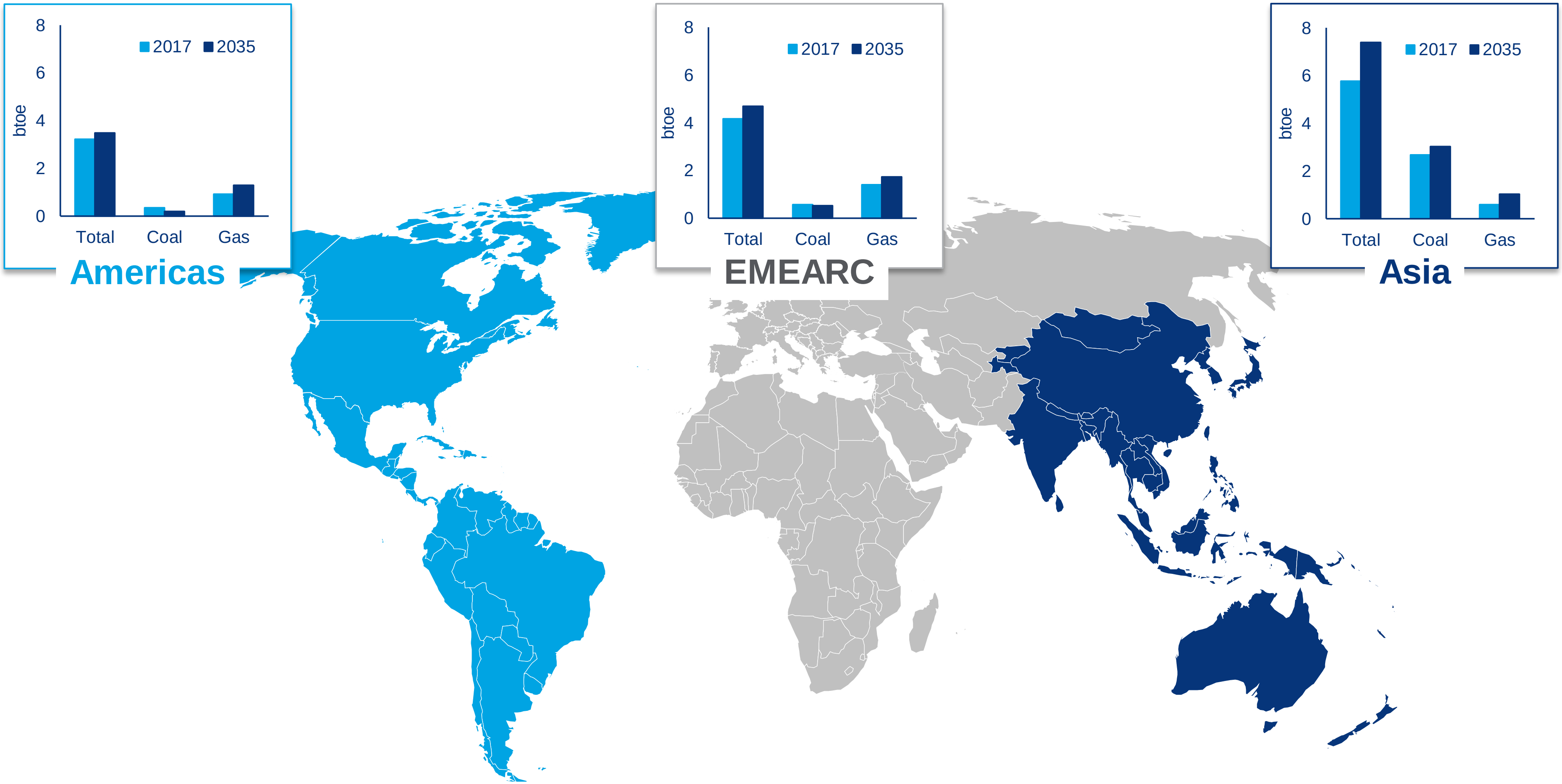
The Role of Coal and LNG in Asia's Future Energy Mix: Defying the Odds?

