



Global Trends in Energy Efficiency

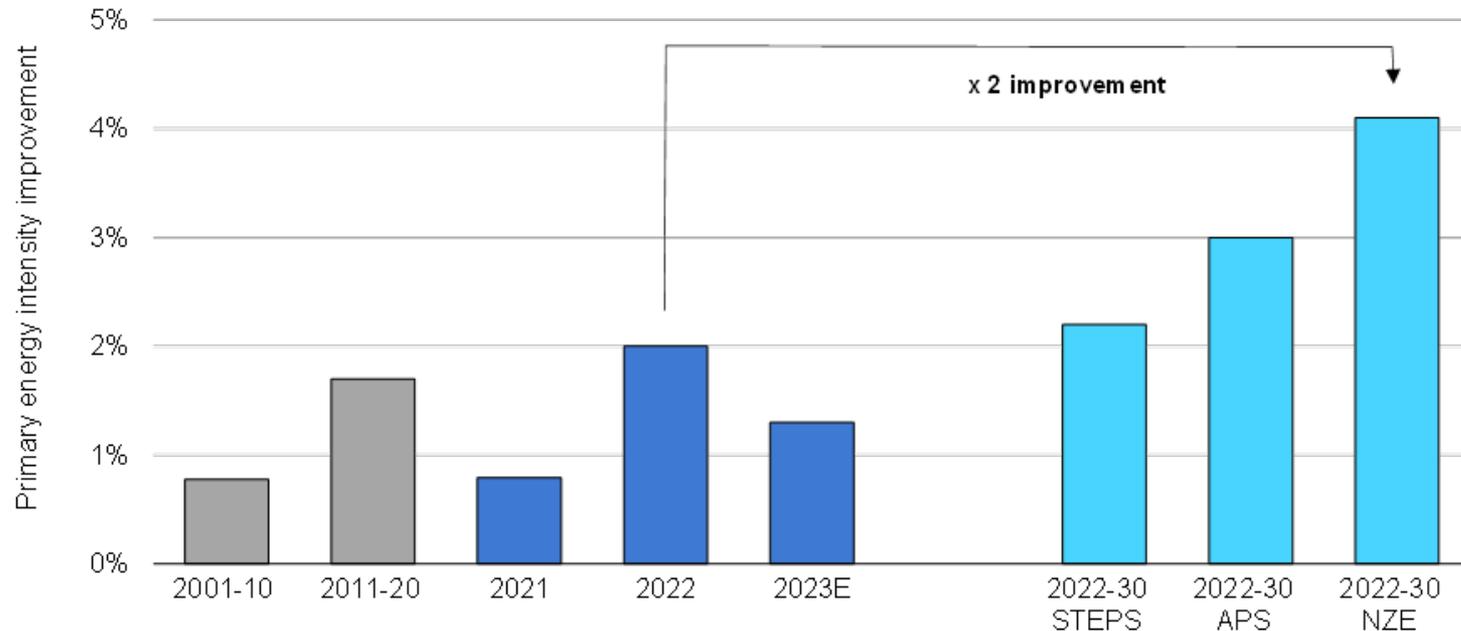
25 April 2024, EGNRET 60 Meeting

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Energy efficiency progress and the doubling target

Efficiency policy momentum builds but energy intensity progress slows

Annual global primary energy intensity improvement, 2001-2022, 2023E, and by scenario, 2022-2030



**Energy intensity progress slows to 1.3% in 2023 driven by higher global energy demand of 1.7%
Momentum builds around a global target to double 2022 rate of progress each year this decade to 4%**



COP28 final text:

Calls on Parties to contribute to ... doubling the global average annual rate of energy efficiency improvements by 2030

Why should we double?



