

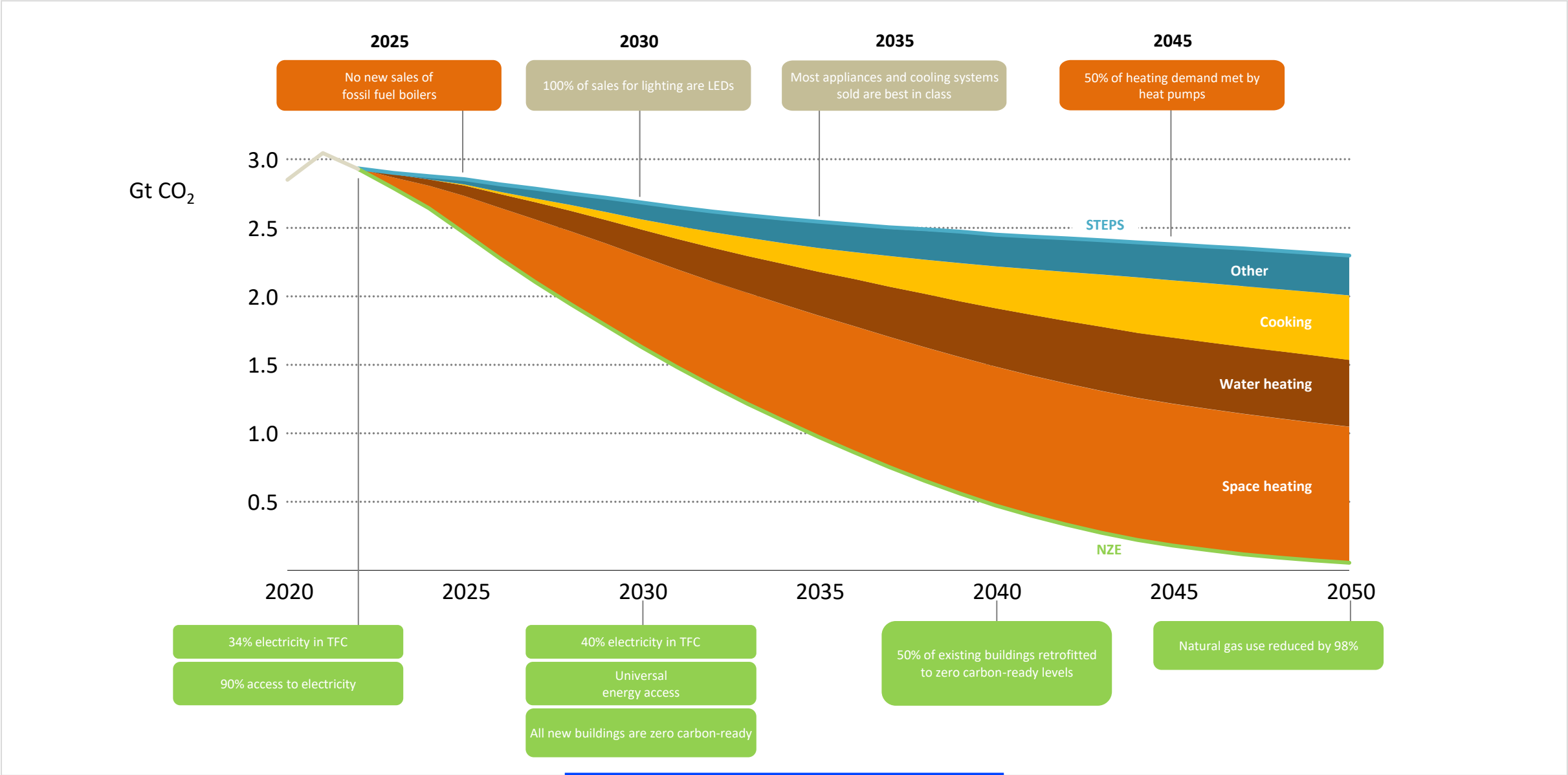


Global heat pump sales continue double-digit growth

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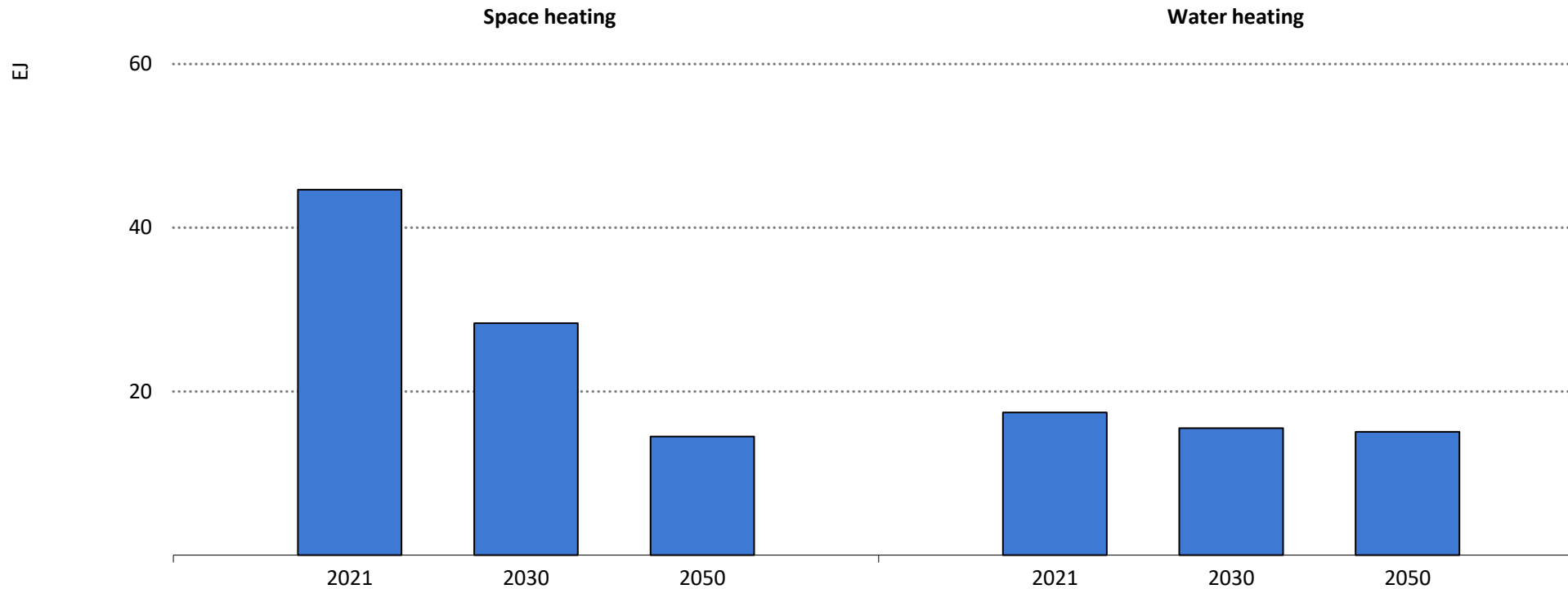
May 16, Heat Pump conference, 2023

A net zero transition for the global buildings sector



A complete transformation of energy demand for heating in buildings

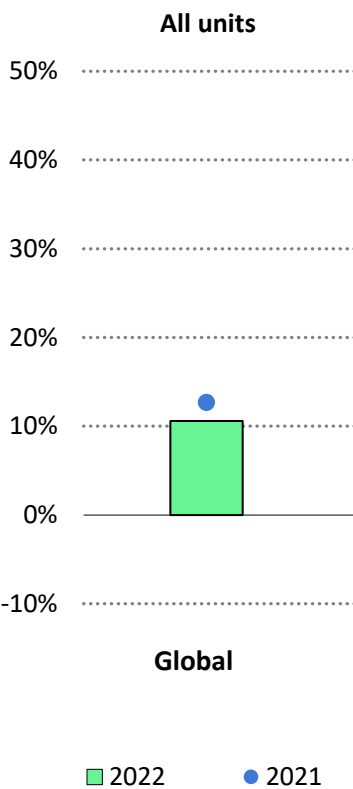
Buildings heating final consumption by source in the NZE, 2021-2050



Electrification, energy efficiency and renewables integration are the key levers to decarbonise heating in the Net Zero Scenario. Behavioural changes are also important, especially in the short term.