5th IEEJ Roundtable for SIEW 2017

Kiah Wei Giam 26 October 2017

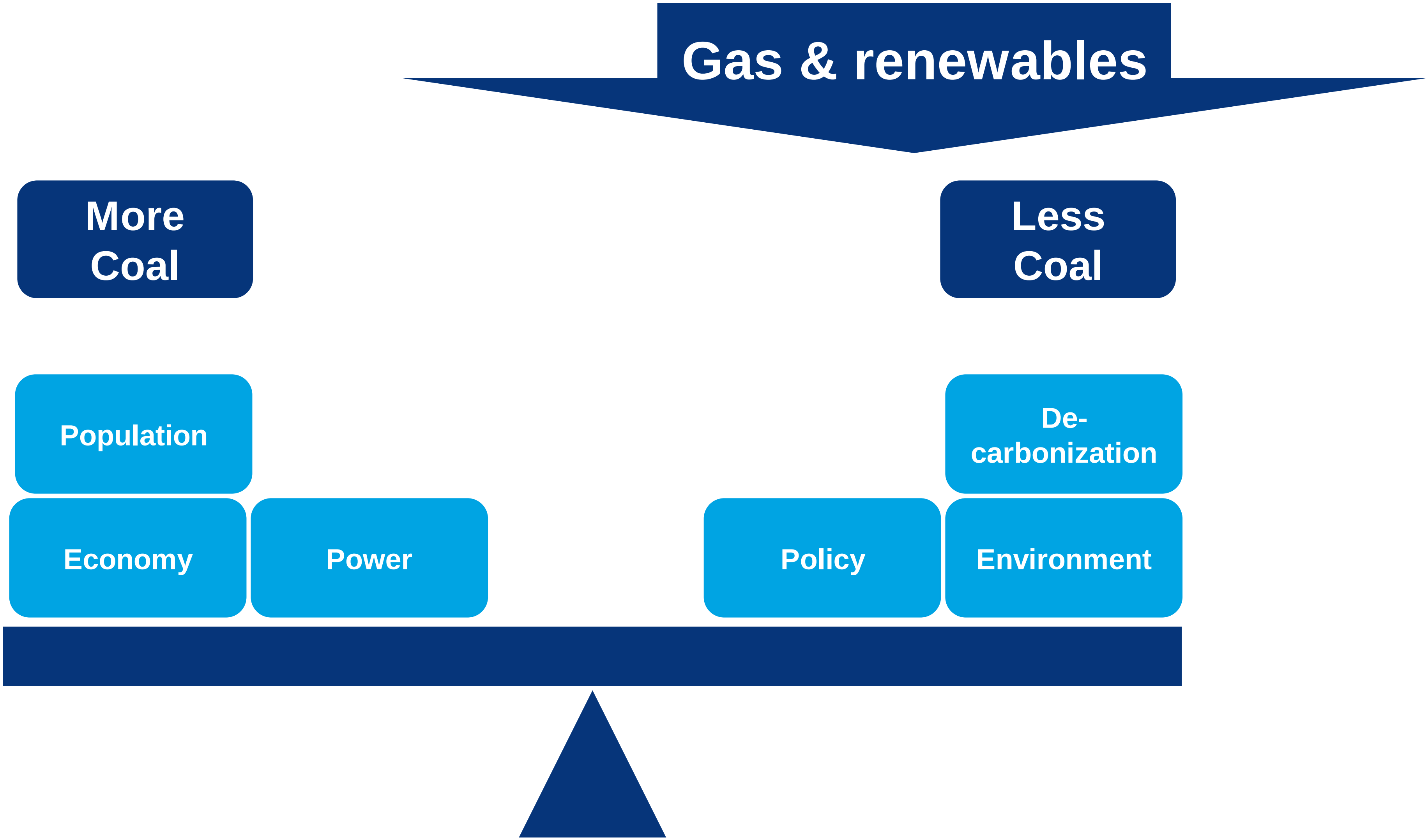
Coal maintains a strong foothold in Asia but gas has ample room to grow



