

3.2 The benefits of heat pumps

Heat pumps are an extremely efficient way of providing heating and have multiple benefits compared to other heating technologies:¹



Heat pumps can operate with zero emissions

The ambient energy harnessed by the device is already renewable and, when powered by increasingly cheap, clean electricity, heat pumps can replace fossil fuels and provide zero-emissions heat.



Heat pumps are energy efficient and can substantially reduce primary energy consumption

They produce three to five times more useful energy than they consume by extracting useful heat from the environment.² They can also utilise waste heat as an ambient heat source.



Heat pumps are cost-efficient

Due to the energy savings that heat pumps provide, they can achieve running costs similar to or better than fossil fuel heating. Multiple national and international analyses show them as a critical, cost-effective technology for decarbonising heat.



Heat pumps can play an important role in cooling

Reversible heat pumps can produce heating and cooling in a single appliance.



Heat pumps can help to decarbonise heating networks

Large heat pumps can play a central role in providing low-carbon heating and cooling to district heating networks.



Heat pumps can enable the use of more clean electricity

As well as increasing the demand for clean electricity, flexibly operating heat pumps can enable the cost-effective integration of variable renewable power sources, such as solar and wind.

