	Total responses (75)
Benefits of renewables should be promoted to builders /developers separately to RHI	16%
An up-front grant towards installation of renewables more effective	9%
Grant for the developer /builder as they will not benefit otherwise	8%
Code for Sustainable Homes should specify /require use of renewables	8%
Should be same tariff for new build and retrofit /same incentive	7%
Renewables should be installed in new builds without incentives	5%

**35 In light of the above, do you think we should introduce a domestic RHI tariff for social landlords? Why / why not?**

Agreement with proposal for domestic RHI be introduced for social landlords	Total responses (163)
Yes - support domestic RHI for social landlords	80%
No - do not support it	12%
Unsure / neutral	8%

Comments in support of domestic RHI for social landlords	Total responses (163)
Social housing is important & large market for renewables /should be encouraged /rewarded	26%
Yes - will help fuel poor /disadvantaged	23%
Yes - necessary to incentivise uptake of renewables	21%

Comments in support of domestic RHI for social landlords	Total responses (163)
Social housing is large & important part of housing sector	9%
Yes, but at a lower level tariff	9%
Bulk buying /purchasing power of social landlords mean cost of installation lower	8%
Whole market /sector depends on contribution from social housing	8%
Savings from bulk buying not great	6%
Budgets are tight /reduced so support needed from RHI	4%

Concerns about domestic RHI for social landlords	Total responses (163)
Additional costs relating to management, tenant education & support, etc.	7%
Still large capital costs to be covered	4%
Problem that landlord pays but tenant benefits	4%
No, social landlords can /should access government help /finance separately	2%
Heat pumps depend on usage by occupant - social tenants may not use efficiently	2%
Social sector tenants not interested in renewables	2%
Still too expensive compared to gas /fossil fuels	2%
Capital grant would be more effective for social landlords	2%

**36 Do you think that the proposed 7 year period for tariff payments would be appropriate for social landlords too or would another timeframe within the 20**

### year life of equipment be more appropriate?

Appropriateness of seven year period for tariff payments to social landlords	Total responses (134)
Yes - seven year period for social landlords too	46%
20 year period for social landlords	29%
Other solution	18%
No tariff for social landlords at all	1%
Unsure / No preference	5%

Comments on the most appropriate period for tariff payments to social landlords	Total responses (134)
7 years - keep it simple /do not make scheme complex or confusing	10%
7 years - keep in line with other properties	5%
7 years - help cover up front costs	7%
7 years - overall support is the important factor	1%
10 years	3%
20 years - lower payment over longer time appropriate	7%
20 years - social landlord likely to keep building longer than private owner	1%
20 years - based on renewable product life appropriate	5%
20 years - gives incentive for landlord to maintain equipment /not switch back	7%

Comments on the most appropriate period for tariff payments to social landlords	Total responses (134)
20 years - social landlords plan in long term	5%
No tariff - help with capital costs up front better	1%
A shorter time frame /Less than 7 years (5 years)	2%
A longer time frame /More than 20 years	10%
Lower tariff / smaller tariff / smaller payments	4%

**37 Do you have any evidence on the percentage differences to costs/benefits of fitting individual renewable heating systems into social housing?**

No data tables for this question.

**38 Is there an alternative way in which you think we should incentivise renewable heat in the social housing sector?**

Suggested alternative ways of incentivising renewables in social housing	Total responses (55)
Capital grants / up-front payments	27%
Incentives for multiple installations (social and private housing)	25%
Find ways of lowering energy use / waste before introducing schemes	20%
Advertising and promotion of renewables / RHI	18%
Keep it simple /consistent - no need for different level /approach for social housing	13%

Suggested alternative ways of incentivising renewables in social housing	Total responses (55)
Building regulations mandating renewables	11%
Grant up-front plus smaller on-going tariff	7%
Zero VAT for social housing installations	4%
Tax on fossil fuels	2%

**39 Do you agree that deeming, as opposed to metering, is the most appropriate approach on which to base the calculation of RHI payments? If not, why not?**

Reaction to proposal to base payments on deeming rather than metering	Total responses (237)
Yes - agree that deeming is best approach	70%
No – disagree, metering better	15%
No – disagree, other method better	1%
Neutral / unsure	14%

Comments on metering versus deeming	Total responses (237)
Deeming is simpler /better approach	25%
Metering expensive to install	9%
Metering is simpler / more practical	6%
Deeming will result in people trying to run systems efficiently / keeping heat low	4%
Metering inaccurate	3%

Comments on metering versus deeming	Total responses (237)
Metering needs additional admin /bureaucracy	3%
Metering is accurate / reflects actual heat generated	2%
Metering does not give incentive to run heating efficiently	2%
Deeming helps to avoid overheating	2%
Deeming lets homeowner know what to expect in RHI payments	2%

- 40 Do you agree that a calculation by the MCS installer, or equivalent, is the best approach and that the above criteria are adequate for developing an effective calculation?**

Agreement with proposal that calculation by MCS installer is best approach	Total responses (222)
Yes - agree	71%
No - disagree	24%
Neutral / unsure	5%

Main comments on proposal that calculation by MCS installer is best approach	Total responses (222)
MCS installer calculation should be fine / adequate	22%
Calculations of MCS installers likely to be optimistic /inaccurate	10%
MCS installers of variable quality and skills /expertise /not all competent	9%
MCS installer should have carried out detailed heat loss and heat generation calculations	7%

Main comments on proposal that calculation by MCS installer is best approach	Total responses (222)
Must be a checking procedure.	7%
Calculations need to be approved to avoid delays	6%
A look-up table offers transparency to the householder - providing certainty of the tariff they could expect before they even speak to an installer	5%
Risk of abuse if installers overestimate	4%
Installer estimates need to be checked /ratified	3%
Calculations need to be made by independent qualified person /body (e.g. heating consultant), not installer	3%
Will ensure that people do not (deliberately) waste heat to obtain payment / will avoid abuse of scheme	1%

