

# RHI FAQ

---

## Contents

|  |    |
|--|----|
| Installations over 45kW .....                | 2  |
| When do I get a GDA and why? .....           | 2  |
| Condensing boilers.....                      | 2  |
| Heating for swimming pools .....             | 4  |
| Houses with two installations .....          | 4  |
| Second homes / holiday lets .....            | 4  |
| Green Deal Assessments.....                  | 5  |
| Listed Buildings .....                       | 5  |
| Green Deal Assessment recommendations .....  | 6  |
| Timing.....                                  | 6  |
| MCS certification .....                      | 6  |
| Marketing .....                              | 7  |
| Are payments tax free? .....                 | 7  |
| Scottish planning permission for ASHPs ..... | 7  |
| New MCS standard for solar thermal .....     | 8  |
| Deeming.....                                 | 8  |
| Worked examples .....                        | 9  |
| Solar PV running a ASHP .....                | 10 |
| New build .....                              | 10 |
| Metering .....                               | 10 |
| Solar Thermal Metering .....                 | 12 |
| Metering and Monitoring Packages .....       | 12 |
| Technical Questions.....                     | 13 |

## **Installations over 45kW**

**Q**

Large houses may need more than 45kW. Would it be acceptable to fit two MCS systems with a total capacity of over 45kW and claim the domestic RHI?

**A**

Consumers will be able to submit an RHI application if they have more than one heating system installed to heat their home. However, an applicant will only receive support for one space heating system and if there is another space heating system in place, whether it is renewable and MCS certified or not, the system for which RHI payments are to be made will have to be metered.

## **When do I get a GDA and why?**

**Q**

Is a Green Deal Assessment necessary for all applications? Our air source heat pump was installed as part of a major refurbishment where insulation installed exceeds current building regulations. Building regulation approval included SAP calculations carried out by an On-Construction Domestic Energy Assessor. Will these calculations be acceptable in place of a Green Deal Assessment?

Does a self-builder require a Green Deal Assessment and if so why?

**A**

As part of the eligibility criteria we are requiring all applicants, except self-builders, to complete a Green Deal Assessment before applying and to ensure that they have met minimum energy efficiency requirements of loft and cavity wall insulation where recommended by the Assessment. This is because renewable heating systems work more efficiently in a well-insulated home.

The Green Deal offers an opportunity for consumers to identify other ways to improve the energy efficiency of their homes beyond the minimum requirements set by the RHI. It also offers a way to finance the installation of loft and cavity wall insulation should they require extra funds. For RHI purposes, installation of those measures does not need to be done through the Green Deal, though, if the consumer does not wish to do so.

Self-builders are not required to undertake Green Deal Assessments for RHI purposes. However they will need an up to date EPC for the purposes of deeming the property's heat load to calculate payments.

## **Condensing boilers**

**Q**

What is the situation regarding legacy biomass condensing boilers? Are they excluded or is it just biomass condensing boilers installed after the launch of the scheme which are excluded?

**A**

While Government wishes to support the sustainable biomass market in general, concerns regarding the risk of pollutants in the condensate from this type of boiler have been raised. In addition to energy efficiency and carbon factors, technologies supported by the RHI must be consistent with wider government objectives and policies including those pertaining to air and water quality. Defra is currently undertaking appropriate analysis to help us determine whether this technology is suitably consistent.

Currently condensing biomass boilers can be eligible for support through the existing Non-Domestic Renewable Heat Incentive, and the Renewable Heat Premium Payment Scheme. We will need to review this position following completion of Defra's analysis, but we do not intend to withdraw existing support while the issue of condensate pollutants is under consideration. We feel that to do so would be damaging to the market and unfair on customers who seek to install such systems during this period.

The Domestic Renewable Heat Incentive will launch in Spring 2014. Given that the scheme has not yet launched, and Defra's analysis is still underway, we must take the position that the technology is excluded from this scheme until we are confident that it meets Government requirements. This is the only way to avoid the risk of consumers making purchases now on the assumption of future Government support, which is then subsequently withdrawn. We recognise that in the interim there may be domestic customers who will not be able to purchase this technology with certainty regarding whether support will be available. However, if Government concludes that this technology meets the RHI requirements then existing customers and new customers between now and the launch of the domestic scheme will be able to apply through the legacy route.

