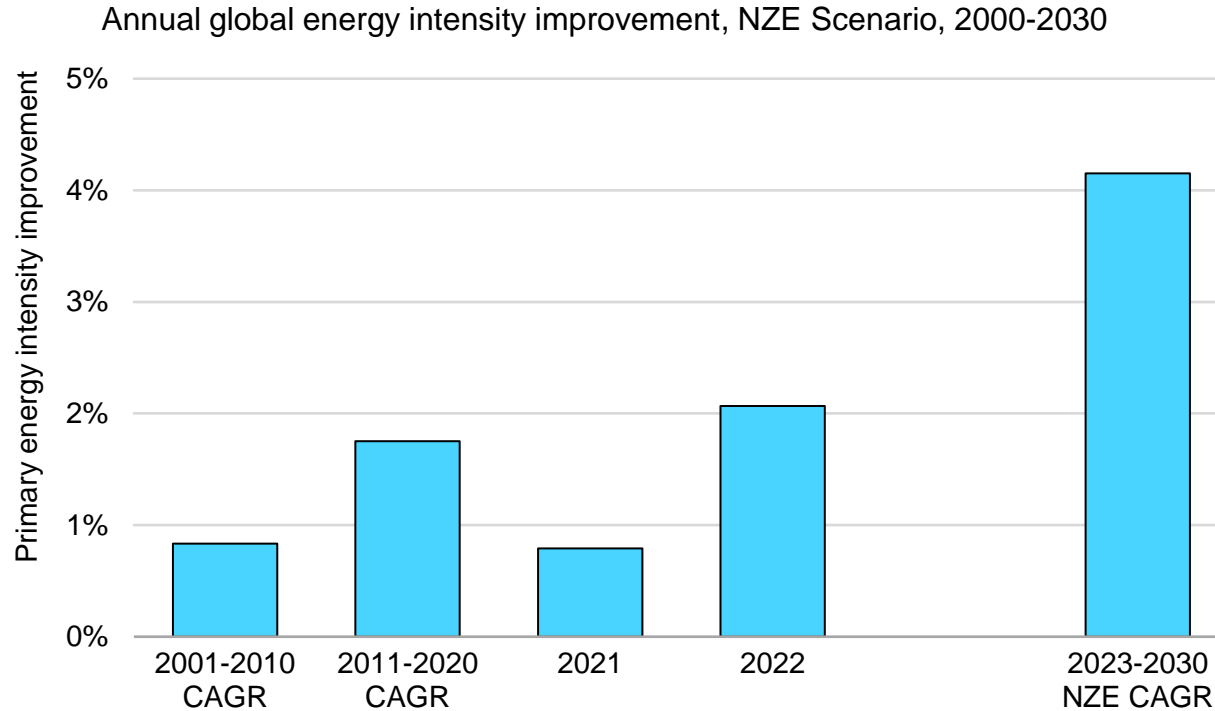




# The role of energy efficiency in meeting net zero

Conor Gask, International Energy Agency (IEA)  
Montreal Protocol Workshop on Energy Efficiency  
22 October 2023

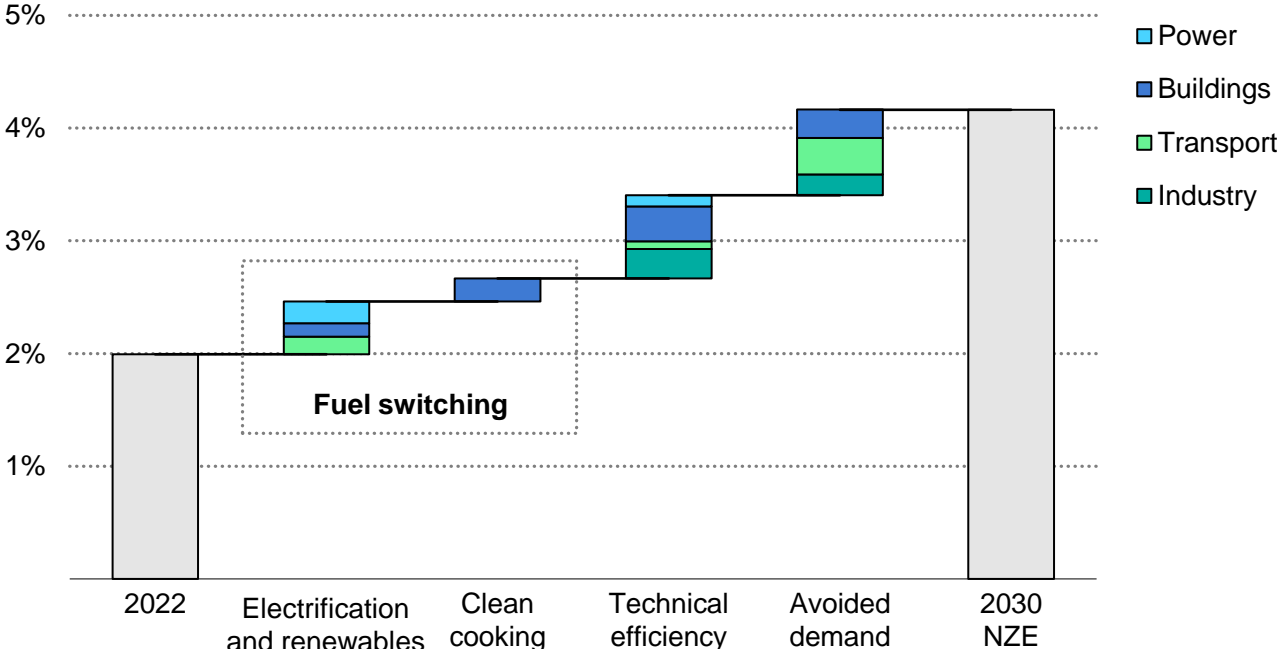
# Global energy efficiency progress needs to double by 2030