A critical step on the path to net zero



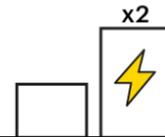
Over 7 Gt CO₂ emissions savings in 2030



Today's home energy bills in advanced economies lowered by a third



4.5 million more jobs than today



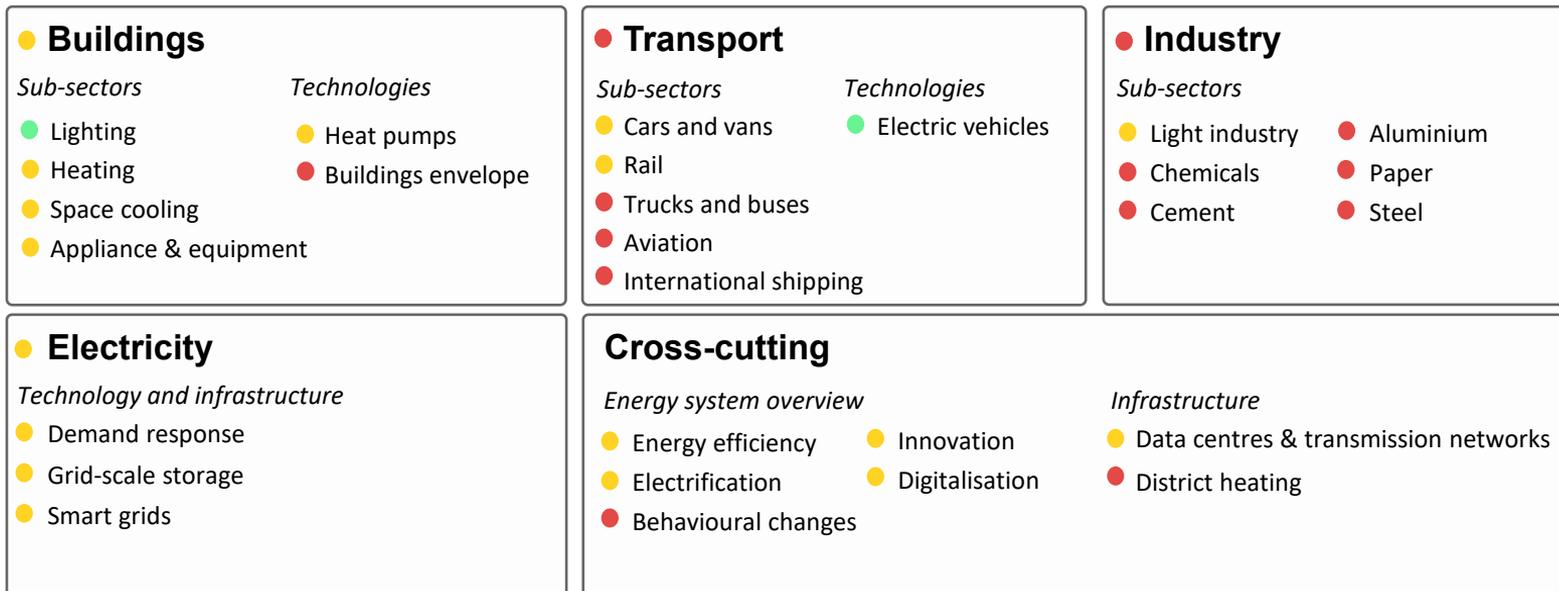
Energy savings equivalent to twice the EU's consumption in 2022

IEA has led the call for a global target to double energy efficiency progress this decade.