Source: Wood Mackenzie

Coal and gas have a role to play to meet growing energy demand in Asia

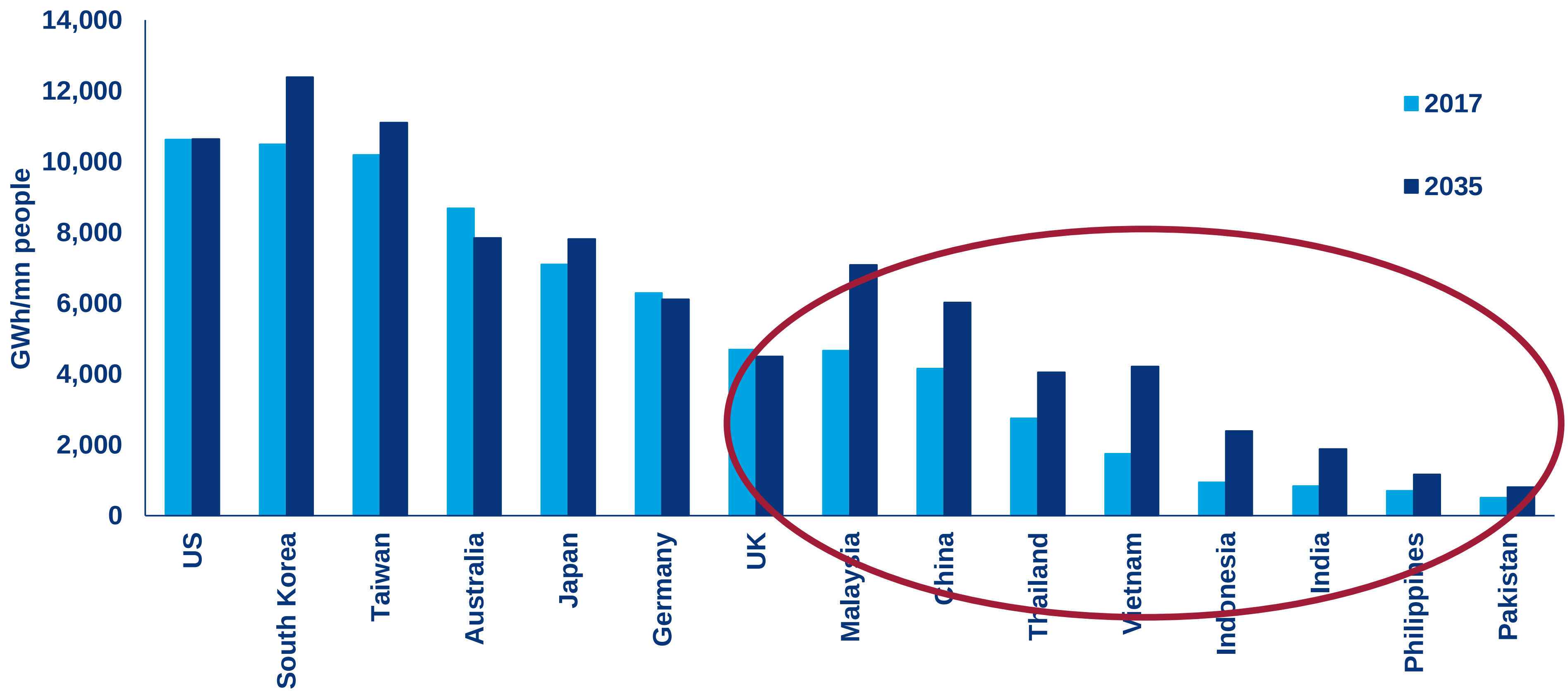
However, the rapid growth of renewables has threatened the dominance of fossil fuels



The rapid growth in electricity demand in developing countries calls for a balanced generation portfolio