**Global efficiency progress must average over 4% annually until 2030**

# Reaching doubling requires action across a range of fronts

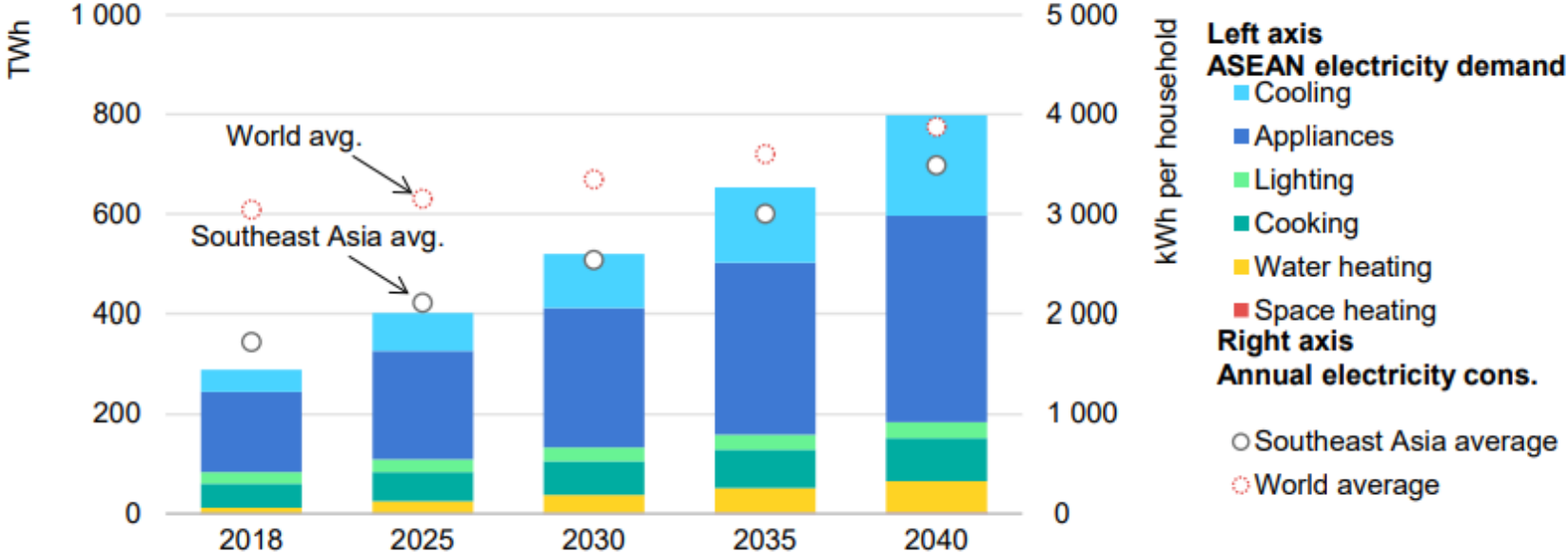
Groups of actions contributing to a doubling in the rate of annual primary energy intensity improvements in the NZE Scenario



**Several equally important actions will help governments and industry double energy intensity – fuel switching, including electrification; improving the technical efficiency of products and buildings; and avoided demand through behaviour change and materials efficiency**

