

The Orangehouse Renewables Information Series:

KEY DIFFERENCES BETWEEN AIR SOURCE & GROUND SOURCE HEAT PUMP SYSTEMS

Air source heat pump system

- 🏠 Average system price: £11,000 to £17,000 - depending on size.
- 🏠 Domestic RHI grant up to a maximum of £11,500.
- 🏠 Expected lifetime of the system: 12 to 15 years.
- 🏠 Easier and quicker installation – around 1 week.
- 🏠 Less room required for indoor plant – typically 1.5m².
- 🏠 Outdoor unit next to house or up to 30 metres away.
- 🏠 Variable efficiency and running costs due to fluctuation in outdoor temperatures – seasonal co-efficient of performance (CoP) is an essential consideration and positioning is crucial to maximise “warm” supply air and dispersal of cooled air.
- 🏠 More suited to smaller existing or larger new build properties and can be cascaded to give higher output.
- 🏠 A single outdoor unit generally qualifies for Permitted Development rights but listed properties, conservation areas or additional heat pumps may require planning permission.

Ground/water source heat pump system

- 🏠 Average system price: £20,000 to £30,000 for a system with a horizontal collector or £35,000 to £50,000 for boreholes.
- 🏠 Domestic RHI grant up to a maximum of £34,500.
- 🏠 Expected lifetime of the system: 20 to 25 years for the heat pump and 50 to 100 years for the ground collector.
- 🏠 More disruptive with longer installation times – around 2 weeks.
- 🏠 Requires more room for indoor plant – typically 3m x 1m.
- 🏠 Unobtrusive – ground collector is buried with heat pump plant and cylinders discreetly positioned in the building. No flues, chimneys or fuel store needed (oil tank, biomass pellets).
- 🏠 Higher annual efficiencies and stable running costs as the ground is at a constant temperature throughout the colder weather.
- 🏠 Suitable for a wide range of properties where land and budget permit.
- 🏠 As the system is either buried or indoors generally Permitted Development rights apply.

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