

Renewable Heat Incentive (RHI) Domestic

Overview

The [domestic RHI](#) is a financial support scheme for renewable heat, targeted at, but not limited to, off gas grid households. The support is paid at a set rate per unit of renewable heat produced (kilowatt hour or kWh), for seven years, to the owner of the heating system. The scheme supports air source heat pumps (ASHP), biomass systems, ground source heat pumps (GSHP) and solar thermal technologies.

All installations must be certified under the [Microgeneration Certification Scheme](#) and meet relevant required standards for each technology, including limits on harmful emissions for biomass systems.

The scheme will cover single domestic dwellings and will be open to owner-occupiers, private landlords, Registered Providers of Social Housing, third party owners of heating systems and self-builders. It will not be open to new build properties other than [self-build](#).

Facts at a glance:

Tariffs : **ASHP** 10.18p/kWh; **GSHP** 20.46p/kWh; **Biomass** 6.74p/kWh ; **Solar Thermal** 20.66p/kWh (Tariffs are guaranteed for any application approved from 01/04/18)

Installations need to be MCS approved.

Payments will generally be based on a deemed output, based on an EPC and the system efficiency (as calculated by the MCS installation company).

There are limits to the annual level of heat use for which participants can obtain subsidy support. These are referred to as 'heat demand limits' and will be set at 20,000kWh per annum for ASHPs and 30,000kWh for GSHPs. These heat demand limits refer to the heat demand of the property. Any property with a heat demand above the relevant heat demand limit will be paid the same as if their heat demand were equal to the relevant heat demand limit.

All heat pump installations now require electrical metering.



Renewable Heat Incentive (RHI) Domestic

The renewable heat generated will be estimated in most cases for payment purposes. For biomass and heat pumps, it will be based on an estimated figure of heat demand from an Energy Performance Certificate. For heat pumps, this will be combined with an estimate of the heat pump's efficiency to determine the renewable proportion of the heat. Those applying for a space heating system who have a back up heating system, such as an oil boiler, or people applying for a second home, will need to install metering equipment on which the RHI payments can be based.

Before applying for the RHI, all applicants will need to ensure that:

1. loft insulation (to 250mm) and cavity wall insulation have been installed where these measures are recommended by the EPC (where this is not possible, for example the building is a listed building, evidence will be required).
2. The heat pump system has is electrically metered.

The only exception for the insulation is for self-builders, whose properties will already be energy efficient since they are built to current building regulation standards. However, they will need an EPC in order for Ofgem to be able to calculate their payments.

Calculation of Payments:-

The RHI support will be paid on each kWh of renewable heat the installation generates, for seven years. To work out how much heat is generated, OFGEM (who are the scheme administrators) use a 'deeming' calculation that estimates the property's expected annual heat usage. Multiplying the renewable part of this deemed figure by the technology's tariff rate will determine the annual payments.

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 can be taken from an existing Energy Performance Certificate (EPC). 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.



Renewable Heat Incentive (RHI) Domestic

Participants will receive RHI payments quarterly in arrears for seven years. Tariffs will change annually in line with the Consumer Price Index (CPI). Increases or decreases will take effect in the first payment period following 1 April each year, in line with CPI changes in the prior financial year (1st April – 31st March).

Not all of the heat generated by heat pumps that run on electricity is renewable. RHI payments for heat pumps will only be made on the renewable portion of their heat output. This is the energy that comes from the ground, water or air, net of the electricity used to run.

The amount of renewable heat generated by a heat pump depends on its efficiency – that is, how much electricity it uses to operate per unit of heat it generates. The technical term for heat pump efficiency averaged over a whole year is Seasonal Coefficient of Performance (SCOP) which is normally between around 2.5 and 4 depending on the heat pump flow temperature. The SCOP relates to how much heat the system generates per unit of electricity it uses and it is product specific – for example, a heat pump with an SCOP of 3 generates three kWhs of heat for every kWh of electricity it uses. The eligible heat for the purposes of RHI payment will be worked out using the following formula:

$$\text{Eligible heat demand} = \text{Total heat demand} \times (1 - 1/\text{SCOP})$$

This means that if the heat pump has an SCOP of 3, two-thirds of the heat output will be renewable and therefore eligible for RHI payments.

The performance of the system will need to be estimated by an MCS installer. The rating will be recorded by the installer and given to the owner of the system as part of the installation process. It will be based on the product performance under EU tests. It is however important to remember that as well as the actual product performance installation can greatly influence the performance of a heat pump. Installation factors are currently not accounted for within the calculation of SCOP.

If the applicant has previously received public funding for the heating system, this must be declared as part of the application process. This will then be deducted from RHI payments under the scheme. Initially, a deduction equal to one twenty-eighth of the value of the prior public funding received will be made from each quarterly payment. However, where tariffs are altered in line with CPI, the quarterly deduction will also change by the same proportion, so that the overall value of the deduction remains constant.



Renewable Heat Incentive (RHI) Domestic

For biomass and heat pumps, payments will be based on metered renewable heat usage rather than deemed usage in two situations:

1. If the renewable heating system is installed alongside another fossil fuel or renewable space heating system (this includes hybrid systems)
2. For second homes

MCS and BEIS have made it an MCS Installation Standard good practice, that all new systems installed in the domestic RHI are 'meter-ready' where possible. Making an installation 'meter-ready' includes:

1. Leaving sufficient space for heat meters to be fitted in defined locations
2. Installing isolation valves to avoid the need to drain systems when fitting heat meters
3. Leaving the pipework accessible (i.e. not boxed in) to enable meters to be fitted
4. Providing information about the installation (this will help BEIS to select appropriate sites for RHI metering)

BEIS will offer householders installing heat pumps an optional additional payment of £805 + (£115 x 7 years) = £1,610 for purchasing a Metering and Monitoring Service Package from their installer that meets our requirements. These packages are similar to a service contract. An installer will fit an advanced set of meters to the new heating system so that the householder and installer will be able to view measured data from their system over the internet.