It is risky to put all your eggs in one basket

Electricity demand per capita of selected countries

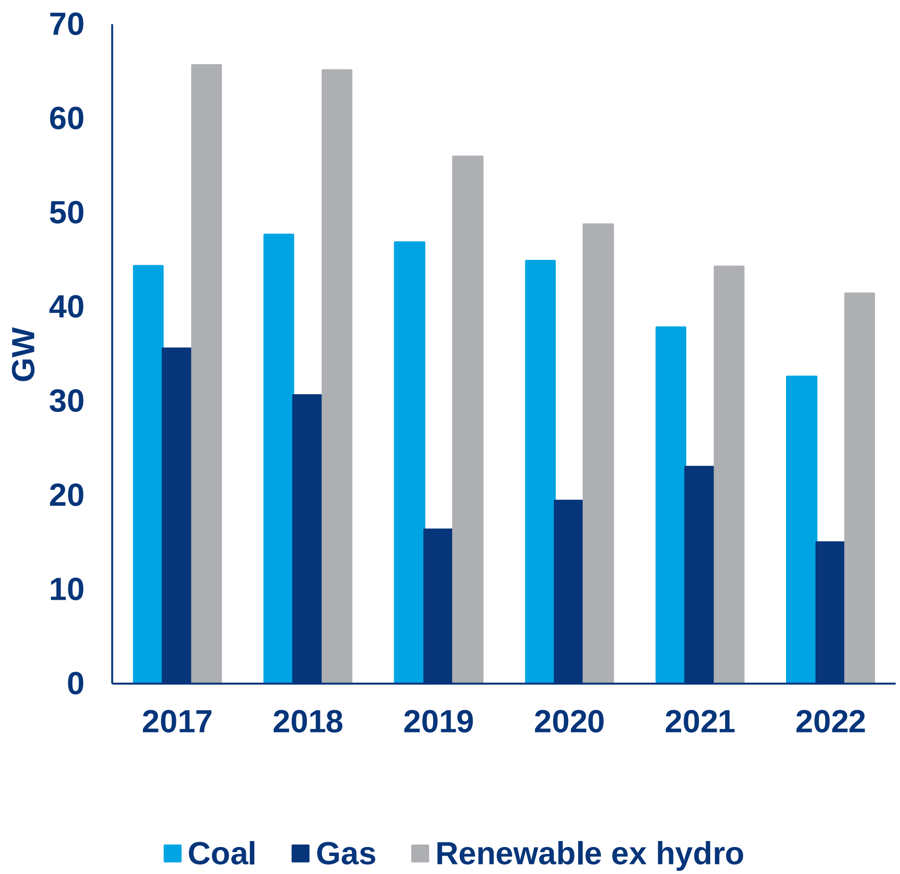


Source: Wood Mackenzie

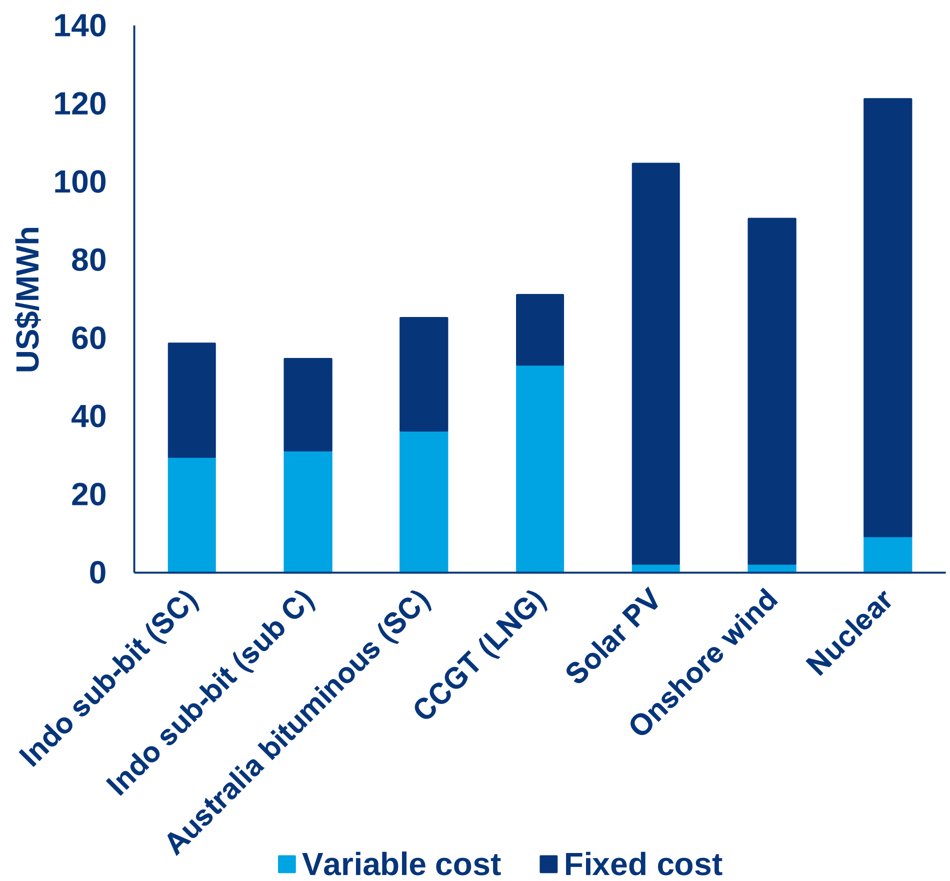
Coal remains competitive in electricity generation

