



Energy Efficiency 2022

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Report available for free download and

Energy efficiency data explorer free to access at:

www.iea.org



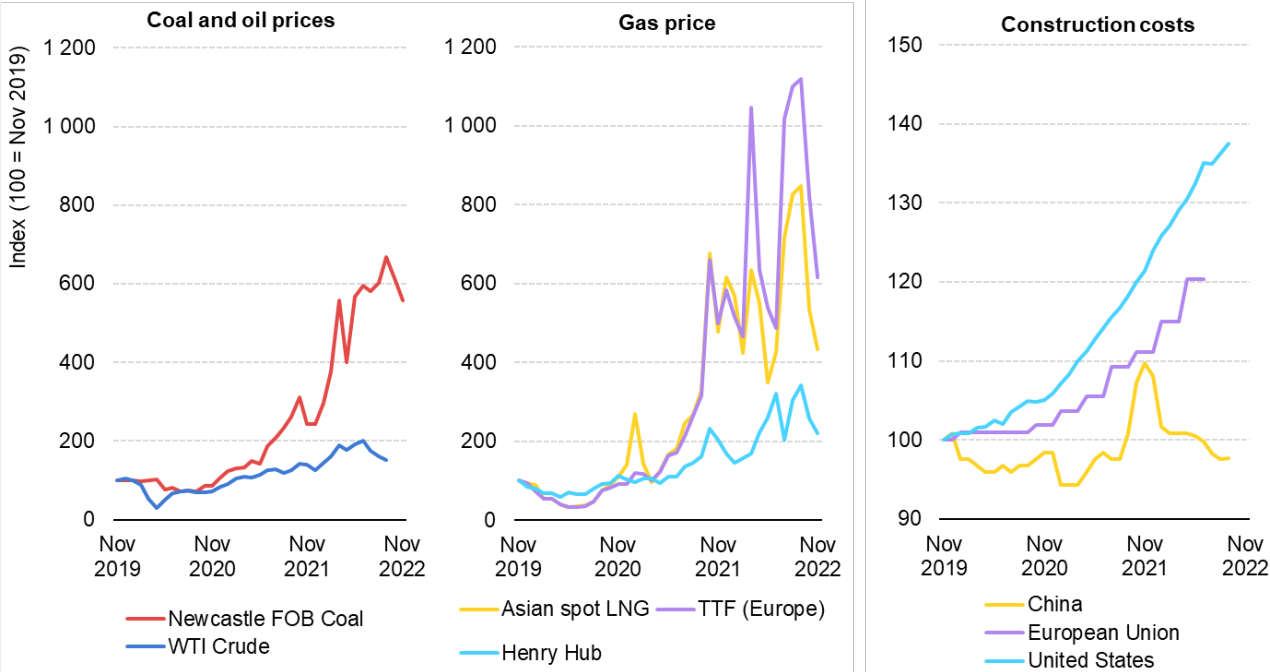
1. Recent trends in energy efficiency markets
2. Role of energy efficiency in addressing the energy crisis
3. Special focus chapter on ASEAN



Energy crisis is putting the spotlight on the efficiency agenda

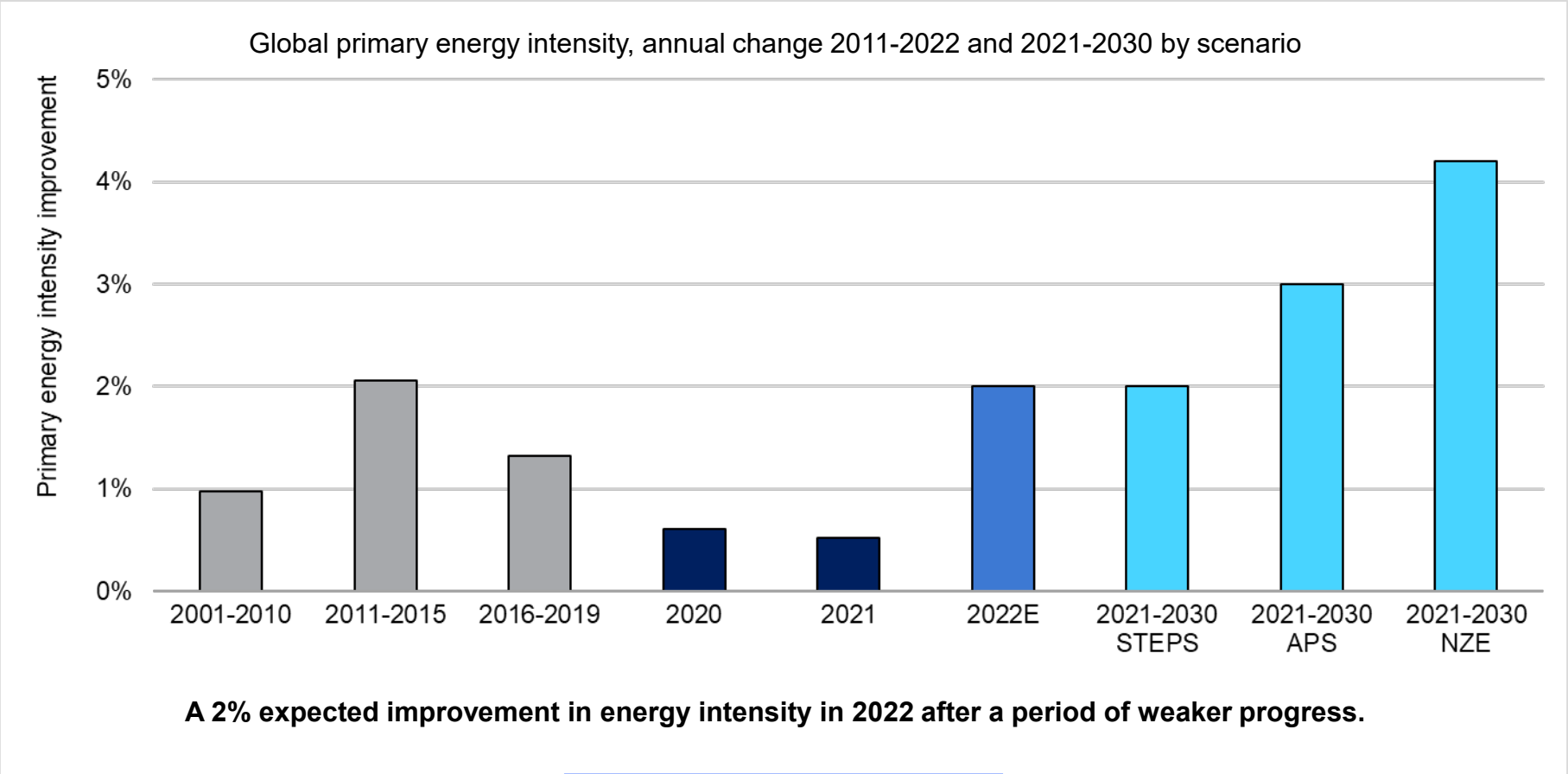


Wholesale energy price and construction cost indices 2019-2022



Governments are turning to efficiency as it can simultaneously meet affordability, security and climate goals.

