Southeast Asia: the energy context

- Southeast Asia has emerged as a key player in the global energy system
  - growing thirst for energy driven by sustained economic & social development

- Diverse set of countries with vast differences in patterns of energy use

- Many of the individual countries increasingly reliant on energy imports
  - although region as a whole is rich in energy resources

- Fundamentals suggest energy needs will continue to grow
  - economy to triple by 2035, despite some headwinds at present
  - population of 600 million to expand by almost one-quarter by 2035
  - per-capita energy use is still low & 134 million people lack access to electricity
Southeast Asia’s energy needs will continue to grow

Growth in ASEAN primary energy demand

Southeast Asia’s energy demand increases by over four-fifths in the period to 2035, or by more than the current consumption of Japan

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The power sector is fundamental to the energy outlook of Southeast Asia

ASEAN incremental electricity generation by fuel, 2011-2035

Electricity generation increases by more than the current power output of India; coal emerges as the fuel of choice, accounting for 58% of the growth.
Renewables enter into the mainstream

ASEAN electricity generation from renewables

Renewables-based power increases by more than the current total power output of Indonesia & Thailand combined, although barriers to deployment need to be tackled.
Production: oil in decline & gas struggling to keep up with demand

Southeast Asia becomes the world’s fourth-largest oil importer (behind China, India and the EU) & sees a vastly reduced surplus of natural gas for export
Rising oil & gas imports will have high economic costs

Net oil and gas imports as a share of demand

The region imports 75% of its oil in 2035, as spending on oil imports triples to $240 billion; net revenues from gas exports fall by more than three-quarters
Indonesia: a dominant player in global coal markets

Indonesia’s coal production

Indonesia accounts for 85% of Southeast Asia’s coal production; it remains the world’s top exporter of steam coal – by a very large margin – through to 2035
Fossil-fuel subsidies continue to distort energy markets

Value of fossil-fuel subsidies in Southeast Asia, 2007-2012

Fossil-fuel subsidies amounted to $51 billion in 2012; despite recent reforms – notably in Indonesia & Malaysia – they continue to distort energy markets
Energy efficiency: a huge opportunity going unrealised

ASEAN primary energy demand in the Efficient ASEAN Scenario relative to the New Policies Scenario

Economically viable efficiency measures can cut the region’s energy use in 2035 by almost 15%, or more than the current energy use of Thailand

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Improved energy efficiency brings economic gains

Gains in fossil-fuel trade balances

<table>
<thead>
<tr>
<th>Year</th>
<th>Coal</th>
<th>Gas</th>
<th>Oil</th>
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<td>15</td>
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<td>2025</td>
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<tr>
<td>2035</td>
<td>25</td>
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</tbody>
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- Blue bar: Additional export revenue
- Orange bar: Import cost savings

Increase in GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>Change in GDP (Billion dollars)</th>
<th>Percentage change in GDP (Billion dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>2035</td>
<td>2.5%</td>
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</tbody>
</table>

In 2035, spending on oil imports is cut by $30 billion, while revenues from exports of natural gas & coal are increased by $30 billion; regional GDP is boosted by about 2%
Southeast Asia – along with China & India – is shifting the centre of gravity of the global energy system to Asia.

Its outlook for energy production & demand has implications that will be felt well beyond the region.

Developing policies to improve efficiency & attract investment will be vital for enhancing energy security, affordability & sustainability.

The region faces global challenges, underscoring the need to enhance cooperation intra-regionally & with international partners.