Renewable, mainly solar, continues to get a foothold in Asia

Net capacity additions in Asia Pacific



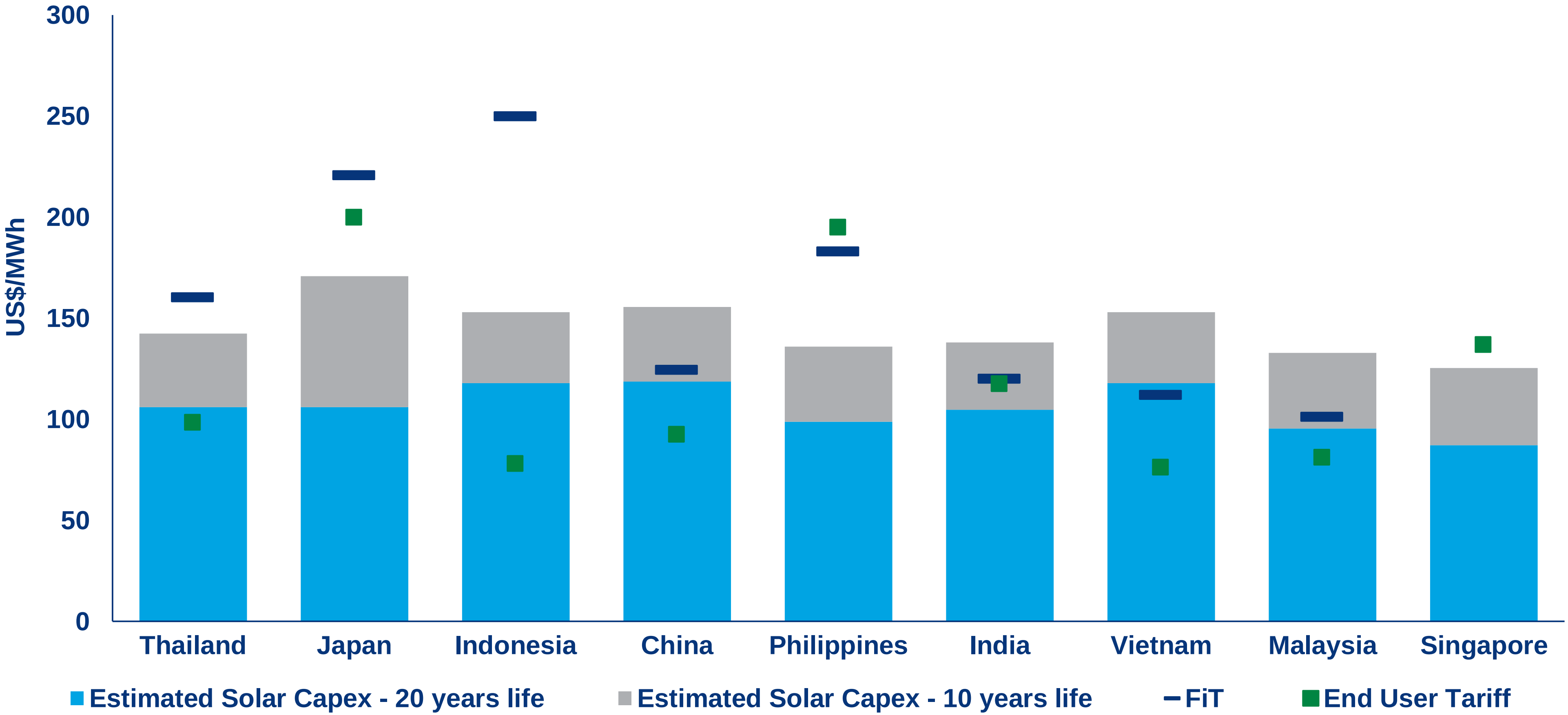
New plant economics in Southeast Asia



Source: Wood Mackenzie

However, solar expansion in Asia will not be easy in the near term