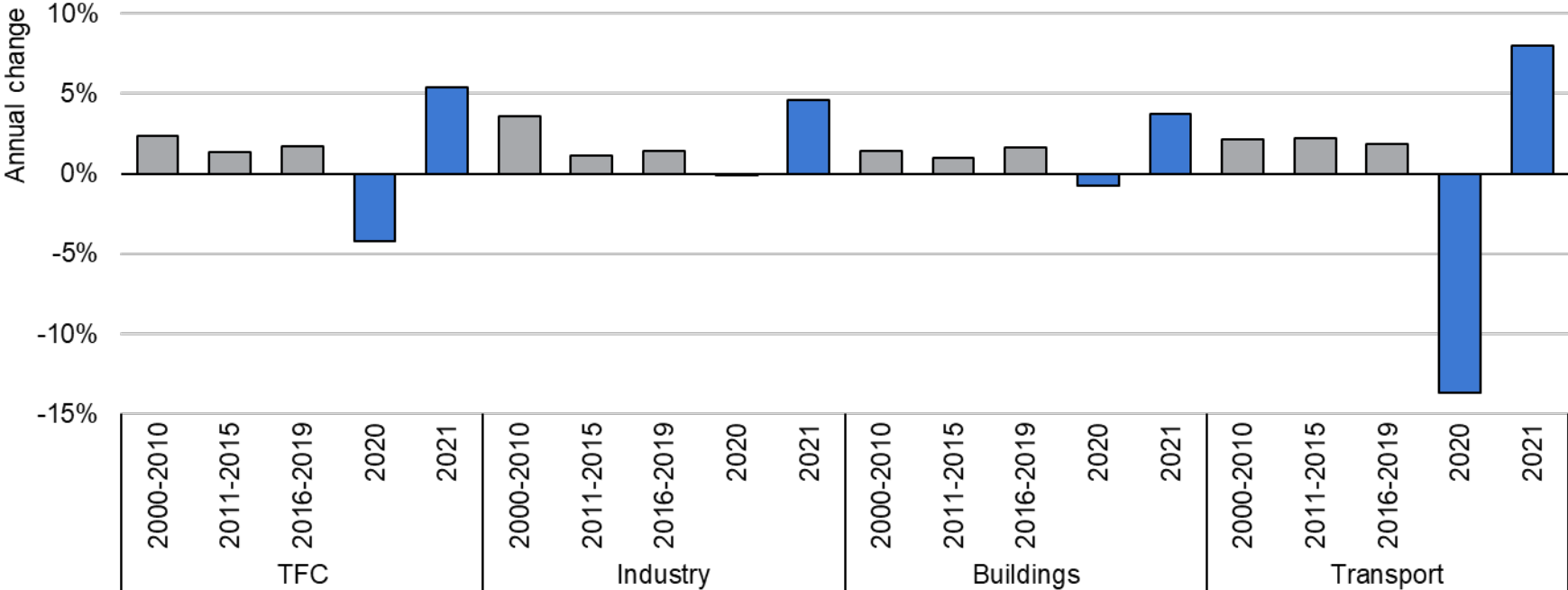
Emerging signs of a turning point for energy efficiency in 2022



Energy demand growth slower after Covid-recovery year



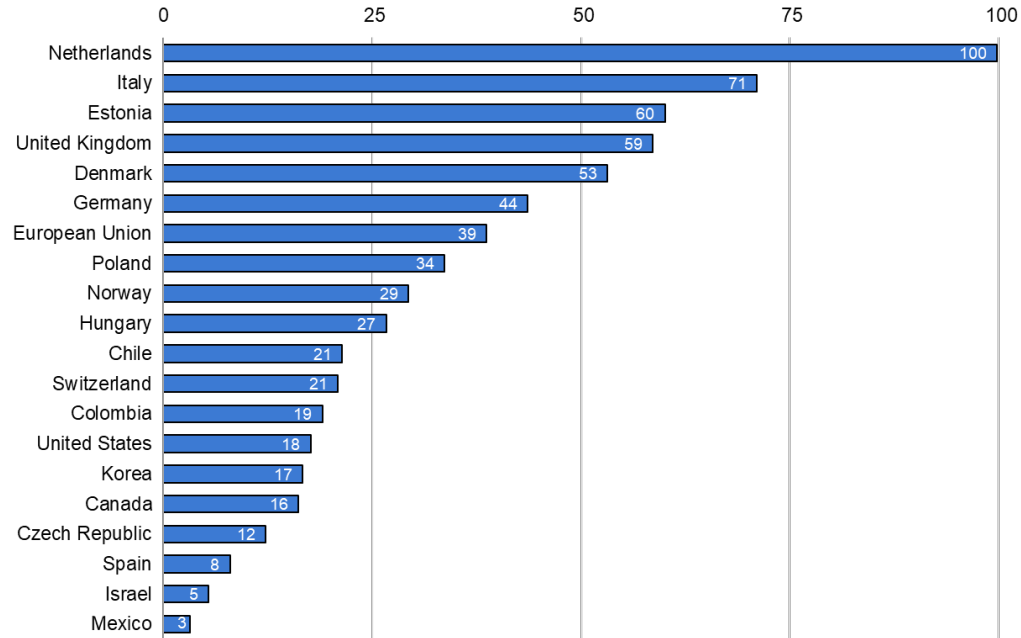
Change in global energy consumption by sector, 2000-2021



Energy crisis dampening energy demand growth after one of the largest increases in 50 years.

