

## Frequently Asked Questions about Heat Pumps

### Can they be installed as a retro-fit solution?

Yes, although this may be more complex if there is a need to change the original heating distribution system. It is also essential to insulate the home well before installation.

### Are heat pumps safe?

Yes. Unlike conventional gas and oil heating systems, there is no combustion process involved and no risks of gas or oil leaks.

### Are heat pumps costly to buy and operate?

A heat pump is more costly to purchase than a conventional boiler, although grants are available for accredited products. An important consideration is that the operating costs are very low. Also, unlike the requirement for gas boilers, there are no maintenance and servicing costs associated with heat pumps.

### How do heat pumps differ from boilers?

There are no gas or oil connections as they use renewable energy sources. They provide lower flow temperature water (up to 55oC generally) compared to a boiler (generally 70-82oC) and their capacity for supplying useful energy is dependent on the input temperature from ground, air or water. Heat pumps are much more efficient – a conventional boiler cannot achieve greater than 100% - and have no compulsory annual servicing requirement.

### Can heat pumps be used for cooling purposes?

Some heat pumps are available that can be used in reverse mode to provide summer cooling. The waste heat (i.e. the heat extracted in the cooling process) can be used to pre-heat domestic hot water. However, they are not optimised cooling systems and cannot act as the sole provider of hot water.

### How is domestic hot water delivered and what type of hot water cylinder do I need?

Domestic hot water is normally stored at 60-65oC and as the heat pumps can generally only lift temperatures to around 45-50 oC, an additional water heating element will be required. This is usually an electric heating element in the water cylinder for boost. It is normal to try to use an off peak tariff for hot water provision by the heat pump and, with appropriate control, this can reduced the costs for this boost. Larger coil cylinders are required for heat transfer but both direct and indirect cylinder types are suitable.

### What size heat pump will I need? How much space is needed for the ground collector if I choose a ground source heat pump?

To calculate the approximate area of ground collector required, consult your installer.

### Why do I need to insulate first?

Insulation is the most cost-effective energy efficiency measure, and should always be undertaken as a **priority** over any renewable technology. Undoubtedly, the fabric of a building should be optimized before installing a heat pump, by insulating walls, loft space and draught proofing. You cannot access the grants without improving energy efficiency, and the heat pump will probably be over-sized if improvements are made later on.