Heat pumps: a central technology in the transition of buildings

Heat pumps sales growth rate, 2021 and 2022



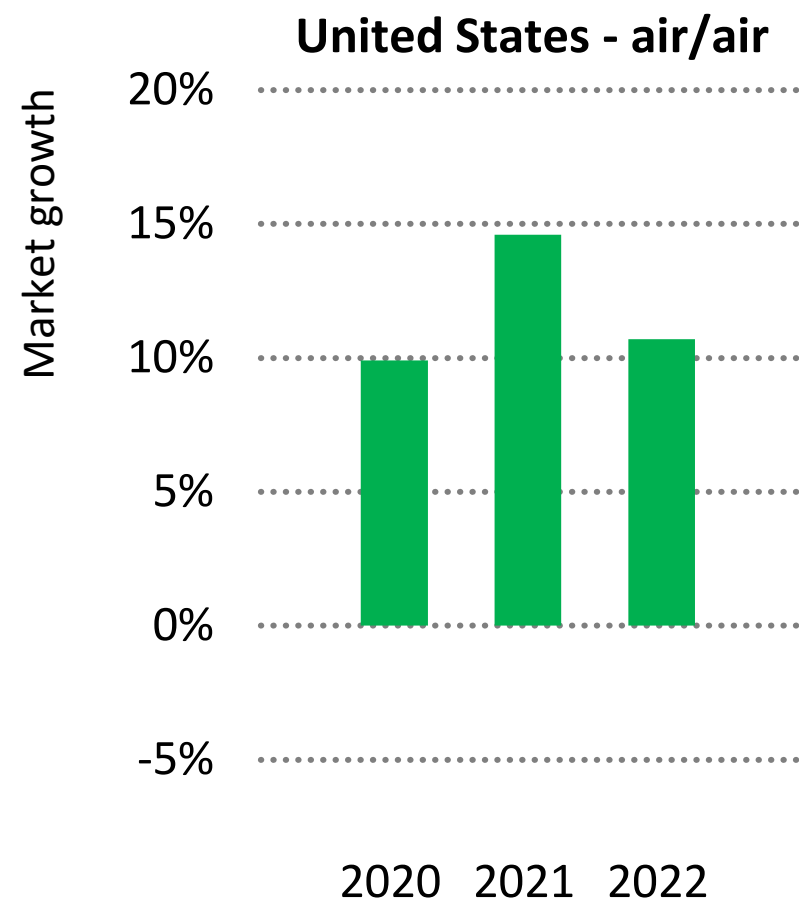
Heat pumps sales are growing rapidly.
While China is the largest market, Europe is the fastest-growing market today.

Heat pump sales in the EU are breaking new records

Heat pumps sales in the European Union, 2019-2022

**Heat pump sales in the EU have doubled since 2019 and grew by nearly 40% in 2022.
Growth rates exceeded 50% in nine countries, led by Poland, Czechia and Belgium where sales doubled.**

