



User-Centred Energy Systems

A Technology Collaboration
Programme by IEA

Technology Collaboration Programme

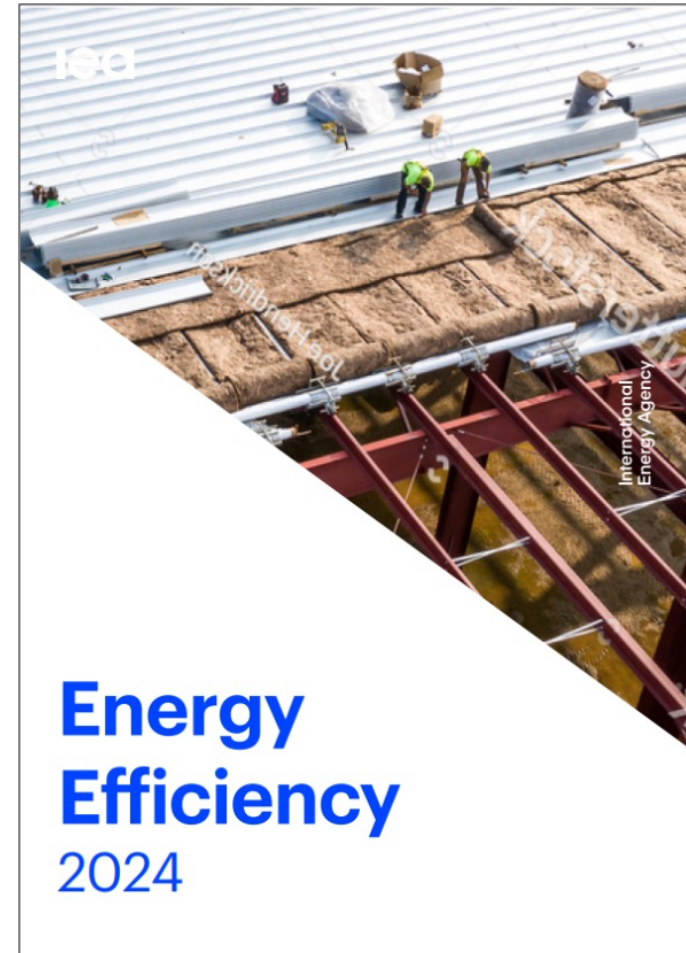
by IEA



Energy Efficiency 2024

Doubling Efficiency Progress: The role of efficient electrification

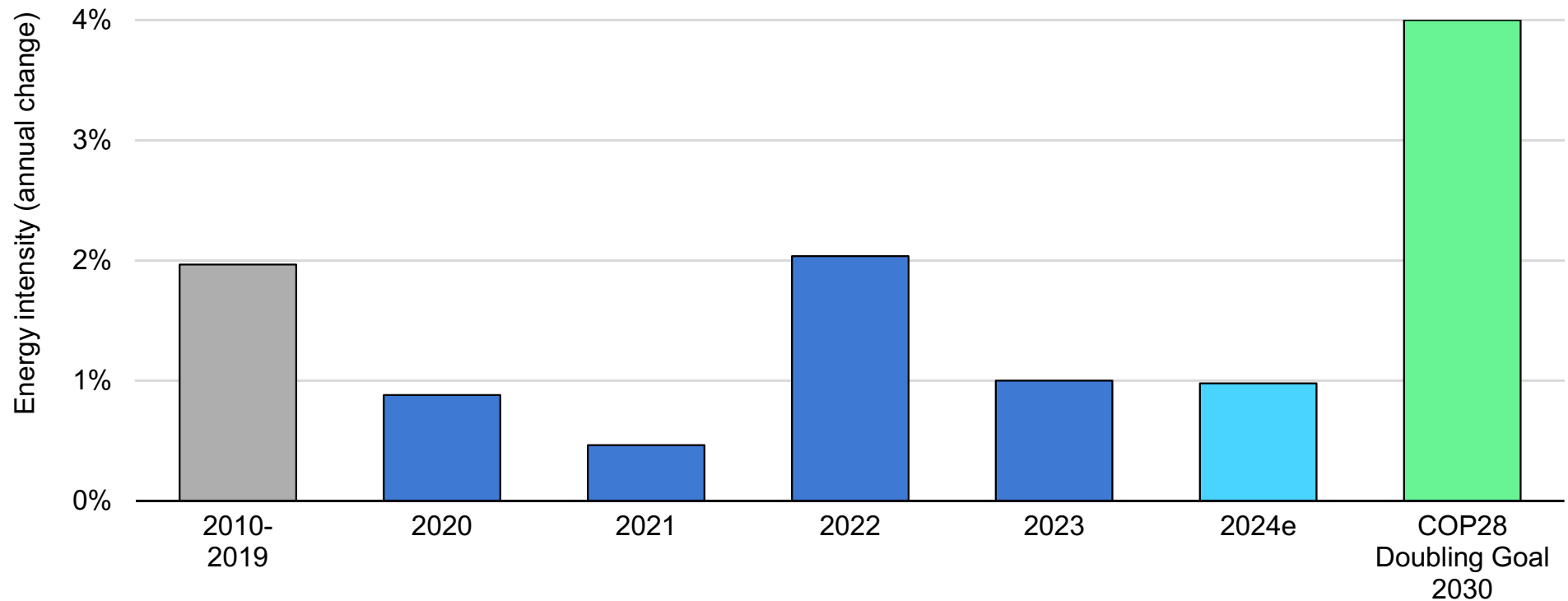
Federico Callioni, Energy Efficiency Policy Analyst



