

Charting ASEAN's energy efficient future

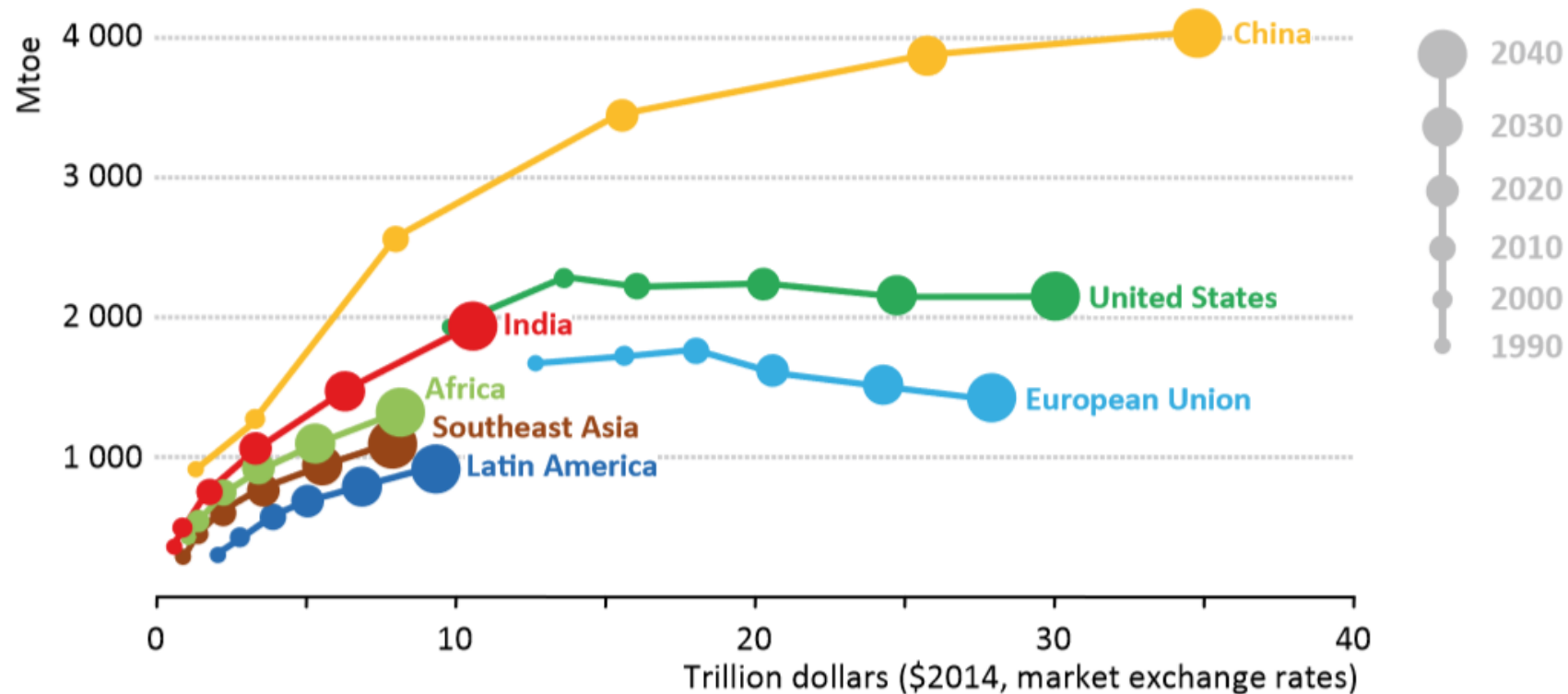
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Singapore, October 2017