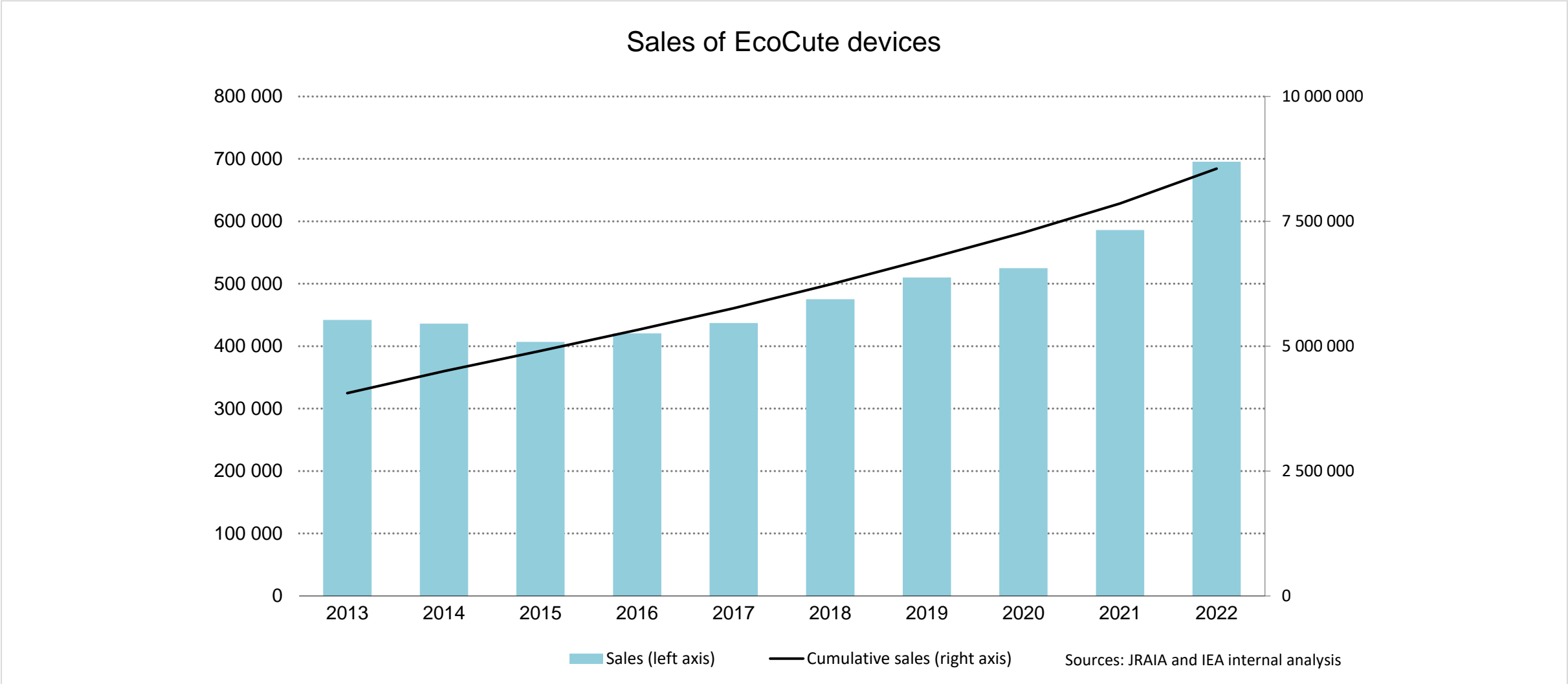
Positive market signs are observed in major heating markets



Sources: AHRI, JRAIA, ChinaIOL and IEA internal analysis

In the US sales of heat pumps experienced again double-digit growth. In Japan, the air to water market, driven by EcoCute units, keeps breaking records. In China, there was a slowdown in sales growth in the air to water segment.