High fossil fuel prices are a major concern globally causing hardship

Energy price inflation, year-on-year change, October 2022

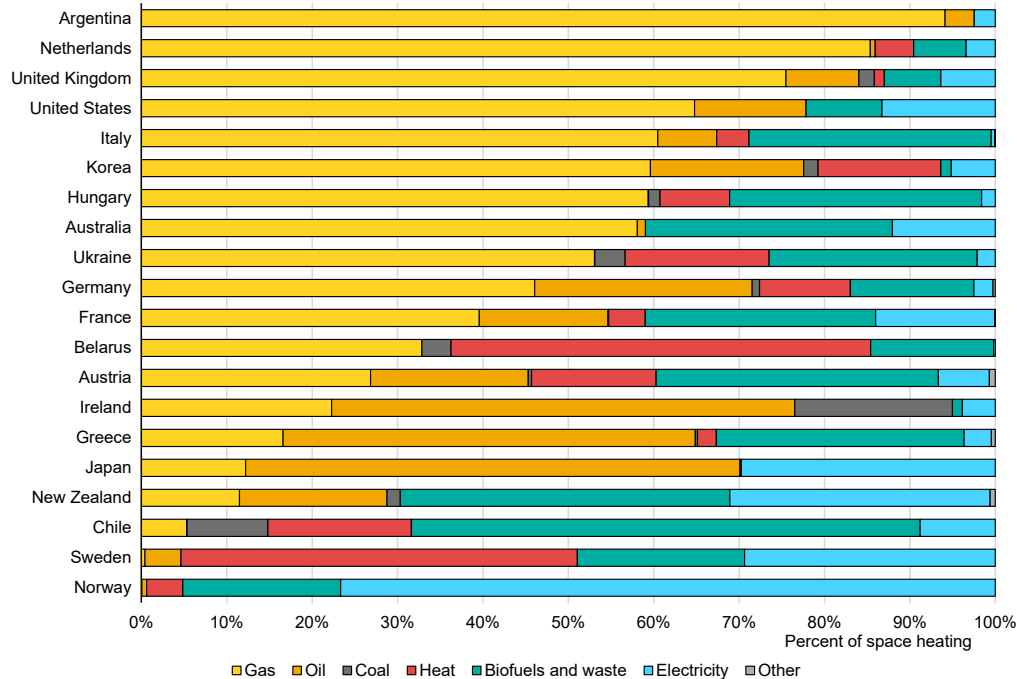


Governments have allocated more than USD 550 billion in temporary support to help with affordability this year

Natural gas accounts for 40% of residential heating demand globally



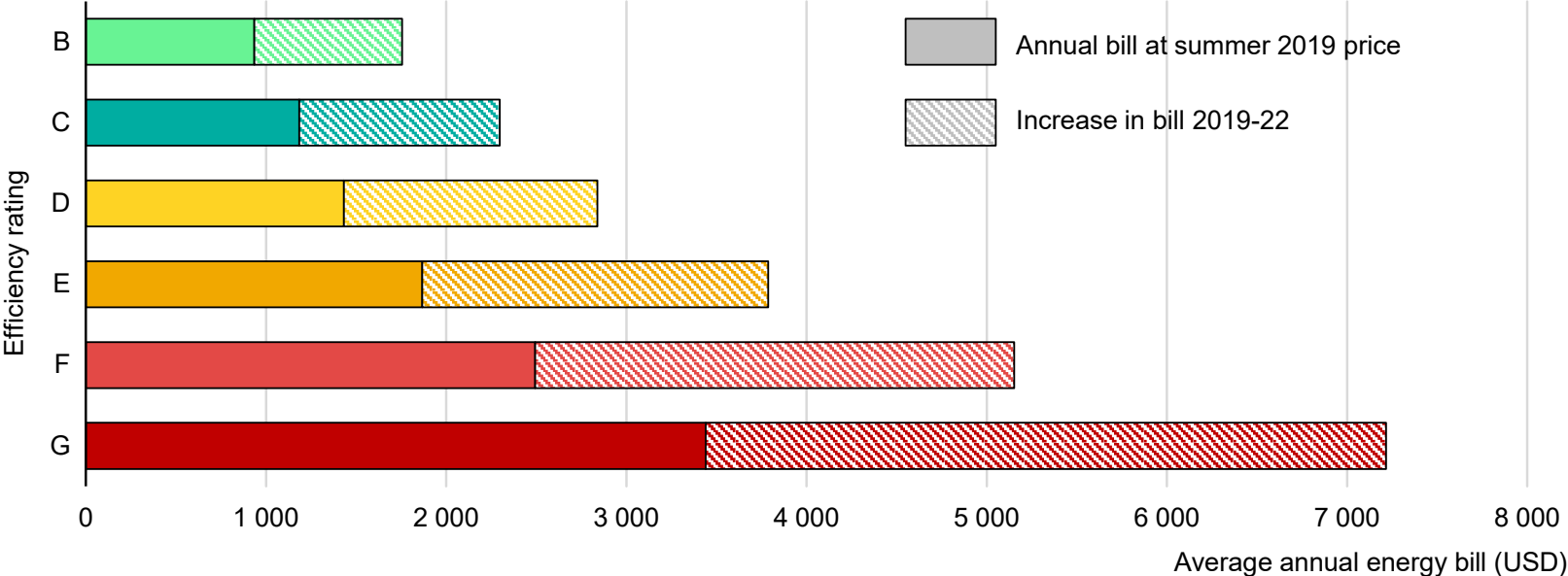
Residential heating energy demand by fuel source, selected countries, 2020



Countries accounting for 80% of residential gas demand in Europe have plans to ban new gas heating connections

Efficiency measures are the first-best policy to reduce bills

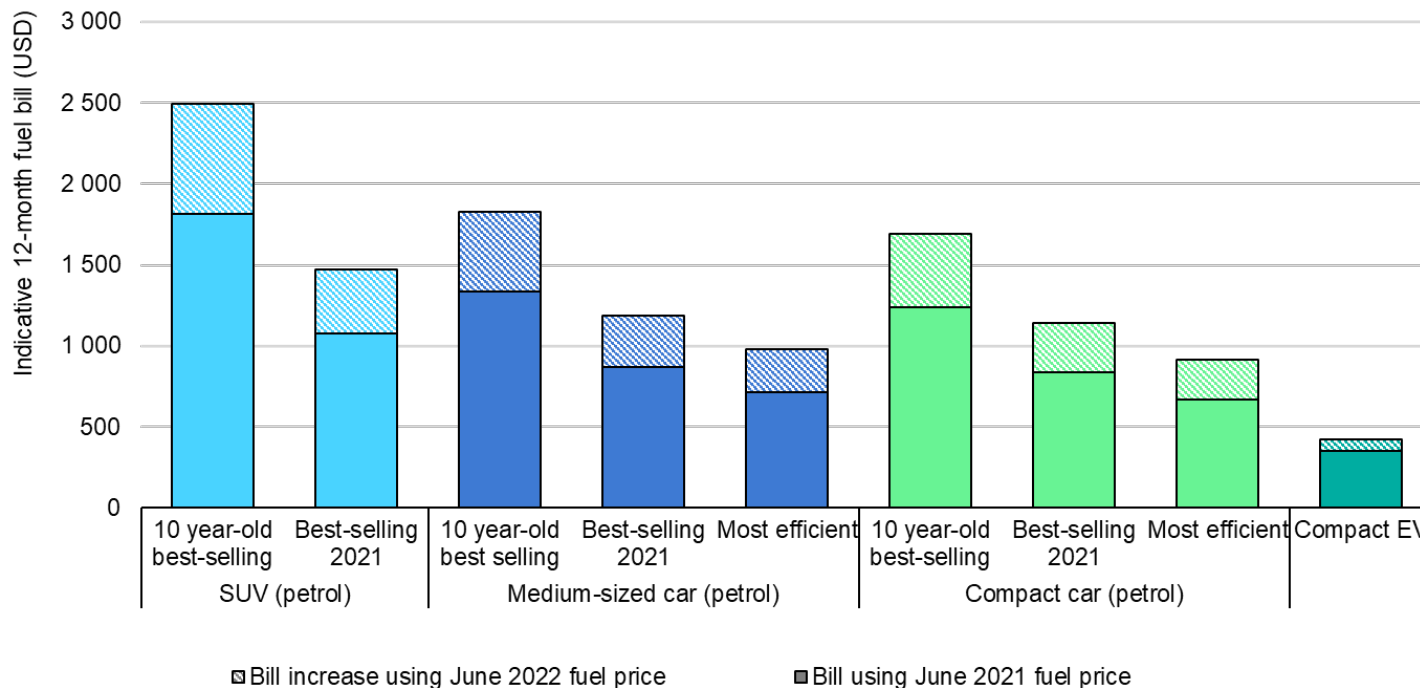
Household energy bills by EPC rating, United Kingdom, 2019 and 2022



Consumer running costs are commonly 40% lower for more efficient buildings, and as much as 75%.

