

**Hutchinson, Peter**

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**From:** David White [david.white@arthurcox.com]  
**Sent:** 28 March 2013 17:57  
**To:** Hutchinson, Peter  
**Cc:** McCutcheon, Joanne; Briggs, Peter; Alan Bissett  
**Subject:** RE: Work Order Request - Legislative requirements relating to phase 2 of the RHI  
**Attachments:** The Northern Ireland Renewable Heat Incentive (28.03.13).docx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** TRIM

Peter

Please find attached for your review a copy of our preliminary draft report in relation to item 1 of the Work Request Form (ACX/RHI 004): advice and guidance on the recent and/or future legislative changes in Great Britain regarding renewable heat.

Please note the following in particular:

1. On 26<sup>th</sup> March 2013, DECC announced that the final details of: (i) the expansion of the non-domestic RHI; and (ii) the introduction of a domestic RHI will not be issued until Summer 2013 (this had originally been planned for Spring 2013). Consequently, the schemes will not be open for payment until Spring 2014. (<https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi>)
2. We would expect the Government Responses in Summer 2013 to provide us with the final details of the approach being taken in relation to the non-domestic and domestic RHI in GB. Our initial review of the proposed changes in GB regarding renewable heat suggests that the expansion of the commercial scheme to include new tariffs is to be achieved by Regulations amending the existing GB RHI Regulations. However, it remains unclear whether the introduction of a specific domestic RHI will be implemented by way of further amendments to the existing GB RHI Regulations or by stand-alone Regulations.
3. In July 2012 DECC consulted on longer term budget management mechanisms for the non-domestic RHI scheme. DECC has now issued its response to this consultation (27<sup>th</sup> February 2013) and has decided to implement a degression mechanism. This would reduce the tariff paid to new RHI recipients if uptake of the scheme is higher than what is needed to achieve the heat proportion of the UK's 2020 renewable energy targets. This new degression mechanism was to be implemented by the Renewable Heat Incentive Scheme (Amendment) Regulations 2013 but it is unclear whether the delays to the non-domestic and domestic RHI will also affect this.
4. In response to stakeholder feedback, DECC has looked at the evidence on cost data and heat usage assumptions used to set the levels of tariffs when the RHI scheme in GB was launched, alongside the level of uptake so far under the scheme. We understand that the Government has decided that some new input assumptions should be adopted and work is underway to identify what the impacts on tariffs will be. A short consultation on some tariff changes will be launched in Spring 2013 and we understand that DECC plans to announce the outcomes of this work in Autumn 2013.

When you have had an opportunity to review the draft report, we look forward to receiving any comments or queries you may have - please also let us know if it would assist to have a call or meeting to discuss this matter further.

We should be grateful if you would acknowledge receipt of the draft report.

Kind regards

David

David White  
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**From:** Alan Bissett  
**Sent:** 07 March 2013 19:56  
**To:** 'Hutchinson, Peter'  
**Cc:** McCutcheon, Joanne; Briggs, Peter; David White  
**Subject:** RE: Work Order Request - Legislative requirements relating to phase 2 of the RHI

Peter

Good to meet you and the team again this morning.

I note that the work required under the Work Request Form is as follows:

- 1 Advice and guidance on recent or future legislative changes in GB regarding renewable heat.
- 2 Consideration of the legislative changes that will be necessitated by policy changes to the RHI through Phase 2 of the scheme (i.e. introduction of a specific domestic RHI and expansion of the commercial scheme to include new tariffs).
- 3 Preparation of a first draft of Regulations to be included within the policy consultation document.

As discussed, we would propose to carry out the work required in relation to item 1 by 31<sup>st</sup> March 2013 and have provided a fee quote for this below. Our advice in relation to item 1 is likely to inform the view taken on the legislative changes that will be necessitated by policy changes to the RHI through Phase 2 of the scheme. As that is the case, I would suggest that we should meet when you have had an opportunity to consider our advice in relation to item 1 and we can then provide an informed fee quote for the work to be carried out in relation to items 2 and 3.

Our fee estimate for the work to be carried out in relation to item 1 above is as follows:

#### The team

We would propose to staff this matter as follows:

Alan Bissett (Partner); and

David White (Solicitor).

#### Time spent

I would anticipate that the team will spend the following time on this matter:

Fee-Earner	Hourly Rate (£)	Estimate of time (Hrs)	Estimate of Cost (excluding VAT) (£)
Alan Bissett (Partner)	Sensitive commercial information redacted by the RHI Inquiry		
David White (Solicitor)	Sensitive commercial information redacted by the RHI Inquiry		

**Fee estimate**

This equates to a fee estimate of Personal information redacted by the RHI Inquiry for the work to be carried out.

Our initial review of the proposed changes in GB regarding renewable heat suggests that the expansion of the commercial scheme to include new tariffs is to be achieved by Regulations amending the existing GB RHI Regulations. However, it remains unclear whether the introduction of a specific domestic RHI will be implemented by way of further amendments to the existing GB RHI Regulations or by stand-alone Regulations. As discussed, it would be very helpful if you could obtain information from DECC on this and draft copies of the proposed legislation for GB for use as a starting point for the corresponding NI legislation.

Please let me know if I can provide any further information at this stage.

Regards

Alan

Alan Bissett

Partner, Corporate and Commercial

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**From:** Hutchinson, Peter [<mailto:Peter.Hutchinson@detini.gov.uk>]

**Sent:** 26 February 2013 17:06

**To:** Alan Bissett

**Cc:** McCutcheon, Joanne; Briggs, Peter

**Subject:** Work Order Request - Legislative requirements relating to phase 2 of the RHI

Alan,

Please see attached work request relating to expected legislative requirements resulting from Phase 2 of the NI Renewable Heat Incentive.

Grateful if you would consider and revert.

Thanks,

Peter

**Peter Hutchinson**

Renewable Heat

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**THE NORTHERN IRELAND RENEWABLE HEAT INCENTIVE**

**REPORT ON RECENT AND FUTURE LEGISLATIVE CHANGES IN  
GREAT BRITAIN REGARDING RENEWABLE HEAT**

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**ARTHUR COX**

**BELFAST**

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## 1. Introduction

NI currently has a non-domestic NIRHI scheme in place. The non-domestic NIRHI scheme was launched on 1 November 2012 and provides on-going support for a range of newly installed renewable heat technologies.

The primary objective for the NIRHI is to increase the uptake of renewable heat to 10% by 2020 (baseline position of 1.7% in 2010). This target was included in the Strategic Energy Framework<sup>1</sup> and an interim target of 4% renewable heat by 2015 has been included in the Programme for Government<sup>2</sup>. Without the NIRHI in place, NI will not achieve either of these the targets set for renewable heat or be able to contribute to the UK target set under the RED.

We understand that the Department is working with external consultants to consider the introduction of a second phase to the NIRHI with two broad elements:

1. the expansion of the non-domestic NIRHI scheme to include new tariffs for more innovative technologies; and
2. the introduction of a domestic NIRHI scheme.

The development of a second phase of the NIRHI appears to be consistent with GB given that DECC has already carried out public consultations in September 2012 on the expansion of the non-domestic GBRHI and the development of a domestic GBRHI. We are currently awaiting the Government Response to both of these consultations and expect these responses provide clarification as to the final policies being adopted in GB. We understand that the Government Responses were initially due in Spring 2013 but DECC announced on 26<sup>th</sup> March 2013 that, due to “*large volumes of data and evidence*”, these responses are now not expected until Summer 2013 with the schemes being open for payment from Spring 2014<sup>3</sup>. In the meantime, the Department may wish to consider liaising with DECC to obtain more information on the outcomes of both the non-domestic and domestic GBRHI schemes.

For the sake of clarity, we set out in the table below the status of the various consultations being carried out by DECC in relation to the GBRHI and we have considered the proposals contained in each of the consultations in greater detail in the subsequent sections of this Report.

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<sup>1</sup> [http://www.detini.gov.uk/strategic\\_energy\\_framework\\_sef\\_2010\\_-3.pdf](http://www.detini.gov.uk/strategic_energy_framework_sef_2010_-3.pdf)

<sup>2</sup> <http://www.northernireland.gov.uk/pfg-2011-2015-final-report.pdf>

<sup>3</sup> <https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rh>

Consultation	Date	Status
Renewable Heat Incentive: Providing certainty, improving performance	20 <sup>th</sup> July 2012	Government Response issued on 27 <sup>th</sup> February 2013
Renewable Heat Incentive: Expanding the non domestic scheme	20 <sup>th</sup> September 2012	Government Response due in Summer 2013
Renewable Heat Incentive: Air to Water Heat Pumps & Energy from Waste	20 <sup>th</sup> September 2012	Government Response due in Summer 2013
Renewable Heat Incentive: Consultation on proposals for a domestic scheme	20 <sup>th</sup> September 2012	Government Response due in Summer 2013

The advice given and observations which we have made in this Report are in response to the queries raised by the Department in Work Request Form ACX/RHI 004 in relation to the recent and/or future legislative changes in GB regarding renewable heat.

By way of summary, our initial review of the proposed legislative changes in GB regarding renewable heat suggests that the expansion of the non-domestic scheme to include new tariffs is to be achieved by regulations amending the existing GBRHI Regulations. Despite DECC stating that “*there will need to be a revision to the legislation that allows us to offer the RHI to householders*”<sup>4</sup>, it remains unclear whether the introduction of a specific domestic GBRHI scheme will be implemented by way of further amendments to the existing GBRHI Regulations or by stand-alone regulations.

Unless otherwise stated, terms used in this Report shall have the meaning given thereto in Annex A.

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<sup>4</sup> <https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi>



## 2. Consultation in relation to the expansion of non-domestic GBRHI scheme

### 2.1 Overview of current non-domestic GBRHI scheme

The GBRHI was framed in law by the Energy Act 2009 and DECC consulted on the options for a GBRHI in February 2010<sup>5</sup>. Following that consultation, DECC decided on a phased approach; launching the non-domestic scheme first.

Accordingly, DECC launched the non-domestic GBRHI in November 2011 with a scheme that introduced long-term tariff support for non-domestic heat generation, targeted at big heat users - industrial, business and public sectors. Support was introduced in the form of tariffs payable for each kWh of renewable heat generated over 20 years. The below table summarises existing GBRHI support<sup>6</sup>.