Changing dynamics of global energy demand

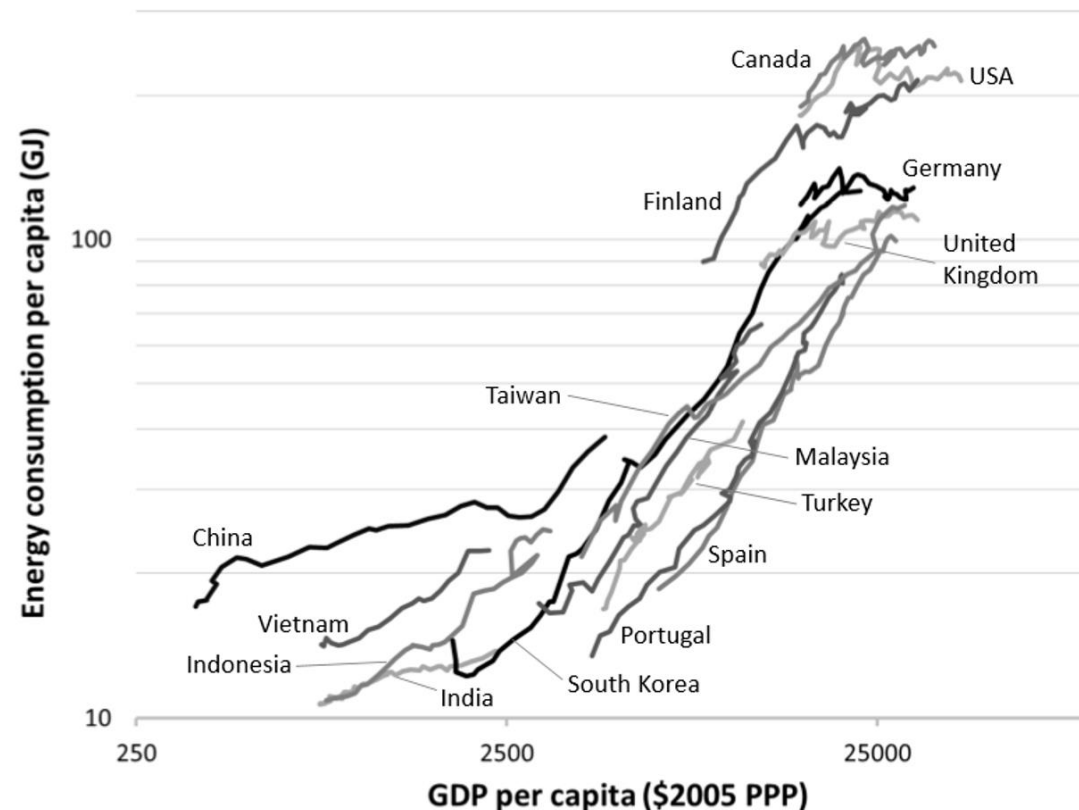
Primary energy demand and GDP by selected region in IEA New Policies Scenario (1990-2040)



Source: IEA World Energy Outlook (2015)

Can ASEAN leapfrog to an energy efficient economy?

- Despite dramatic improvements in the energy efficiency of specific technologies, economic growth in developing economies has not become less energy intensive than past growth in industrialized countries.

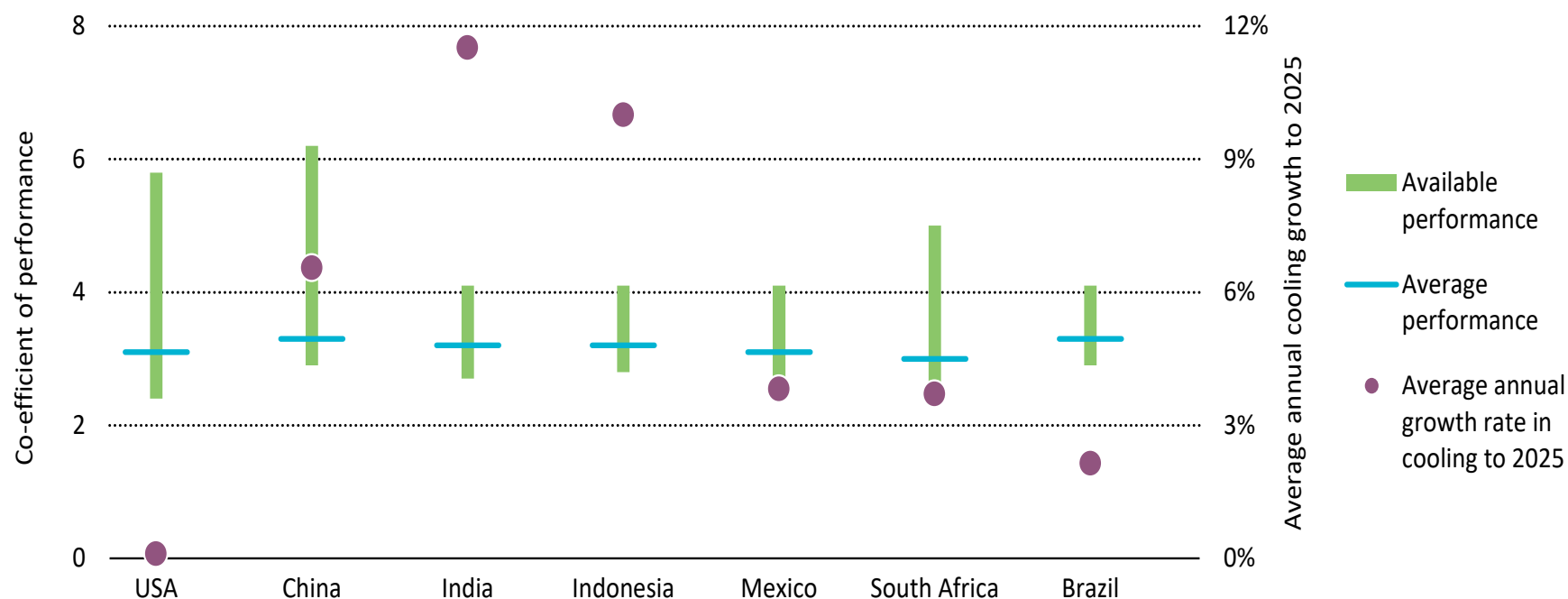


Notes: Both axes have a logarithmic scale.