# Keeping cooler in a hotter world is using more energy

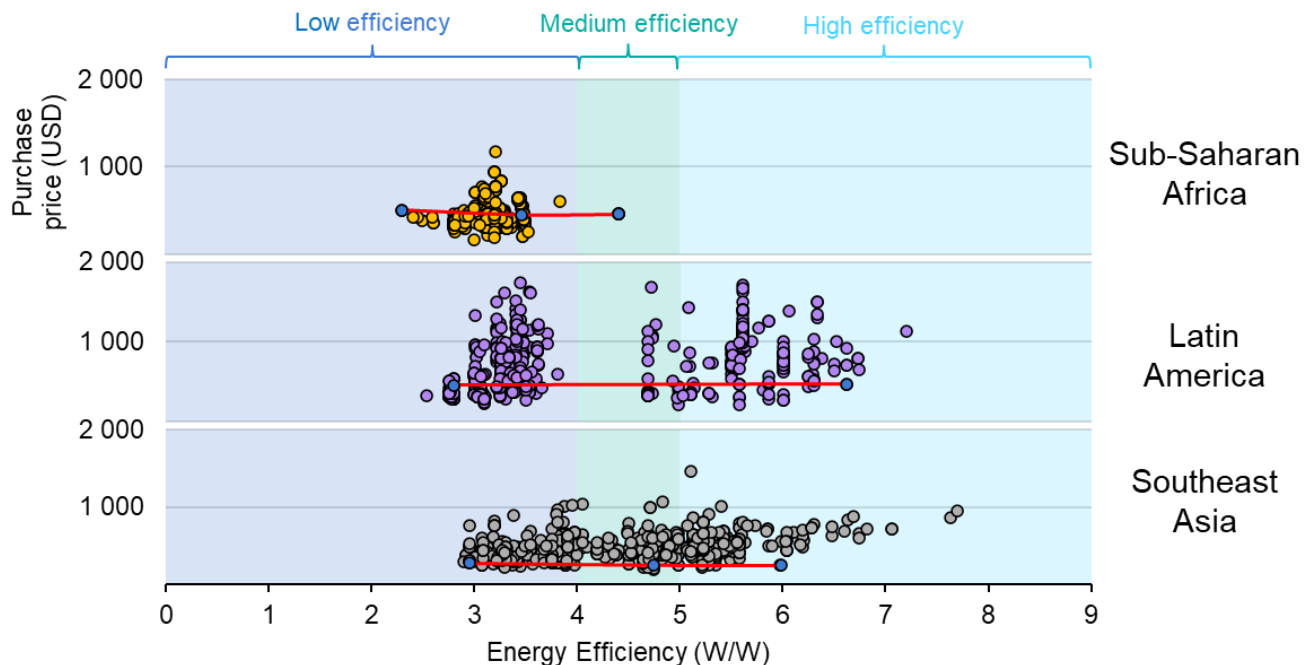
Electricity demand for residential end uses, ASEAN



**Need for thermal comfort and increasing temperatures are driving electricity demand in ASEAN**

# Increased efficiency does not necessarily mean higher costs

Air conditioners (wall-mounted type) efficiency and cost in Latin America, Southeast Asia, and sub-Saharan Africa, 2023.



**Highly efficient air conditioning models are as affordable as less efficient devices in Latin America and Southeast Asia**

Governments would achieve doubling if they adopted policies that matched

- Lighting standards in South Africa
- Building codes in Tunisia
- Air conditioner regulations in China
- Car fuel economy standards in the United States
- Electric motor regulations in the European Union
- Policies for heavy industry in India

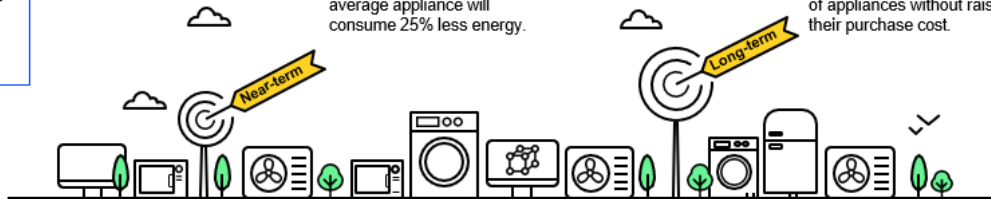
## Policy Package – Appliance Energy Efficiency

### Immediate opportunities

In most cases, it is possible to buy appliances that are twice as efficient as those typically purchased.

In the IEA Net Zero Scenario milestone for 2030 the average appliance will consume 25% less energy.

Long-term appliance policies can halve the consumption of appliances without raising their purchase cost.



### REGULATION

- **Minimum Energy Performance Standards** exclude the least efficient products from the market; they should be in line with international best practice, while reflecting local circumstances; and be regularly updated. Regulations are essential for moving the market towards the best available technology in line with achieving net zero targets.
- **Regulation** can ensure that new appliances are demand response ready in order to offer flexibility to the end-user and the overall system and reduce peak demand.
- **Regulating the import and performance of used appliances** can help avoid inefficient appliances entering the market.



### INFORMATION

- **Comparative labels** help consumers, to identify the most efficient appliances and encourage purchases based on life time costs. Ensuring labels are appropriately displayed is also key.
- **High Efficiency Performance Specifications** identify the best performing products and are often used as the basis for labels and incentives.
- **Education and capacity building** encourage industry and retailers to produce and supply more efficient products.
- **Consumer information campaigns** help people make informed decisions. These are most effective when based on behavioural insights and targeted strategies.



### INCENTIVES

- **Rebates, grants and other financial offers** motivate consumers to buy highly efficient appliances. These could come directly from governments or schemes such as energy efficiency obligations.
- **Finance or taxation measures** on sales and imports can encourage manufacturers to produce appliances that are more efficient.
- **Dynamic electricity pricing** helps incentivise flexible demand.
- **Product lists** help companies and households identify efficient products which are eligible for loans, tax reductions, or other financial incentives.
- **Awards** promote the most efficient appliances and equipment.

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