**41 Do you have any views on which calculation would be most appropriate for deeming heat? Please provide evidence to support your claim.**

Calculation of deemed heat – suggestions	Total responses (87)
SAP / RdSAP is industry standard / reliable tool	20%
Proposal from 2009 to take heat need and multiply by 1314 hrs to get kWhs seems to work	14%
Heat loss calculations in MCS requirements	10%
Microgen Installation Standard MIS3005 V3.1a	8%
NHER / BREDEM 12 is a more accurate modelling tool than SAP / RdSAP	5%

**Calculation of deemed heat – comments**

**Total responses (87)**

Calculation of deemed heat – comments	Total responses (87)
Calculations need to be simple / easy to understand	20%
A look-up table based on property size, age, etc. / simple enough for consumers to understand	14%
Ensure all installers are using the same deemed heat calculations / make it consistent	13%
Deemed heat calculator should be provided by MCS or RHI to simplify process	6%

**42 Do you agree with the approach outlined here for the treatment of bivalent systems?**

Agreement with treatment of bivalent systems	Total responses (153)
Agree with proposed approach	74%
Disagree with approach	24%
Unsure / neutral	3%

Comments supportive of approach	Total responses (153)
Homes with high heat loads may need additional heating than that provided by renewable technology	7%
Comprehensive	5%
Sensible approach to solar thermal given limited application	5%
Seems reasonable	4%

Concerns and reservations about the approach	Total responses (153)
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Concerns and reservations about the approach	Total responses (153)
All central heating systems which are auxiliary or bivalent must be heat metered that will ensure that any auxiliary /bivalent system is not drawing RHI payments	22%
Biomass log batch boilers will require an auxiliary or backup system to cover the period when the householder is not present e.g. on holiday	8%
Back up system gives consumer confidence in renewables uncertain about performance of renewables	3%
Risk of switching back to fossil fuels less than DECC thinks due to high cost of renewables and switching back	3%
When alternative system already installed (e.g. Aga) expense of disconnecting from radiators is barrier /inhibitor	3%
Care should be taken disconnecting Agas, Rayburns, etc. for safety reasons	3%

General comments about the approach	Total responses (153)
Often efficient to use a renewable system such as a biomass boiler for the base load whilst keeping a fossil fuel system for the winter peaks	7%
Often a back up system needed e.g. for exceptional cases heat pumps can't deal with	7%
Excluding bivalent systems would be unfair /impractical	5%
More consideration of immersion heaters needed (often part of heat pump system)	4%
Needs to take account of fuel prices	3%

- 43 Do you anticipate that financing offers will come forward from the market to provide support for renewable heat in conjunction with the RHI? If not, is there anything DECC could do to support this?**

<b>Will financial offers come forward for renewable heat with RHI?</b>	<b>Total responses (157)</b>
Yes - likely to be financing offers	45%
No – unlikely	31%
Possibly	21%
Unsure	3%

<b>Positive on financial offers coming forward</b>	<b>Total responses (157)</b>
Tariffs have been set at a level which will encourage industry led financial support	10%
Confident finance will be available	10%
Green Deal is possible source of finance	8%
Depends on payback period	5%
Installer led finance	4%

<b>Sceptical of financial offers coming forward</b>	<b>Total responses (157)</b>
Market unlikely to provide long term finance /financing unlikely	8%
Difficult to raise money currently	5%
Not certain that finance will be available	3%
Mortgage extension only available for well-off and those with equity in home	3%

<b>Comments on DECC's role to stimulate market</b>	<b>Total responses (157)</b>
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Comments on DECC's role to stimulate market	Total responses (157)
Promote RHI to financial institutions /make it more widely known	13%
Arrange for payments to be made directly to finance provider - to add confidence	7%
Important to regulate 'rent a space' companies	4%

**44 To what extent do you believe the ability for some consumers to fund their renewable heat installations through Green Deal and the RHI will improve deployment of renewable heat?**

Will financial offers come forward for renewable heat with RHI?	Total responses (185)
Yes - will improve deployment	42%
No /unlikely	34%
Possible	3%
Unsure	22%

Comments supporting view that success to funding will improve deployment of renewable heat	Total responses (185)
Will increase deployment of renewables	9%
Green Deal will /should part-finance installation of renewables	5%
Limited /difficult to quantify	4%
Green Deal and RHI should work together	3%

Comments supporting view that success to funding will improve deployment of renewable heat	Total responses (185)
Green Deal will help make homes eligible for RHI, which in turn improves deployment of renewables	3%
Guarantee of RHI repayments will help secure Green Deal finance	2%

Reservations that access to funding will improve deployment	Total responses (185)
Schemes are too complex	5%
Self-financing easier /more likely	4%
Will need widespread promotion of schemes	3%
Mortgage extension only available for well-off and those with equity in home	3%

## Raising Performance

- 45 Do you agree that a metering and monitoring service package like the one we have outlined would be effective at driving long-term system performance improvements?

Agreement with proposed metering & monitoring approach	Total responses (170)
Yes - will be effective	70%
Possibly	14%
No / unlikely	15%
Unsure	2%

- 46 Do you think that the additional financial support in option 1 should be distributed as a flat-rate increase to the RHI tariff, a one-off upfront payment or in some other way?**

Distribution of additional financial support for metering	Total responses (133)
Flat rate increase to RHI tariff	36%
One-off up-front payment	40%
Other	20%
Unsure	5%

- 47 Do you offer a system that already provides some of the requirements in option 1?**

No data tables for this question.