The Microgeneration Certification Scheme (MCS) Work Group for biomass is considering industrial standards for condensing biomass boilers. However, MCS certification does not automatically make a given technology eligible for the RHI. Eligibility for the RHI needs to take into account many other factors, including consistency with wider Government strategy and policies. Any given installation will need to satisfy these criteria as well as MCS product and installation standards.

We are in the process of drafting legislation which will form the binding basis for eligibility of the scheme, and we are working with Ofgem and MCS to develop an online list of products that are eligible for the domestic RHI, that applicants and installers can access. We intend that the legislation and the list will reflect the finalised position regarding condensing biomass boilers.

## **Heating for swimming pools**

**Q**

Will domestic properties with swimming pools be eligible for domestic RHI?

**A**

We are considering the eligibility of properties with swimming pools as part of the detailed work to underpin the scheme's regulations. This will be clarified in Ofgem's guidance which will be available before the launch of the scheme.

## **Houses with two installations**

**Q**

For a biomass boiler system with solar thermal integrated will you be able to claim for the full deemed space and hot water heating requirement as covered by the biomass and additionally the contribution of the solar thermal system?

If two heat pumps are fitted in one property do we need two MCS certificates?

**A**

People will not be able to claim for more than one space heating renewable heating system in the same property. However, where an eligible space heating system is used together with an eligible solar thermal system to heat hot water, two RHI applications can be made – one for the space heating system and one for the solar thermal system.

Unlike heat pumps and biomass, solar thermal will almost always act as a complementary system to other heating systems – either fossil fuel or renewable. This is because a solar thermal system will not normally be able to provide 100% of a property's heating demand. RHI payments will therefore be made only on the solar thermal system's deemed contribution to the hot water demand. No metering will be required for the solar thermal system.

Provided the space heating system isn't bivalent or installed in a second home, it will also receive its full deemed amount and no metering will be needed.

If two heat pump units are fitted in a house and are certified as one system under MCS then only one MCS certificate is necessary and one application covering both units can be made to the scheme. If the two units are considered two separate systems then an application for only one of the systems can be made to the domestic RHI, and it will need to have an MCS certificate and have metering equipment fitted.

## **Second homes / holiday lets**

**Q**

**Q** Do applicants have to nominate which home is a second home or is it a question of the timing of the installation or of the number of days in occupation?

**What is the eligibility status of holiday lets for the RHI?**

Are holiday cottages classed as domestic premises and can they qualify for domestic RHI? Some seem to be business rated but will they still be classed as domestic?

**A**

Applications can be made for a second home. A second home is one which is not a person's main residence – the exact definition will be part of the regulations, and will be available in guidance before the launch of the scheme. Applicants for second homes will need to notify Ofgem at the time of application that it is a second home, and will need to install metering equipment which will measure the amount of heat used. RHI payments will be based on the meter reading, but only up to the deemed amount applicable to the property.

Some holiday properties that are let out may fall within the non-domestic scheme. Further guidance on what constitutes a domestic property and what evidence might be required will be set out in Ofgem guidance that will be produced ahead of the launch of the scheme.

## Green Deal Assessments

### Listed Buildings

**Q**

Do Green Deal Assessors know and understand listed buildings and the limitations of the listing?

Will the householders be expected to implement the recommendations of the Green Deal Assessment? If so, how will this work where the building is listed?

What sort of proof will be required to prove a listed building is exempt? How do you 'prove' to Ofgem the exemption for a listed building?

**A**

The Green Deal Assessor Organisation is required by their certification to establish prior to the visit whether the building is listed and to ensure that only individuals with the appropriate competences are assigned to the job. A Green Deal Assessment involves a conversation between the householder and the Advisor performing the Assessment. The resulting Green Deal Assessment Report should therefore take into account the listed building status of a property. Even if the Report does not take it into account, we are working to build into the RHI application process the ability for supporting evidence to be provided should there be valid reasons for non-installation of loft and cavity wall insulation. Final details are yet to be decided, but this could include allowing for correspondence from an applicant's local planning authority that

explains any listed building status restrictions on the installation of loft and/or cavity wall insulation. The process will be confirmed in Ofgem's guidance ahead of the launch of the scheme.

