

Air source heat pump

Background

- Air source heat pumps work like a fridge- in reverse!- extracting heat from outside air to provide central heating and hot water.
- For every 1 kWh of energy in they produce 3.2 kWh of energy (heat).
- An air pump is therefore nearly 4 times more efficient than a gas boiler

Planning

- Legislation sets criteria for pump installations which don't require planning permission- ours was "Permitted Development"- but you should check for your specific situation.

Installation

- *The Boiler Upgrade Scheme (BUS)* runs to 2025, offering a £5,000 grant toward a pump.
- We paid £5,808 on top to Octopus energy (£3,000 cheaper on average than 3 other quotes).
- To qualify for the grant you need a recent Energy Performance Certificate (EPC) (ours cost £50 to renew) and a formal site survey (which Octopus included in their costs).
- Your property must be well insulated, and radiators may need replacing with larger ones. We upgraded our loft insulation (£500).
- The new radiators are 4 inches deep in smaller rooms and 6 inches in larger ones (compared with 3 inches for existing).

Running Costs

- The installation (and running) cost will depend on the size of a property and its energy performance.
- Octopus installed a smart meter giving detailed energy use
- Our projected annual energy use (pump + all other electrical items) is presently 7,316kwh
- Our projected annual energy bill is £3,055. That's £595 less than had we kept the gas boiler, with a total annual energy reduction of 71%

Purchase Costs

- The true capital cost is the difference between what we paid (£5,808) and the replacement of our gas boiler which was approaching end of life (£3,000) ie £2,808.
- If the annual £594 saving materialises, then the payback period would be 4.7 years (£2808/£594).

Installation and commissioning

- Five days, unavoidably disruptive and often noisy
- Installation team were efficient and friendly, and it was completed on time without mishap.
- New pipes run from the air pump up the front walls of our house, and through them to the new hot water tank. We will add an inexpensive pitched roof atop our flat-roofed porch to conceal them.
- The pump works under a pressurised system, so we had to replace our “Power shower” with a mixer shower.

Noise

- In reality, ours (when operating) is no louder than a microwave. It's sited at the front of our house and beyond the minimum required distance from our neighbours boundary.

Maintenance

- *“Covered by a 2 year workmanship warranty and a 5 year manufacturer warranty for the heat pump. According to the Energy Saving Trust, you can expect your heat pump to last 20 years or more compared to 10 to 15 years for a gas boiler”*





