



## Installing a heat pump

### Ramblings of a customer who has moved to an air source heat pump installed in June 2022

1. I reckon it is costing the same to run the heat pump as it was with our old non-condensing 17-year-old mains gas boiler. If we had been on an oil-fired boiler, it would be cheaper to run the heat pump. If we had a modern condensing gas boiler, it may have meant it was a little more expensive to run.
2. By getting rid of the gas, we do not have to pay a standing charge for the gas meter which is a saving of £100 pa.
3. The heat pump works by reducing the temperature of the air in the cabinet which then condenses and forms ice which you have to periodically defrost. With a heat pump, the air is cooled as it is sucked over the heat exchanger by the large fan.



In winter, this means that you get condensation on the heat exchanger and it runs down creating puddles.

Consideration should be given to piping the water away to a drain. Not all installers will tell you this.

4. When it is really cold, the heat pump works hard and you get frost all over the heat exchanger. This blocks the airflow and effectively stops the heat pump from working. So, every so often, the heat pump reverses and puts the hot fluid through the exchanger, melting all the ice in a few seconds (creating a big puddle if you have not organised the drain).

5. I found that the heat pump gives a more even temperatures in the house. This is mainly because it requires a much more constant load. You turn down the heating only fractionally at night.
6. If you have radiators, they will probably need to be changed – a single radiator with fins at the back needs to become the same size but with two panels both with fins. This is because the water produced by the heat pump is no more than 50C compared to 70C with a conventional boiler.
7. A buffer tank is essentially a large tank of water which is heated by the heat pump as a reserve so it has some hot water to pump round the radiators while it is 'getting going'. It also prevents the heat pump from short cycling as a lot of 'starts' wear it out.  
The buffer tank might be as big as the hot water tank, and is a consideration if the airing cupboard is small. It can be fitted in the loft above the hot water tank.
8. A four-bedroom house installation costs around £12,000. The Green Grant is for only £6,000, but perhaps you would have paid £3,000 for a new boiler anyway?  
So for a smaller house you might break even.  
I used 4600kWh of electricity for the heat pump in one year in a four-bedroom house with a B rated EPC. The heat pump comes with a separate electricity check meter so you can measure this.