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Global Energy Perspective 2025

South-East Asia perspective

October 2025



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The Global Energy Perspective ten years apart: our key learnings

Deep dive next

What we believed in past decade…	…how our thinking has evolved
Oil demand decline is imminent and will happen in the mid-2020s due to rapid advances in electric road transport	**Oil demand** plateaus through early 2030s while long-term it remains material to 2050
Natural gas demand will be a transition fuel and increase to ~25% of global energy demand by 2050	**Natural gas** will be a destination fuel and continues to have a 25% share of 2050 energy mix
Coal demand has peaked in 2014 as renewables and gas are pushing coal out of the merit-order	**Coal demand to all time high** due to continued use of metallurgical coal (steel) and thermal coal in select regions
Power demand will be fastest growing energy carrier driven by electrification of transport and heat	**Power demand** continues to grow rapidly now driven by fundamental macro-economic trends and data-center boom
Renewables capacity (solar and wind) build-out will accelerate across all dimensions and regions	Solar PV repeatedly beats expectations while Wind (especially offshore) has faced significant head-winds
Hydrogen demand will scale across various sectors as production cost come down rapidly	**Hydrogen demand** growth is pushed out as cost-reductions have not (yet) met offtake requirements

Key takeaways from McKinsey's Global Energy Perspective 2025 – ASEAN focus

1 

Energy demand continues growing, primarily driven by ASEAN and India

2 

Fossil fuels, especially natural gas, are projected to remain a large share of the energy mix well past 2050 – especially in Asia

3 

Regional dynamics play a large role in scenario outcomes, with China continuing to lead in electrification and expanding its influence on ASEAN

4 

Global **power demand** is expected to increase, driven by growth in emerging economies like ASEAN, electrification and data-centers

5 

Variable **renewable energy sources** and gas-powered generation will dominate new power supply, driven by favorable economics

6 

Clean, **firm power sources** (incl. nuclear and renewable storage technologies like batteries) are likely to grow – but required supporting regulation in ASEAN

7 

Key **alternative fuels** such as sustainable fuels and hydrogen are unlikely to see wide adoption until after 2040

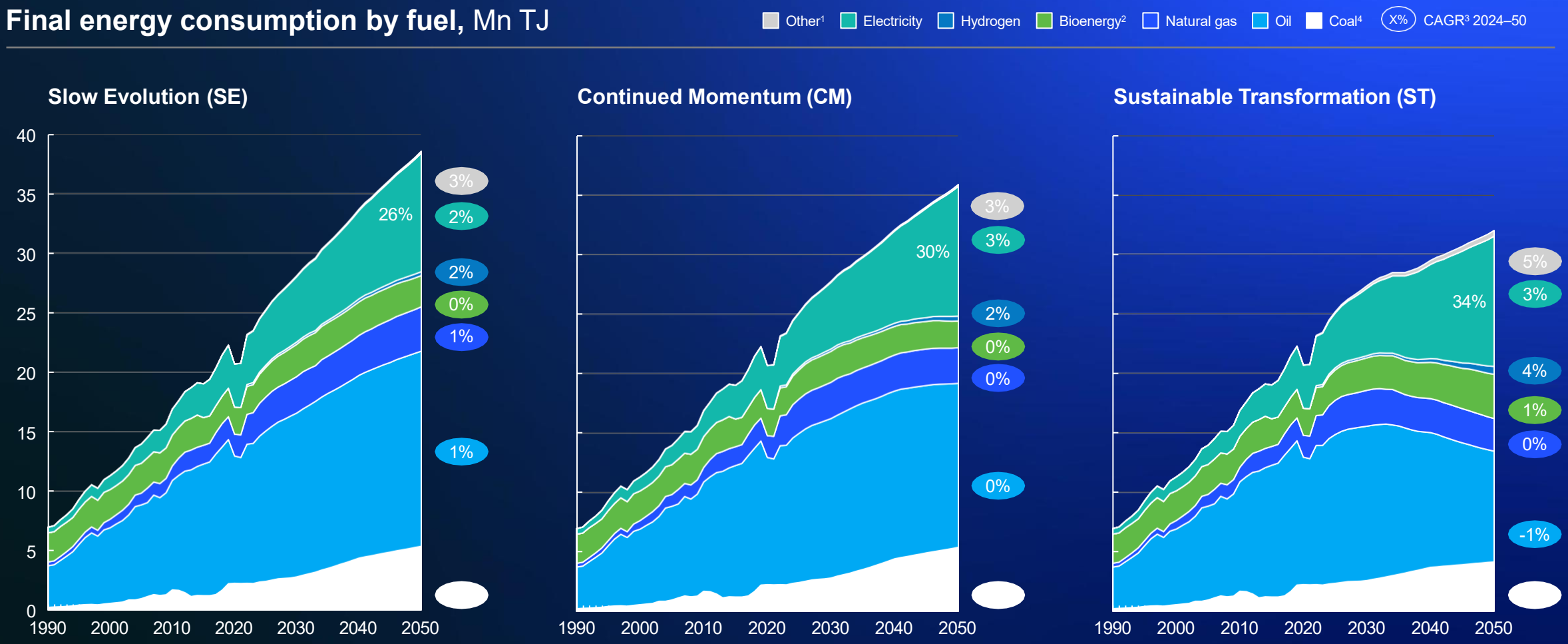
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A faster and more cost-effective approach to emission reductions could be for stakeholders to aim for a **'nearly decarbonized' system**