Sector and system-wide trends

More efforts needed to reach efficiency levels for net zero globally

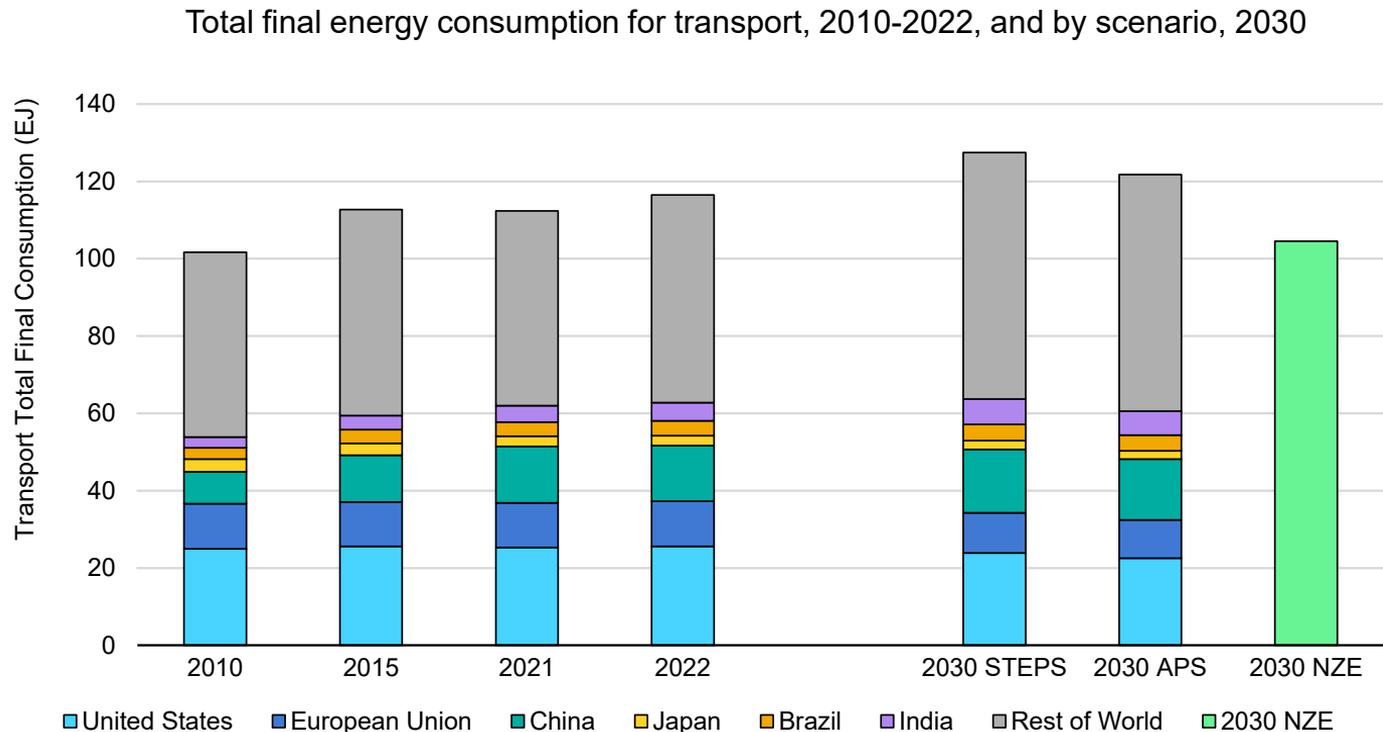
IEA tracking of the key elements related to energy intensity progress



● On track ● More efforts needed ● Not on track

**Between 2000 and 2022 energy intensity improved most in the buildings and transport sectors – by 25%
In industry energy intensity progress was slightly slower with 20%**

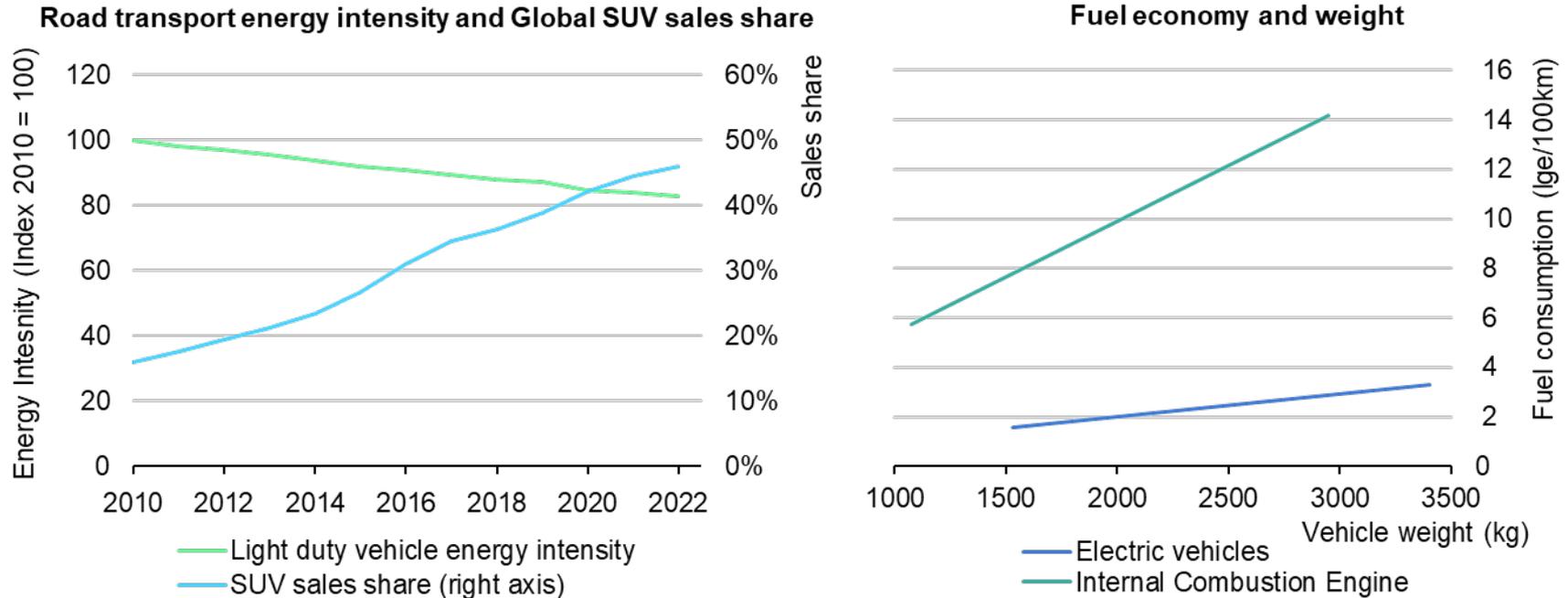
Transport: return to pre-covid levels as the transition gathers pace



