Heat Pumps Explained for Homeowners

A plain-English guide to one of the most talked-about heating systems

A heat pump is a heating system that transfers heat from outside into your home. It does not create heat in the same way as a traditional gas or oil boiler. Instead, it moves heat from the air or ground and upgrades it to a usable temperature for heating and hot water.

The most common type for homes is an **air source heat pump**.

How a heat pump works
Even when it feels cold outside, there is still heat energy in the air. A heat pump collects that heat, compresses it, and uses it to warm water for the home's heating system and hot water cylinder. Because it moves heat rather than generating it through direct fuel combustion, it can be a very efficient system when properly designed.

Where heat pumps tend to work best
Heat pumps usually perform best in properties that have:

- Good levels of insulation
- Low heat loss
- Suitable emitter systems such as underfloor heating or correctly sized radiators
- A well-designed heating layout
- Enough space for the required equipment

Heat pump benefits

- Lower-carbon heating option compared with fossil fuel systems
- Can work very well with underfloor heating
- No on-site combustion
- Suitable for many new builds and upgraded homes
- Can be part of a long-term energy strategy

Things homeowners need to understand
A heat pump is not just a straight swap for a boiler in every property. For good performance, the home may need:

- Better insulation
- Improved airtightness
- Larger radiators or underfloor heating
- Careful system design
- Proper commissioning and controls setup

Common misunderstanding
A heat pump is not automatically the right answer for every property. In some homes, it can work brilliantly. In others, poor insulation or poor system design can lead to disappointment, higher bills, or comfort issues.

Is it expensive?
Upfront installation cost can be higher than replacing a boiler. However, cost should be looked at over the longer term and in relation to the wider property upgrade, not just the equipment price on its own.

Final thought
A heat pump can be an excellent heating solution, but it works best when the house is ready for it and the system is designed properly. The real question is not “Should I get a heat pump?” but “Is my home suitable for one, and what else needs improving to make it perform well?”