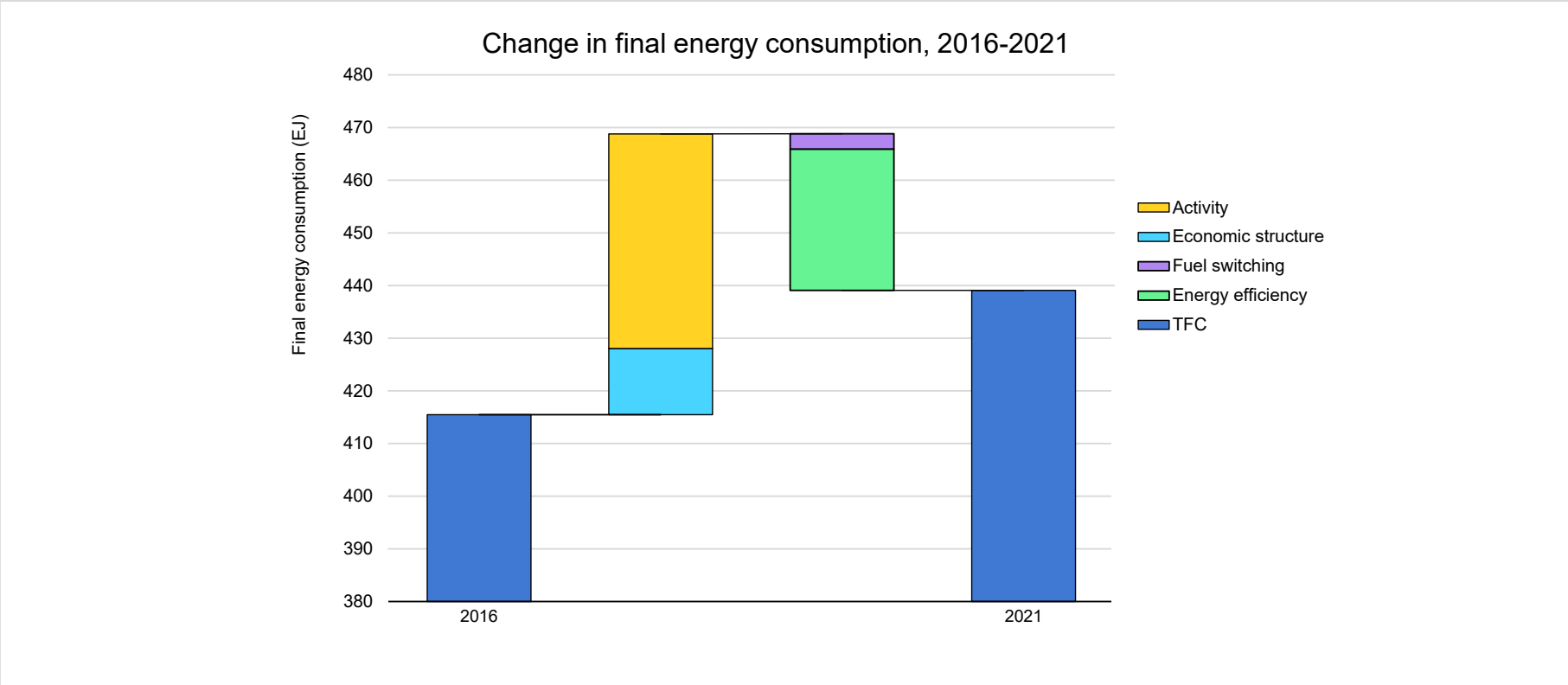
People driving inefficient cars pay substantially more

Fuel bills for different personal vehicle types in Europe, June 2021 and June 2022



**New more efficient cars can be around 40% cheaper to run than less efficient models in the same class
EVs can offer over 50% cost savings to operate over the most efficient conventional equivalent**

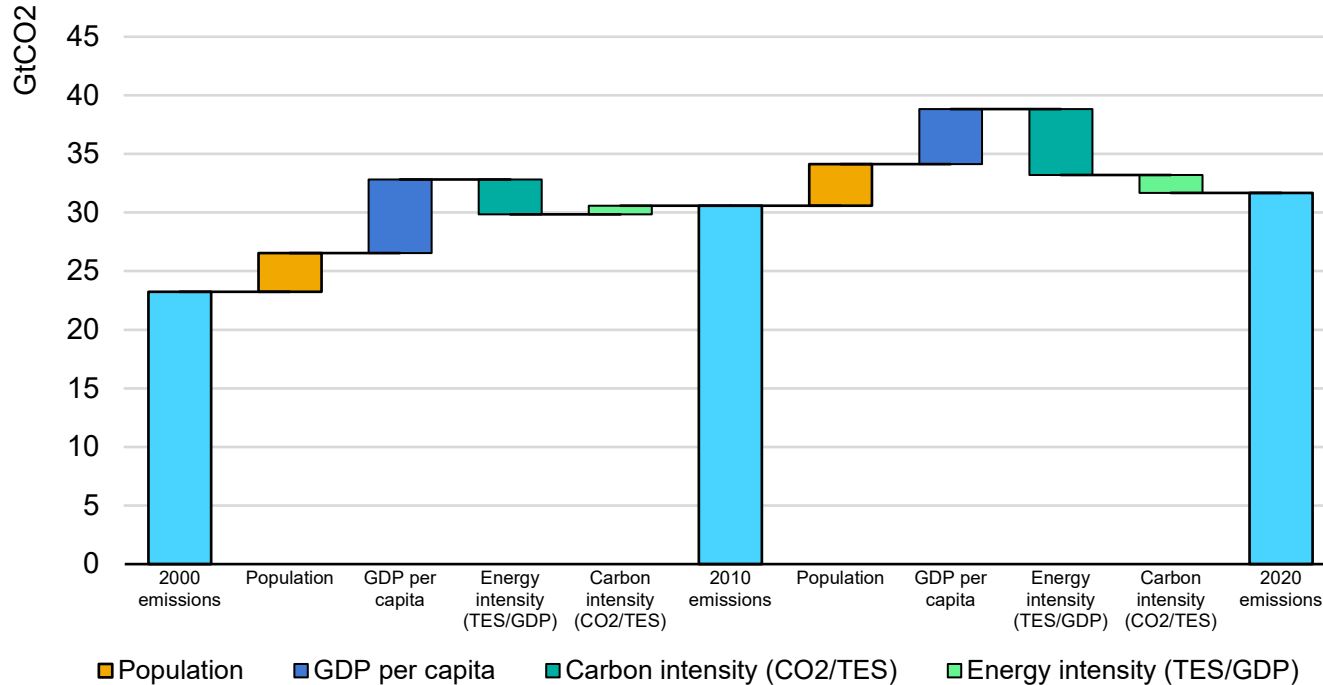
Efficiency also plays a key role in delivering energy security



Efficiency gains have halved the potential growth in global energy demand over the last six years. In IEA countries efficiency actions taken over the last 20 years are reducing energy bills by USD 680 billion this year.

