



What does the RHI mean for Heat Pumps?



Heat pumps transfer heat from the outside environment to the inside of a house.

There are two different types that are eligible for the domestic RHI:

- ✓ **Ground source heat pumps** - extract heat from the ground or water. This heat can then be used to provide space heating and/or hot water in a home
- ✓ **Air source heat pumps** - absorb heat from the outside air. The heat can then be used to provide space heating and/or hot water in a home

Only heat pumps that run on electricity will be eligible. Any cooling from heat pumps is not eligible.

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 or air, net of the electricity used to run the pump.

The amount of renewable heat generated by a heat pump depends on its efficiency - that is, how much electricity it used to operate per unit of heat it generates. The technical term for heat pump efficiency averaged over a whole year is Seasonal Performance Factor (SPF) which is normally between 2.5 and 4. The SPF relates to how much heat the system generates per unit of electricity it uses - for example, a heat pump with an SPF of 3 generates 3 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:

$$\text{Eligible heat demand} + \text{total heat demand} \times (1 - 1/\text{SPF})$$

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

For heat pumps installed after the RHI scheme opening, ie 9 April 2014 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 star rating system in a document called the Heat Emitter Guide. Heat pumps installed before the launch will be given a default SPF of 2.5. Applicants can arrange a full assessment by an MCS installer to demonstrate a higher rating if they wish.

Worked example of payments for heat pumps - for illustrative purposes only

Total annual heating demand = 15,000kWh

Example 1: ASAP rates at 3* in the Heat Emitter Guide = SPF 2.7

Eligible heat demand = 15,000kWh x (1 - 1/2.7) = 9,444kWh

Total annual RHI payments = 9,444kWh x 7.3p/kWh = £689

Example 2: ASAP rated at 5* in the Heat Emitter Guide = SPF 3.4

Eligible heat demand = 15,000kWh x (1 - 1/3.4) = 10,588kWh

Total annual RHI payments = 10,588kWh x 7.3p/kWh = £773

Only heat pumps with an SPF of 2.5 and above are considered renewable under the EU Renewable Energy Directive, and only those that are considered renewable will be eligible for the RHI.

Householders installing heat pumps will be offered an optional additional payment of £230 per year for purchasing a Metering and Monitoring Service Package from their installer that meet specific requirements. This measure has been introduced to encourage the householder to take out these packages which is believed to give peace of mind that their installation is working as expected; enable the installer to continually improve performance where possible; and also to diagnose common problems if they occur.

It's not just heat pump installations that will benefit, the government scheme is available for other domestic heat technologies including:

- Biomass
- Solar Thermal