## **Green Deal Assessment recommendations**

### **Q**

What happens in cases where a measure is recommended by a Green Deal Assessment but it is not appropriate or not possible to install the measure e.g. cavity wall location in an exposed location in the west coast of Scotland?

### **A**

We are aware that there may be occasions where an RHI applicant's Green Deal Assessment recommends loft and/or cavity wall insulation, but the applicant has valid reasons as to why those measures cannot be installed. We are working to build into the RHI application process the ability to provide evidence in support of such reasons. Final details are yet to be decided, but the process will be confirmed in Ofgem's guidance ahead of the launch of the scheme.

## **Timing**

### **Q**

When do I get my GDA?

### **A**

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

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

## **MCS certification**

### **Q**

If the householder of a legacy heat pump does not have an MCS certificate will they will need to have a reassessment in order to apply for the RHI?

### **A**

If a householder who owns an MCS certified installation does not have the MCS certificate, they should contact their original installer to get a copy of the MCS certificate – the installer should be able to re-issue the certificate. In order to be eligible for the RHI, installations must have been MCS certified at the time of installation.

## **Marketing**

**Q**

Will householders be able to access an on-line calculator to calculate their approximate benefits?

**A**

An online calculator could be a useful tool to help householders consider the benefits to them of installing renewable heat equipment. However, we need to ensure that in developing such a tool it is robust in terms of the information it provides to people. We are currently working with our delivery partners to consider how we could make an online calculator available by the time the policy launches next Spring.

**Q**

Will you be running any incentives for community groups to promote RHI?

**A**

We expect to use a range of different methods for raising awareness of the domestic RHI for example stakeholder events, website updates, articles in newsletters and other publications and online factsheets. However, we currently do not have any plans to run incentives for community groups to promote the RHI.

## **Are payments tax free?**

**Q**

Will the income from domestic RHI be tax free like the income for FiTs scheme?

**A**

Tax treatment will depend on the individual's circumstances. However, in general terms we would expect that an individual householder who is generating heat for their own domestic use will not need to pay income tax on RHI income, while RHI income received by a person acting in a business capacity will have tax consequences.

## **Scottish planning permission for ASHPs**

**Q**

In Scotland the permitted development legislation is complex and for the installation of Air Source Heat Pumps requires obtaining "consent", which may not go as far as obtaining full-blown planning permission. How are you going to confirm that Scottish ASHP installations have met with planning approval if they are "permitted development" but still need the planner's consent, which may have been granted informally by the Local Authority? Whose responsibility is it to obtain planning permission?

**A**

The MCS rules require installers to meet all applicable regulations and directives in full, which includes planning permission where applicable. The MCS installers should confirm they have installed an air source heat pump in line with the Permitted Development Rights (PDR) requirements or ensure the customer has obtained the necessary planning consents. This covers all of the UK, so takes into account the Scottish PDR process. Ultimately, however, it is the responsibility of the customer to seek and obtain any necessary permissions for their installations. The MCS installer is required to have access to the most up to date copies of the planning regulations and so should be able to advise the customer.

## **New MCS standard for solar thermal**

**Q**

When will the new MCS standard for solar thermal be available I understand that this will detail the calculation for the RHI? Is the current SAP calculation likely to change?

**A**

MCS intend to consult on the new standard for Solar Thermal in October 2013. This will include proposals for a revised energy calculation, mainly following Appendix H of SAP. Further information on the consultation can be obtained from MCS directly.

## **Deeming**

**Q**

How will deeming work?

**A**

The deeming calculation for biomass and heat pumps will be the estimated heat use (in kWh) of a property after the installation of the required energy efficiency measures. Where an applicant already has these installed, the figure will be taken from the Energy Performance Certificate (EPC) done as part of the Green Deal Assessment.

Where the Assessment identifies that the measures still need to be put in place, the figure will be taken from the updated EPC completed after their installation.