- 48 Should consumers' RHI tariffs for heat pumps vary according to the measured or estimated performance of the system? Please comment on option 2. Do you think installers would offer performance guarantees if this was offered in the RHI?**

Agreement with proposal to vary tariffs for heat pumps according to measured or estimated performance	Total responses (139)
Yes - will be effective	44%
Possibly	4%
No	38%
Unsure	14%

<b>Should RHI tariffs for heat pumps vary according to the measured or estimated performance of the system?</b>	<b>Total responses (139)</b>
Consumers prefer certainty to varying and unpredictable payments /tariffs	14%
Will be incentive for the installer to ensure installation quality	12%
Performance of the system varies /depends on other factors eg type and size of dwelling, consumer behaviour, location, weather	11%
Will be incentive for manufacturer to produce good technologies	9%
Tariff should be same /consistent as long as system and installation standards are met	9%
Complexity will be barrier /inhibitor to adoption	8%
Lack of clarity over who is responsible for performance - manufacturer, installer or user	6%
Doubt over whether heat pumps should benefit from /be covered by RHI at all	5%

<b>Do you think installers would offer performance guarantees if this was offered in the RHI?</b>	<b>Total responses (73)</b>
Yes	27%
Possibly	4%
No	51%
Unsure	18%

<b>Comments on whether installers would offer performance guarantees if this was offered in RHI</b>	<b>Total responses (73)</b>
Performance affected by factors outside of manufacturer /installer control	15%

Comments on whether installers would offer performance guarantees if this was offered in RHI	Total responses (73)
Guarantees would be open to exploitation	14%
Guarantees on how customers use the technology are impossible	14%
Difficult to provide guarantees	14%
Performance guarantees should be provided anyway	11%
Performance guarantees will drive up costs and therefore lower uptake	10%
Performance of the system varies /depends on other factors eg type and size of dwelling, consumer behaviour, location, weather	10%
Incentives for householder and installer should mirror the performance of the heat pump based on the definition of system efficiency used	10%
A good approach - it incentivises better performance and product innovation	8%
Responsibilities of manufacturer & installer blurred /not clearly separate	7%
Leave to market to work out best systems /installers	4%
Estimated performance would be simpler with less admin work involved	3%

- 49 Do you think that setting a minimum SPF higher than the EU minimum for air source and ground source heat pumps could be an effective driver of performance? What figure do you think might be suitable?**

Would setting a minimum SPF higher than the EU minimum for ASHP / GSHP be an effective driver of performance?	Total responses (122)
Yes	57%

Would setting a minimum SPF higher than the EU minimum for ASHP / GSHP be an effective driver of performance?	Total responses (122)
Possibly	9%
No	24%
Unsure	11%

General comments on SPF level	Total responses (122)
Setting SPF above EU level will be market stimulus /driver	17
Will ensure that high quality equipment /systems installed	11
Requirements should be in line with EU standards /requirements	11
2.5 or 2.7 too low	8
Systems already available with SPF of 3.0	4
Too high will inhibit take up	3
Different /higher level for new builds	3

Suitable SPF figure recommended	Total responses (122)
2.5 (EU level)	13
2.7	3
2.75	1
2.8	7
3	6

Suitable SPF figure recommended	Total responses (122)
Over 3.0	2
3.5	3
Up to 3.0 in five years	2

- 50 If we took this approach, should the minimum SPF required increase over time? Please comment on how quickly you think the required SPF should rise and to what level it should rise.

Should the minimum SPF required increase over time?	Total responses (94)
Yes	66%
Possibly	3%
No	18%
Unsure	13%

Suitable level and timeframe of SPF increase	Total responses (94)
Unsure of rate / timescale	20
0.1 per year (0.2 every 2 years)	5
2.7 to 3.0 after five years	4
3.5 after 7 years	3

General comments on increasing SPF level over time	Total responses (122)
Should increase as technology improves over time	16

General comments on increasing SPF level over time	Total responses (122)
SPF should only rise in line with improvements in technology	9
SPF should be reviewed over time and changed if necessary	7
Manufacturers will be directed through the ErP directive from 2014 - deviation from this will lead to confusion in the market	4
Theoretically the SPF could go down in time in future as the carbon factor reduces	3

**51 What are your views on the use of the RHI budget to pay for metering equipment to be installed for the purpose of policy evaluation?**

Should the RHI budget be used to pay for metering for policy evaluation?	Total responses (165)
Yes	58%
No	30%
Unsure	13%

Comments in support of RHI budget being used for metering for policy evaluation	Total responses (165)
Positive idea /good idea	19%
Necessary /important to evaluate performance / real data	16%
Evaluation /monitoring will help raise (MCS) standards	12%
All installations should be meter ready	9%
Hard data important to check assumptions (deeming)	7%

Comments in support of RHI budget being used for metering for policy evaluation	Total responses (165)
Analysis /feedback important	5%
Metering should be subsidised	4%

Concerns and reservations with RHI budget being used for metering for policy evaluation	Total responses (165)
Using up RHI money - should be spent on installations /saving carbon, not evaluation	10%
Evaluation money should be limited	8%
Waste of money / bad idea	7%
Separate budget / separate finance /separately funded by DCC	6%
Supplier /installers will select best examples for sample monitoring	4%
Consumers should not have to pay for evaluation /monitoring	4%
Central government should pay for evaluation	4%

**52 What are your views on the proposal that we should share data with MCS Certification Bodies so that it can be used to improve MCS installer surveillance?**

Should data be shared with MCS Certification Bodies to improve MCS installer surveillance?	Total responses (174)
Yes	92%
No	4%
Unsure	4%

<b>Comments in support of evaluation data being shared with MCS certification bodies</b>	<b>Total responses (174)</b>
Positive idea /good idea	22%
Analysis /feedback important /sharing data or learnings	19%
Will help ensure equipment installed well /raise installation standards	14%
Will help to raise standards of technology	11%

<b>Concerns and reservations with evaluation data being shared with MCS certification bodies</b>	<b>Total responses (165)</b>
Too complex /adds complexity /adds admin /bureaucracy for consumer	3%
Adds to costs to consumer /will make installation more expensive	3%
Adds complexity, admin, bureaucracy for administrator /MCS	3%
Performance of technologies subject to many different factors (behaviour, weather, etc.) - makes consistent evaluation difficult	3%

**53 What are your views on the requirement to make all installations meter ready and the use of an Installer Checklist?**

