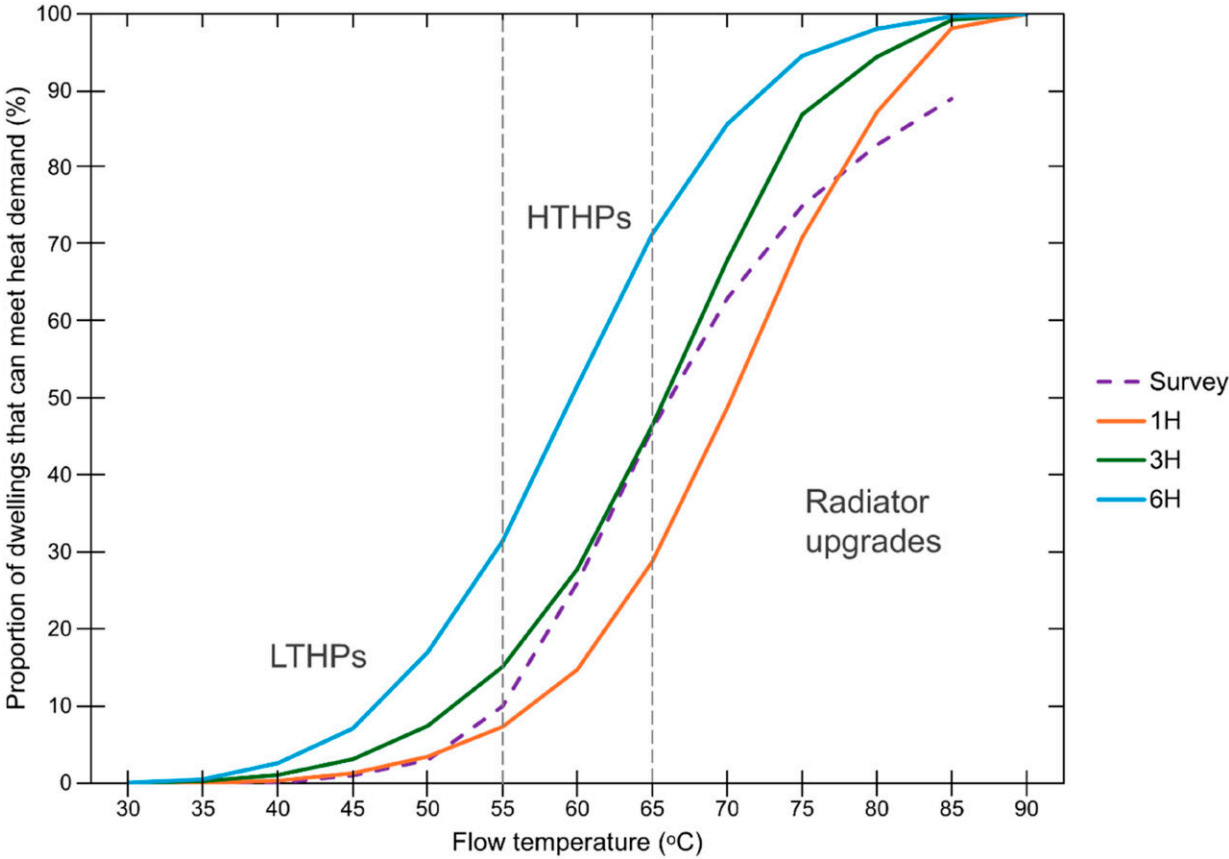


# New research shows many UK homes can adopt heat pumps with minimal upgrades

January 24 2025, by Bob Yirka



A set of cumulative distributions showing the predicted proportion of U.K. dwellings which could meet heat demand at various flow temperatures for the three different averaging models, and the original survey model applied in BEIS. Credit: *Building Services Engineering Research and Technology* (2025). DOI: 10.1177/01436244241306591

A group of energy specialists from University College London, the Department for Energy Security and Net Zero, Loughborough University and the University of Birmingham has found that more homes in the U.K. could switch from boiler-heat to heat pumps without major upgrades. In their study [published](#) in the journal *Building Services Engineering Research and Technology*, the group analyzed data associated with thousands of existing homes in the U.K.

Over the past decade, the cost of heating homes in the U.K. has risen dramatically, causing many consumers to consider alternatives. Much of the increase is due to rising costs of oil or gas, which are used in many boiler heating systems.

Because they pump hot water or steam to radiators around a home, it has been commonly assumed that switching to other types of heating systems would entail removal of pumping systems and replacing them with air ducts through which heated air could pass, or with smaller electric radiators.

For this new study, the research team looked at the true costs of converting from a boiler system to one based on [heat pumps](#).

The researchers collected data on 4,600 homes in the U.K., none of which had heat pumps. More specifically, they looked at what adjustments would need to be made to upgrade the homes they were studying, from boiler-based heating to systems using either high- or low-temperature heat pumps.

They found that approximately 31% of the homes could transition to low-temperature heat pumps, and approximately two-thirds could operate high-temperature heat pumps, all without upgrading radiators. The researchers acknowledge, however, that high-temperature heat pumps are less efficient than low-temperature heat pumps.

These numbers differ significantly from [BEIS research](#) in 2021, which found that such upgrades would require 90% of such homes to replace their radiators.

**More information:** Laurence Childs et al, Predicting the heat pump readiness of existing heating systems in the UK using diagnostic boiler data, *Building Services Engineering Research and Technology* (2025).

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