If the heating system is a heat pump, the heat use figure will be combined with the heat pump's expected efficiency to estimate how much renewable heat should be generated.

The deeming figure for solar thermal will be the estimated contribution of the solar thermal system to the property's hot water demand (in kWh) that is calculated as part of the installation process and shown on the MCS certificate.

## Worked examples

### ANNUAL PAYMENTS UNDER RHI

- Significant variation in UK housing stock- large variation in size, building condition and energy use.
- Variation means costs and benefits of installing renewable heating system under RHI will vary significantly from household to household.
- Amount householders receive under the RHI on an annual basis will vary, and there is no typical household in this respect.

**A semi-detached house off-gas grid in a rural location with a heat demand of 10,000kWh/year could get:**

- £500/year in RHI payments for generating heat with an air source heat pump (**tariff is 7.3p/kWh**), with a small on-going fuel and operating cost saving
- £1,300/year for a biomass boiler (**tariff is 12.2p/kWh**), with approximately £100/year of fuel and operating cost savings
- £1,400/year for a ground source heat pump (**tariff is 18.8p/kWh**) with approximately £120/year of fuel and operating cost savings

**A detached house off-gas grid in a rural location with a heat demand of 18,000kWh/year could get:**

- £800/year in RHI payments for generating heat with an air source heat pump (**tariff is 7.3p/kWh**)
- £2,200/year for a biomass boiler (**tariff is 12.2p/kWh**) with approximately £100/year of fuel and operating cost savings
- £2,400/year for a ground source heat pump (**tariff is 18.8p/kWh**) with over £150/year of fuel and operating cost savings

### COSTS OF RENEWABLE HEATING KIT

- Significant variation in upfront costs for renewable heating systems - will depend on household circumstances and size of system a householder requires.
- Examples below detail the upfront costs for a high and low heat demand household based on available evidence.

| <b>Upfront capital Costs, £</b> | <b>Low Heat Demand (10.000kWh)</b> | <b>High Heat Demand (18.000kWh)</b> |
|---------------------------------|------------------------------------|-------------------------------------|
| <b>ASHP</b>                     | <b>6,100</b>                       | <b>10,800</b>                       |
| <b>Biomass</b>                  | <b>8,700</b>                       | <b>14,000</b>                       |
| <b>GSHP</b>                     | <b>10,500</b>                      | <b>17,800</b>                       |

## Solar PV running a ASHP

**Q**

We have an ASHP plus a 4kW solar PV array. If we opt for a metering package, how do we ensure that the metering is accurate, given that part of the electrical energy to run the heat pump will come (at least on some days) from the solar PV?

**A**

Our metering requirements specify that the heat pump electricity supply is metered. This won't distinguish where the electricity is coming from. You might be able to ask a metering and monitoring service package provider to include metering of your PV system (and other items you might have) so that you can tell how much of the electricity supplying different appliances is generated on-site and optimise your control settings accordingly but that isn't something DECC require.

## New build

**Q**

If someone moves into a new-build property without a renewable heating system and replaces it with a renewable one will they be eligible?

**A**

Assuming the applicant meets the other eligibility criteria of the scheme, they will be eligible. However, you should note that the RHI is aimed at boiler replacements and therefore only provides support to cover the difference between the cost of replacing a fossil fuel system with a like-for-like and replacing it with an eligible renewable heating option. The full cost of the renewable system is therefore not covered. As a result, we would not generally not expect householders to replace brand new heating systems.

## Metering

**Q**

For metered heat pump systems, will the tariff be paid on the whole metered energy, or only on the portion which is above SPF 2.5?

**A**

For the heat pump systems that need to be metered (which isn't all of them), the tariff will be multiplied by the measured renewable heat. That's the part that comes from the ground or air. It's metered by measuring the total heat output and subtracting the energy input (electricity usually) that goes into creating that heat output. See our technical supplement for more details: <https://www.gov.uk/government/consultations/renewable-heat-incentive-proposals-for-a-domestic-scheme>

**Q**

By making the technology meter ready, is the intention to eventually install meters into all RHI systems or just ones that DECC wants to monitor?

