ESP ENERGY

The Renewable Energy Experts

Air Source Heat Pump

Heat is extracted from the air via a compressor and transferred to the central heating and hot water circuits of the property.

Is an air source heat pump suitable for me?

- **Do you have somewhere to put it?**
  You'll need a suitable location outside your home where a unit can be fitted to a wall or placed on the ground. It will need plenty of space around it to get a good flow of air.

- **Is your home well insulated?**
  Since air source heat pumps work best when producing heat at a lower temperature than traditional boilers, its essential that your home is well insulated and draught-proofed for the heating system to be effective.

- **What fuel will you be replacing?**
  The system will pay for itself quickly if its replacing an oil, electricity or coal heating system. Heat pumps may not be the best option for homes using mains gas.

- **What type of heating system will you use?**
  Air source heat pumps can perform better with under floor heating systems than with radiator-based systems because of the lower water temperatures required.

- **Is the system intended for a new development?**
  Combining the installation with other building work can reduce the cost of installing the system.

The benefits of air source heat pumps

- Lower your fuel bills, especially if you are replacing conventional electric heating
- Provide you with an income through the government's Renewable Heat Incentive (RHI)
- Lower your homes carbon emissions, depending on which fuel you are replacing
- Don't need fuel deliveries
- Can heat your home and provide hot water
- Need very little maintenance

Solar PV
Solar Thermal
Biomass Boilers
Ground Source Heat Pumps
Air Source Heat Pumps

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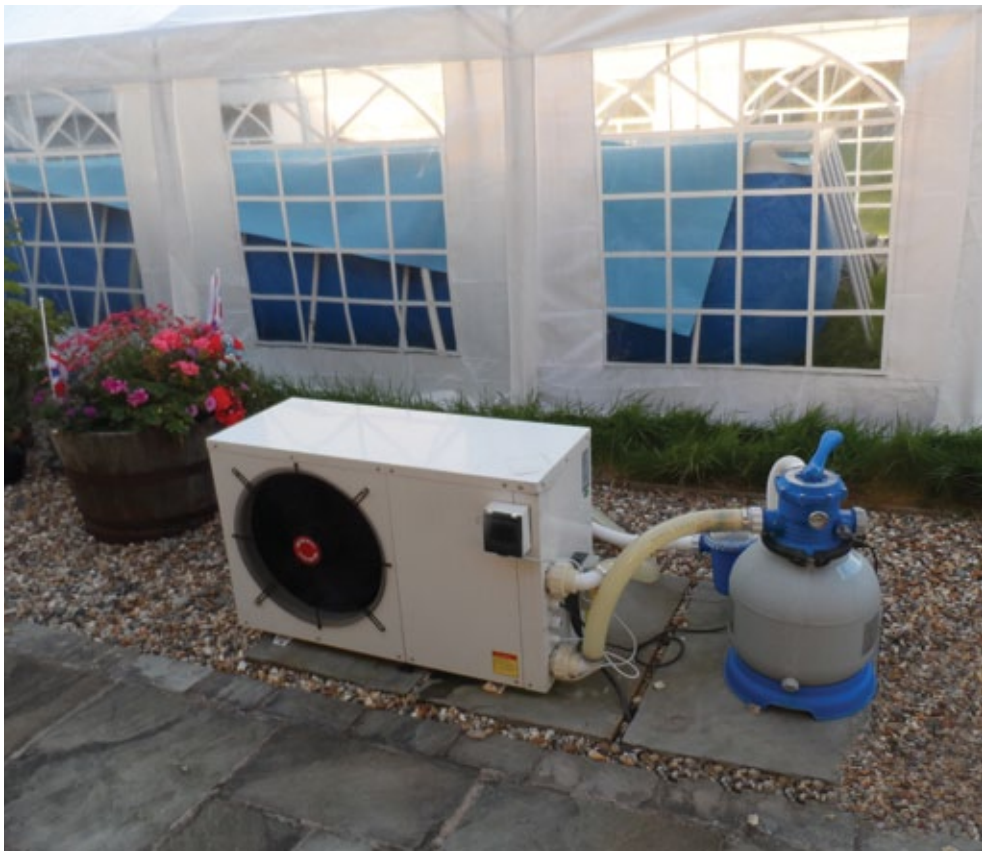
Case Study

Air Source Heat Pump



At this Shropshire property we installed a complete renewable energy system, incorporating an Air Source Heat Pump and 10kW PV unit.

Firstly ESP Energy conducted a site survey to determine the best location for the PV panels to be situated. Together with consultations with the customer it was decided that an open paddock to the rear of the house with no shading would be the best position for the ground mounted frames to be erected. The panels were positioned facing south to maximise the energy produced.

Once connected the work could begin on the air source heat pump unit. The 13kW air source heat pump was then installed at the rear of the house on a solid concrete base. The position was chosen as the customer wanted to heat a large outdoor swimming pool.

The unit is powered by 3kW of electricity produced by the customers 10kW photovoltaic system, the heat pump then uses the heat from the air to produce up to 13kW of heat to warm the water in the swimming pool. This size heat pump is capable of heating the 22000 litre pool.

The customer is now enjoying the benefits of a pool with a constant temperature of 29°C from May through to September. This means the customer has a heated swimming pool which is heated entirely from renewable energy and therefore costing him zero!