2016 solar breakeven prices – grid scale

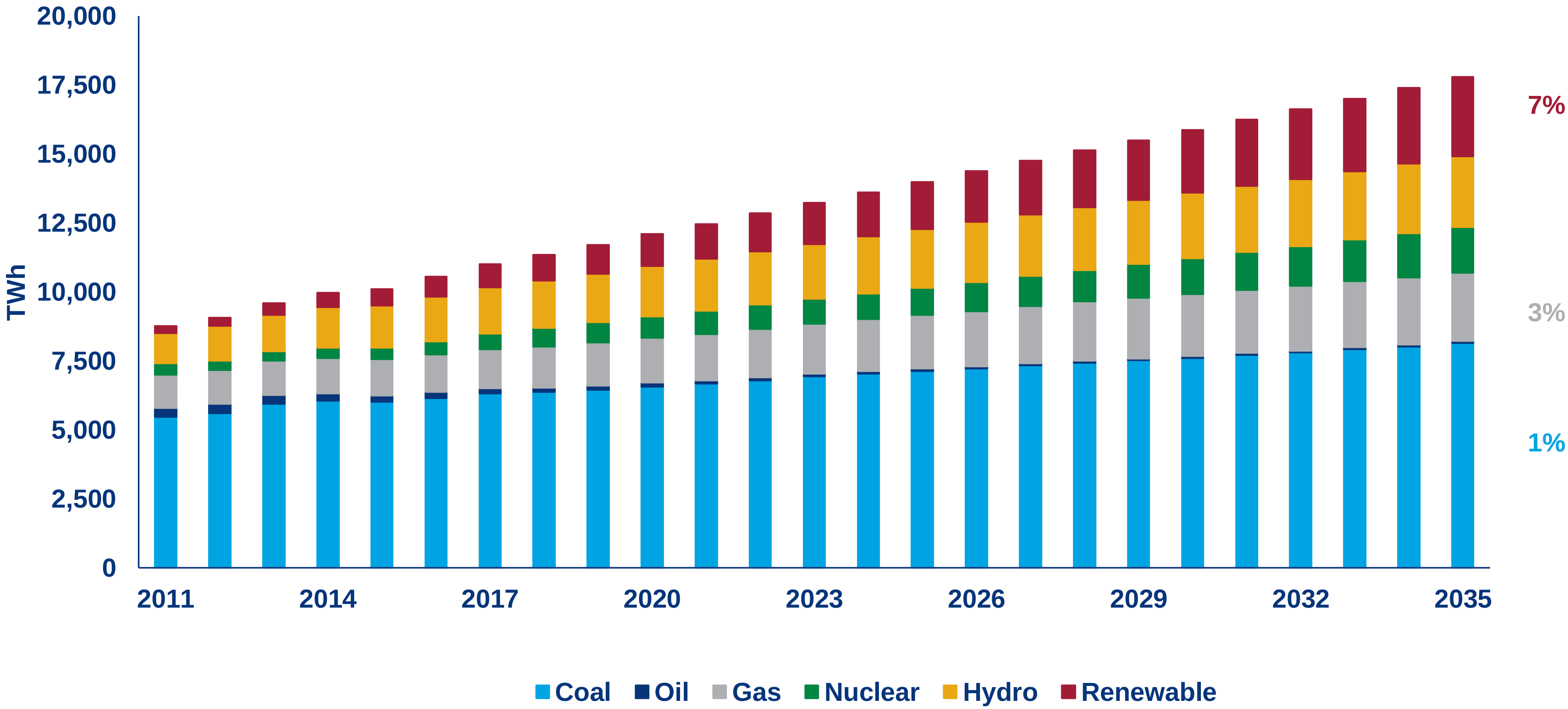


Source: Wood Mackenzie, Greentech Media

Electricity needs to be affordable to support economic development and urbanisation in Asia