Without efficiency gains CO2 emissions would be 30% higher today

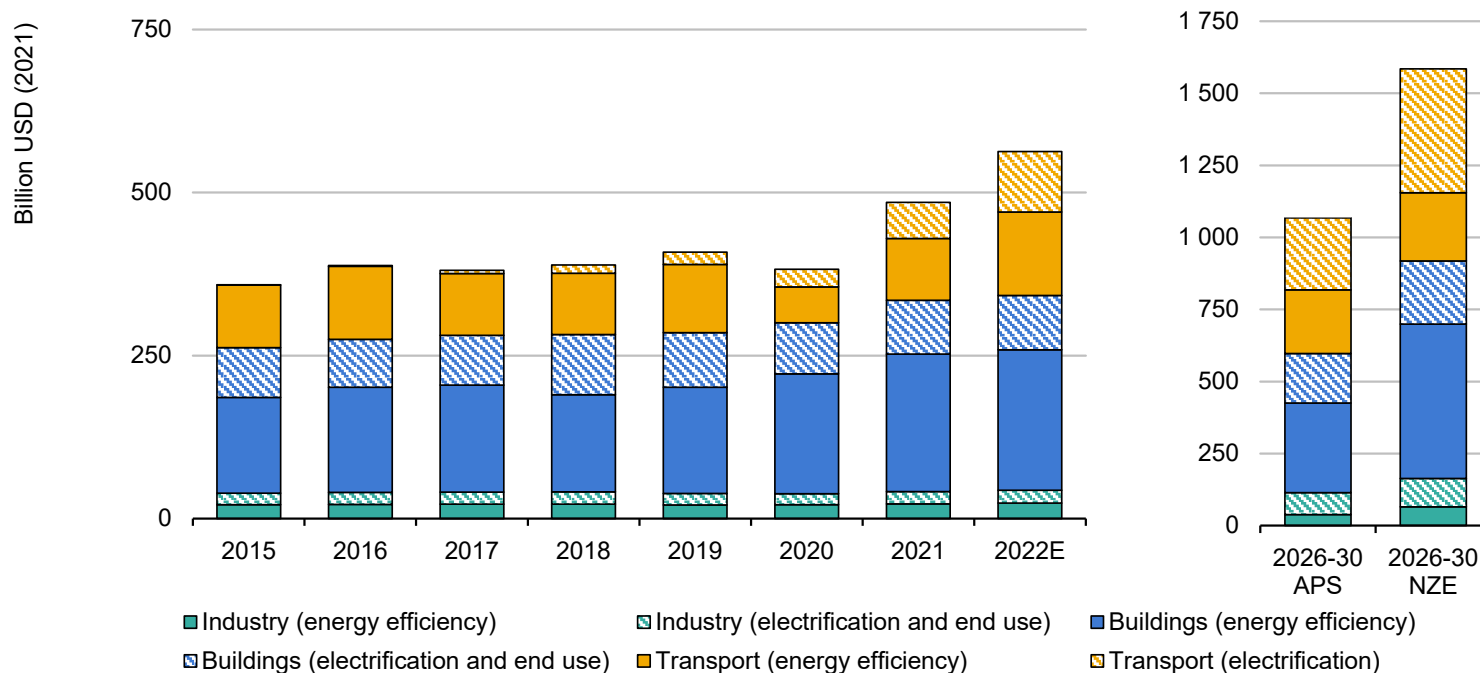
Global CO2 emissions from fuel combustion and drivers, 2000-2020



Improvements to energy intensity have offset half the emissions growth from higher incomes and population.

Global efficiency-related investment up 16% in 2022

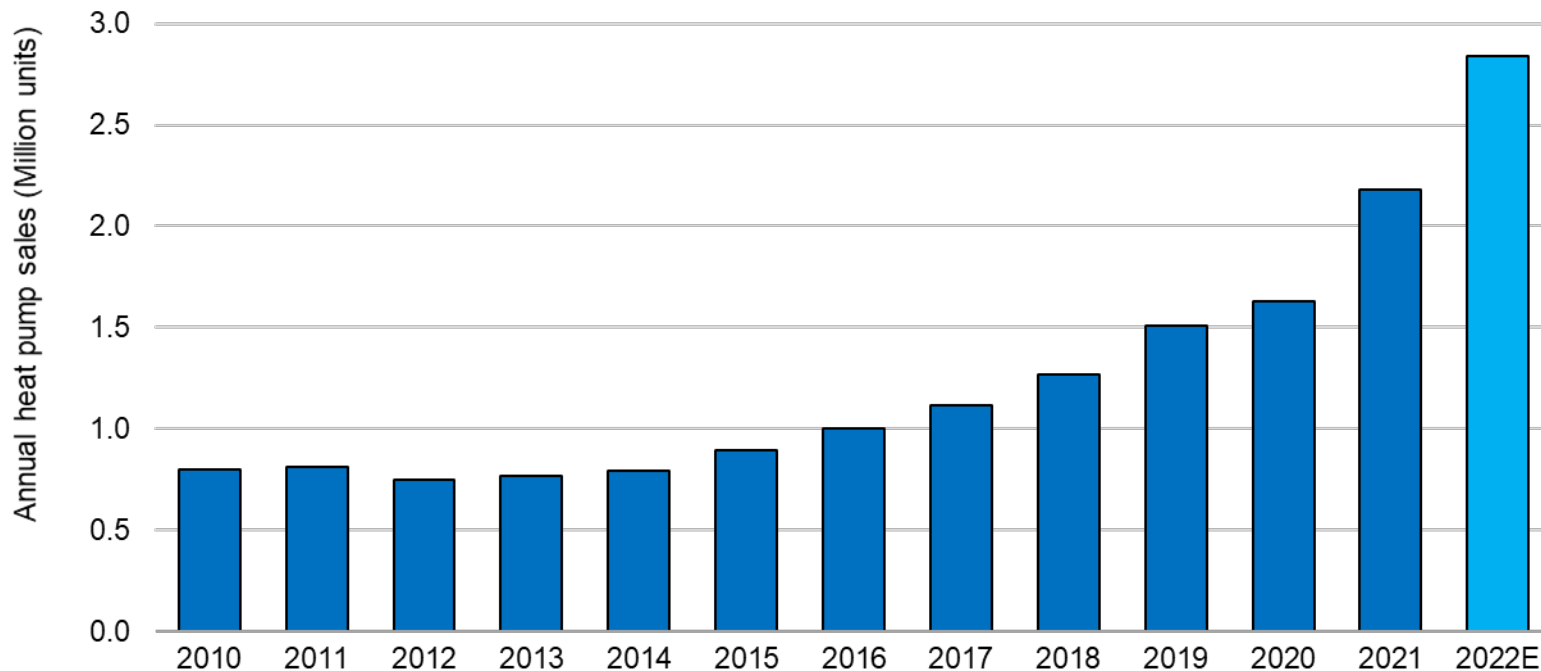
Energy efficiency investment, 2015-2022 and average annual investment needs 2026-2030 by scenario