The world is not yet on track to double energy efficiency progress



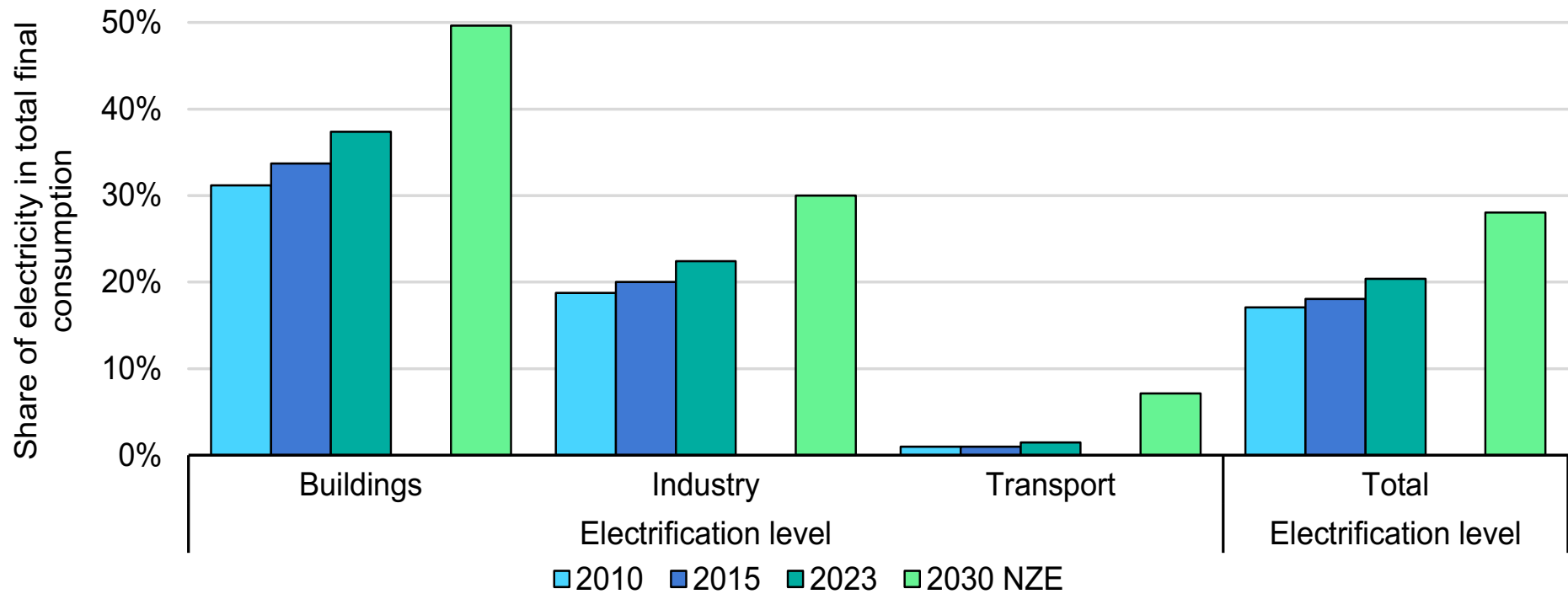
Global annual improvement in primary energy intensity, 2020-2024e, and rate needed to achieve the COP28 doubling goal



Policymakers are starting to respond to the COP28 commitment to double global energy efficiency progress, but energy intensity improvement in 2024 remains sluggish.