Coal is still best placed but threat from gas and renewables grows

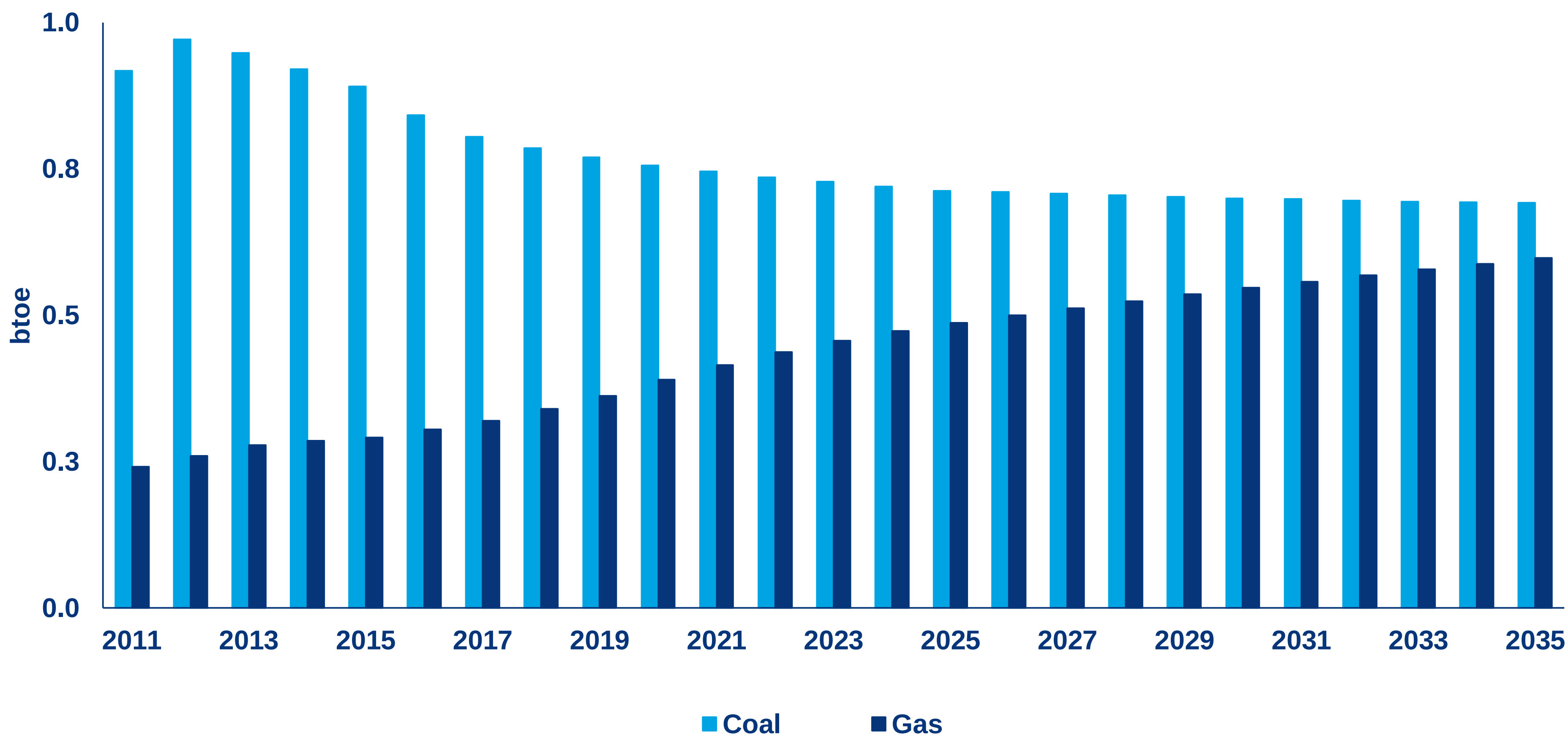
Generation mix by fuel



Source: Wood Mackenzie

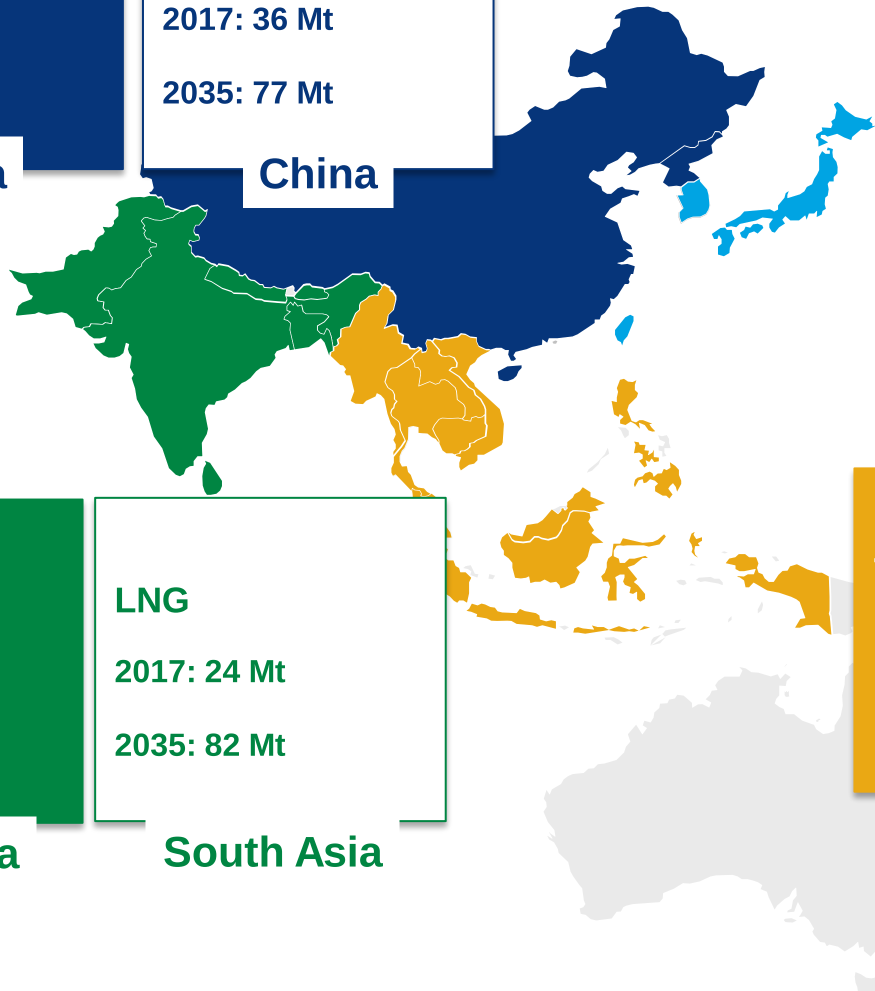
While coal is dominant in the power sector, gas captures share in the non-power sector

Coal and gas into non-power sector



Source: Wood Mackenzie

Asia will turn increasingly to seaborne supplies to meet its growing energy needs



Thermal coal
2017: 180 Mt
2035: 103 Mt
China

LNG
2017: 36 Mt
2035: 77 Mt
China

Thermal coal
2017: 317 Mt
2035: 274 Mt
North Asia

LNG
2017: 136 Mt
2035: 129 Mt
North Asia

Thermal coal
2017: 165 Mt
2035: 284 Mt
South Asia

LNG
2017: 24 Mt
2035: 82 Mt
South Asia

Thermal coal
2017: 85 Mt
2035: 226 Mt
Southeast Asia

LNG
2017: 12 Mt
2035: 74 Mt
Southeast Asia

Source: Wood Mackenzie

Key Take-aways

- Strong economic growth, urbanisation and power demand will propel Asia ever increasing need for energy
- A delicate balance between environmental and economical goals needs to be achieved
- A diversified portfolio of energy supplies is the best way forward for developing Asia
- Coal remains the backbone of future energy mix but gas and renewables gain share
- Indigenous supply of fossil fuel will be insufficient to meet growing demand and imports will play an increasingly important role because of cost competitiveness

Kiah Wei Giam

Principal analyst, coal & gas, Asia Pacific

Biography

- **With a keen interest to understand short term play between coal and gas, Kiah Wei started to analyse China short-term LNG market in 2016. In 2017, Kiah Wei took added gas research responsibilities, focussing on Japan and South Korea on top of his existing coal research.**
- **Kiah Wei joined Wood Mackenzie in August 2011 as an analyst with the Coal Markets research team. Currently, he is analysing the Asia Pacific coal market with a focus on Southeast Asia and China. He works closely with the gas and power team to understand the dynamics of coal-to-gas switching.**
- **Prior to joining Wood Mackenzie, Kiah Wei worked for Cargill as a dry bulk trading analyst. His responsibility was to provide fundamental analysis to support trading decisions of the company. Kiah Wei's areas of focus included iron ore, steel and coal markets in China and thermal coal market in Indonesia.**
- **Kiah Wei holds a Bachelor in Mechanical and Production Engineering from Nanyang Technological University in Singapore.**

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