From 2010 to 2022, total transport energy consumption grew at an average of just under 1.2% per year despite a large increase in the distance travelled, with a visible impact of COVID-19 pandemic.

Shift to larger vehicles is slowing faster transport efficiency progress

Share of SUV in total car sales and relationship between fuel economy and weight

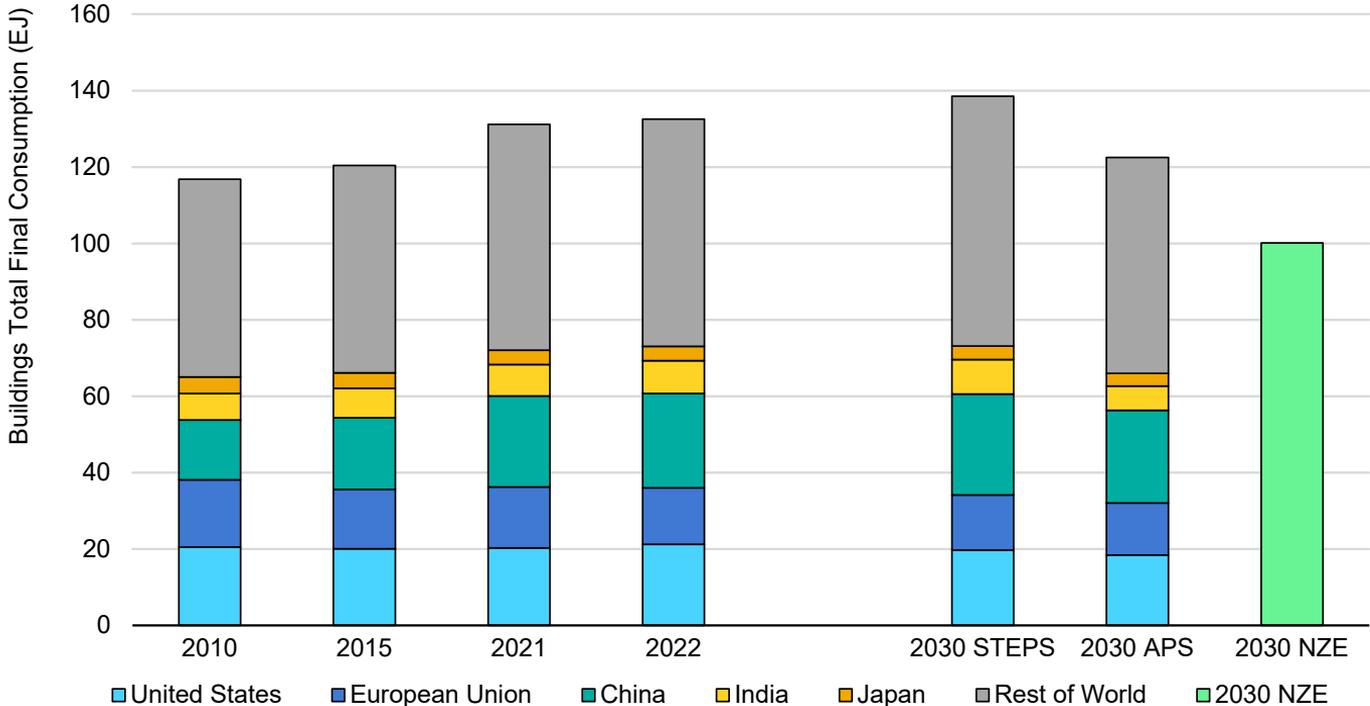


With larger vehicles more popular than ever electric vehicles offer radical efficiency breakthrough