<b>Views on proposed requirement to make all installations meter ready and an Installer Checklist used</b>	<b>Total responses (180)</b>
Agree with proposal	75%
Disagree	16%
Unsure	9%

<b>Comments in support of making all installations meter ready and an Installer Checklist used</b>	<b>Total responses (180)</b>
Positive idea / essential	22%
Will help ensure equipment installed well & raise installation standards	8%
Important to make sure technology is installed properly	2%

<b>Concerns and reservations with making all installations meter ready and an Installer Checklist used</b>	<b>Total responses (180)</b>
Shouldn't be required for legacy installations	11%
Waste of money / too costly	4%
MCS already has checklist	4%
Adds time / cost for installer	4%
Adds to consumer costs	4%

**54 Do you agree that there should be a financial penalty for consumers who do not ensure their installation is 'meter ready'?**

<b>Agreement with financial penalty for consumers who do not ensure their installation is 'meter ready'</b>	<b>Total responses (187)</b>
Agree with proposal	32%
Disagree	67%
Unsure	2%

Comments on proposal for financial penalty for consumers who do not ensure their installation is 'meter ready'	Total responses (187)
Should be responsibility of installer to ensure system meter ready	24%
Shouldn't be required for legacy installations /those already installed	7%
Consumers may not be aware /knowledgeable to make system meter ready	5%
Not a good idea /inappropriate	4%
Adds to costs to consumer /will make installation more expensive	3%
Sends out wrong messages to consumers	3%

**55 Should the penalty for consumers who do not make their installation 'meter ready' be the loss of the first year of their RHI payments or a reduction of all of their payments? What other penalty might be appropriate?**

*Note – This question is academic as the premise on which it is based, namely that consumers should be financially penalised if their installations are not 'meter ready,' has been rejected by respondents to the Consultation (see previous question, Q54).*

Comments on types of consumer penalty if the installation is not meter ready	Total responses (149)
Should not be penalty at all /none of these	56%
Reduction in payments	13%
Loss of first year of RHI payments	7%
RHI should not be paid at all if not meter ready	7%
Other	13%

<b>Comments on types of consumer penalty if the installation is not meter ready</b>	<b>Total responses (149)</b>
Unsure	2%

**56 What are your views on providing a tariff uplift for systems where solar thermal is installed alongside other renewable technologies?**

<b>Agreement with tariff uplift when solar thermal installed with other renewables</b>	<b>Total responses (171)</b>
Agree with proposal	75%
Disagree	15%
Unsure	9%

<b>Comments in support of a tariff uplift when solar thermal installed with other renewables</b>	<b>Total responses (171)</b>
Positive idea / good idea / vital	57%
Solar thermal can help efficiency of systems	13%
There is consumer demand for dual systems	9%
Similar to CESP multiple measures uplift	8%
Demonstrates greater commitment to renewables	6%
Biomass boiler and solar thermal a good combination	4%
Heat pump (GSHP or ASHP) and solar thermal a good combination	4%

Concerns or reservations about a tariff uplift when solar thermal installed with other renewables	Total responses (171)
Not a good idea /inappropriate	9%
Challenges of making solar thermal and other renewables work together	4%
Solar thermal will not increase efficiency of system /not very effective	4%
Makes installation more expensive	2%
Makes RHI complex /Complicates deeming calculation in RHI	1%

**57 Do you have any evidence on the size of tariff that should be provided in order to encourage the deployment of these systems?**

Comments on size of tariff provided to encourage deployment of solar thermal plus other renewables	Total responses (26)
As long as the tariff covers the expense of installing the technologies	35%
More than 40% uplift /increase	19%
£1000 or more payment	19%
10-19% uplift /increase	15%
Depends on (relative) cost and payback time of technologies	12%
Modest one off payment	8%

**58 Are there any other approaches that you think could drive continued improved performance of renewable heating systems?**

Suggested alternative approaches to drive continued improvement of renewable heating systems	Total responses (113)
Ongoing & regular servicing /maintenance of systems	28%
Market forces	23%
Initial cash subsidies /payments to increase take up /financial help	18%
Advertising /promotion /consumer communications on RHI & renewables	14%
Better installation standards /training /skills	12%
Tariff based system /RHI	12%
Building regulations e.g. Code for Sustainable Homes Level 4 accreditation/certification as a minimum for all houses in which renewables /microgeneration installed	9%
Better manufacturing /equipment standards	6%
Metering & monitoring	5%
Accreditation of equipment	5%
Heating controls /smart controls - key to best use of heating systems	4%
Strong policing of installers /MCS driving up standards	4%

## Delivery

### 59 What are your views on the options for the proposed pattern of payments

**Preferred frequency of payments (some respondents gave more than one answer)** **Total responses (134)**

Preferred frequency of payments (some respondents gave more than one answer)	Total responses (134)
As proposed	19%
Quarterly	62%
Annual	9%
Monthly	6%
More regular the better / more regular will encourage or incentivise take-up	13%
Monthly a better fit for consumer finances - finance repayment, income, utility bills	13%
Don't mind /any	4%

Preferred terms for payments (some respondents gave more than one answer)	Total responses (134)
In arrears	34%
In advance /up front	26%
In advance will help pay off cost of installation / cover costs	7%

## Assurance

- 60 Do you think that MCS (or equivalent schemes) will provide sufficient consumer protection for the RHI or should additional consumer protection be built into the scheme? If you think more is necessary, please explain what you think is required.