Transport efficiency investment up by 47% in 2022 led by electric vehicle sales
Recent policy announcements will boost investment in all sectors

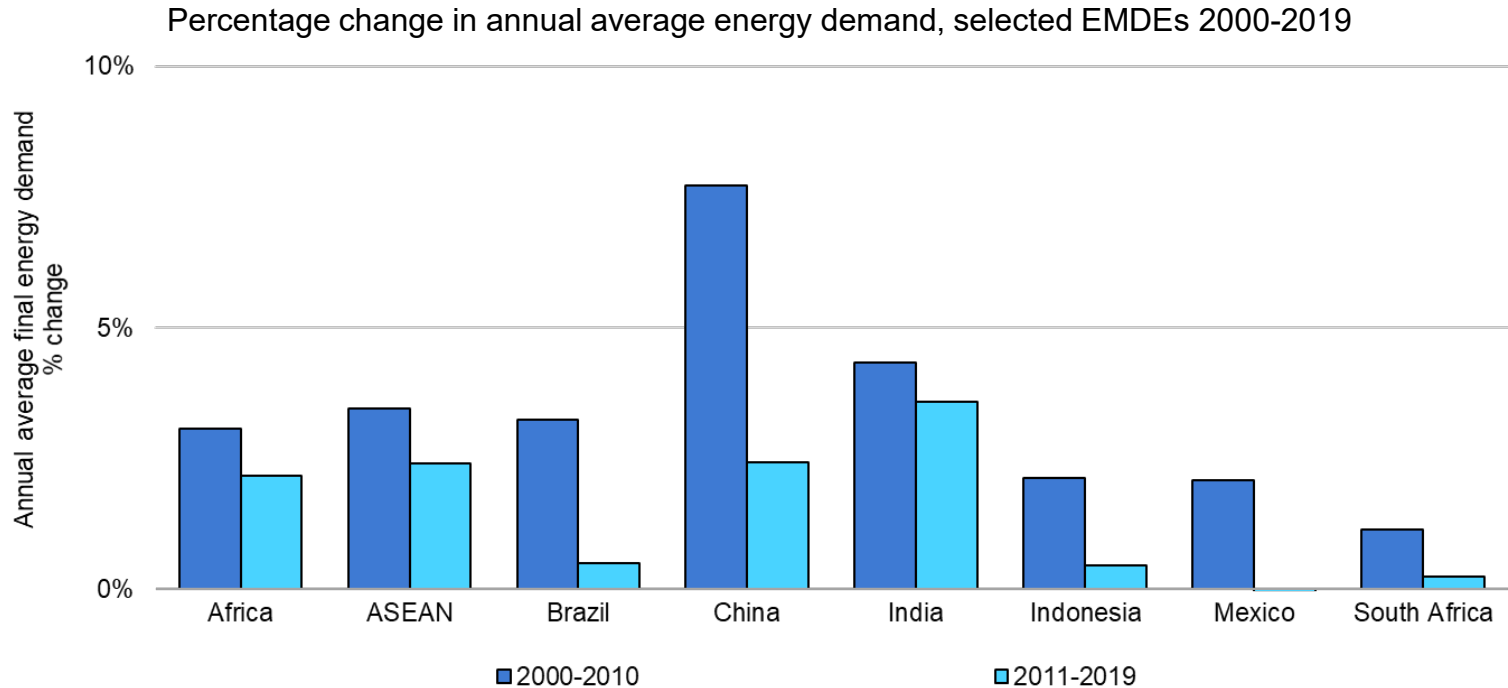
European heat pump sales have been growing strongly

Heat pump sales in selected European countries



Continued strong growth of around 30% in 2022 being driven by incentive programmes
Increasing heat pump sales to 4 million units per year by 2025 can reduce EU annual gas consumption by 7 bcm

The largest efficiency opportunities of the future will be in EMDEs



EMDEs account for around 260 EJ or 60% of final energy demand where an average person uses three times less energy in their home and four times less energy for transport



