

Climate Emergency: Bovey & Heathfield

There have been lots of questions about heat pumps recently, so we asked an expert in the field to tell us more about them.

Seven questions about heat pumps.

1) Why are we talking about heat pumps?

Recently the government released their Heat and Buildings Strategy. This set out a plan for how they will create jobs, reduce energy bills, tackle fuel poverty and dramatically reduce carbon emissions from our buildings.

Within this document was a commitment to stop the sale of gas boilers from 2035. For most homes, the most likely replacement will be a heat pump.

2) What is a heat pump?

A heat pump is a device that transfers heat from one place to another. Left alone, heat will naturally transfer from something warm to something cold. Heat pumps use refrigerant chemicals, compressors and condensers to reverse this.

They can collect heat from the outside and transfer this heat into your home, most commonly through a central heating system. They can move heat from outside into your home even in sub-zero temperatures. If this sounds a bit complex, you should know that you already have a heat pump in reverse in your house – your fridge.

Heat pumps work much more efficiently than any other heater because they do not generate heat, they just move it. Typically for every one unit of electricity, they provide 3 units of heat. In comparison, even the most efficient gas boilers generate 0.9 units of heat for every one unit of gas.

3) What will a heat pump installation look like?

Most homes will install an air source heat pump. This will involve having a unit that looks like an air conditioner fitted outside. In many cases this will connect directly up with your heating and hot water system, although some systems may include a unit smaller than your existing boiler inside your home.

Larger homes or systems shared between multiple homes may be better off investing in a ground source heat pump. This system buries coils of refrigerant underground where it is warmer than the air in winter and so works more efficiently. Again, the unit inside your home is likely to be quite compact.

If your hot water is to be provided by the heat pump, you will need to have a hot water tank, so you would need to identify a place for this in your home if you do not already have one. Also, heat pumps tend to work best if heating water to a low temperature. This means you may need to increase the size of some radiators.

4) So this is part of my doing my bit for the planet?

Yes, by installing a heat pump you would be doing a lot for the planet. The way we heat our homes emits lots of greenhouse gases. In fact 30% of the average household's emissions are from heating. Switching from a gas boiler to a heat pump would reduce these emissions by more than 60%. The emissions will drop even further as the electricity grid increasingly relies on renewable and low carbon energy.

5) How much will it cost me?

Right now, the costs may seem high, but there are longer-term benefits. An air source heat pump system will set you back around £10,000 and a ground source is likely to be over £15,000. In the short term a subsidy of £5,000 per install (if you replace a gas or oil boiler) will begin next year. At the same time the current subsidy, the Domestic Renewable Heat Incentive, will cease.

In the medium term the costs of a heat pump will reduce substantially as more people adopt these technologies (as has happened for solar panels and electric vehicles). It is also worth noting that heat pumps would be expected to last longer than a gas boiler, with an expected lifespan of 20-25 years and in the case of a ground source heat pump the underground pipes will have a lifespan of over 100 years.

6) Should I get one?

For homes currently heating with an efficient gas boiler you are unlikely to save any money on your current bills, but you may still wish to do it to reduce your environmental footprint.

If you have a boiler or heating system that you are planning to renew soon and you are in a position to invest a bit more in your home, you should consider a heat pump. Especially, if you currently heat your home using oil or electricity as your heat pump is quite likely to pay for itself over time from the money you save.

7) Is there anything else I should know?

Heat pumps work best if they work at a low level all the time. So your house needs to be well insulated and reasonably airtight to get the greatest benefit.

Whether or not you choose to invest in a heat pump, it is worth investing to ensure your home is well-insulated and airtight as soon as possible. This will save you money and make your home more comfortable right now as well as making the heat pump you'll fit one day cheaper and more efficient. Heat pumps also combine very well with solar panels, reducing bills substantially.

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