Energy consumption in SEA is expected to shift to 26-34% electricity by 2050, depending on scenario

Direct use of fossil fuels continue to be the majority of energy consumption in ASEAN

Final energy consumption by fuel, Mn TJ



1. Includes heat, geothermal, and solar thermal 2. Includes synthetic fuels, biofuels, and other biomass 3. Compounded annual growth rate. 4. Includes both metallurgical coal for steel-making and thermal coal for heat generation

Source: McKinsey Energy Solutions Global Energy Perspective 2025, IEA

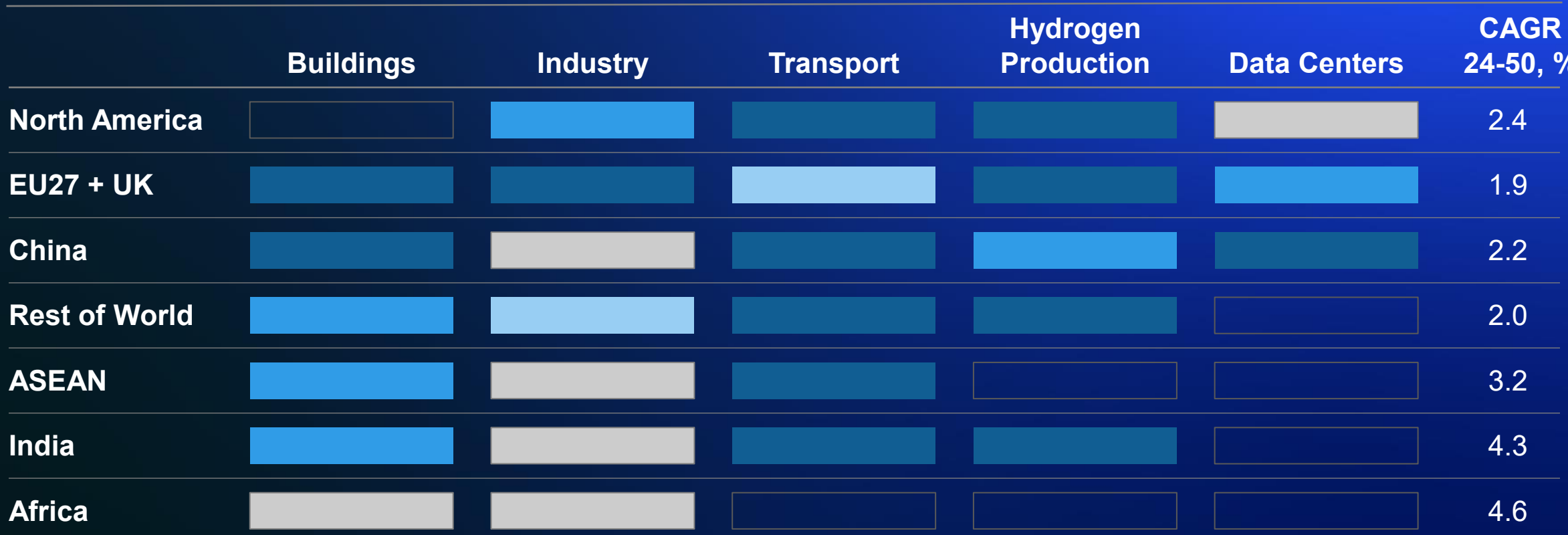
Electricity demand growth in ASEAN is amongst higher globally, driven by buildings

Increasing income in ASEAN results in increasing appliances demand, esp. AC

Continued Momentum

Relative growth of sector within region: <10% 10-20% 20-30% 30-40% >40%

Global electricity consumption growth between 2024 – 2050



Source: McKinsey Energy Solutions Global Energy Perspective 2025

Five numbers to remember for Asia/ASEAN with many more insights in our full Global Energy Perspective 2025 report available online

>80%

Share of net growth in energy demand coming from Asia, primarily India and ASEAN

>2x

Growth in electricity demand in ASEAN projected between 2025 and 2050

75%

Of new gas demand by 2040 is accounted for by Asia

25-35%

Share of electricity in energy consumption in ASEAN by 2050; rest remains direct use of fossil fuels

50–75%

Share of ASEAN power supply provided by renewables by 2050

Access the full GEP report here

Source: McKinsey Energy Solutions Global Energy Perspective 2025