Does MCS (or equivalent) provide sufficient consumer protection for the RHI?	Total responses (191)
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Does MCS (or equivalent) provide sufficient consumer protection for the RHI?	Total responses (191)
Agree with proposal	64%
Agree but with reservations	21%
Disagree	11%
Unsure	4%

Comments on MCS (or equivalent) providing sufficient consumer protection for the RHI?	Total responses (191)
Current / suggested consumer protection is fine	24%
Important to ensure guarantees, warranties etc. are robust /enforceable, etc	12%
Need to address risk of mis-selling / mis-selling must be avoided	12%
Consumer protection is important part of scheme	11%
Regulated /reviewed regularly /checked regularly /spot checks /policed	8%
Risk of negative impact on consumer confidence in scheme /renewables if protection not offered	8%
No additional protection required	6%
MCS and/or REAL fine /robust /proven /established etc.	5%
Risk of consumer protection adding to admin /bureaucracy	5%
MCS standards need to be improved /tightened	5%
MCS not good enough	5%
Need to address risk of manufacturers /installers going out of	5%

Comments on MCS (or equivalent) providing sufficient consumer protection for the RHI?	Total responses (191)
business	
Complaints /dispute resolution process needs to be introduced /improved	4%
Installers already signed up to MCS /REAL	3%

- 61 **Do you agree that our proposed approach of an annual consumer self-declaration, supported by supplementary spot checks is the best way to ensure that equipment installed under the RHI continues to be operational and generate heat optimally over time? What should the penalties for non-compliance be? If you think that the proposed approach is not the best or could be improved, please set out your reasoning and any evidence to support that.**

Agreement that annual consumer self-declaration, supported by supplementary spot checks is best approach	Total responses (194)
Agree with proposal	87%
Disagree	6%
Neither / Unsure	7%

Comments on approach of annual consumer self-declaration, supported by supplementary spot checks	Total responses (194)
Penalty should be payments stopped /refunded /fine for non-compliance	25%
Condition should be regular /annual servicing or checking of system (by installer or other third party) /accredited installer	21%
Seems fair /sensible /acceptable	19%
Self-declaration should be frequent	15%

Comments on approach of annual consumer self-declaration, supported by supplementary spot checks	Total responses (194)
Spot checks should be rigorous /thorough	13%
Fraud - persistent abuse /significant penalty /take to court (OFGEM mitigate abuse and fraud risk)	13%
Maintenance log /inspection report /invoice of servicing	11%
Engineer /service engineer could check usage over time	7%
Use of meters /smart meters	5%

**62 Are there other risks of fraud or gaming that we have not identified in the table above?**

Other risks of fraud or gaming not already identified	Total responses (40)
Risk of organisations selling the systems not being accredited or scrupulous	25%
Won't be a problem as long as checks are strict /robust	23%
Important to define terms (primary residence, second home, unoccupied, etc.)	18%
Risk of mis-selling to the public	15%
Risk of installers not being qualified /having skills	8%

## Customer Journey

**63 In terms of communicating the RHI scheme to consumers and other interested parties, what do you consider that the role of government should be?**

<b>Role of government in communicating RHI scheme to consumers and other interested parties</b>	<b>Total responses (189)</b>
Consumer education	41%
Publicising /advertising /PR for renewables generally	35%
Publicising /advertising /PR for RHI scheme	28%
Website	14%
Continue to support industry (policy, financial support, etc.)	11%
Impartial help /advice service	6%
Monitoring /publicising progress (on installations, take up of RHI, etc.)	6%
Developing /improving standards (products, installation, etc.)	4%
Be a central hub for information, advice, etc.	4%

- 64 Do you have any comments on how RHI information to support and guide consumers along the journey should be provided? If so, please set them out.**

<b>How RHI information for consumers should be provided</b>	<b>Total responses (163)</b>
Publicising /advertising /PR	19%
Consumer education	17%
Dedicated website for RHI	13%
DECC website	12%
Energy Saving Trust /Energy Saving Scotland	11%

How RHI information for consumers should be provided	Total responses (163)
Other impartial or independent help /advice services	9%
Government website	8%
Social media /twitter /facebook, etc.	7%
Case studies /word of mouth /people who have installed renewables or used RHI /satisfied customers	7%
Mail out /leaflets	5%
Trade bodies /associations	4%
Workshops	4%
No /none /can't think of any	13%

**65 Do you have any comments on or additions to the identified events and issues affecting the consumer along the Customer Journey? If so, please set them out.**

Other comments on consumer journey	Total responses (119)
Clear and simple explanation of RHI /how scheme works	24%
Clarity /simplicity generally	15%
Clear and simple explanation of tariffs / level of tariffs /what they mean in terms of actual payments /online calculator	10%
Help /advice /information on Green Deal /green ticks	9%
Help /advice on finding good installer	7%
Help /advice on energy efficiency	5%
Help /advice on identifying right renewable technology /solution	4%

Other comments on consumer journey	Total responses (119)
/technical information	

- 66 Are there any specific customer journeys that you feel would be helpful to analyse? If so, please set them out.**

Other comments on consumer journey	Total responses (63)
The whole customer journey from finding out about technologies through to installing them /the whole journey	25%
Researching /finding the best renewable solution	19%
Customer journey for people with difficult to treat /old /listed /older /solid wall properties	19%
Financing /raising finance	14%
Green Deal	10%
Making the home energy efficient /insulating the home	8%
Social housing customers	6%
Case studies /real examples /typical experiences	5%
Smart metering /metering	2%
Private rental customers	2%

- 67 Do you have any comments on or additions to the actions identified here? If so, please set them out.**

No data tables for this question.

- 68** In particular, do you have any comments on how to make the RHI and Green Deal relationship as seamless as possible in order to minimise disruption to the consumer? If so, please set them out.

Comments on the RHI and Green Deal Relationship	Total responses (114)
Train Green Deal Assessors (GDAs) on RHI /make sure assessors have information on RHI	38%
Inform /train installers on Green Deal / make sure installers have enough information on Green Deal	26%
Green Deal assessment to include suggestions /recommendations on best renewable technology for property	23%
Do not link them / keep them separate	21%
Keep the schemes simple, clear, uncomplicated	17%
Allow tariff /RHI payment to count towards Green Deal Golden Rule	8%
Allow Green Deal finance to part finance installation of renewables	4%
Green Deal /ticks not referred to earlier /allow legacy installations to have RHI without green ticks	4%

## Budget Management

- 69** Do you agree that the system of degression described would provide us with a sufficient means of controlling the costs of supporting the domestic RHI scheme? If you would prefer a different approach to budget control then please set out what that might be and how it might operate.