Tariff name	Eligible technology	Capacity	Tier (if applicable)	Tariff level (p/kWh)
Small commercial biomass	Solid biomass including solid biomass contained in municipal solid waste (incl. CHP)	Less than 200 kWth	Tier 1	8.3
Medium commercial biomass		200 kWth and above; less than 1,000 kWth	Tier 2	2.1
Large commercial biomass		1,000 kW and above		1.0
Small commercial heat pumps	Ground-source heat pumps; water source heat pumps; deep geothermal	Less than 100 kWth		4.7
Large commercial heat pumps		100 kWth and above		3.4
All solar collectors	Solar collectors	Less than 200 kWth		8.9
Biomethane and biogas combustion	Biomethane injection and biogas combustion, except from landfill gas	Biomethane all scales, biogas combustion less than 200 kW		7.1

The main objective of the GBRHI is to help the UK achieve its 2020 renewable energy targets by bringing forward uptake of renewable heat. We understand that DECC has indicated that renewable

<sup>5</sup> <http://www.rhinentive.co.uk/library/regulation/100201ConsultationRHI.pdf>

<sup>6</sup> This table has been extracted from pages 14 – 15 of the GB Non-Domestic Consultation.



heat levels of around 12%, coupled with 30% renewable electricity consumption are required for the UK to meet its requirements under the RED.

In general, it would appear that renewable heat offers good value for money to the taxpayer in terms of the subsidy required per kWh of renewable energy compared to other types of renewable energy, and forms a key part of the UK Government's plans for meeting renewable targets. The RED targets are deliberately set at a realistic but ambitious level, making the potential renewable contribution of a technology a key factor when prioritising which technologies to support. Costs also differ by technology and, given that the scheme is funded by the taxpayers, value for money is also an important consideration for each technology. It is also important to note that UK Government caps support for renewable heat at the marginal cost of renewable energy. This is calculated as the cost of offshore wind (8.9p/kWh in 2012 prices paid over 20 years), because any payment for renewables above that value is more expensive than generating more renewable energy through offshore wind.

Renewable technologies and improvements on existing technologies emerge at a surprising rate and it is our understanding that the GBRHI scheme will be regularly updated to reflect these changes.

## 2.2 Expansion of non-domestic GBRHI scheme

By way of the GB Non-Domestic Consultation, DECC has consulted on the expansion of the non-domestic GBRHI scheme by introducing more technologies and making other improvements to the support structure.

The GB Non-Domestic Consultation closed on 7<sup>th</sup> December 2012 and we are currently awaiting the Government Response to this consultation. As previously mentioned, we understand that the Government Response with the final details of the expansion of the non-domestic GBRHI scheme is to be issued in Summer 2013 with the scheme being open for payment from Spring 2014.

In addition to the GB Non-Domestic Consultation, proposals relating to air to water heat pumps and energy from waste have been consulted on separately for a shorter, four-week, period. This is due to the fact that DECC does not expect to collect significant data in addition to the information and data currently available to it, and the practical challenges in determining final policy are limited relative to other technologies<sup>7</sup>.

The GB Non-Domestic Consultation proposed significant changes in support to certain of the technologies which are currently supported under the GBRHI and also considered introducing

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<sup>7</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/66605/6452-renewable-heat-incentive-air-to-water-heat-pumps-.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/66605/6452-renewable-heat-incentive-air-to-water-heat-pumps-.pdf)

additional support for various new technologies. In addition, DECC has also issued “calls for evidence” on a further four technologies (as set out in paragraph 2.2.9 of this Report).

The technologies on which DECC has consulted or sought evidence on can be broadly divided into four main categories:

- (i) those for which DECC had previously announced its intention to introduce support through the GBRHI but were unable to include in the initial tranche of the GBRHI in November 2011;
- (ii) technologies which were not included in the original GBRHI proposals but for which there is now a case for inclusion;
- (iii) technologies which, while currently eligible for the GBRHI under an existing tariff, have not had specific tariff levels set to reflect their particular costs and performance; and
- (iv) technologies for which DECC does not yet have enough evidence to make any proposals for introducing or adjusting support.

In paragraphs 2.2.1 to 2.2.11 of this Report, we have provided a brief overview of such technologies below and a brief summary of the proposals which DECC has consulted on in the GB Non-Domestic Consultation and the separate consultation in relation to air to water heat pumps and energy from waste.

We would expect further details on the precise approach being taken to the implementation of the proposals in relation to the expansion of the GBRHI scheme to be provided in the Government Response to the GB Non-Domestic Consultation in Summer 2013. However, it is our understanding that the expansion of the existing non-domestic GBRHI scheme will be achieved by way of regulations amending the existing GBRHI Regulations.

Following the Government Response to the GB Non-Domestic Consultation, DECC will undergo the necessary regulatory processes, both at a domestic and European level. It is our understanding that parts of the proposals outlined below will also require European State Aid Clearance which, in theory, could cause delays to the proposed timetable.

### **2.2.1 Air to Water Heat Pumps**

It is our understanding that this form of heat pump was initially excluded from the GBRHI due to a lack of data on the associated costs and consequent inability to set an accurate tariff. It appears that this issue has now been resolved and DECC has proposed to introduce support for this form of heating.

DECC has estimated a tariff of 1.7p/kWh based on a single tier approach. However, we gather that DECC will collect evidence and consider whether there may be benefits to introducing size banding for this technology. If this were to be done, it is likely to reduce the tariff for larger air to water heat pumps and increase it for smaller installations.

In addition, we note that DECC would expect heat pumps which are designed, installed and used appropriately to meet an SPF requirement of 2.5 but with better and improving performance over time. This is discussed further at paragraph 2.2.3 in relation to air to air heat pumps.

### **2.2.2 Energy from Waste**

We understand that the incineration of energy from waste (“Efw”) is currently supported in the GBRHI under the biomass tariff. The GBRHI pays a tariff for the proportion of heat generated from the biomass in municipal solid waste, which is typically 50% or higher. Currently, other types of waste, such as commercial and industrial waste are excluded. However, other types of waste are supported under the Renewables Obligation.

It is our understanding that the main input fuels for incineration are currently waste collected by local authorities (typically referred to as Municipal Solid Waste (“MSW”), commercial and industrial waste, and in some cases construction and demolition waste. In GB, MSW being the only waste stream eligible under the GBRHI provides a significant barrier to companies wanted to build Efw plants. Waste contracts will often include other types of waste and it is rarely viable to run a plant purely on MSW. Furthermore, the Renewables Obligations supports the incineration of other wastes so DECC considers there to be merit in being consistent, given that Efw businesses will often deal with both incentives.

Therefore, DECC has proposed to expand the types of renewable waste eligible under the GBRHI, to be consistent with the Renewables Obligation, and continue to pay the biomass tariff for the biomass proportion of the waste. This will extend GBRHI support to commercial and industrial waste. In addition, DECC has proposed that the existing biomass tariffs will continue to apply to energy from waste CHP.

### **2.2.3 Air to Air Heat Pumps**

Whilst air to air heat pumps (“AAHP”) are not currently supported within the GBRHI, we understand that they were included in the initial GBRHI consultation but uncertainty about their requirement for support and metering issues prevented their inclusion in the first phase of the GBRHI.

We understand that DECC considers the reversible air to air heat market to be sufficiently strong enough that no GBRHI support is required. Indeed, if a technology has matured to such a point of competitiveness that the financial barrier preventing adoption of a renewable heat technology no longer exists, then the GBRHI is unlikely to create significant additional demand and does not therefore represent good value to the taxpayer.

However, heating only air to air heat pumps are still an emerging technology. The market for such pumps is in large buildings with a heat demand but no need for cooling such as schools, libraries and other public infrastructure. Accordingly, DECC has suggested, in the GB Non-Domestic Consultation, that GBRHI could be introduced for these devices as the introduction of support for such devices does not face the same issue of having to discount the cooling element (as is the case for reversible heat pumps) – all of their generation would be eligible for the GBRHI. Given that the costs of the heating only and reversible systems are the same, there is a risk that this support will create a false market that is entirely subsidy driven. Under normal circumstances an organisation is unlikely to choose to install a heating only system when a system with the additional flexibility of cooling is available at the same price. However, the heating only support may draw attention to AAHP in general with customers, who, after investigating their options, instead opt for a reversible device at no cost to the taxpayer but at least with the heat portion of its operation being renewable.

In terms of the specifics of the proposed GBRHI support for this technology, we note the following from the GB Non-Domestic Consultation:

- (i) DECC has suggested that there may be a case for introducing banding by size, with a higher tariff for small systems and a lower tariff for large systems, into any potential support for this technology.
- (ii) The nature of this technology causes difficulties in relation to determining the GBRHI payment, due to the fact that the existing GBRHI water or steam based metering approach will not work for this technology. Ideally there would be a consistent approach for non-domestic GBRHI payments, but the cost of implementing a metering system may be obstructively large. Consequently, DECC has proposed a different way of calculating payment, either a different form of metering or instead estimating the heat load using a methodology such as the Simplified Building Energy Model.
- (iii) Heat pumps (Air and Ground source) which do not meet the minimum seasonal performance factor<sup>8</sup> (“SPF”) are not counted as renewable under the RED. DECC would expect heat pumps which are designed, installed and used appropriately to meet an SPF requirement of

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<sup>8</sup> The SPF is the average ratio of the heating output over the amount of electricity a heat pump uses over a whole year and reflects the efficiency a heat pump achieves when installed.

2.5 but with better and improving performance over time. The European Commission has now produced guidance<sup>9</sup> on how to calculate SPF for different heat pump technologies and applications, taking into account differences in climate conditions and we understand that DECC will review this guidance to inform its decision as to whether and how its efficiency requirements for heat pumps should be revised. DECC will clarify the position in its response to the GB Non-Domestic Consultation.

#### **2.2.4 Biomass Direct Air Heating**

Currently, due to the availability of metering equipment and the existence of established metering standards, GBRHI only supports biomass installations where the heat is delivered via liquid or steam.