One-fifth of all energy used today worldwide is electricity

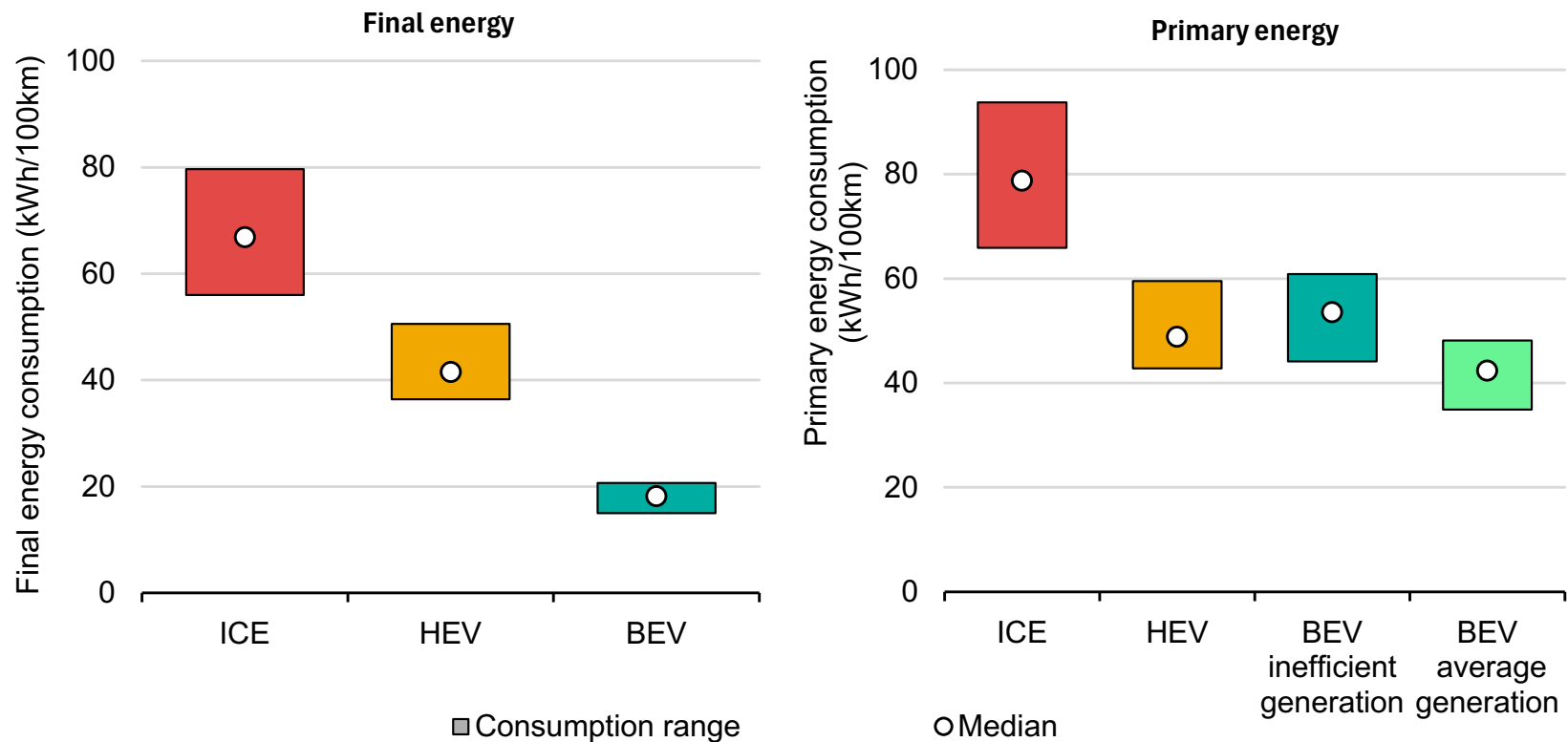
Share of electricity in final energy consumption by sector, 2010-2023, and Net Zero Emissions by 2050 Scenario, 2030



Electrification levels vary among sectors, but all of them see growth in recent years.