ASSOCIATION
OF SOUTHEAST
ASIAN NATIONS

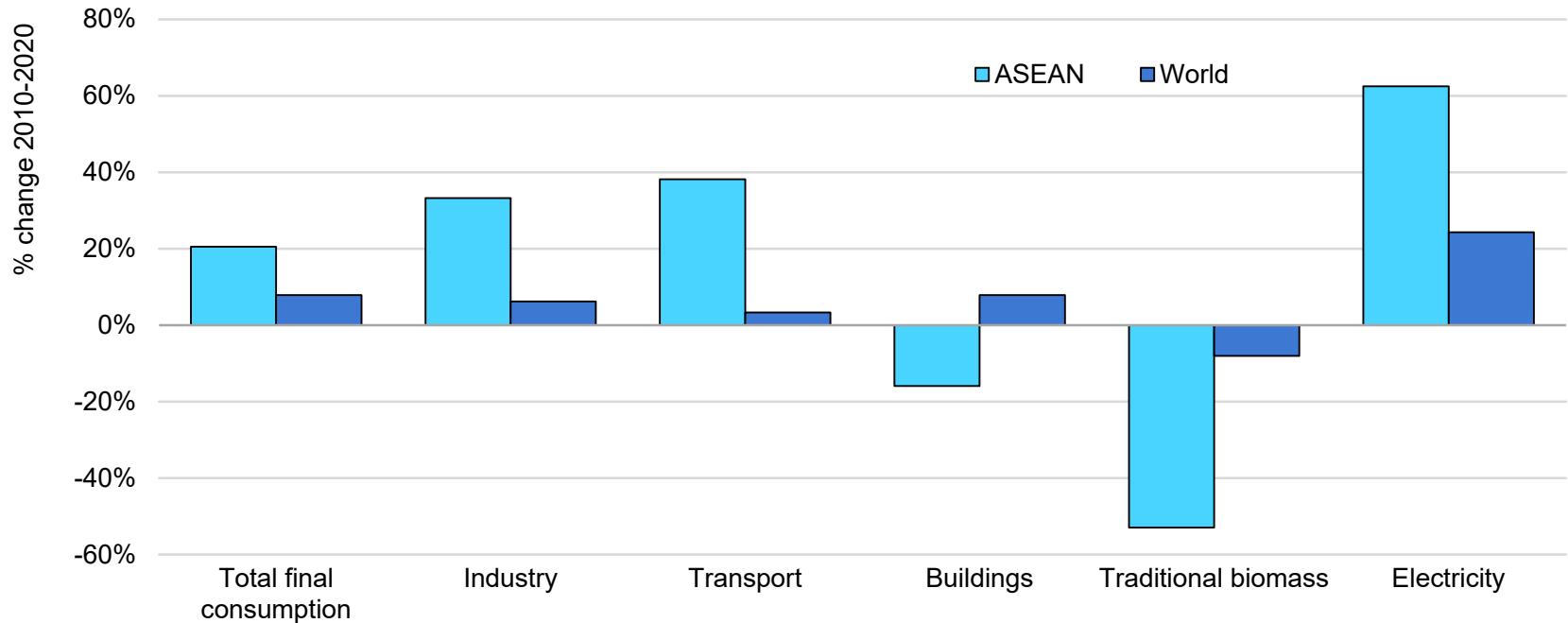
A COMMUNITY OF
OPPORTUNITIES FOR ALL

- ASEAN is home to more than 660 million people.
- Most of the economies have doubled in size over the past two decades, and it is moving towards becoming one of the largest regional market for goods and services in the world.
- At the same time energy demand has been growing by around 3% per year – with energy demand also doubling over the last two decades.
- Three-quarters of growth in energy demand between now and 2030 is expected to be met by fossil fuels under current policy settings.

Indonesia
Malaysia
Philippines
Singapore
Thailand
Brunei Darussalam
Viet Nam
Lao PDR
Myanmar
Cambodia

Energy demand is growing rapidly in the ASEAN region

Energy consumption trends in ASEAN and World, % change 2010-2020



Demand is being driven by increased wealth and access to energy services.

- Access to clean cooking technologies has almost quadrupled during the past 2 decades, reaching 70% of the population but more than 200 million people in the region, mainly in rural areas, are being left behind.
- The World Bank values the negative impacts related to health, gender inequality, and environmental issues linked to the lack of the universal access to clean cooking at USD 280 billion per year.

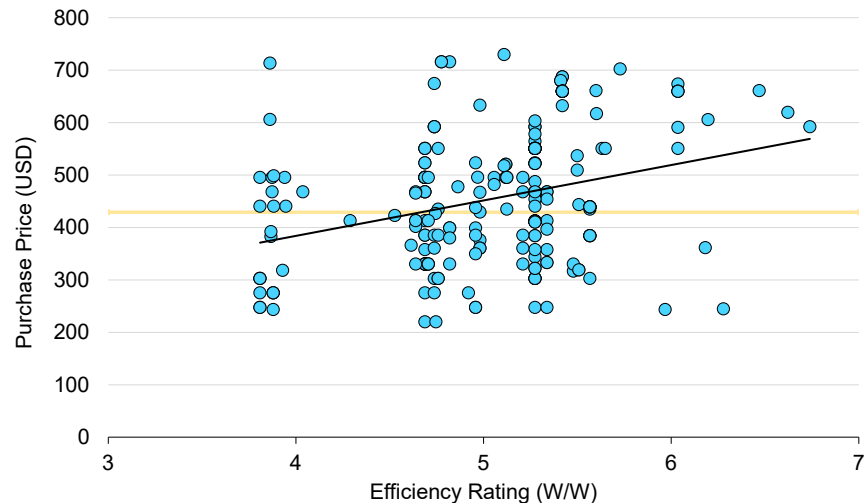


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In the last year, due to the Covid-19 and energy crises, 100 million more people may no longer be able to cook with clean fuels and 70 million can no longer afford electricity

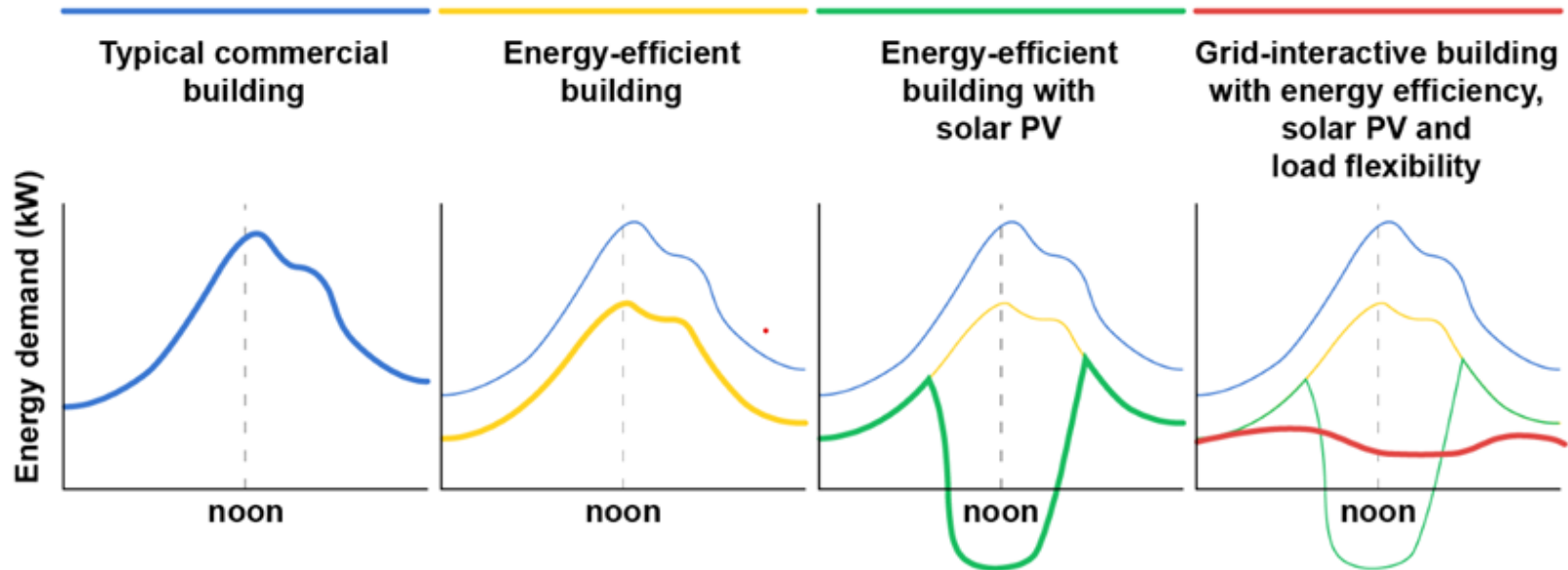
- Space cooling is among the fastest growing end uses in the region, with electricity consumption expected to more than quadruple by 2040.
- Market data shows that more efficient cooling systems are not necessarily more expensive.