Agreement with system of degression to control domestic RHI costs	Total responses (108)
Agree with proposal	69%
Agree but with reservations	18%

<b>Agreement with system of degression to control domestic RHI costs</b>	<b>Total responses (108)</b>
Disagree	7%
Unsure	6%

<b>Comments on using a system of degression to control domestic RHI costs</b>	<b>Total responses (108)</b>
Seems sensible /clear /adequate	46%
Will help control costs	20%
Is negative /will be disincentive /barrier to taking up RHI /renewables	7%
Important that as much notice as possible is given to aid consumer planning	6%
Tariff should be fixed from signing of contract or specified time, NOT completion of installation	5%
Degression must be properly and clearly explained	5%

- 70 Do you agree that we should build in greater flexibility to the system such that degression might not occur if overall deployment levels are low? If yes, how do you think this could be achieved?**

<b>Agreement that the system should have flexibility with no degression if deployment is low</b>	<b>Total responses (115)</b>
Agree with proposal	58%
Agree but with reservations	26%
Disagree	7%

Agreement that the system should have flexibility with no depression if deployment is low	Total responses (115)
Unsure	9%

Comments on system having greater flexibility, with no depression if deployment is low	Total responses (115)
Depression should NOT occur if numbers are low	14%
Scheme should be clear and easy to understand	14%
Seems sensible	10%
System should be flexible	8%
Market needs certainty /consistency	6%
Increase tariff if numbers are low	5%
Unclear why depression would happen if deployment rates are low	3%
Important that one technology doesn't succeed at expense of others	3%

**71 How do you think we should set triggers which would result in tariff reductions to ensure fairness, value for money and certainty? Do you agree with the options presented, or would you prefer we took an alternate approach?**

Comments on setting depression triggers	Total responses (112)
Agree with options /proposals presented	48%
Consumers must have certainty /confidence in tariffs they will receive	18%
Triggers should be based on number of installations, NOT pounds spent	13%

Comments on setting degression triggers	Total responses (112)
Avoid tariff reductions for existing customers /where renewables already installed	12%
Reduce tariffs in line with reduction in cost of equipment /installation	4%
Keep it simple /clear /keep bureaucracy low	4%

- 72** Would you prefer a system which announces any tariff rate reductions every two months (with up to a one or two week notice period before the reduced rate comes into effect), or on a quarterly basis (with up to a months' notice period)? If you would prefer a different period please set this out and explain why.

Preferred system for announcement of tariff reductions	Total responses (153)
Prefer announcement of quarterly reductions with up to 1 month notice	47%
Prefer different period	42%
Prefer reductions announced every 2 months with 1-2 week notice period	7%
Unsure	3%

Comments on system for announcement of tariff reductions	Total responses (153)
Installing renewable heat systems takes many months	12%
One month's notice is minimum requirement	12%
Longer periods allows householder to plan	12%
Need for predictability /confidence /ability to plan	12%
As much notice /as long a period as possible	11%

Comments on system for announcement of tariff reductions	Total responses (153)
Longer periods allows industry to plan	10%
Announcements every 6 months preferred	9%
Annual /yearly announcements preferred	8%
1-2 months' notice should be given	7%
3 month's notice should be given	6%
1-2 week notice period insufficient /does not reflect the time installation takes	6%
Need for consistency	6%
PV industry has suffered based on regular changes to FiTs	5%
1-2 week notice period may cause jobs to be rushed or not completed	5%
Quarterly announcements is appropriate /fairer /preferred	4%
No tariff reductions on existing installations /legacy installations	3%

- 73 Do you agree that the system should specifically recognise legacy applicants when calculating whether trigger points have been met? Do you agree with the options presented, or would you prefer we took an alternate approach? If yes, then please provide details.**

Agreement that system should recognise legacy applicants when calculating if trigger points have been met	Total responses (123)
Yes, agree that system should recognise legacy applicants	66%
Disagree	24%

Agreement that system should recognise legacy applicants when calculating if trigger points have been met	Total responses (123)
Unsure	10%

Comments on whether system should recognise legacy applicants when calculating if trigger points have been met	Total responses (123)
Legacy applicants should NOT contribute towards trigger points	16%
Legacy applicants should get full tariff to recognise their early adoption	12%
Legacy applicants should be given opportunity at initial tariff rates	10%
Legacy applicants need to be protected	8%
No, number of legacy applications is finite /known and should be taken into account	8%
If inclusion of legacy applicants is phased in then some may end up with lower tariff than others if they cross over trigger point	7%
Degression should only apply to future /new applications	6%

- 74 Do you agree that we should base degression calculations and triggers on pounds spent, or do consider it would be more appropriate to use an alternative approach, such as installed capacity and renewable heat produced? Please provide reasons for your preferred approach?**

Agreement that degression calculations should be based on pounds spent	Total responses (109)
Yes, agree with proposal	49%
Disagree	44%
Unsure	7%

Comments on basis of degression calculations and triggers	Total responses (109)
Should be based on (renewable) heat generated /produced	30%
Should be based on installed capacity	28%
Pounds spent towards budget available / relates to actual sum of money available	20%
Needs to balance /deal separately with different technologies	6%
On pounds helps cost control	4%
On pounds will keep Treasury /Chancellor /Government happy	4%
Based on number of installations of each technology (separately)	4%
Should be based on number of installations / households	2%

**75 Do you agree that we should not apply EPA or a similar option to the domestic scheme? If not, why not? How could this work?**

Agreement that EPA should not be applied to domestic RHI	Total responses (100)
Yes, agree with proposal	45%
Disagree	42%
Unsure	13%

Comments on proposal that EPA is not to be applied to domestic RHI	Total responses (100)
EPA gives confidence /security /certainty to consumers	12%

Comments on proposal that EPA is not to be applied to domestic RHI	Total responses (100)
EPA good for more difficult installations e.g. ground source heat pumps, large biomass boilers	11%
EPA a good idea /fair to consumers	10%
EPA reflects time it actually takes to install renewable heat systems	9%
Installations times for domestic installations not much shorter than for non-domestic	9%
EPA not needed if announcement periods on degression /notice periods are long enough	8%
EPA good for larger properties	5%
EPA not needed for most /majority of installations	5%
EPA gives confidence /security to installers	4%
EPA needed more for non-domestic installations	4%

# Annex 3 Consultation Activities

## Regional Events

As part of the consultation process a series of regional events were held to raise awareness of the proposals and ensure a wide range of views were heard from stakeholders from across the country. These took the format of a presentation by DECC on the proposals included in the consultation, followed by an open discussion and question and answer session.