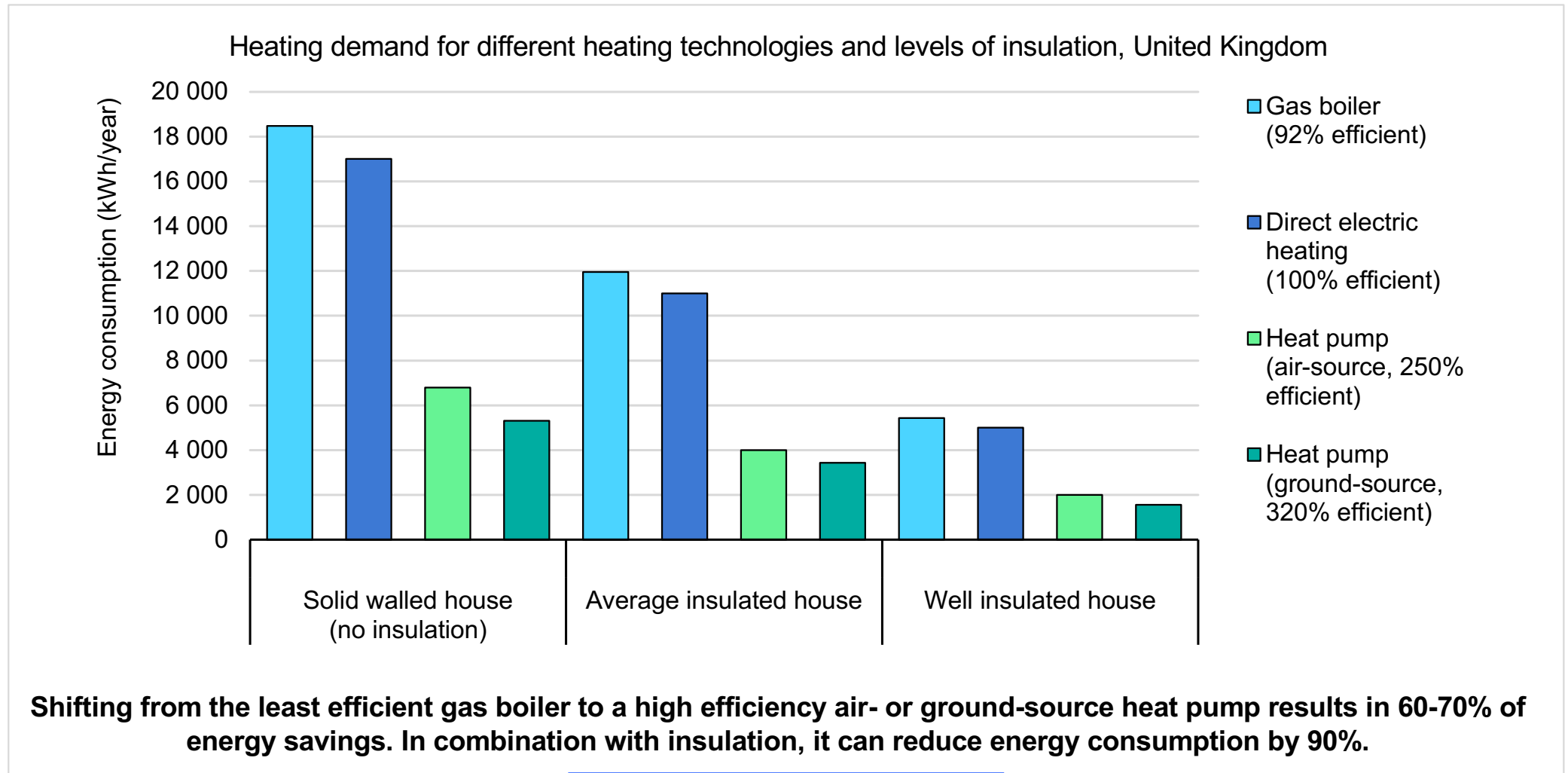
Electric technologies are much more efficient than fossil fuel ones