DECC has proposed to introduce a tariff under the non-domestic GBRHI for biomass direct air heating systems in addition to the existing support for biomass boilers. In terms of the specifics of the GBRHI support for this technology, we note the following from the GB Non-Domestic Consultation:

- (i) DECC has suggested that the tariff can be lower than that for biomass boilers due to the fact that these systems tend to be cheaper and simpler than boiler systems.
- (ii) Current GBRHI support for biomass boilers is restricted to equipment specifically designed and installed to use biomass as its only primary fuel source. DECC has proposed to apply this existing approach for biomass boilers to direct air heaters and restrict GBRHI support to those systems specifically designed and installed for biomass only.
- (iii) DECC has proposed a tariff of 2.1p/kWh for installations below 1MW capacity and a tariff of not more than 1p/kWh for installations over 1MW capacity.
- (iv) A methodology needs to be established for measuring the heat use of biomass direct air systems. DECC has consulted on, and are considering, three different options: metering the flow and temperature of gas; measuring biomass input into the systems in order to calculate heat output; or a “deeming approach” similar to that being considered for AAHP which would involve having to calculate payment by estimating the heat load of the building.

#### **2.2.5 Biogas combustion over 200kW**

The GBRHI currently supports biogas combustion via anaerobic digestion, gasification and pyrolysis installations with a thermal capacity of less than 200kW. We are aware that DECC has considered biogas technologies further and has decided that biogas technologies over 200kW could make a valuable contribution in terms of waste management, reducing greenhouse gas emissions and

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<sup>9</sup> European Commission Decision 2013/114/EU of 1 March 2013 establishing guidelines for member states on calculating renewable energy from heat pumps from different heat pump technologies pursuant to Article 5 of the RED.

providing renewable heat. Support does currently exist under the Feed-in-Tariffs and the Renewables Obligation for electricity generation over 200kW from biogas combustion and DECC considers the current limit of 200kW in the GBRHI as creating an additional barrier for heat generation compared to electricity generation. Therefore, DECC has proposed to introduce support under the non-domestic GBRHI scheme for biogas combustion over 200kW. In terms of the specifics of the GBRHI support for this technology, we note the following proposals from the GB Non-Domestic Consultation:

- (i) DECC is considering banding the potential support for biogas combustion and introducing support for biogas combustion over 200kW using the established modelling methodology for GBRHI. To this end, DECC has suggested a tariff of 5.9p/kWh for installations of 200-500kW thermal capacity, and a separate tariff, likely to be significantly lower at 2.2p/kWh, for installations of 500kW and above. We note that these banding levels and tariffs are subject to further review and consideration by DECC.
- (ii) DECC would hope to support CHP over electricity generation only and would consider introducing a requirement for CHPQA accreditation for biogas CHP installations to ensure that inefficient systems are not incentivised. We understand that such a requirement would include a condition on how the capacity of CHP installations is interpreted; as the CHPQA requires that the capacity is determined taking into account the system as a whole.

### **2.2.6 Biomass and Bioliquid Combined Heat and Power**

It is our understanding that CHP technologies produce more total energy per unit of input than heat or electricity generation only. In GB, there is no specific CHP tariff, rather an installation is able to claim the tariff applicable to the technology it uses, subject to the banding and size limitations of that technology. However, DECC has consulted on the introduction of a specific tariff for heat from biomass CHP of 4.1p/kWh based on its current evidence.

Under the existing non-domestic GBRHI scheme, bioliquid technologies have not been supported but, as part of the GB Non-Domestic Consultation, DECC has proposed to introduce support for this technology with the same tariff as that for biomass CHP i.e. 4.1p/kWh.

It is worth noting that the introduction of a CHP specific tariff also means that all GBRHI CHP installations will need to undergo the CHPQA process as required by the Cogeneration Directive.

### **2.2.7 Deep Geothermal**

Deep geothermal heat is currently supported under the non-domestic GBRHI scheme under the Ground Source Heat Pump (“GSHP”) tariff which is set at a rate of 3.4p/kWh for installations above 100kW. In the GB Non-Domestic Consultation, DECC has stated that this tariff was a result of having

insufficient data to set a specific geothermal level of support and has suggested that this tariff is insufficient to encourage new geothermal development.

It is our understanding that deep geothermal technology is unique in the fact that the investment required is predominantly based on upfront costs whereas the operating costs are low and the technology usually has a lifetime in excess of 20 years. There is limited data on the cost and performance associated with deep geothermal technology but we gather that evidence collected by DECC suggests that the typical capital costs are around £14.6m for 2 wells with a capacity of 6-7MW.

However, we understand that the Government is committed to supporting the development of geothermal heat and DECC has proposed a separate geothermal tariff. In terms of the specifics of the non-domestic GBRHI support for this technology, we note the following proposals from the GB Non-Domestic Consultation:

- (i) A separate geothermal tariff of 5.0p/kWh (based on an average of the data in a report provided by consultants AEA and data supplied to DECC by Geothermal Engineering Ltd.
- (ii) Currently under GBRHI requirements, to be considered geothermal, the heat has to be generated by naturally occurring energy located and extracted from at least 500 metres beneath the surface of solid earth. DECC have sought confirmation as to this definition.

### 2.2.8 Energy Efficiency

As part of the GB Non-Domestic Consultation, DECC has consulted on the appropriate energy efficiency requirements for the non-domestic GBRHI scheme. To this end, it is considering introducing energy efficiency requirements by splitting applicants into three categories: users of process heat; district heating; and commercial and industrial space and water heating.

For users of process heat, DECC has suggested that the GBRHI should not include any additional energy efficiency requirements as there is already a significant economic driver towards energy efficiency, with heating forming a significant proportion of the business's cost. Furthermore, they are often already subject to energy efficiency requirements under schemes such as the EU Emissions Trading System and Climate Change Agreement.

For district heating, DECC has proposed to align the approach for these users with the domestic GBRHI scheme proposals, requiring applicants to install measures identified as “green ticks” under the Green Deal. It has been proposed that compliance with these measures should only be required by a majority of the premises on the district heating network with the proportion of homes needing to comply being determined by a sliding scale based on the number of homes within the network.



For commercial and industrial space and water heating, DECC has suggested that there are already various methods of demonstrating energy efficiency in existence, such as EPCs, DECs and the BREEAM. Therefore, it has been proposed that applicants should be afforded a choice of a range of alternative methods to demonstrate their energy efficiency.

### **2.2.9 Calls for Evidence and other technologies**

The Department should note that in addition to various proposals and amendments contained in the GB Non-Domestic Consultation, DECC has also launched a series of separate “calls for evidence” relating to the following technologies:

- (i) Landfill gas;
- (ii) Ground source heat pumps;
- (iii) Biopropane; and
- (iv) Large biomass tariff (>1MW).

We understand that DECC is also gathering data and information on two new renewable heating technologies: solar thermodynamic panels and active solar air heating.

### **2.2.10 Minor regulatory changes**

As part of the GB Non-Domestic Consultation, DECC has taken the opportunity to make a number of minor changes to the existing regulatory framework. By way of summary, there is an intention to reconsider the definition of “*solid biomass*” so as to provide greater clarity regarding biomass eligibility and to permit amendments to conditions of accreditation once participation has commenced.

### **2.2.11 Tariffs**

In response to stakeholder feedback, DECC has looked at the evidence on cost data and heat usage assumptions used to set the levels of tariffs when the GBRHI scheme was launched, alongside the level of uptake so far under the scheme. Government has decided that some new input assumptions should be adopted and work is underway to identify what the impacts on tariffs will be.

We understand that DECC will shortly carry out a non-domestic GBRHI tariff review. DECC plans to consult on increased tariffs for some technologies where the evidence suggests a change needs to be made. A short consultation on some tariff changes will be launched in Spring 2013. This follows work carried out by the Sweett Group for DECC on the initial assumptions and data used to set the current tariffs under the RHI non domestic scheme.

DECC plans to announce the outcomes of this work in Autumn 2013. Subject to securing necessary approvals, DECC expects new tariffs to come into force in Spring 2014.

### **3. Consultation in relation to proposals for a domestic GBRHI scheme**

In September 2012, DECC also consulted on the introduction of a domestic GBRHI 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. The GB Domestic Consultation sets out DECC's current proposals for the design of the domestic GBRHI scheme and covers eligibility criteria, indicative levels of support and assurance mechanisms.

If policy becomes legislation, under current proposals, any consumer wishing to replace their current heating system with a ground source heat pump, air source heat pump or biomass boiler would be able to receive a subsidy from the Government to help them with the costs of financing that installation; providing the installation meets the eligibility criteria as set out in the legislation. These proposals build on the support base for renewable heat that the RHPP has provided until now. Any proposed domestic GBRHI policy would sit amongst a portfolio of policies introduced by DECC to meet its' renewable and carbon targets i.e. the RHPP, the Green Deal and the Energy Company Obligation.

The GB Domestic Consultation closed on 7<sup>th</sup> December 2012 and the Department should note that we are awaiting the Government Response which was due to be issued in Spring 2013. However, DECC announced on 26<sup>th</sup> March 2013 that it will now confirm how the domestic GBRHI scheme will work and publish the tariff levels in Summer 2013. This will be followed by the Parliamentary process for approval of the introduction of the domestic GBRHI with DECC stating that it expects that *“the scheme will be up and running for householders in Spring 2014”*<sup>10</sup>.

As a result of this delay to the introduction of the domestic GBRHI scheme, DECC will extend the RHPP scheme until March 2014.

#### **3.1 Objectives and Approach**

As previously mentioned, the Government is committed to meeting the RED target of 15% of energy from renewable sources by 2020. We understand that DECC anticipates that around 12% of heat will need to come from renewable energy.

The domestic GBRHI scheme will seek to achieve:

- delivery of domestic renewable heat between 2013 and 2020 as a significant contribution to the RED; and
- the development of supply chains, reflected through growth in deployment levels, of renewable heat technologies and the improvement in their performance.

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<sup>10</sup> <https://www.gov.uk/government/news/government-sets-out-plans-to-cut-emissions-from-heat>

The basic concept behind the current proposals for a domestic GBRHI is that it is a boiler replacement scheme designed to incentivise the conversion of individual domestic properties from fossil fuels to renewable heating technologies. It appears that this means that the tariff would be intended to compensate households only for the difference between the fossil fuel and the renewable technology of choice.

The GB Domestic Consultation has sought views on whether tariffs should be paid over a timescale shorter than 20 years. Indeed, DECC's lead policy is that a subsidy would be provided through tariff-based payments over a 7 year period. In addition, DECC has suggested that it makes sense to target the domestic GBRHI where the opportunities to switch are the cheapest, i.e. those households that can make the greatest savings both financially and environmentally. For this reason, DECC has proposed that the tariff levels are set to be more financially advantageous to those homes off the gas grid; although it is proposed that the scheme will be open to any home wishing to make the transition. However, one option being considered by DECC is to phase or pilot the scheme before committing to a universal roll-out. For example, the policy could be restricted to just those off the gas grid or focused at particular geographic areas. We expect the Government Response to the GB Domestic Consultation to provide clarity on these issues.