Buildings: emerging economies and space cooling leading growth



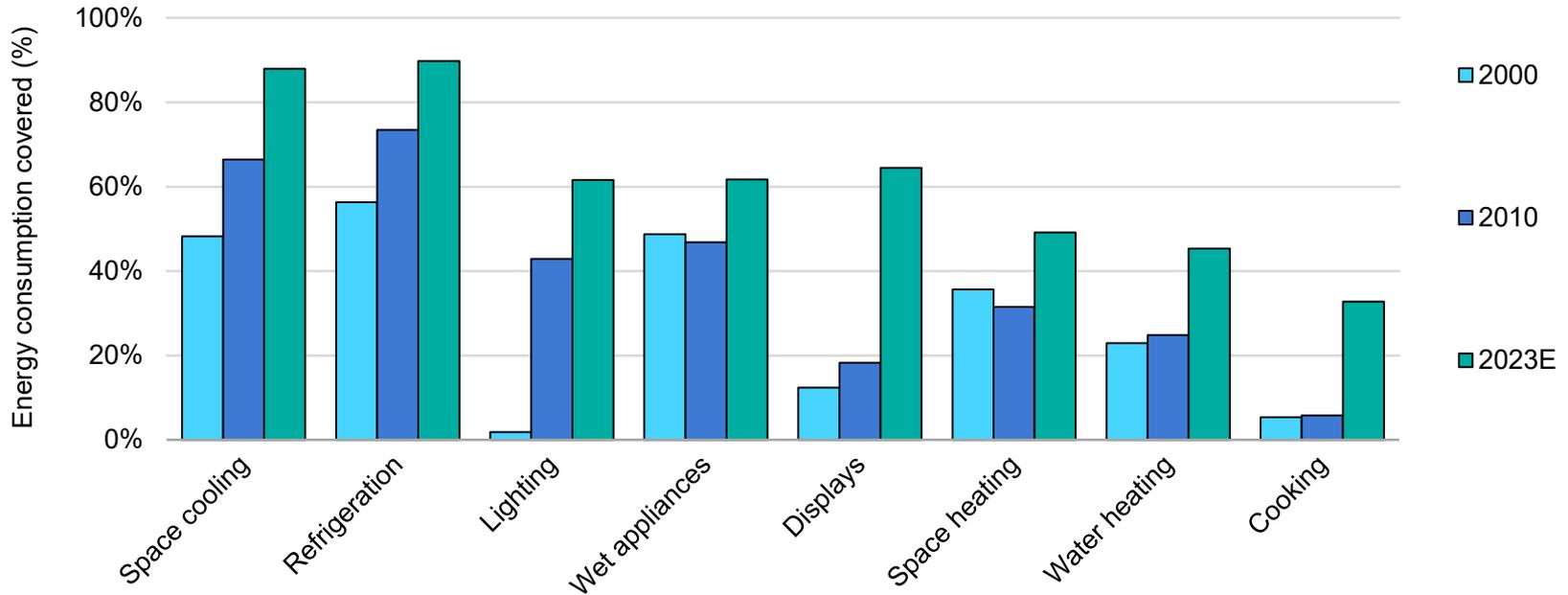
Total final energy consumption for buildings, 2010-2022, and by scenario, 2030



Global buildings energy consumption increased from 2010 to 2022 by an average of 1.1% each year