**A**

Just the ones DECC wants to monitor. Metering is a good way to check an installation is working as designed though so a householder might like to add metering at some point in the future as well.

**Q**

For the metering option with there be a list of approved meters or will the meter be supplied. Also will the payments be tiered as with commercial RHI and are there schematics now listed for installers to see showing were the meters are fitted?

**A**

We published some example schematics in our Technical supplements: <https://www.gov.uk/government/consultations/renewable-heat-incentive-proposals-for-a-domestic-scheme>. We're currently considering the best way to make sure all the heat meters that are fitted comply with our requirements. A list of eligible meters might help. For the non-domestic RHI lists of eligible meters have been provided by various people/organisations outside DECC. Payments based on meter readings won't be tiered in the domestic policy because they're capped at the deemed amount.

**Q**

I have had my heat pump installed today and would like to be part of the team that meters the performance I have asked one of the info clerks what I should do to apply but they do not seem to know?

**A**

Metering is a great way to check it's working as well as it can. Your installer would be the best person to talk to in the first instance but there may be some time yet before eligible Metering and Monitoring Service Packages are available on the market. We

know several companies have already started development on these but our requirements are intentionally challenging so it will take some time.

**Q**

I wondered if there is the possibility for additional GSHP installers to register as accredited heat meter installers too?

**A**

This is something we are discussing with MCS.

## **Solar Thermal Metering**

**Q**

I have a small domestic evacuated tube solar thermal system, installed in June 2010, without metering. What meter would you recommend installing & do you have any advice about when this should be installed & by whom?

**A**

Metering is never required for solar thermal systems in the domestic RHI.

## **Metering and Monitoring Packages**

**Q**

How do I install the metering and monitoring service package?

For those sites in which metering is installed, will the readings from these be collected using an automated system or manual meter reads by the householder as per the non-domestic RHI?

As a heat meter is a mandatory requirement of a hybrid system, is the incentive still available as the requirement will add additional installation cost?

**A**

Your installer would be the best person to talk to in the first instance but there may be some time yet before eligible Metering and Monitoring Service Packages are available on the market. Several companies have already started development on these but our requirements are intentionally challenging so it will take some time.

Ofgem will be responsible for making payments for metered renewable heat when its required. When the scheme starts we expect that the system will be manual. However, we are doing a lot of work to make sure this is as simple, useful and quick to use as possible. By installing a Metering and Monitoring Service Package (once they're available on the market), then you may be able to read your meter from anywhere connected to the internet.

Yes, but the requirements for Metering and Monitoring Service Packages need to be met. These are more onerous than our requirements for Metering for Payment and therefore the costs will be higher. We published two technical supplements with details of both.

## Technical Questions

**Q**

It would seem that the heat output of a heat pump on which the tariff will be payable excludes the electricity used to circulate the heat delivery water through the heat pump. For biomass or solar thermal there is no such deduction. Should not this be changed?

**A**

Normally electricity consumption from circulation pumps will be very small. The EST field trial found that it could be a large fraction of the total electricity consumption for some (small) heat pumps though where the control systems rely on a continuous primary circuit return water temperature reading. We wanted to be fair to all products and encourage use of energy-efficient pumps as far as possible. Where it's not possible to meter before a circulation pump, we didn't want to provide an advantage compared with those products that have integrated metering before the circulation pump, for example.

**Q**

Why can't EN12831 and heat load calculations carried out by an MCS installer be used to determine annual kWh for RHI?

I presume the reason that an ASHP delivering at 55C will not qualify is because the SPF falls below the required (minimum) value?

**A**

EN12831 is perfect for determining the power (in kW) required on the design day resulting from fabric and ventilation heat losses. To determine the annual energy consumption (in kWh/year) is more complicated than multiplying the heat loss coefficient (in W/K) by a number of degree days though. That's why we use RdSAP for that part. If the measurements of walls, windows, doors etc. were combined with the RdSAP assessment of solar heat gains, heat gains from water heating, appliances, people etc. then there might be an even better estimate but there isn't a standardised, widely-available method for doing that.

You are correct about the SPF of the 55oC flow temperature ASHP not reaching 2.5 on the Heat Emitter Guide.