As part of DECC's core proposal, GBRHI payments would start after the renewable heating system had been installed. Householders would therefore need to finance the upfront installation costs themselves through personal funds or a loan. Accordingly, the tariffs proposed by DECC take into account the additional costs of installation and running the renewable system and non-financial barriers (such as disruption in the home). They also build in compensation on the additional upfront installation costs of 7.5% to cover the cost of financing.

DECC has suggested that, in addition to offering tariff support, there may be other approaches to providing support for renewable heat deployment that may add value. For example, it is also considering the scope of providing support in a way that would promote the development of stronger localised supply chains for renewable heat. DECC has invited respondents to submit their views and ideas about alternative or additional approaches to incentivising renewable heat deployment and we would expect the Government Response to provide greater clarification on any specific approach.

It is important to note that, in accordance with DECC's proposals for the domestic GBRHI scheme, any home that has installed renewable heat since 15<sup>th</sup> July 2009 will be eligible for the support decided upon as a result of the GB Domestic Consultation. Further information on how DECC has proposed to deal with legacy applications is set out at paragraph 3.2.4 below.

## **3.2 Eligible Properties**

### **3.2.1 Homeowners**

It has been proposed that people who own their homes will be eligible for the domestic GBRHI for a renewable heat system that is installed in that property. The owner of the renewable installation must receive the GBRHI payment which will usually be the owner of the property because the heating system is an integral part of the home. On the sale of a property, DECC has suggested that ownership of the renewable technology would transfer with the property which should require the transfer of any remaining GBRHI payments to the new home owner. In addition, second homes have been proposed to be excluded from the scheme and a process of self-declaration would establish whether the property an applicant was applying for was their primary or second home.

### **3.2.2 Private Landlords**

In most instances, the private landlord, as the homeowner, is responsible for the heating system and the capital costs of replacement, whilst the tenants are responsible for the running costs of the system. DECC has proposed that installations in these properties be eligible for the GBRHI with the landlord as the recipient (provided the landlord is the owner of the heating system).

However, there are potential difficulties in making the shape of proposed subsidy payments work in this situation. There are difficulties in relation to the relative balance of costs and savings between the landlord and tenant if the landlord is the recipient of the GBRHI, because of the balance of responsibilities for the heating system and its running costs between them. DECC has sought the views of the respondents to the GB Domestic Consultation on this point and we would expect the Government Response to provide more information on the proposed framework for ensuring that the GBRHI incentivises the installation of renewable heat in the private rented sector and does not disadvantage tenants.

### **3.2.3 Tariffs for New Build Properties and Social Landlords**

#### **(a) New Build Properties**

DECC is considering whether a new build tariff should be built into the domestic GBRHI scheme. To date, we understand that DECC has considered that the domestic GBRHI would only cover the retrofit of existing homes because Building Regulation updates relating to strengthening the energy efficiency standards for homes would eventually effectively oblige developers to put renewables, including renewable heating, into new-build properties.

However, if renewable heat technologies are not fitted into a building during its construction, they would need to be retrofitted, which would be much more expensive and could potentially require a much higher level of taxpayer subsidy than if they were installed during the initial building process.

It is our understanding that DECC anticipates that the costs in the new build sector would be lower as hassle and disruption costs should not apply while installation costs should be largely reduced. Furthermore, heat pumps would be expected to reach high SPF's because of the lower fabric and ventilation heat losses of the buildings they would be installed in and so may have greater operating cost savings.

In terms of GBRHI proposals for this sector, we understand that this could result in low tariffs or even zero tariffs for some of the cheapest technologies. DECC is currently procuring further market research on the costs of renewable heating technologies, with particular reference to new build properties, and this will be used to inform final tariff calculations. We would expect the Government Response to the GB Domestic Consultation to provide more details of any tariffs for new build properties.

It has been proposed that any tariff would only be available on new developments after the launch of the domestic GBRHI in Spring 2014 and where the renewable heat technology is in addition to the compliance with Building Regulations.

#### **(b) Social Landlords**

DECC is also considering whether support should be offered under the domestic GBRHI scheme to registered social landlords and, if so, what the appropriate level should be.

In GB, the current position is that registered social landlords installing individual renewable heat installations into each flat or house would not be eligible for the domestic GBRHI as it would over-compensate them. However, given the additional costs of renewable heat compared to fossil fuel alternatives, DECC do believe that some level of subsidy may be required, albeit at a lower level than that offered to individuals and possibly over a different period of time than the proposed 7 years.

As with the situation for private landlords, there would seem to be some potential difficulties in making the shape of proposed subsidy payments work effectively in the landlord/tenant scenario. This is due to the relative balance of costs and savings between landlord and tenant if the landlord is the recipient of the GBRHI, because of the balance of responsibilities for the heating system and its running costs.

Again, we would expect the Government Response to the GB Domestic Consultation to provide clarification as to the introduction of any support under the domestic GBRHI scheme to social landlords and as to how that support might be shaped.

### 3.2.4 Legacy Applications

Broadly speaking DECC expects legacy applications to be from those who have either installed renewable heat since 15<sup>th</sup> July 2009 but not received any Government support, or those who have installed renewable heat and have benefited from an element of the RHPP scheme. DECC has proposed that consumers who installed renewable heat installations since 15<sup>th</sup> July 2009 will be eligible to apply for the domestic GBHFI provided they:

- (i) have installed an eligible technology, as described at section 3.3 of this Report;
- (ii) meet the eligibility criteria on energy efficiency as described at paragraph 3.3.4 of this Report;
- (iii) declare any government funding or support already received for the installation of renewable heat;
- (iv) do not have a back up fossil fuel heating system, or if they do, are prepared to install or have installed a heat usage meter on which the GBRHI payments can be based; and
- (v) meet all current MCS requirements.

Where applicants meet the eligibility criteria, DECC has proposed to deduct any government funding already received from the amount of GBRHI payable to the householder and we understand that this will be reflected in the payments received. There are a number of ways in which this reduced tariff could be paid and we understand that DECC has proposed to adjust the length of tariff payments as opposed to the amount.

DECC is also considering options in relation to managing the budget and applications and has suggested that a phased application window for legacy applications is introduced. This would work by, for example, allowing 2009 and 2010 applicants to apply in the first two months, 2011 applicants to apply in the second two months, and 2012 applicants to apply in the third final two months of the financial year 2013/14. This would limit legacy applications to that financial year but spread the numbers over a 6 month period, making the delivery more manageable. We expect more information and clarity on this to be provided in the Government Response to the GB Domestic Consultation.



### 3.3 Eligible Technologies

#### 3.3.1 Methodology for Identifying Eligible Technologies

DECC has proposed that in order to be eligible for the domestic GBRHI scheme, technologies must be MCS (or equivalent scheme) certified<sup>11</sup> and adhere to certain principles. In addition, the domestic GBRHI scheme should only incentivise those technologies which:

- (i) the European Commission considers to be renewable under the RED; and
- (ii) are fully proven and commercially available and hence able to make a significant contribution to the deployment of renewable heat at a domestic level.

Therefore, DECC has proposed that the following four core domestic renewable heating technologies will be eligible for the domestic GBRHI:

- (i) Air source heat pumps (“ASHPs”) – only ASHPs that heat water (i.e. air to water heat pumps) will be eligible for the GBRHI.
- (ii) Biomass boilers – just biomass-only boilers and biomass pellet stoves with back boilers will be eligible for the GBRHI provided they meet 99% of the peak space heating load of the property using the calculation methodologies in MCS (or equivalent scheme).
- (iii) Ground source heat pumps (“GSHPs”).
- (iv) Solar thermal – only flat plate and evacuated glass tube solar panels will be eligible for the GBRHI.

In supporting biomass technology, DECC has also suggested that, in line with the non-domestic scheme, fuel sustainability and air quality also need to be taken into account. Indeed, in relation to the non-domestic GBRHI scheme, DECC has recently consulted on bringing in mandatory biomass sustainability criteria for small scale and community installation. The Government Response to this July 2012 Consultation was issued on 27<sup>th</sup> February 2013 and DECC has decided to adopt the following policies:

- (i) In relation to biomass sustainability, we understand that DECC has decided that compliance with the sustainability criteria should be able to be demonstrated in one of two ways:
  - (a) One option will be for GBRHI recipients to declare on a quarterly basis that their fuel complies with the sustainability criteria and produce and submit an annual report on a consignment basis.

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<sup>11</sup> “MCS certified” means a renewable heating system that uses equipment from the MCS product list and has been installed by an MCS accredited installer.

- (b) Alternatively, GBRHI recipients will be permitted to source their biomass fuel from “approved supplier” lists. To be included on the lists, fuel suppliers would have to supply fuel which achieved 60% greenhouse gas savings against the EU fossil heat average, assuming a boiler efficiency of 70%. For those participants going down the “approved supplier” route, owners of heat installations of less than 1MWth capacity will be allowed to source woody biomass feedstocks for their boiler from their own estate.
- (ii) In relation to air quality, we understand that the combustion of biomass can increase the emissions of certain pollutants in the atmosphere, including particulate matter and oxides of nitrogen. For the non-domestic GBRHI, DECC has decided to introduce emissions limits values of 30 grams per gigajoule net thermal input for particulate matter and 150 grams per gigajoule for oxides of nitrogen. In order to comply, applicants will be required to provide Ofgem with a certificate demonstrating compliance with the particulate matter and oxides of nitrogen limits. Before these limits can be introduced, DECC will require European State Aid approval and it estimates that these changes will come into force in autumn 2013 subject to Parliamentary process.

We understand that DECC intends that the domestic GBRHI scheme will take the same approach as to sustainability and air quality.

### 3.3.2 Excluded Technologies

The Department should note that DECC has proposed to exclude the technologies in the table below from the domestic GBRHI scheme at this stage and has also provided its’ rationale for such exclusions<sup>12</sup>.

