
The Suitability Of Clean Heating Options For Challenging Dwelling Types



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Summary

To examine suitability of clean heating – especially heat pumps – in existing homes:

- Old
- Rural
- Small, and/or
- Flats.

This was achieved by

- Rapid Evidence Assessment
- Limited stakeholder interviews
- Applying industry experience (Loco Home, Luths Services)

Key conclusion: ***clean heating can be applied to all types of dwellings.***

Old Homes: Insulation Upgrades Are Not *Required*

Solid walls are difficult to insulate.

15 year total cost of of HP ownership 8%
lower with solid wall insulation

(Palmer, Terry, 2023)

Recommendation: focus on heat pump
performance, installer skills

(Eyre *et al*, 2023)

- Efficiency inversely dependent on
radiator temperature

‘Fabric first’ needs to be redefined.



K Husbands/ Loco Home

Rural: HP Uptake is Greatest in Off Gas Grid Areas

'Off gas grid' historically associated with hard to treat.

Good heat pump performance at low temperatures

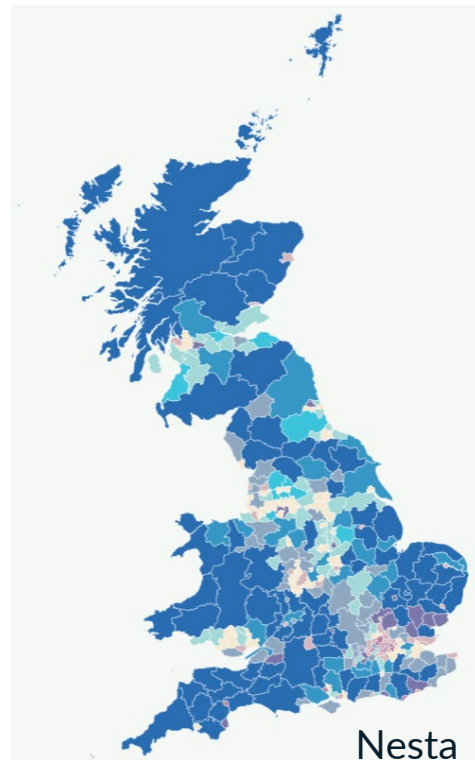
(Gibb et al, 2023)

Corrosion-protected HPs for coastal locations. Concerns around availability of servicing on islands.

(CXC, 2022)

Strong correlation between off gas and HP uptake.

(Nesta, 2023)



Small Dwellings: Innovations are emerging

Industry innovations for hot water storage

Air to air as low capital cost option

Space for radiators is rarely an issue



Heat Geek



Daikin



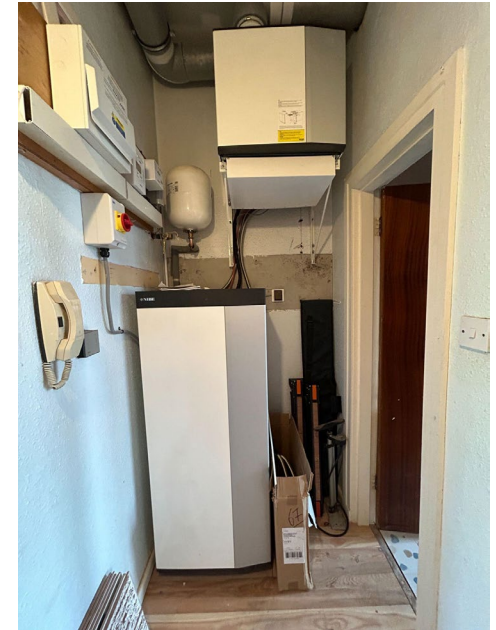
NEA

Flatted Dwellings: Innovations Are Emerging

Treat flats individually: balcony, or indoor heat pumps.

5th generation heat networks (shared ambient loop)

Cooperation issues → Tenement Law Reform



Loco Home

Recommendations

- Propositions for on-gas new build
- Options for low income households
- Support air to air, 5G heat networks

Help industry cross the chasm!

- Market intermediation
- Independent advice

