



Most heat pumps use electricity to collect heat from the ground or air to provide space-heating and/or hot water. In the right circumstances the amount of heat-energy they collect is greater than the energy they need to run.

Climate change CO ₂ e per kWh	200 grams per unit of heat	Mains electricity, used to run heat pumps, is still mostly from sources producing a lot of greenhouse gases. Heat pumps can have much lower emissions if fossil fuels not used to provide the electricity.
Impact on nature	Low	Some local disturbance to the ground when heat-collection pipes are installed. Impact also depends on source of electricity used.
Risks	Very low	Very small risk of ground freezing if many ground source heat pumps installed close together. Badly designed systems can use too much energy.
Visual impact	Moderate/Low	Air-source heat pumps require large collector units outside a building. Ground source are buried.
Cost now	Moderate	The costs of installing a heat-pump system can be quite high. The savings come later.
Cost 20 years	Low	Heat pumps using low-carbon sources of electricity could be cheaper than other forms of heating especially if there is a carbon tax.
The UK resource	Very good	With insulated buildings and low carbon electricity, heat pumps could be the main source of heating in buildings.
Reliability/flexibility	Moderate	Good most of the time but air source heat pumps are less effective in exceptionally cold weather.