**Q**

The Heat Emitter Guide does not consider heating water at less than 35°C. Efficient underfloor heating systems use water at 30°C or even lower. Would you see any problem in extrapolating to reward the extra efficiency of such systems?

**A**

Our policy is that the SPF for 6-stars is the maximum available.

**Q**

How will heating energy consumption deemed from an EPC based on reduced data SAP be more accurate than calculating an accurate assessment of heating energy consumption over a year in kWh for spacing heating and domestic hot water using full heat loss calculations based on actual U-values, EN ISO 13790, CIBSE Guide A and BS EN 12831 as required under MCS 3005 3.1a Clause 4.3.12 c)? Furthermore, surely using reduced data SAP rather than full SAP is even more inaccurate?

**A**

We know RdSAP isn't the most accurate way of estimating annual heating and hot water energy demand in every situation. But we also need a policy that, for instance, isn't open to fraud (by changing U-values to higher values, say) and that a sufficient number of people know how to use.

**Q**

We foresee the differing heating energy consumption figures presented to the client on the EPC and by the installer as required under MCS causing confusion and dissatisfaction as the figure on the EPC will inevitably be significantly lower than the MCS figure and because RHI payments are to be made against the deemed EPC figure, customers will undoubtedly query the figures and potential loss of income.

**A**

MCS installers are free to use "a suitable method". So there is no obligation to use something other than the EPC.

**Q**

An example of this is borne out in one of our recent projects where the total heating and energy consumption for space heating and domestic hot water from the EPC is 21,640kWh (18,246 heating/3394 hot water) compared to 33,834kWh (30,227kWh heating/3607 hot water) from MCS calculations which translates to a  $12,194 \times (1 - 1/3.6) \times 7.3p = £642.89$  loss of RHI income/year for the 6\* Installation."

**A**

Thanks for the example. From our analysis, the MCS spreadsheet calculation could be significantly over estimating energy consumption because of the assumption of using a (default) 15.5oC base temperature. We have begun discussing with MCS whether this spreadsheet calculation should be retained.

**Q**

The MCS heat calculation seems a complete waste of time if it being replaced by the heat generation figure from the EPC. Why can't the two be combined to avoid unnecessary confusion or scrap one and keep the other? The RdSAP is simple compared with the MCS heat loss calculation.

**A**

You need to do the MCS BS EN 12831 calculation to determine the amount of power required on the design day. That's absolutely crucial for the system to work well and not rely on excessive use of supplementary electric heating.

**Q**

Have the domestic tariff levels been calculated to offer a certain level return based on RHI plus Green Deal support for off grid properties?

**A**

A rate of return of 7.5% has been used to align with the approximate cost of finance for the domestic tariff setting and a Green Deal plan is one financing mechanism householders could use for some of the costs. The tariff also compensates for non-financial barrier costs.

**Q**

Our calculations are that the ASHP tariff is too low to encourage retrofit installations, even those currently on oil, as the RHI income & fuel bill savings won't equal the additional cost of an ASHP compared to a conventional non-renewable heating system taking into account only the renewable portion of the energy from the ASHP. Please can you comment & provide some information on the figures that you used to calculate the ASHP tariff?

**A**

All tariffs are set at the level required to compensate householders for the difference between the lifetime costs of the renewable heating technology and those of the counterfactual heating technology. This is calculated for all household types eligible to install a particular renewable heating technology and ordered to produce a cost curve. The cost curve represents the tariff required for each of the householders to install a measure. The tariff is set at the median point on the curve to incentivise uptake. As such, we believe the tariff should provide at least a 7.5% rate of return,

and compensation for non-financial barriers to half the households in off-gas grid areas.

For ASHPs we have used cost data collected by Sweett group (from installers) for a large sample of ASHPs and design performance estimates from a distribution of RHPP installations to calculate tariffs. We are confident that the tariff is able to encourage retrofit ASHPs and details of tariff calculations and evidence base can be found in the Impact Assessment ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/21978/Domestic\\_RHI\\_Impact\\_Assessment.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/21978/Domestic_RHI_Impact_Assessment.pdf)).