Excluded technologies	Reason
<b>Woodchip and log-fuelled stoves with back boilers</b>	The high risk of fossil fuel substitution in such systems is problematic from a scheme enforcement perspective. Furthermore, emissions levels tend to be such that they are unlikely to meet the GBRHI scheme’s air quality standard. Should this change in the future, DECC will review their eligibility.
<b>Room heater stoves</b>	The intention of the domestic scheme is to support the installation of entire heating or hot water systems, not individual appliances. Also, administering payments for extremely small appliances would be

<sup>12</sup> This table has been extracted from pages 38-39 of the GB Domestic Consultation.

	impractical.
<b>Condensing biomass boilers or stoves</b>	Not currently MCS certificated due to the high levels of pollution in the condensate. However, we understand that MCS is looking at the option of developing standards (including on condensate) with a view to offering certification so DECC's policy towards this type of technology could therefore change.
<b>Air to air heat pumps</b>	DECC believes that there is no need for GBRHI incentives to support the uptake of such heat pumps in the domestic sector and we understand that industry stakeholders have also expressed this view. DECC intends to keep this issue under review.
<b>Cooling from heat pumps</b>	DECC has proposed that cooling generated using heat pumps would not be eligible for the GBRHI based on European Commission guidance that it is not currently deemed to be renewable under the RED.
<b>Exhaust air heat pumps</b>	These use air extracted from inside the building, for example from the kitchen or bathroom, as their air source. DECC has proposed that these would not be eligible for the GBRHI as this air source is not deemed to be renewable under the RED.
<b>Transpired solar thermal panels</b>	Not MCS certificated and their size means they are not suitable as a domestic level technology. However, we are aware that MCS is currently looking at the option of certificating this type of solar thermal panel so DECC's policy towards them could therefore change.
<b>Bioliqids</b>	Not MCS certificated. Also, there are important factors that should be considered such as the need to support systems that are wholly renewable, the need to avoid diverting bioliqids away from other important industry sectors and the need to use bioliqids in a sustainable way.
<b>Biogas combustion</b>	Not MCS certified. Also, the technology is not considered appropriate for the domestic sector.
<b>Micro CHP</b>	Micro CHP systems currently use fossil fuel only as an energy source and are therefore not deemed renewable under the RED. For this reason, DECC has proposed that they would not be eligible for the GBRHI but that the situation will be reviewed should systems be developed which use renewable fuel.
<b>Installations larger than 45 kWh/th</b>	Not MCS certificated. DECC believes that allowing above 45kW scale installations without an applicable MCS standard would place an onerous

	administrative burden on Ofgem.
<p><b>Combinations of multiple eligible technologies, except solar thermal plus another eligible technology</b></p>	<p>DECC has proposed that individual homes would be eligible to apply only once during the lifetime of the scheme. In line with this, domestic GBRHI payments would be calculated on the assumption of one eligible technology meeting the deemed total space heating (not hot water) demand of the property. The exception to this would be solar thermal panels, where a separate calculation is done based on independent assessments of their heat load factor. Multiple installations that include solar thermal will be permitted because very rarely can solar thermal systems meet the entire space heating and hot water needs of a property. Normally, they can only support a percentage of hot water needs.</p> <p>As a result, to avoid overcompensation, DECC has proposed that the installation of multiple eligible renewable technologies under the domestic GBRHI be restricted to solar thermal in combination only. In addition, the domestic GBRHI scheme is aimed at replacing fossil fuel-based systems. Therefore, if a renewable technology such as a biomass boiler or heat pump is already in situ, the addition of further renewable technologies (except for solar thermal) would not be eligible for GBRHI support.</p>

### 3.3.3 Performance standard for heat pumps

The GB Domestic Consultation highlights the fact that, in order to convince consumers that renewable heat is a real alternative to traditional heating systems, development of a renewable heating market that provides high quality, high performing and reliable renewable heating systems to the house holder would appear to be vital.

In addition, the RED sets out a minimum efficiency that heat pumps are required to meet in order to be counted as renewable. Heat pumps which do not meet this efficiency level will not be counted towards the UK's renewables target. Currently, the minimum SPF required by the EU is set at 2.5 and DECC has stated that this is the minimum level of performance that it is prepared to support under the GBRHI.

MCS (or equivalent scheme) accreditation of technologies, which has been proposed as a requirement of the domestic GBRHI, dictates that heat pumps need to meet a COP of 3.2 for air source products and 3.5 for ground source products. Therefore, DECC has the expectation that heat pump systems

using technology of these MCS efficiency specifications, which are designed, installed and used appropriately, to meet an SPF requirement of 2.5. However, DECC has advised that it would like to see better and improving performance over time.

As previously stated, the European Commission has produced guidance<sup>13</sup> on how to calculate SPF for different heat pump technologies and applications, taking into account differences in climate conditions. We understand that DECC will review this guidance to inform its decision as to whether and how its efficiency requirements for heat pumps should be defined and we would expect to be able to ascertain further information on any such efficiency requirements from the Government Response to the GB Domestic Consultation.

### **3.3.4 Energy Efficiency**

DECC has recommended that an energy efficiency requirement should be part of any proposed eligibility criteria for the domestic GBRHI scheme. To this end, DECC has proposed that in order to receive the domestic GBRHI, consumers would be required to undertake a Green Deal assessment and have completed all green ticks on their Green Deal assessment that relate to the thermal efficiency of the house before the renewable heating system is eligible to receive a subsidy.

As discussed above at paragraph 3.2.3 of this Report, DECC is considering whether it is appropriate to introduce a tariff to support renewable heat in new build housing. If the outcome from the consultation is that a tariff should be introduced then it is likely that these properties would require a separate energy efficiency requirement. DECC has proposed that a house falling under Part L1A OR L1B of the Building Regulations 2010 to be exempt from the requirement of a Green Deal assessment. Again, we would expect the Government Response to the GB Domestic Consultation to provide clarification on this point.

## **3.4 Tariff Design**

### **3.4.1 Proposed approach to designing tariffs**

DECC is proposing to introduce 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:

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<sup>13</sup> European Commission Decision 2013/114/EU of 1 March 2013 establishing guidelines for member states on calculating renewable energy from heat pumps from different heat pump technologies pursuant to Article 5 of the RED.

- the ‘additional’ capital cost - that is the difference between the cost of the renewable heating system and the fossil fuel replacement 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 provide the consumer with compensation for some additional non-financial barriers, associated with switching to renewable heat. These could include compensation for 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 aims to provide compensation on the additional upfront installation costs of 7.5% to cover costs of financing, which is at the same level which the modelling for the Green Deal assumes interest rates would be available through Green Deal finance.

**(a) Period for tariff payments**

DECC’s indicative tariffs are based on paying tariffs over 7 years for heat generated over 20 years. DECC suggests that this period offers the best balance between short term affordability and reducing both cost and risk while also being appealing to consumers. However, we understand that DECC is willing to consider alternative options. These could include paying the subsidy over 20 years, as in the non-domestic GBRHI scheme, paying the tariffs over a shorter period (for example 3, 5, 7 or 10 years), capital grants and a mixture of grants and ongoing payments.

Indeed, paying a tariff over the full 20 years could actually work as a disincentive for many consumers, especially as the bulk of the expenditure for installing a renewable heat technology would be made upfront when the technology is installed. It may also not be optimal from a Government perspective as it creates a large spending legacy. Consequently, the GB Domestic Consultation seeks the views of the respondents as to whether: (i) 7 years would be a suitable time period for tariff payments under the domestic GBRHI to be made; and (ii) a different time period would suit different technologies.

DECC has considered introducing capital grants on the basis that the approach would reduce lifetime government spending since there is no need for compensation for borrowing costs and the subsidy risk facing households is reduced. It was also recognised that it is probably the simplest type of subsidy for consumers to understand and make decisions on, and overcomes the significant barrier of upfront

capital expenditure required. However, this option has not been proposed in the GB Domestic Consultation on the basis that it increases the pressure on the budget in the early years of the scheme in a way that would make it very difficult to deliver sufficient renewable heat generation. There would also appear to be the risk that if consumers were paid in full up-front, the ongoing incentive to keep using renewable heating for the full lifetime of the measure would be significantly reduced and difficult to enforce.

To try to overcome this final concern DECC has examined the possibility of structuring a tariff to include both an element of an upfront grant designed to compensate for capital costs, along with an ongoing tariff designed to cover operating costs. This would have the advantage of ensuring that some incentive to continue generating renewable heat through to 2020 persisted. However, DECC notes that the majority of the costs still lie upfront and this option would retain significant cost in the early years for government and still entail associated difficulties of maintaining budget control using a degression mechanism.

**(b) Timeframe over which renewable heat is delivered**

The 7 year payment period proposed by DECC is designed to pay for 20 years' worth of heat. However, paying a tariff out over a shorter period than that assumed for the length of time over which heat is delivered brings challenges in relation to ensuring that the assumed levels of heat are actually generated and that some potentially perverse incentives for product specifications are avoided.

For example, due to the price differences (particularly for biomass) between the renewable fuel and its fossil fuel alternative there may be a risk that consumers may be tempted to switch back to the fossil fuel system after an initial subsidy period has finished. There may also be consumer protection issues in relation to consumers being able to assure themselves that technologies with running cost savings will last for 20 years so that they are not out of pocket if an installation does not last that long (the tariff paid assumes savings generated over a 20 year period due to lower running costs than the counterfactual oil or electricity-based system).

In light of the switchback risk identified for biomass boilers, DECC is considering splitting the tariff provided for biomass into one tariff for an initial period comprising upfront and barrier costs with an additional tariff for the operational costs only paid over 20 years. There are two options for how the 20 year payment could be set:

- the element of the proposed tariff that is for ongoing costs would be split out and provided over a 20 year period rather than over the initial period of say 7 years currently proposed.



This would ensure that an ongoing (albeit small) incentive was available to cover the ongoing costs up to 20 years; or

- as the future prices of biomass and counterfactual fuels (oil and electricity) are uncertain, the proposed biomass tariff could be reduced by stripping out the operating costs beyond the initial tariff period. This would enable DECC to then set an appropriate secondary tariff of GBRHI payments to consumers at the end of that initial period. A secondary tariff would be introduced at the appropriate time based on more up to date information on the differential costs of the fuels. This tariff would automatically be paid to all biomass registered GBRHI customers for the remainder of the 20 years as long as they continue to provide the evidence of ongoing use of their biomass boiler as required.

It is apparent that the efficient lifecycle of a renewable technology plays an important role in setting the tariff since the technology is credited for the years of renewable heat that it produces. Consequently, DECC has, in parallel to the GB Domestic Consultation, undertaken a study into the costs and performance of technologies which will inform the final tariffs. We would expect the Government Response to the GB Domestic Consultation to contain more information on the proposed tariffs.