A list of events is included in the table below:

Date	Venue	Attendees	Representatives included
October 2012	Cambridge	25	<ul style="list-style-type: none"> <li>• Installers / manufacturers</li> <li>• Householders</li> <li>• Private landlords</li> <li>• Social housing</li> </ul>
October 2012	Manchester	30	<ul style="list-style-type: none"> <li>• Installers / manufacturers / suppliers</li> <li>• Construction industry</li> <li>• Green Deal advisorHouseholder</li> </ul>
October 2012	Penrith	36	<ul style="list-style-type: none"> <li>• Installers / manufacturers / suppliers</li> <li>• Social housing</li> <li>• Community partnerships</li> </ul>
November 2012	Cardiff	38	<ul style="list-style-type: none"> <li>• Installers / manufacturers</li> <li>• Community / housing associations</li> <li>• Householders</li> </ul>
November 2012	Durham	40	<ul style="list-style-type: none"> <li>• Installers / manufacturers</li> <li>• Social housing</li> <li>• Energy companies</li> </ul>
November 2012	Glasgow	39	<ul style="list-style-type: none"> <li>• Mainly installers</li> <li>• Distributors</li> <li>• Social housing</li> </ul>

Date	Venue	Attendees	Representatives included
November 2012	Inverness	21	<ul style="list-style-type: none"> <li>Manufacturers / suppliers</li> <li>Housing associations</li> <li>Academics</li> </ul>
November 2012	Llandudno	20	<ul style="list-style-type: none"> <li>Manufacturers / suppliers</li> <li>Government</li> <li>Consumer / advisory organisations</li> </ul>
November 2012	Plymouth	38	<ul style="list-style-type: none"> <li>Installers</li> <li>Social landlords</li> </ul>

## Feedback

The table below captures a summary of the key points raised at each event.

Topic	Feedback
New build	<ul style="list-style-type: none"> <li>There was some support for the exclusion of new build with the emphasis of ensuring the Building Regulations support delivery of zero carbon homes</li> <li>Question of whether the technology enhances the value of the home</li> <li>Issue of incentivising new build before change in regulations in 2016, with associated concerns over possible lag between regulations coming in to force and house builders having to take measures, and what this will mean for 2020 targets</li> <li>Opinion that Biomass heat load is not high enough for new build properties</li> <li>Opinion that New Build and self-build should be treated separately</li> </ul>
Deeming	<ul style="list-style-type: none"> <li>Opinion that there needs to be a standardised calculation system for deeming – currently different manufacturers' software gives different calculations.</li> <li>Agreement with proposal of deeming but need to have agreement on using SAP or MCS.</li> <li>Deeming where glycol/panels are used is a good idea</li> <li>Question of how rural houses will be deemed</li> <li>A comment was made that, for biomass, there would be space issues re meter installation.</li> <li>Some preferred the use of SPF as there are already standards in place</li> <li>Generally, it was felt that requiring metering wouldn't be a barrier to uptake and in fact would help consumers keep an eye on and control</li> </ul>

Topic	Feedback
	<p>their heat use.</p> <ul style="list-style-type: none"> <li>• Furthermore the costs of meters would come down as RHI drives uptake and it would also help to reward more efficient systems</li> </ul>
Green Deal	<ul style="list-style-type: none"> <li>• There were questions over the use of Green Deal Assessments and the impact this would have on SMEs – but it was recognised that without Green Deal some would not be able to meet RHI requirements</li> <li>• Concerns that the Green Deal assessor will push people in particular directions</li> <li>• Suggestions that local authorities (or other organisations) could offer an impartial service as an alternative</li> <li>• Comment that most boilers that are replaced are ones that have broken down and RHI will not be a priority when households choose to replace them.</li> <li>• Some concern voiced about hassle and cost of Green Deal, with preference for EPC certification, which is cheaper</li> </ul>
Rural	<ul style="list-style-type: none"> <li>• Question over rural properties that use their own logs as fuel, and why the fuel should have to be certified.</li> <li>• Question of whether homes with solid stone walls and dry linings would be exempt from the RHI</li> <li>• Specific example from Cornwall, where bivalent systems are thought to be needed – for example, if the roads are blocked or flooded and there is no stock of biomass pellets, there is no option but to switch over to a back-up source of heat.</li> </ul>
ASHP	<ul style="list-style-type: none"> <li>• There were various comments on the tariff levels, as reflected in the main report text</li> <li>• Opinion that the RHI should be raising the performance of ASHPs.</li> <li>• Concern at how underperformance will affect consumers and hence market.</li> <li>• Concern from some consumers over issues with planning permission, noise and aesthetics of ASHPs</li> </ul>
GSHP	<ul style="list-style-type: none"> <li>• Opinion that the large scale of GSHPs could be best suited to community or cooperative installations</li> <li>• Some concern over barriers / hurdles to consumers purchasing GSHPs</li> </ul>
Biomass	<ul style="list-style-type: none"> <li>• Question as to how far down the supply chain the RHI accreditation requirement goes – for example, as far down as the wood pellet manufacturer?</li> <li>• Concerns about pellet supply – contracts offered for a max of 3 years which works against inclusion of biomass</li> <li>• Concerns over sustainability of fuel supply</li> </ul>