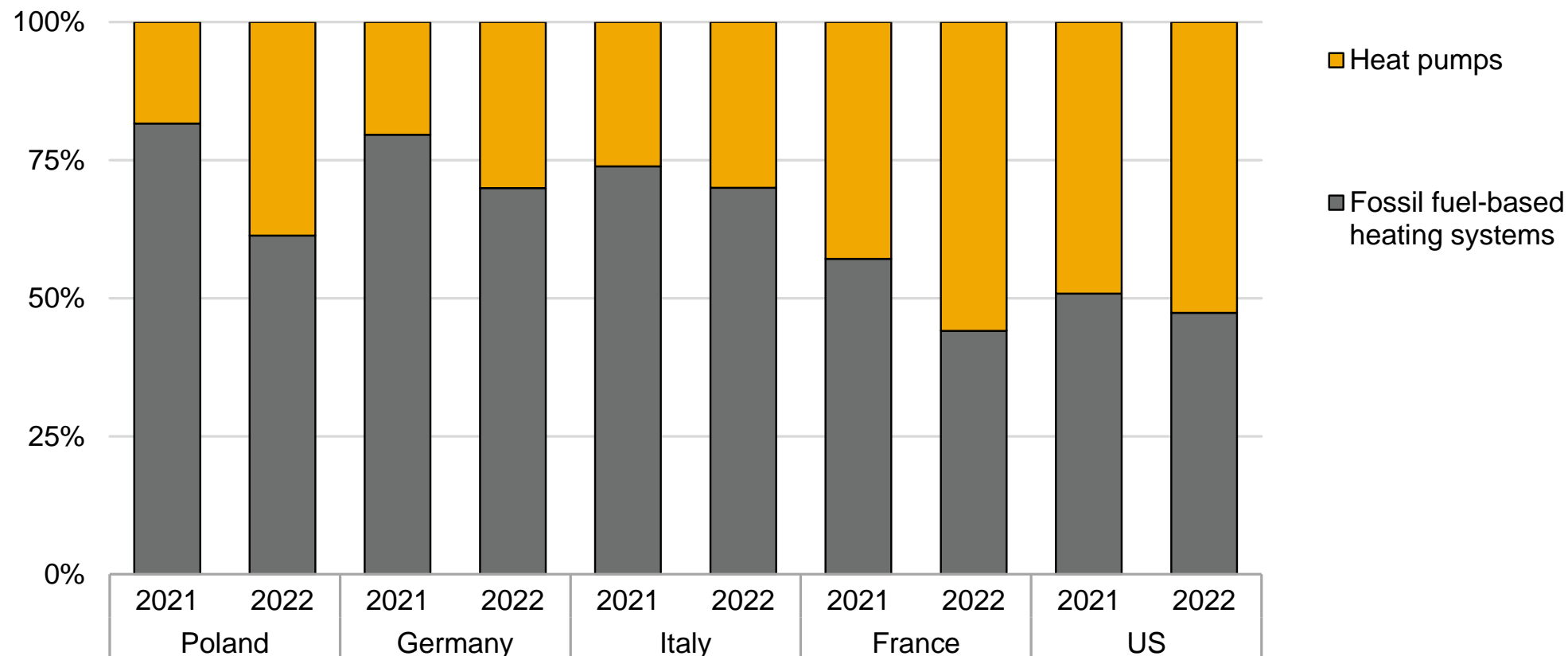
The air to water market in Japan is dominated by EcoCute



EcoCute, a widely adopted water heating solution in Japan, has experienced steady growth over the last two decades, establishing itself as one of the leading technologies in the water heating segment.