### **(c) Ensuring value for money**

We understand that DECC's analysis has shown that offshore wind is the marginal technology that requires support to meet the renewables target, i.e. it is the cheapest technology that could be deployed at a scale sufficient to meet the renewables target. Therefore, in the context of meeting the renewables target, DECC believes that any incentives for other renewables should be no more expensive than the current price of offshore wind. In 2010 prices, offshore wind is currently funded through the Renewables Obligation at 8.3p per kWh over 20 years. On the basis of a subsidy paid for heat generated for 20 years but paid over 7 years, the equivalent subsidy rate would be 17.3p per kWh in 2012 prices. If DECC proposed under the domestic GBRHI to pay more than 17.3p per kWh (for a domestic tariff based on 7 years of payments), it could alternatively generate the same amount of renewable electricity more cheaply. This reflects the approach taken in the non-domestic sector scheme where the current solar thermal tariff is set at the equivalent to a lifetime cost of 8.3p at 2010 prices.

### **3.4.2 Indicative tariff levels**

It is our understanding that the calculation of the tariffs included in the GB Domestic Consultation are based on a number of underpinning assumptions which are subject to change. As set out earlier in paragraph 3.4.1(b), DECC has been going through a period of refining, updating and verifying its

evidence which will result in the final tariff rates almost certainly being different to those set out below. If this new evidence shows that the actual value is outside the ranges indicated below, DECC has advised that it would need to set the tariff at the appropriate level. This may be outside the illustrative range. We understand that the ranges are therefore intended to indicate the potential variation in final tariffs resulting from this update in evidence rather than to fix upper and lower bounds. We assume that the Government Response to the GB Domestic Consultation will provide greater certainty on the proposed tariffs.

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

It is our understanding that the tariffs implied by DECC's current evidence base for ground source heat pumps and solar thermal would both exceed the marginal cost of renewables and, therefore, the proposed value for money cap of 17.3p per kWh for a tariff paid over 7 years has been applied. The effect of applying the cap to GSHPs is to cap the upper end of the range of 20.9p to the marginal cost of renewables at 17.3p. For solar thermal, the current evidence base suggests that the costs are such that the whole range of possible tariff levels would be above the value for money cap. The proposed indicative tariff is therefore not set out as a range but at the level of the marginal cost of renewables, i.e. 17.3p.

It is worth noting that DECC is also considering a number of options aimed at achieving the optimum balance of obtaining value for money for the taxpayer and developing a market that not only delivers renewable heat towards the relevant targets, but will also allow for the delivery of carbon savings in the long term. These are as follows:

- partially or fully removing the cap that DECC has applied to some technologies, at least for a specified period, on the basis of the competition impacts of having the cap, the need to retain all elements of the technology mix for the longer term, inherent benefits to some technologies that may not be adequately reflected in the comparison with other renewables and the scope to prompt cost reductions over time by stimulating the market sufficiently now;
- reducing the tariffs offered to cheaper technologies to allow for the same rate of return on the capital expenditure as is achieved by a less cost effective technology (though, on the basis of the current indicative tariffs, DECC suggests that it would not be practical to calibrate other tariffs at the level of the capped tariff for solar thermal technologies);
- changing the cap to include a factor for relative carbon savings or other benefits of the technology; or

- adjusting the shape of support offered to take account of the different nature and funding requirements of the technologies.

### 3.4.3 Solar Thermal

Given its costs, the proposal to cap tariffs at the marginal cost of renewable energy (equivalent to 17.3p for a tariff paid over 7 years for 20 years of heat) and competition with solar PV, DECC expects solar thermal deployment to be very low.

Consequently, DECC is considering what alternative approaches there may be to incentivising this technology. One option would be to substitute tariff payments with a one-off upfront grant. Another option would be to separate some of the costs of installation and have a combination of a grant for one element and a tariff for the remainder of the costs. Both of these options have the advantage of reducing the capital that households would need to invest themselves. We would expect the Government Response to the GB Domestic Consultation to contain more information on the incentives for solar thermal.

### 3.4.4 Ground Source Heat Pumps

As with solar thermal technologies, given its costs, constraints on installation and the proposal to cap tariffs at the marginal cost of renewable energy (equivalent to 17.3p for a tariff paid over 7 years for 20 years of heat), DECC expects deployment of GSHPs to be low.

The current indicative tariffs include a single tariff range for GSHPs which fails to take account of the additional costs of installation of a GSHP operating from a borehole (rather than from a ground loop). Therefore, DECC is considering the option of introducing differentiated tariff levels. We would expect the Government Response to the GB Domestic Consultation to contain more information on the support for GSHPs.

### 3.4.5 Ensuring payments are accurate

DECC has proposed that the GBRHI would provide a tariff payment based on the amount of heat used by the consumer. In order to calculate this heat usage, DECC has a choice between whether to meter or “deem” this heat (calculate the likely level of heat usage based on size, location and the level of insulation in the property combined with the renewable heating technology chosen).

Given the high costs of metering, mixed performance of meters and risk of driving perverse incentives (such as wasting heat to increase usage and the subsequent payment), DECC has proposed that, for the most part, the domestic GBRHI will be paid 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 in accordance with the boundaries of the proposed bivalency scenarios permitted by DECC<sup>14</sup>;
- a statistically significant number of installations for evaluation, MCS surveillance and learning purposes (see section 3.5 of this Report); and
- any additional metering that could result from the implementation of the raising performance options that are being considered as set out in section 3.5 of this Report.

DECC is of the opinion that the installer of the technology should be responsible for the deemed figure used for calculating payments. DECC has advised that it will work with MCS to develop an accurate and standardised “deemed” calculation for the average heat load on which the GBRHI subsidy will be paid and we would expect the Government Response to the GB Domestic Consultation to provide further details of the calculation. However, we understand that this would not necessarily require MCS to create a new calculation from scratch and the installer would not necessarily need to carry out the calculation themselves but would be responsible for ensuring the figure was accurate.

### 3.4.6 Financing

A tariff (rather than a grant) scheme would still require consumers to find the upfront costs of the renewable heating installation themselves. Given that the GBRHI would provide consumers with a steady income stream over 7 years, DECC has advised that it expects that the market would respond by creating specific funding packages around the GBRHI such as loans or other finance schemes to help consumers with the initial capital outlay for their renewable heating systems.

DECC is also allowing consumers who can get some Green Deal part finance to be eligible to receive the GBRHI provided their installation meets the eligibility criteria set out in section 3.3 of this Report. DECC do not believe there to be a material double subsidy issue with this approach but it has said that it will continue to examine this to ensure compliance with EU obligations in respect of State Aid.

### 3.5 Raising Performance

As part of the GB Domestic Consultation, DECC has considered whether it should take any additional action through the domestic GBRHI which is specifically aimed at raising the performance of renewable heating installations.

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<sup>14</sup> These scenarios are set out at page 64 of the GB Domestic Consultation and are aimed to cover situations where consumers may want to keep a bivalent system as a back-up in the case of a break-down; or to gain peak performance from the overall heating system whilst balancing the risk of fraud.

Therefore, the GB Domestic Consultation includes a number of options that could be added into the domestic GBRHI scheme to drive continued performance improvements in this area. DECC has sought the views of respondents on which of the options would be most suitable for the consumer and the wider market. Going forward and depending on these responses, we understand that either all, some or none of these options could be implemented. The options being considered by DECC include:

- (i) Additional financial support for systems that include a metering and monitoring service package.
- (ii) Varying GBRHI tariffs for heat pumps so that they are linked to the SPF measured in the metering and monitoring service package.
- (iii) Introducing a higher SPF for heat pumps as an eligibility requirement for the GBRHI.
- (iv) Enhanced monitoring of installations for evaluation of the domestic GBRHI (including all installations to be meter ready).
- (v) An uplift in tariff for systems with solar thermal installed alongside other renewable technologies.

We expect that the Government Response to the GB Domestic Consultation to provide further information on which of these options will be implemented.

### 3.6 Delivery

DECC had previously been committed to delivering a domestic GBRHI by summer 2013. However, in light of the delays announced on 26<sup>th</sup> March 2013, it is apparent that the domestic GBRHI scheme will now not be delivered until Spring 2014.

In line with the primary legislation for the non-domestic GBRHI scheme, DECC proposes to launch the domestic scheme with Ofgem as its delivery partner. Ofgem already has significant expertise in this area, successfully administering the non-domestic GBRHI through Ofgem E-Serve as well as the Renewables Obligations and the Feed-in Tariff. As with the non-domestic scheme, DECC has advised that Ofgem would develop and consult on detailed guidance about how they plan to administer the scheme based on the draft regulation conferring their roles and responsibilities. However, it is also the intention of DECC to seek the necessary legal powers to enable it to run a competitive tender process in the future for the administration of the GBRHI.

We understand that DECC is considering how and when payments to consumers should be made and are working with Ofgem to identify the optimum option from a delivery cost perspective. The

Government Response to the GB Domestic Consultation should provide confirmation as to whether payments will be made quarterly or annually and in advance or in arrears.

It is also our understanding that, as mentioned in section 3.1 of this Report, DECC is considering the scope to phase or pilot the delivery of the domestic GBRHI scheme to mitigate delivery risk.

### **3.7 Assurance**

#### **3.7.1 Consumer Protection**

DECC has proposed certain measures to overcome consumer's concerns around the performance of heat pumps. The GB policy proposals include some minimum quality standards as eligibility criteria for receiving the GBRHI and, as highlighted in section 3.5, DECC is considering options for ensuring that the policy effectively supports high performance of technologies. It has 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 if they wish, as set out earlier at paragraph 3.4.5 of this Report.

As previously mentioned in paragraph 3.3.1 of this Report, a key protection mechanism of the domestic GBRHI scheme will be the requirement that all installations are to be certified under the MCS or equivalent schemes<sup>15</sup>, such as Solar Keymark for solar thermal products. Indeed, when applying for GBRHI support, applicants would be asked for details of MCS certification.

We understand that DECC has adopted this approach due to the fact that MCS (or equivalent schemes) is already the requirement for the RHPP and Feed-in Tariffs installations up to 50kW and will be the certification route for Microgeneration under the Green Deal.