Source: Van Benthem (2015)

Potential for international harmonisation of energy efficiency standards is huge

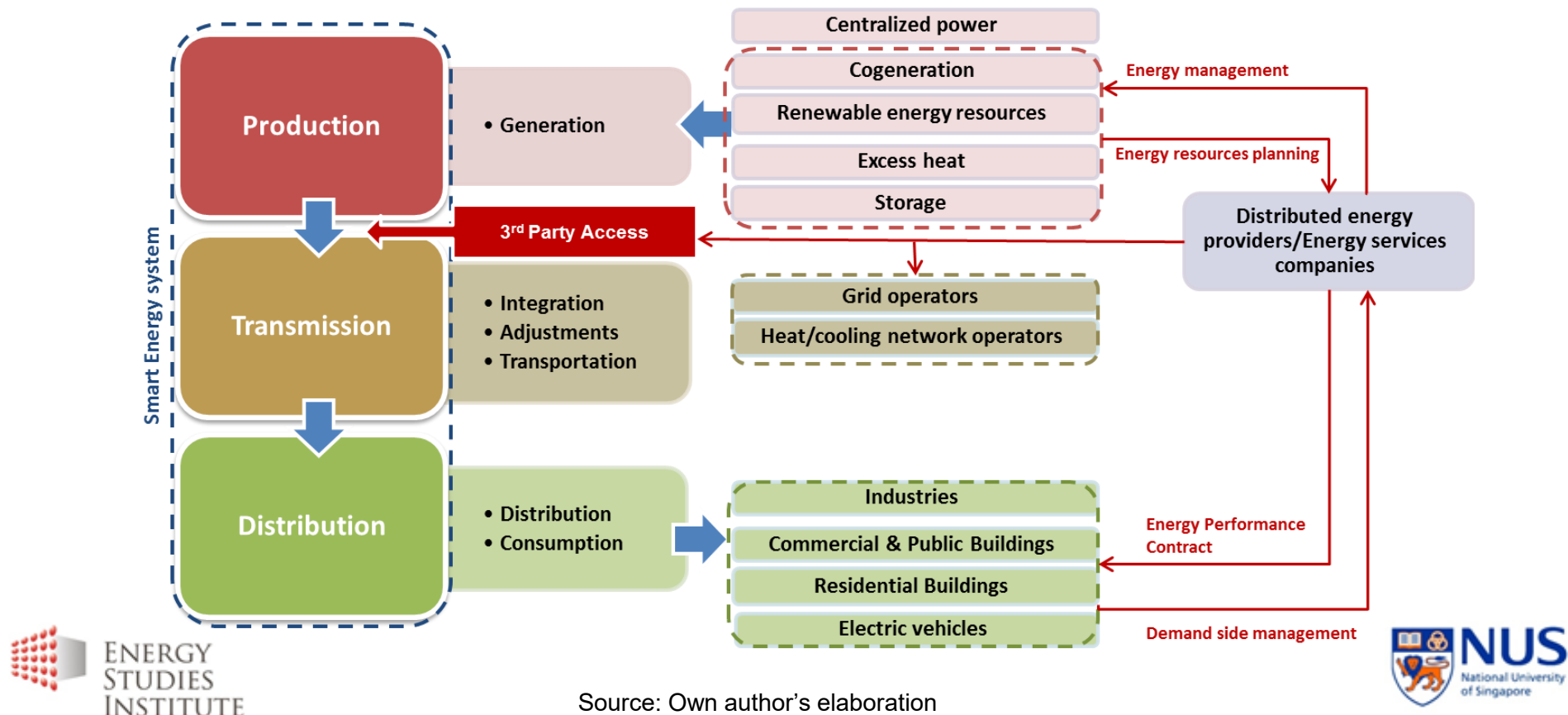
Ex: Typical energy efficiency ratios of split-package air conditioning units in 2015



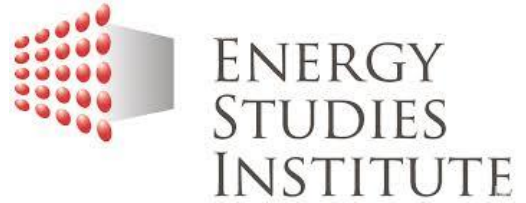
Notes: co-efficient of performance (COP) represents the energy efficiency ratio (watts in cooling equivalent per watt of electricity consumption): the higher the COP, the greater the energy-efficiency. Annual average growth in space cooling demand represents the expected change in useful cooling energy demand between 2015 and 2025. Source: IEA (2017)

System integration is essential for energy leapfrogging opportunities

- We need to unlock energy system efficiency potential by
 - Coupling heat/cooling and electricity markets
 - Incorporating distributed energy resources
 - Enabling demand-side management



Source: Own author's elaboration



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