Heat pump sales are rivalling those of fossil fuel-based systems

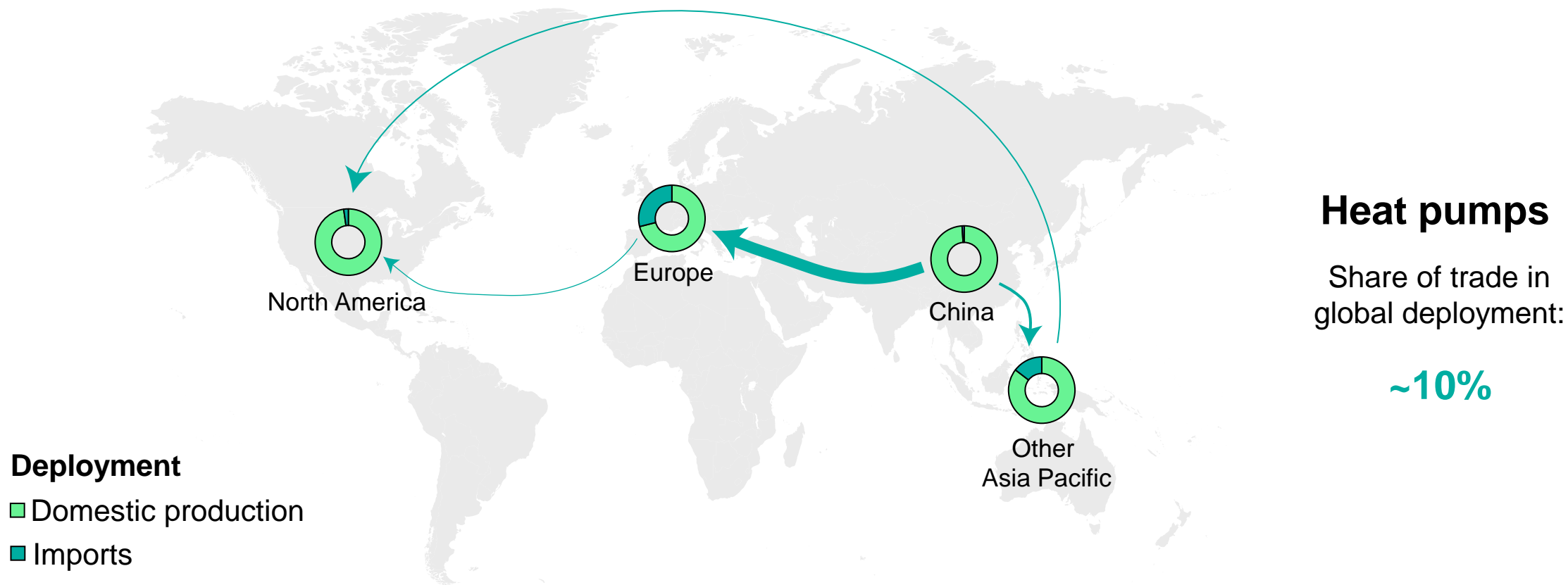
Ratio between sales of heat pumps and fossil fuel-based heating systems for buildings in selected countries



In the US and France 2022 saw more heat pump sales than their fossil fuel-based counterpart, while in other markets, such as Poland, Germany or Italy, heat pump sales are gaining market share

Heat pumps benefit from international trade

Main net trade flows for heat pumps, 2021



China and North America import very few units, while over 20% of European sales were imported from China

Global heat pump manufacturing capacity would need to almost quadruple by 2030

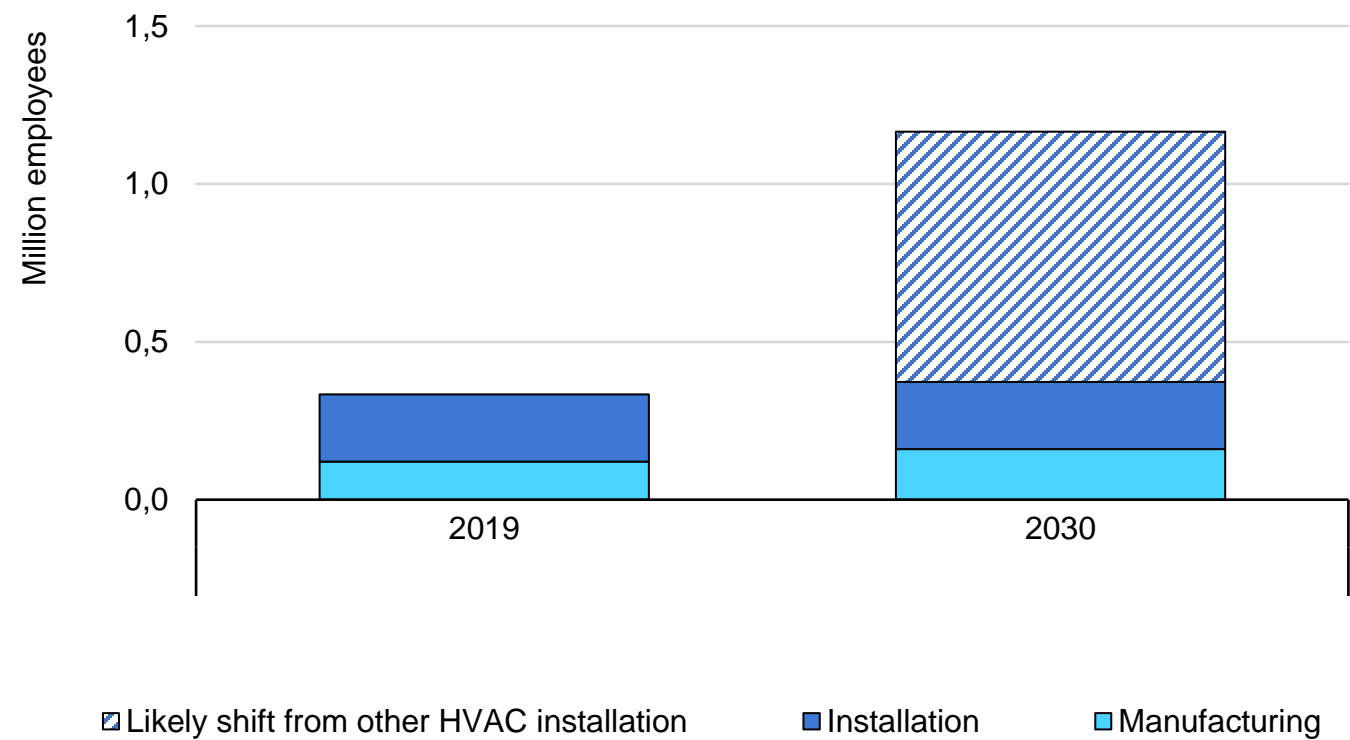
Heat pumps manufacturing capacity in the Net Zero by 2050 Scenario