Policy coverage has been expanding rapidly

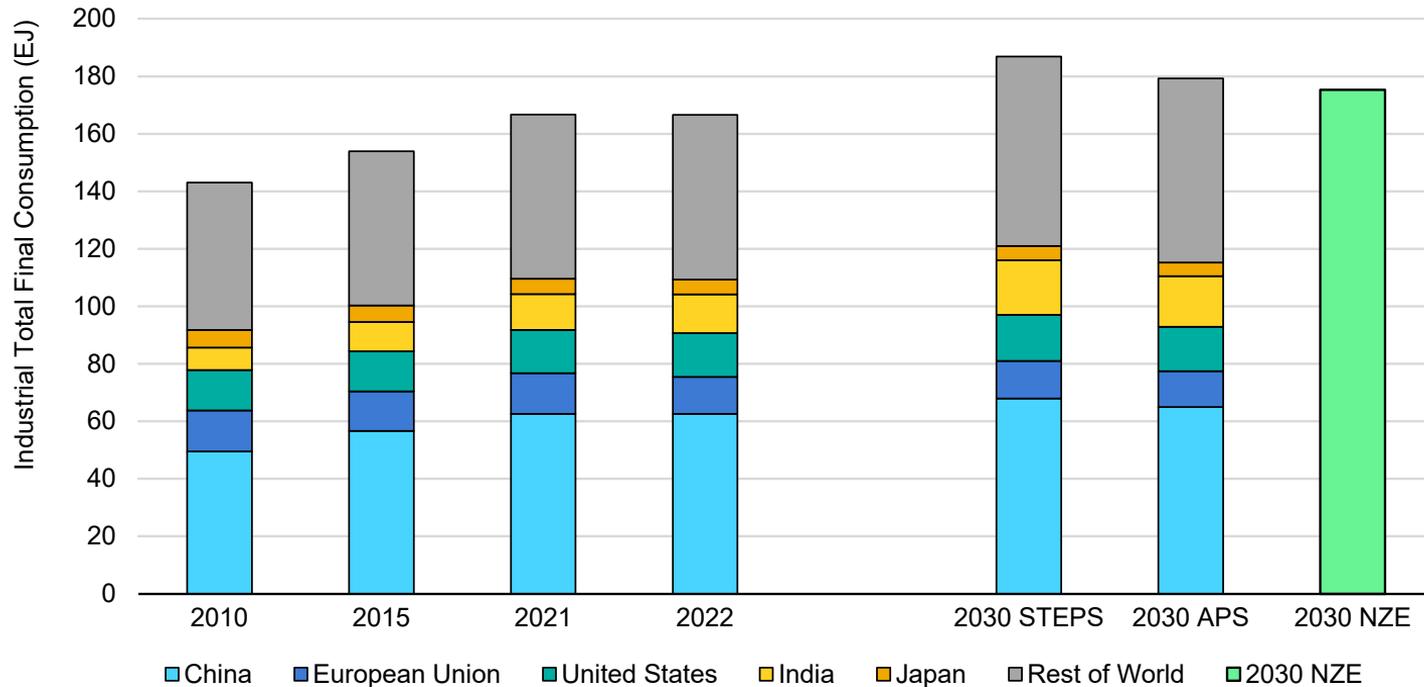
Global energy use coverage of minimum performance standards for major end uses in buildings, 2000-2023