AC energy efficiency versus purchase price, Thailand, 2022



Policy action on more efficient ACs, fans and building envelopes could reduce space cooling energy use by over one-third by 2040

Grid interactive buildings provide flexibility and efficiency



Grid interactive buildings and smart charging for EVs can help to manage the expanding share of variable renewable energy and increasing peak demand

Efficiency and electrification are key to the future of ASEAN transport

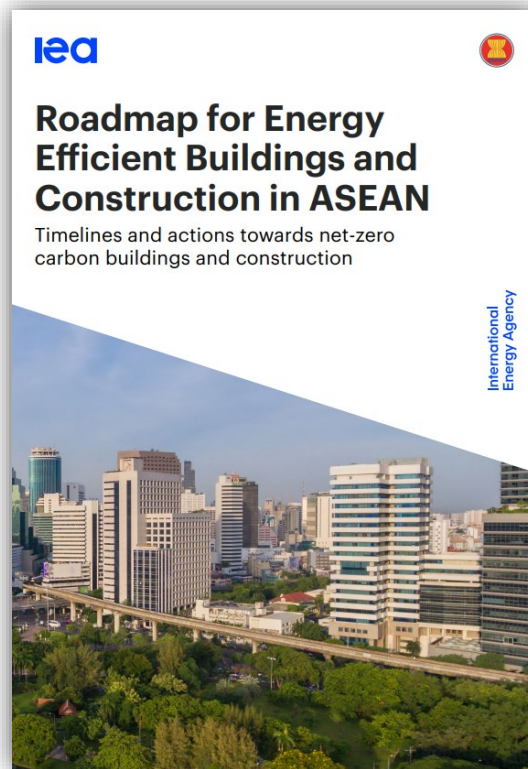
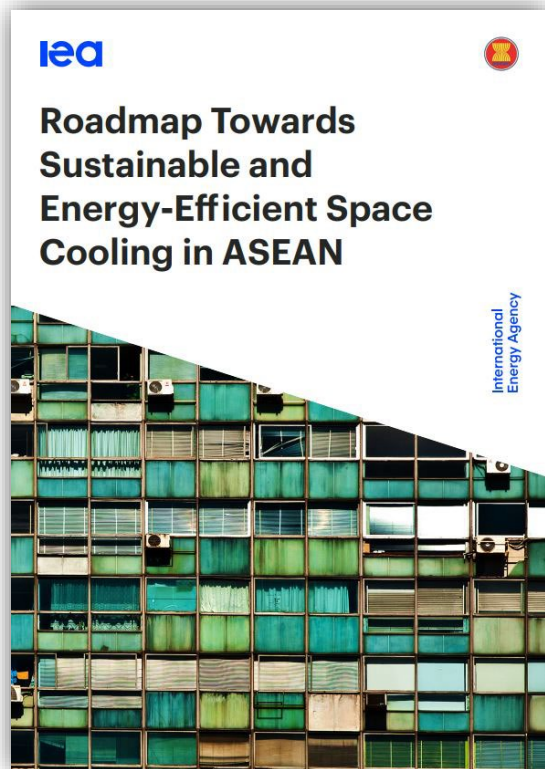
- Globally fuel economy standards play a key role in reducing future oil requirements in the transport sector.
- However, so far none of the ASEAN member states have adopted fuel economy or CO2 emission standards for any modes of transport.
- Two- and three-wheelers are key transport modes in ASEAN countries and provide opportunities for electrification.



[Image source:](#) EIAS



[Image source:](#) Reglobal



Interactive Online Training

Singapore-IEA Regional Training Programme on Efficient Grid-Interactive Buildings

5-7 July 2022
8am - 12pm Paris / 2pm - 6pm Singapore

The image shows an aerial view of Singapore's skyline, including the Marina Bay Sands hotel and the Esplanade - Theatres on the Bay.

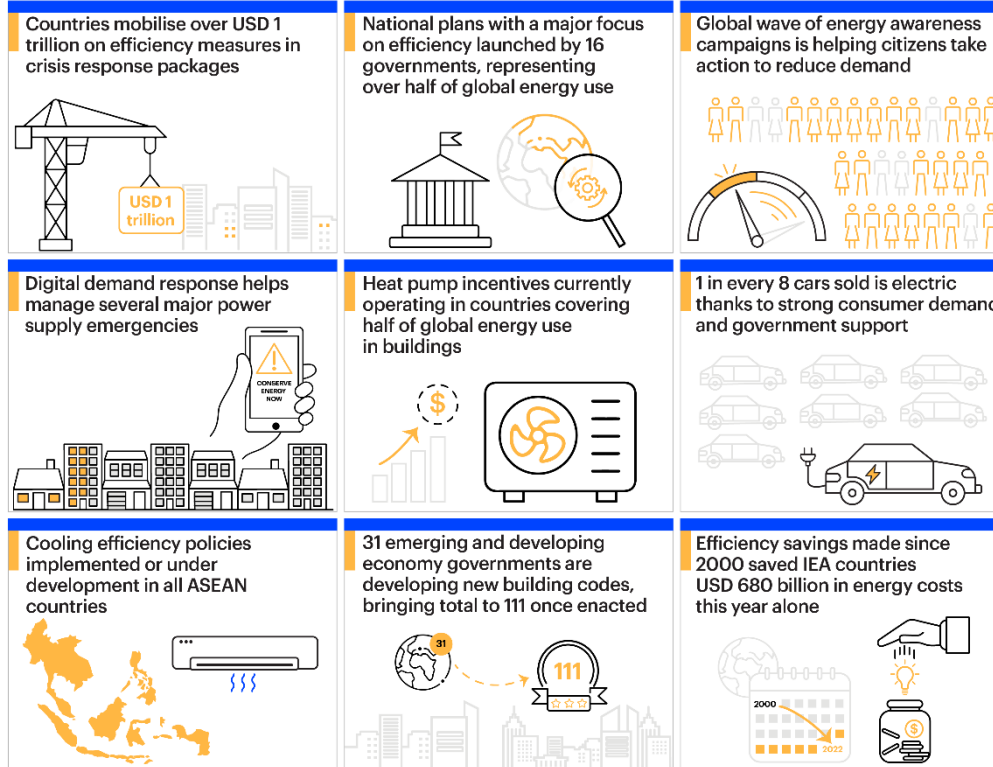
Self-paced Online Course

IEA
EE6

Singapore-IEA Regional Training Programme on Efficient Grid-Interactive Buildings

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Will 2022 see a turning point for energy efficiency progress?



Many hopeful signs through new policy focus, but challenges remain

- The 7th conference held in Denmark, June 2022
- 26 governments issued a joint statement, “calling on all governments, industry, enterprises and stakeholders to strengthen their action on energy efficiency” and welcomed the Sønderborg Action Plan

8th Annual Global Conference on Energy Efficiency Paris, 6-8 June 2023



**Thank you
&
Questions and answers**