#### **3.7.2 Maintenance**

In order to minimise the risk of poorly maintained installations claiming subsidies under the GBRHI (which would reduce the value for money of the GBRHI scheme), DECC has suggested that there is a need for a scheme maintenance requirement in the GBRHI (the costs of which, we understand, are included in the indicative tariff calculations).

It would appear that the preferred approach in GB is by way of a self-declaration (akin to a tax self-assessment) supported by further risk-based enforcement activities such as spot checks where necessary.

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<sup>15</sup> As certified under British Standard EN45011 (general requirements for bodies operating product certification schemes).

DECC has accepted that there is a potential argument for a mandatory maintenance requirement being introduced for biomass systems given the greater public health risks but believes that setting up an alternative enforcement regime would result in disproportionate overheads at launch.

### 3.7.3 Fraud

There would appear to be a need to ensure that the design of any potential domestic GBRHI scheme, from a policy perspective, does not pose an unduly high risk of being gamed or defrauded.

In the GB Domestic Consultation, as set out in the table below<sup>16</sup>, DECC has identified a number of key areas which it believes pose the most obvious fraud risks, together with the protective measures that could be built into the scheme to mitigate them.

Risk	Mitigation
Use on non-MCS (or equivalent scheme) certified installation business which would nullify the consumer's application	<p>Awareness raising of the GBRHI scheme will include informing potential consumers of installer eligibility requirements and the opportunity to check MCS accreditation.</p> <p>Within the GBRHI scheme itself, Ofgem would be able to confirm via the MCS website the details of the MCS installation business named on the GBRHI application sent to them.</p> <p>More generally, making false representations in order to achieve a financial gain is an offence and court proceedings could be brought on this basis.</p>
Consumer applies for and receives GBRHI payments when they have not put in an eligible renewable heating system.	<p>Before approving the start of payments, Ofgem would require proof of installation by an MCS certified business (as well as proof that the green tick energy efficiency measures have been installed).</p> <p>There would be an audit process to check and to meter a percentage of all installations.</p> <p>Any MCS installation business is also liable to an MCS audit of work done.</p>
Consumer submits false documents claiming they have actioned their green ticks (energy efficiency measures identified on their property's EPC by the Green Deal assessment).	It is proposed that an application for GBRHI support should include a copy of a revised EPC done after the green tick measures have been installed. The EPC will confirm they have been done. Where necessary, Ofgem would be able to check the online register of EPCs to confirm that what they

<sup>16</sup> This table has been extracted from pages 82 – 86 of the GB Domestic Consultation.



	<p>have received is valid.</p> <p>Also, deemed heat usage figures calculated by an appropriate installer will be set on the basis of a consumer having actioned all the relevant green ticks. A renewable heating system is unlikely to work effectively if the green tick measures are not installed. DECC proposes to make this clear in our communication surrounding the scheme.</p>
<p>GBRHI payments are requested for a system installed in an unoccupied or partially occupied home.</p>	<p>It is proposed that, when applying for GBRHI support, recipients would be required to declare that the property they are applying for was their primary residence. It is also anticipated that Ofgem would use random spot checks to ensure compliance and would have powers in place to reclaim payments where it subsequently became apparent that they were falsely claimed for.</p>
<p>Consumer has previously received RHPP support and does not declare any or correct details of it, leading to over-compensation under the GBRHI.</p>	<p>DECC proposes that the necessary procedures would be in place to allow Ofgem to check what (if any) RHPP payments a GBRHI applicant had already received.</p> <p>Furthermore, it is anticipated that Ofgem would have provisions in place that would allow them to claim back any payments where it subsequently becomes apparent that the recipient had falsely claimed them.</p>
<p>Where a meter has been installed (e.g. where a bivalent system is in place), the consumer's heating use behaviour is designed to prompt overpayment.</p>	<p>Payments based on meters are capped at the deemed rate, so that there cannot be any overcompensation in these situations.</p>
<p>Consumer keeps a fossil fuel system, whilst installing renewable heat and getting the GBRHI, but continues to use the fossil fuel system.</p>	<p>In circumstances where a back-up system is permitted, GBRHI payments would be made on the basis of metered heat. Furthermore DECC's proposals suggest that, as part their annual declarations to Ofgem, consumers with bivalent heating systems would have to provide relevant information to show their ongoing use of the renewable system. It is intended that Ofgem would also perform spot checks on GBRHI payment recipients as part of their audit process.</p>
<p>Consumer replaces a broken renewable heating system for which they receive GBRHI payments with a fossil fuel system, but continues to claim those payments.</p>	<p>From a practical perspective, it would be anticipated that a consumer would seek to make use of any warranties that the system might have to get it repaired or replaced. They may also have chosen to put in place a maintenance contract under which a replacement system could be obtained. Furthermore, the time, disruption and cost involved in installing a different type of system rather than seeking to get the broken system mended may be seen as a deterrent.</p> <p>From a scheme perspective, it is proposed that GBRHI payment recipients would be required to provide regular</p>

	self-declarations as to their continued use of the renewable heating system and it is anticipated that Ofgem would use random spot checks to ensure compliance.
Consumer switches back to a fossil fuel system after the 7 years payment of GBRHI has been made.	The proposed approach of generally not permitting a back-up system or paying on the basis of metered heat generation reduces the scope for this, especially in the case of heat pumps as there should be no economic incentive to do this.
Consumer moves home, but continues to accept payments.	It is proposed that consumers would need to provide regular self-declarations about their continued use of the renewable heating system and Ofgem would have a random spot check process to ensure compliance. Furthermore, it is anticipated that Ofgem would have provisions in place that would allow them to claim back any payments where it subsequently becomes apparent that the recipient had falsely claimed them.

It is our understanding that DECC will do further work with Ofgem to understand and mitigate fraud risk and that, on an operational level, Ofgem will be responsible for protecting against fraud through the checks and balances that it puts in place to administer the scheme.

### 3.8 Budget Management

As discussed in section 4 below, DECC has consulted on a longer term strategy for managing the budget for the non-domestic GBRHI<sup>17</sup>.

This is discussed in more detail in section 4 of this Report but DECC intends to introduce a degression based approach similar to the regime adopted for the Feed-in Tariffs scheme. This will involve tariffs available to new applicants being gradually reduced if uptake of the technologies supported under the GBRHI is greater than forecast. This will be done by monitoring uptake on a quarterly basis against a series of ‘triggers’. Monthly updates on progress towards triggers will be published online and one month’s notice will be given before any reductions are made to the tariffs for new applicants.

In the GB Domestic Consultation, DECC has proposed that budget management for the domestic scheme takes a similar approach to that proposed for the non-domestic scheme; using a system of degression. However, we would expect the Government Response to the GB Domestic Consultation to clarify the precise details of the approach being adopted in GB in relation to budget management of the domestic GBRHI scheme.

<sup>17</sup> DECC – “Renewable Heat Incentive: Providing certainty, improving performance” dated 20 July 2012.

#### **4. Consultation in relation to providing certainty and improving performance (non-domestic GBRHI scheme)**

In July 2012, DECC consulted on the longer term strategy for managing the budget for the non-domestic GBRHI and how market certainty is provided alongside budgetary control<sup>18</sup>. The Government published its response to this consultation on 27<sup>th</sup> February 2013 and has decided to adopt a degression-based approach to the budget management of the non-domestic GBRHI. This Government Response also includes DECC's decisions in relation to biomass sustainability, air quality control, proposals aimed at simplifying metering and biomethane injection in the GBRHI scheme and improving the scheme in other minor areas. We have provided a brief summary of DECC's decisions on each of these areas below.

##### **4.1 Budget management**

We had understood that the degression mechanism for GBRHI would come into force in Spring 2013 by way of regulations. Indeed it was intended that, subject to the approval of Parliament as required by the Energy Act 2008, the new degression mechanism would be implemented by the Renewable Heat Incentive Scheme (Amendment) Regulations 2013 (the “**2013 Amendment Regulations**”), and come into force by 1<sup>st</sup> June 2013. However, the Department should note that this timetable was suggested before the announcement of the delays to the changes to the GBRHI scheme on 26<sup>th</sup> March 2013 and it is unclear whether the announced delays might affect the timetable for the 2013 Amendment Regulations.

It is intended that the 2013 Amendment Regulations will set out the various conditions (or “triggers”) under which tariff levels for each technology would be degressed for the remainder of the current GB spending review period, i.e. until the end of March 2015. DECC's policy is for the GBRHI to be open to new applicants until 2020, and we understand that triggers will be extended in regulations for later dates once spending review settlements for later years are confirmed.

It is our understanding that this degression-based approach would gradually reduce tariffs available to new applicants if uptake is greater than forecast, but in a way that is intended to prevent over-corrections that could be damaging for the market.

DECC intends to assess deployment levels against separate triggers for each tariff. In most cases these triggers will be set at a level which is 50% higher than expected deployment levels, the exception being that triggers for solar thermal panels and large ground source heat pumps will be set at a level which is no less than 5% of the value of the total trigger. If a trigger is hit, the relevant tariffs will be

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<sup>18</sup> DECC – “Renewable Heat Incentive: Providing certainty, improving performance” dated 20 July 2012.

reduced by pre-set amounts. If this is the first time degression has been activated then the initial reduction will be 5%, with rules to increase subsequent quarterly reductions by up to 10% and then 20% if deployment does not fall back under degression triggers<sup>19</sup>. Essentially, we understand that if, following a 5% reduction resulting from a tariff trigger, deployment is still above the tariff trigger line and has increased at a rate greater than 150% of the rate that the tariff trigger line increases at then the tariff will be reduced by 10%.

In addition, DECC has decided to introduce a total trigger for the non-domestic GBRHI scheme to ensure that overall spend levels are protected. If the total trigger is hit this will result in a 5% reduction to all tariffs deploying above expected levels in addition to any reduction resulting from a tariff trigger level being hit. However, to prevent tariff reductions when overall deployment is significantly below forecast, DECC does not intend to degress tariffs for any technology if total expenditure (relative to the total trigger) is lower than 50% of the expected expenditure.

DECC will conduct quarterly assessments of whether triggers have been hit and make announcements detailing forecasts of expenditure and any tariff reductions, providing one month's notice before any reductions take effect. It is our understanding that the first degression announcement was to be made on 1<sup>st</sup> June 2013<sup>20</sup>, provided that Parliamentary timetables enable the 2013 Amendment Regulations to be in force at that point. In addition, we understand that monthly updates will be published on the progress towards triggers so that stakeholders can evaluate for themselves the risk of a reduction being announced as a result of a future quarterly assessment.