MEPS coverage has increased for all end uses in the last decade

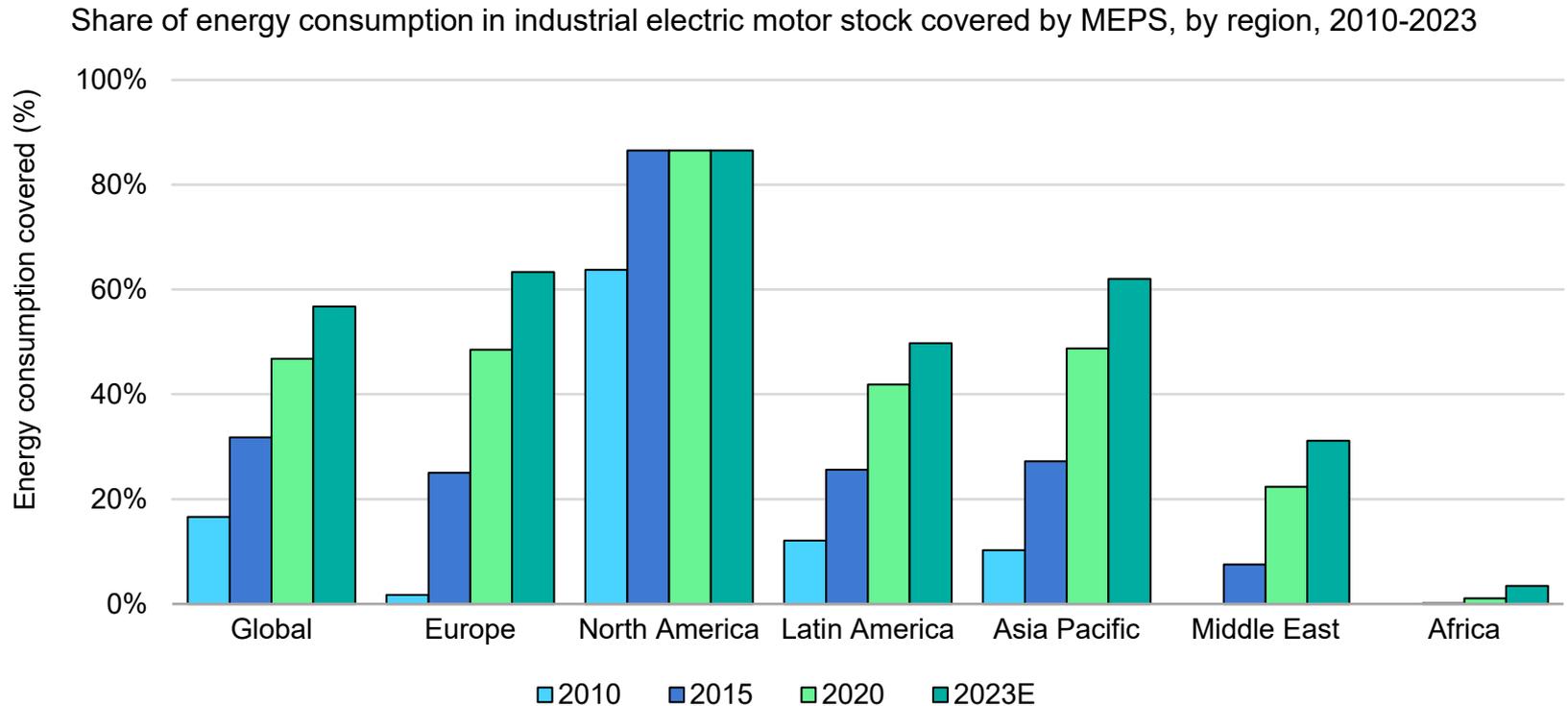
Industry: consumption will continue to grow over the next decade

Total final energy consumption for industry, 2010-2022, and by scenario, 2030



Industrial energy consumption has steadily risen by around 1.3% per year from 2010 to 2022

Policies to increase energy efficiency in industry are ramping up

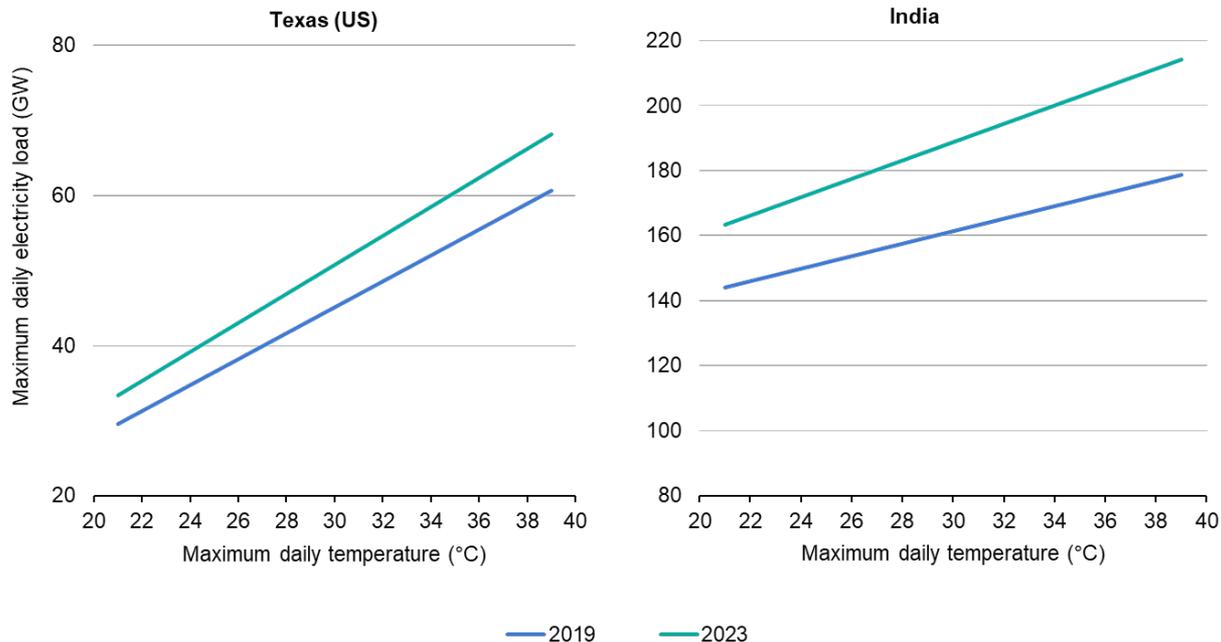


More than half of the global energy consumption of industrial electric motors is now covered by MEPS

How does the hottest year on record drive urgency for efficiency measures?