Topic	Feedback
	<ul style="list-style-type: none"> <li>• Radial drilling should also be considered alongside boreholes</li> <li>• Concern from a wood-burning manufacturer that this technology is not included.</li> </ul>
Solar Thermal	<ul style="list-style-type: none"> <li>• Question as to whether electric heaters need to be removed If solar thermal is installed</li> <li>• Question raised on eligibility of Solar Thermodynamics, as they are being marketed as eligible.</li> <li>• Concern over the Solar Thermal tariff cap</li> </ul>
MCS	<ul style="list-style-type: none"> <li>• Question as to whether existing MCS accreditation holders qualify automatically for the scheme without the need for a new test</li> <li>• Concern over the MCS process being too open to gaming and that it can be manipulated as it currently stands; it is not policed enough to ensure standards are adhered to</li> <li>• Concerns over standards of some operating under the MCS</li> <li>• Question as to whether PAS 2030 was more stringent than MCS</li> </ul>
Customer Journey	<ul style="list-style-type: none"> <li>• Suggestion that a considerable proportion of consumers would be elderly and the scheme needs to be marketed with this in mind</li> <li>• Opinion that adding complicated consumer protection would be a barrier.</li> <li>• Opinion that manufacturers need to have a clear understanding of technology deployment figures so that industry can respond positively</li> </ul>
Budget Management	<ul style="list-style-type: none"> <li>• There was general support for payment over 7 years</li> <li>• Various questions were raised, including how the budget would be managed over the life of the scheme, frequency of reviews, different funding models, proof of ownership and how DECC arrived at the tariff levels.</li> <li>• Questions over current tariff setting and how this relates to carbon savings.</li> <li>• Concerns about effect of depression on supply chain and similarity with FITs</li> <li>• Concerns expressed that the tariff levels did not cover depreciation of kit</li> </ul>
Social Landlords	<ul style="list-style-type: none"> <li>• Questions over assumption that social landlords would be able to benefit from economies of scale especially in Scotland and Wales where social landlord's own fewer properties.</li> <li>• Issues around the treatment of social landlords and care homes – participant took the position that these should be treated the same</li> <li>• It was stated that a real incentive was needed for Social Landlords.</li> </ul>

Topic	Feedback
	<p>Assumptions of economies of scale would apply to the counterfactual as well as the renewable heat option and this should be taken into account if a social landlord tariff is developed. Given squeeze on LA sending, any extra cash will only be spent on renewables (from this sector) if it helps the meet CRC.</p> <ul style="list-style-type: none"> <li>• View that it was imperative the scheme included social landlords as many residents live in off gas grid areas and are in fuel poverty, Housing Associations may not be able to fund capital outlay having just complied with Decent Homes – imminent changes to the social welfare reform will exacerbate fuel poverty</li> <li>• Question over status of RHI payments after tenants have left the accommodation – do RHI payments get carried over to the next tenants?</li> <li>• Question over how RHI is paid to local authorities and what the rules are for paying out to local authorities</li> </ul>
Delivery	<ul style="list-style-type: none"> <li>• View that DECC should ‘keep it simple’ – a complicated scheme will simply confuse and deter potential applicants (keep the customer journey as simple as possible)</li> <li>• Questions over delivery timeframe</li> <li>• Requests for the Sweett report to be shared.</li> <li>• Questions of how ECO works with RHI</li> </ul>
Eligibility	<ul style="list-style-type: none"> <li>• Various questions over the eligibility of specific systems, including particular technologies and different sized systems</li> <li>• Call for some exemptions to insulation requirements, e.g. cavity wall insulation is not recommended in the West coast of Scotland.</li> <li>• Question as to whether properties receiving payment from the European Social Fund would be eligible</li> <li>• Questions regarding capping for large houses, heat consumption, eligibility of on-gas households and multiple households sharing a renewable installations</li> </ul>
Legacy	<ul style="list-style-type: none"> <li>• Questions as to whether legacy applicants would require Green Deal Assessments</li> <li>• Question as to whether legacy application rates would be taken into account for new applications</li> <li>• Question as to whether there would be an earlier registration date for legacy applicants</li> </ul>
Bivalency	<ul style="list-style-type: none"> <li>• Opinion that hybrid systems automatically switch between two systems with the consumer not having any control of the switchover. Therefore, requiring hybrid systems to be metered is effectively a penalisation due to extra, unnecessary cost of meter.</li> </ul>

Topic	Feedback
	<ul style="list-style-type: none"> <li>Opinion from supplier that it is necessary to treat hybrid systems and bivalent systems differently.</li> <li>Opinion that ASHPs are most effective used in conjunction with gas boilers.</li> <li>The bar on bivalency for biomass was questioned. An example was given whereby people coming back from holiday would want to heat their homes quickly, but without a bivalent option, it would be difficult to do so.</li> </ul>

## Workshops

A series of workshops were held in London during November and December 2012. These were as follows:

### Technology workshops

We recognised that each technology should be looked at in its own right and therefore ran three sessions for industry representative of the heat pump (air source and ground source), solar thermal and biomass boiler sectors. These workshops considered:

- The evidence base for inclusion of the technology
- The customer journey for each technology
- The accreditation process
- Monitoring of the technology's performance

### Issue specific workshops

We recognised the need to have some focussed discussions on some of the key issues relating to the policy development. These included:

- Budget management: how we would manage the budget and address 'legacy' applicants i.e. those that have installed eligible technologies since July 2009
- The customer journey: interaction with the Green Deal and energy efficiency
- Tariff setting and providing value for money

- Incentivising performance of technologies
- Heat measurement: deeming and metering
- Seasonal Performance Factor

### **Sector specific workshops**

We recognised the need to have targeted discussions with specific sectors. These included:

- The construction industry on new build issues
- Social housing and landlords on the rented sector
- Investors on potential for new business models and funding streams
- Rural communities

The outcomes from these workshops were considered as part of this consultation response.



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