Final and primary energy consumption for common mid-size cars available in the US market

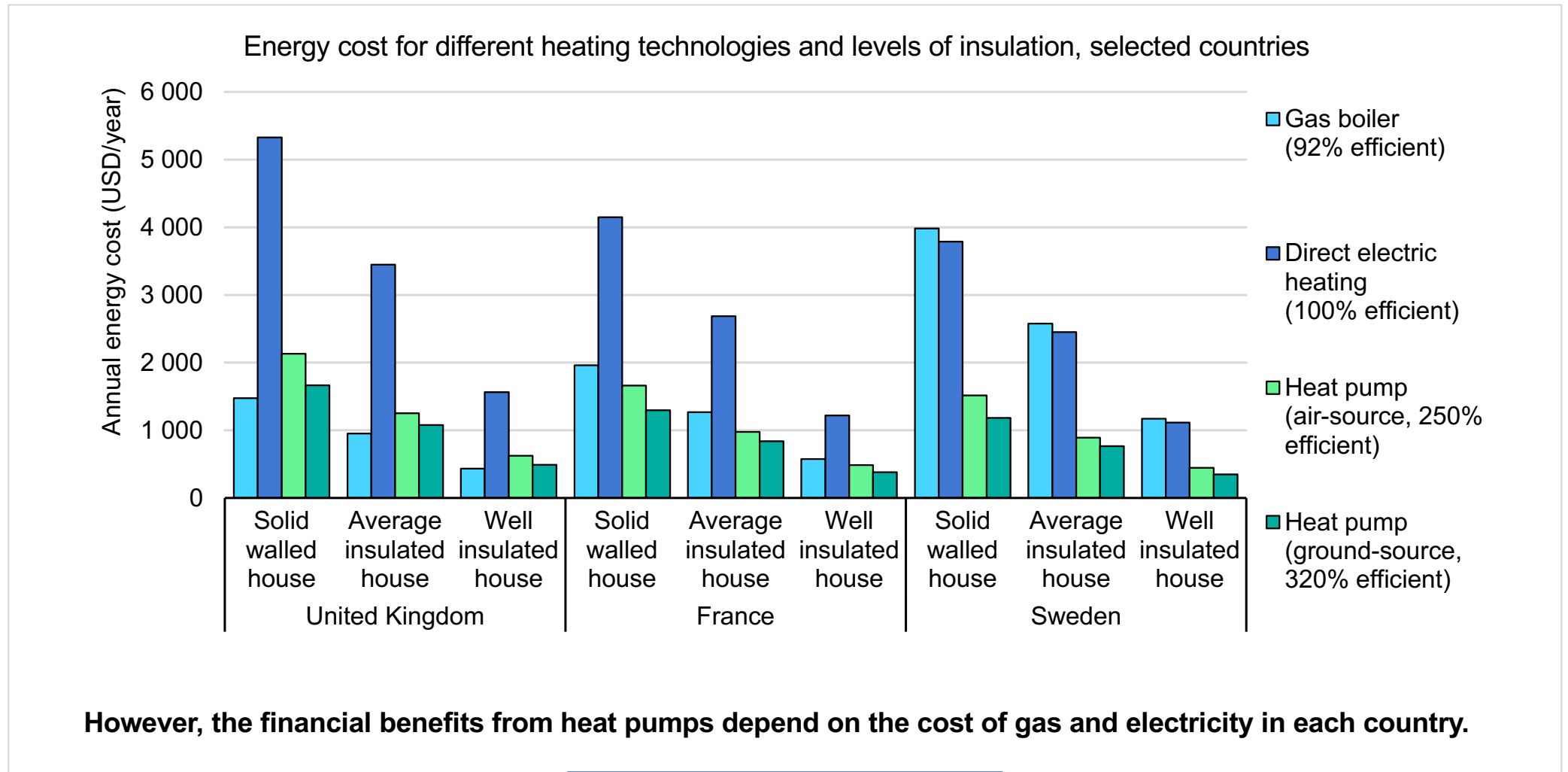


The most efficient electric models use around one-fourth of the energy used in ICE models.