DECC had proposed that there should be periodic tariff reviews, referred to in the consultation as "recalibrations". Such reviews were proposed for 2014 and 2017 and before this time, if the evidence required it. In relation to such proposals, we note from the Government Response to the July 2012 Consultation that DECC has decided the following:

- (i) DECC will proceed with periodic reviews commencing in 2014 and 2017; and
- (ii) in light of uptake to date and the new evidence received by DECC on costs and performance of renewable heating technologies, the conditions for an early review<sup>21</sup> have been met and DECC intends to consult on updating existing tariffs in Spring 2013.

It is apparent that large renewable heat projects are a major financial commitment which for some technologies has to be made significantly in advance of claiming the GBRHI. DECC points out that in

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<sup>19</sup> The diagram at page 28 of the Government Response to "Providing certainty and improving performance" July 2012 consultation explains how the levels of reduction might increase by more than 5%.

<sup>20</sup> We have not been able to confirm whether the delays to the expansion of the non-domestic GBRHI scheme and the introduction of a domestic GBRHI will affect this timeframe.

<sup>21</sup> The proposed conditions for an early review are set out at paragraph 98 of the Government Response to "Providing certainty and improving performance" July 2012 consultation.

an environment where there could be tariff degression there is greater uncertainty for those considering investing. In case there was sufficient evidence of uncertainty to merit a policy response DECC had proposed an option that might reduce tariff uncertainty, being an enhanced form of preliminary accreditation. However, whilst DECC recognises that there are arguments for the introduction of preliminary accreditation it has decided not to bring forward an enhanced form of preliminary accreditation at this time. DECC intends to monitor deployment and continue to work on measures to improve certainty and we understand that DECC will work with stakeholders throughout 2013 to find the best way forward.

#### **4.2 Biomass sustainability**

The July 2012 Consultation sought views on proposals to introduce biomass sustainability standards into the non-domestic GBRHI. In light of this, DECC intends to introduce sustainability requirements for the use of solid biomass and biogas for heating ahead of possible introduction of mandatory EU sustainability criteria. This approach ties in with the decision to introduce sustainability requirements for power generation under the Renewables Obligation in GB.

We understand that the standards will apply to existing as well as new biomass installations under the GBRHI. When the regulations come into force, all installations will have to provide evidence of their performance against the sustainability criteria in order to receive the GBRHI.

DECC has decided that the GBRHI sustainability standard will consist of two criteria:

- (i) a greenhouse gas lifecycle emissions target; and
- (ii) land criteria.

It has also been decided that compliance with the sustainability criteria should be able to be demonstrated in one of two ways. The first option will be for GBRHI recipients to declare on a quarterly basis that their fuel complies with the sustainability criteria and produce and submit an annual report on a consignment basis. Alternatively, GBRHI recipients will be permitted to source their biomass fuel from “approved supplier” lists. To be included on the lists, fuel suppliers would have to supply fuel which achieved 60% greenhouse gas savings against the EU fossil heat average, assuming a boiler efficiency of 70%. When opting for this second approach, GBRHI participants would make an annual declaration that they are only using fuel sourced from an approved supplier and keep receipts as evidence that this is the case. For either option taken, failure to demonstrate compliance would result in non-payment of the GBRHI.

For those participants going down the “approved supplier” route, owners of heat installations of less than 1MWth capacity will be allowed to source woody biomass feedstocks for their boiler from their

own estate and this will be deemed sustainable. We understand that DECC plans to lay the regulations by the year end with GBRHI recipients with installations being required to demonstrate compliance, either through reporting or the “approved supplier” list, with the greenhouse gas lifecycle emissions standard from April 2014 for fuel purchased thereafter; and with the land criteria from no sooner than April 20, and no later than April 2015, following the approach taken in the Renewables Obligation.

### 4.3 Air Quality

DECC have decided to introduce emissions limits values of 30 grams per gigajoule net thermal input for particulate matter and 150 grams per gigajoule for oxides of nitrogen. These limits will apply to all solid biomass installations including CHP installations which burn biomass, which have an installed thermal capacity below 20MW. In addition, the limits will apply to all new installations only.

In order to comply, applicants will be required to provide Ofgem with a certificate demonstrating compliance with the particulate matter and oxides of nitrogen limits. Before these limits can be introduced, DECC will require European State Aid approval and it estimates that these changes will come into force in Autumn 2013 subject to Parliamentary process.

### 4.4 Metering

DECC intends to revise its metering requirements to allow more flexibility and reduce costs to applicants. To this end, DECC has decided to implement the following changes:

- (i) “*complex*” and “*simple*” systems will be redefined so as to move more GBRHI applications into the “*simple*” category. In addition, more flexibility will be introduced into the “*complex*” category to avoid redundant meters being installed and other unwanted outcomes;
- (ii) where it would be unduly burdensome to install a meter either for practical or financial reasons, heat loss calculations can be submitted to Ofgem in place of metering;
- (iii) in relation to heat lost through external piping less than or equal to 10m in length, where the piping is insulated to British Standard 5422, the heat loss from the pipe will be defined as zero for GBRHI purposes;
- (iv) in relation to heat lost through external piping greater than 10m in length, where the piping is insulated to British Standard 5422, a heat loss calculation with accompanying evidence can be presented to Ofgem and if the heat loss is less than 3% of the total heat, it can be treated as zero for GBRHI purposes;
- (v) if the installation capacity of each existing renewable heat source which do not meet specified eligibility criteria is 5kW or less and the combined installation capacity of all such

renewable heat sources is less than 5% of the installation capacity of the accredited GBRHI installation then heat generated is treated as insignificant and does not need to be metered and deducted from the payment; and

- (vi) “*proxy*” measurements for gas and electric heat sources will be allowed if a meter is in place measuring the fuel input into the heat device and all of the fuel consumed by the device, either electricity or gas, will be assumed to have been converted into heat.

We understand that draft regulations to effect these changes will be laid in Parliament as soon as possible, with the exception of the introduction of proxy metering for gas and electric fuelled heat sources, which will require European Technical Standards Directive clearance. The metering changes are expected to come into force in Autumn 2013 subject to Parliamentary process; however, they will not be later than the end of 2013. Metering requirements will be fully grandfathered, meaning that these changes will only apply to installations newly accredited after the new regulations come into force.

#### **4.5 Biomethane injection**

Unlike other GBRHI participants, we understand that biomethane producers can apply for registration but no part of the plant is accredited. Therefore, DECC had proposed that biomethane be treated more consistently with other technologies whereby the biomethane clean-up plant is accredited under the GBRHI. However, on further analysis by DECC, it has not proved possible to translate this policy into regulatory requirements that would be easily enforceable.

Instead, DECC intends for existing regulation mechanism to be amended to provide more clarity on the requirements for the application and on the rules for approval onto the scheme. This amendment will enable a preliminary registration mechanism; have a capacity associated with registration; and have rules on tracking an application as with other technologies. Many of the rules will be similar to accreditation, only instead of a single piece of equipment being accredited; the owner of the installation will be registered as a producer. DECC’s intention is for a participant to be able to apply for preliminary registration after a connection agreement has been signed so as to provide sufficient certainty to Ofgem that the biomethane injection is likely to go ahead.

#### **4.6 Other minor regulatory changes**

Following the support shown by respondents to the minor regulatory improvements proposals, DECC will implement the following changes as soon as practicable and expect this to be no later than the end of 2013 if not earlier:

- (i) process within a building – remove the requirement that using heat to carry out a process must take place within a building so as to provide support in cases where eligible heat use takes place outside of a building.
- (ii) definition of “*installation*” – change the definition to be more pragmatic about what is considered part of the installation. This should avoid the unintended consequence of owners replacing old but well-functioning equipment just in order to claim the GBRHI.
- (iii) allowing the relocation of renewable heat plants – to allow a renewable heat plant to be moved and still claim the GBRHI provided it meets the eligibility criteria at its destination.
- (iv) annual inflation tariff increases – DECC intends to proceed with ensuring technologies with lower tariffs are fairly treated on the basis of rounding. It will take this forward, subject to State Aids approval, as part of the forthcoming review of tariffs.

It is our understanding that DECC and Ofgem are also working together on various minor changes to the GBRHI Regulations to improve their clarity and the running of the scheme.



## ANNEX A: DEFINITIONS

“**BREEAM**” means the Building Research Establishment Environmental Assessment Method.

“**CERT**” means the Carbon Emissions Reduction Target.

“**CESP**” means the Community Energy Saving Programme.

“**CHP**” means Combined Heat and Power.

“**CHPQA**” means Combined Heat and Power Quality Assurance.

“**Cogeneration Directive**” means Directive 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market.

“**COP**” means the coefficient of performance.

“**DEC**” means a Display Energy Certificate.

“**DECC**” means the Department of Energy and Climate Change.

“**Department**” means the Department of Enterprise, Trade and Investment.

“**EPC**” means an Energy Performance Certificate.

“**EU**” means the European Union.

“**GB Domestic Consultation**” means the DECC Consultation: “Renewable Heat Incentive: Consultation on proposals for a domestic scheme” issued on 20<sup>th</sup> September 2012.

“**GB Non-Domestic Consultation**” means the DECC Consultation: “Renewable Heat Incentive: Expanding the non domestic scheme” issued on 20<sup>th</sup> September 2012.

“**GBRHI Regulations**” means The Renewable Heat Incentive Regulations 2011.

“**GBRHI**” means the schemes in place in GB from time to time relating to renewable heat.

“**GB**” means Great Britain.

“**July 2012 Consultation**” means the DECC Consultation: “Renewable Heat Incentive: Providing certainty, improving performance” dated 20 July 2012.

“**kWh**” means kilowatt hour.

“**kWth**” means kilowatt thermal.

“**MCS**” means Microgeneration Certification Scheme.

“**MW**” means megawatt.

“**MWth**” means megawatt thermal.

“**NI**” means Northern Ireland.

“**NIRHI**” means the schemes in place in NI from time to time relating to renewable heat.

“**NIRHI Regulations**” means The Renewable Heat Incentive Scheme Regulations (Northern Ireland) 2012.

“**Ofgem**” means the Office of the Gas and Electricity Markets.

“**RED**” means Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources.

“**RHI**” means Renewable Heat Incentive.

“**RHPP**” means the Renewable Heat Premium Payment.