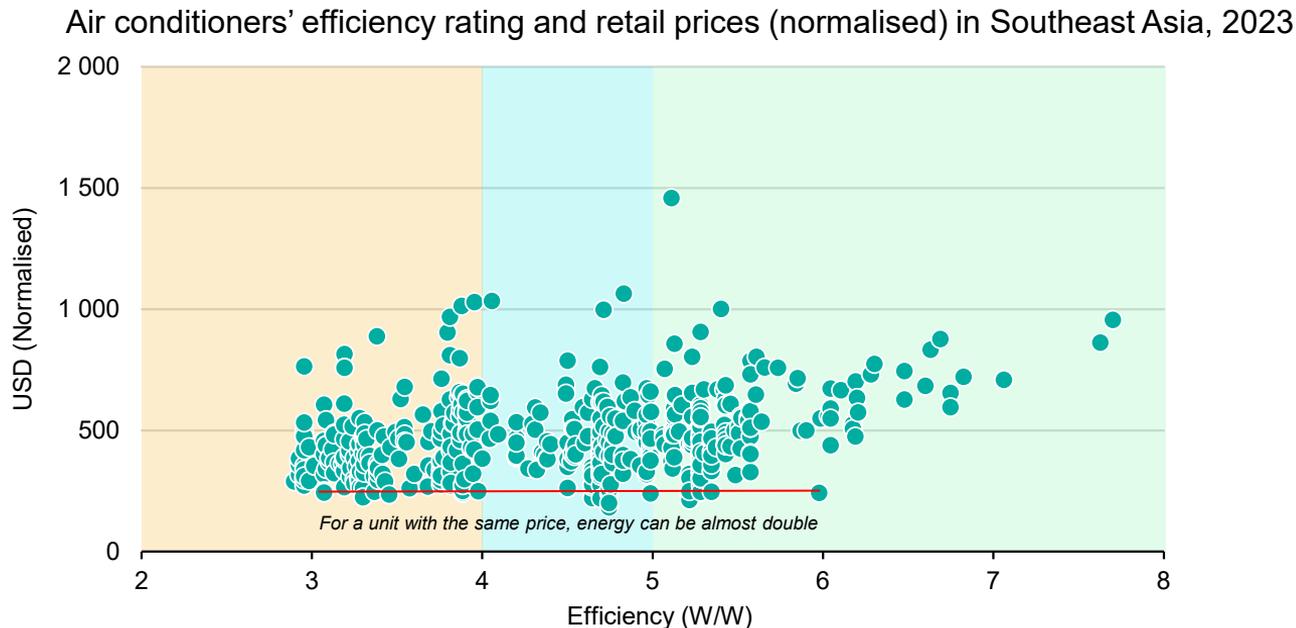
Hot weather drives energy demand for air conditioning

Electricity load and maximum daily temperature, May-September, 2019 and 2023



Every 1°C increase in the average daily temperature above 24°C drives a rise of about 4% in electricity demand in Texas, and a 2% gain in India, where air conditioner ownership is much lower.

More efficient air conditioners do not incur in higher upfront costs



Notes: Air conditioners are wall-mounted single split type. Southeast Asia, including Indonesia, the Philippines, Thailand, and Vietnam, in 2022. Purchase prices are normalised to 12 000 BTU/hour cooling capacity. Low efficiency = below 4 W/W; Medium efficiency = 4-5 W/W; High efficiency = above 5 W/W.

In Thailand, consumers with a budget of USD 350 can choose between a low-efficiency unit (3 W/W) and one that is double as efficient (6 W/W), which are both selling at the same price.

Other IEA work on energy efficiency

9th conference to take place in Nairobi, 21-22 May 2024



Contact me for more information

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