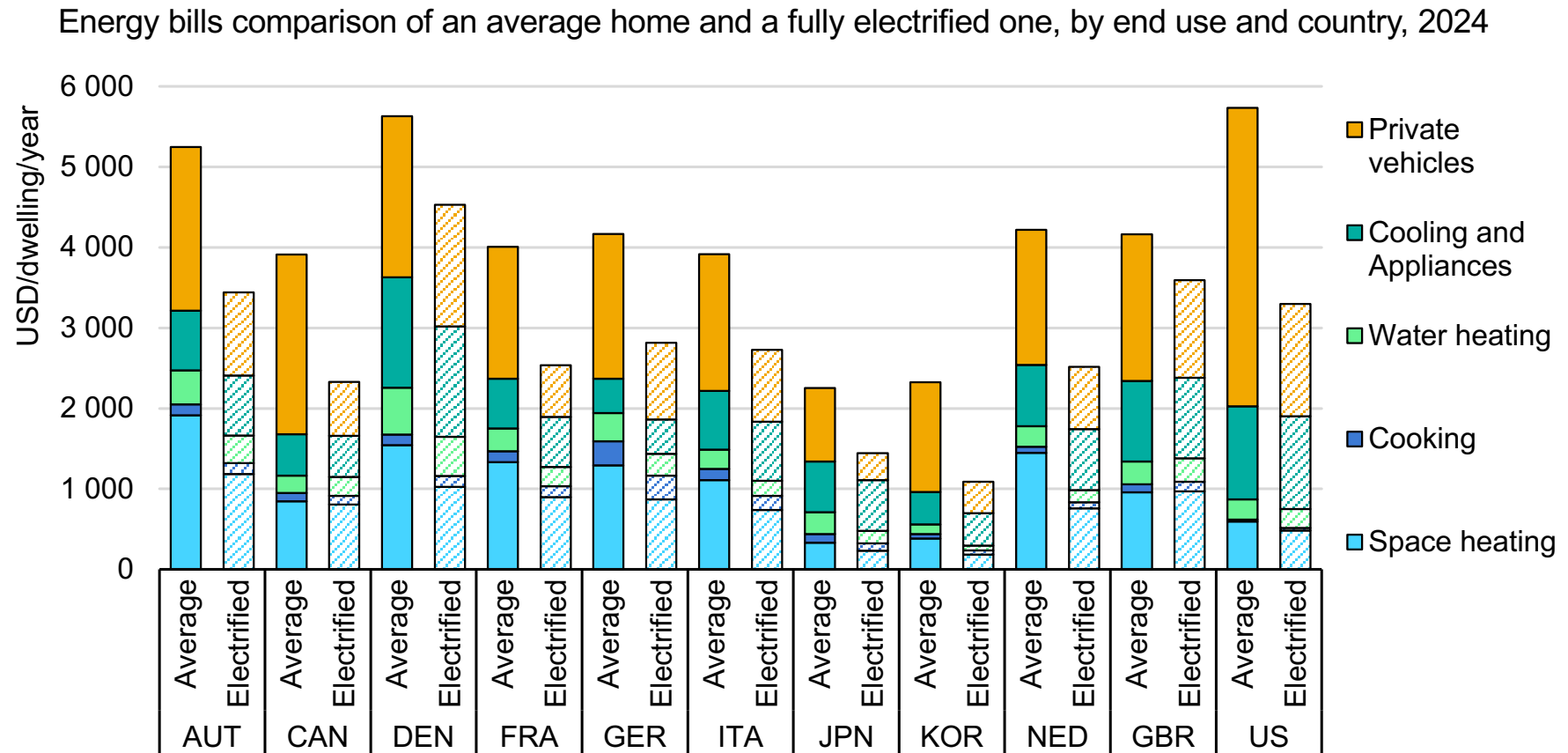
Even with poor insulation, heat pumps still save energy



Heat pumps can lower energy bills by up to 90%



Electrification can reduce energy related expenses for all end-uses



The benefit of switching to EVs is very clear when home charging is available. For other end uses, it varies between countries.

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