Announced heat pump manufacturing capacity covers only one-third of NZE Scenario requirements for 2030, but short lead times mean that capacity could expand quickly

Heat pump growth creates jobs, but labour bottlenecks could arise



Employment in the heat pump supply chain in the Net Zero by 2050 Scenario, 2019, 2030



Employment related to heat pumps more than doubles to 2030, with the most new jobs in installation. Many countries face shortages in occupations that would be able to quickly retrain to install heat pumps.

- The momentum **has never been stronger** for the heat pump industry: in 2022 sales grew considerably at global scale, with very positive market trends in Europe, North America, China and Japan.
- Globally, heat pumps, when used as a main heating device, cover around **10% of heating needs** in buildings today. This corresponds to over **100 million households**.
- Still, more efforts are needed to meet climate goals. To align with all existing national pledges worldwide, heat pumps will have to meet nearly **20% of global heating needs** in buildings by 2030.
- And in order to achieve net zero emissions by 2050, sales need to expand by well over **15% per year** this decade, 4 points above current growth level.
- More **granular reporting** of heat pump deployment by technology, capacity and building type will be crucial to ensure informed policy decisions are taken to accelerate the uptake of heat pumps.

IEA reference publications on heat pumps

Reference reports/tools

[Tracking progresses](#)



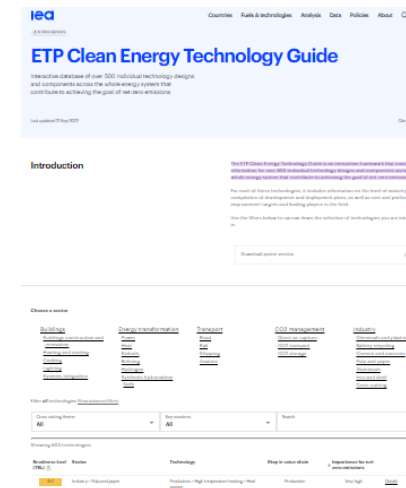
[Outlook to 2030](#)



[Supply chains](#)

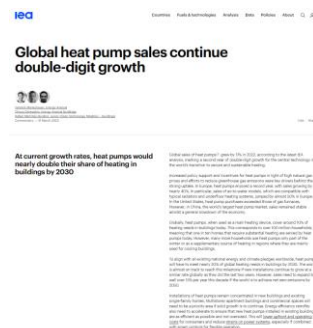


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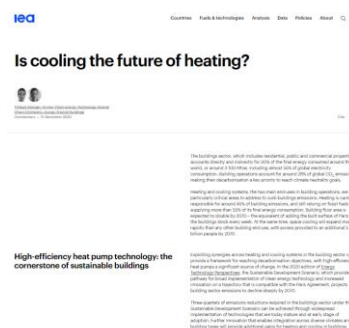


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