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 Energy Overview

**Myanmar**
- Abundant hydropower and natural gas resources, their development is vital to reduce poverty and support economic growth.

**Lao PDR**
- Aims to become the hydropower “battery” of Asia; electricity exports have been increasing sharply.

**Vietnam**
- Significant renewable and fossil energy resources, but rapidly growing energy demand underlies a shift towards imports; developing a nuclear power programme.

**Thailand**
- Second-largest energy consumer in ASEA and heavily dependent on energy imports due to limited energy resources; aims to diversify electricity generation.

**Cambodia**
- Low levels of electrification, although improving; potential to develop oil and gas resources.

**Philippines**
- Fast rising electricity demand requires expanded supplies; strongly reliant on energy imports, though it is the world’s second-largest geothermal producer.

**Singapore**
- Strategically situated, it has become Asia’s key oil trading and refining hub (the third-largest in the world) and could become a major gas hub.

**Malaysia**
- Third-largest energy consumer in ASEA with relatively high per-capita consumption; significant oil and LNG exporter, but production is maturing.

**Indonesia**
- Largest energy consumer in ASEAN, with massive scope for growth; it exports steam coal (the world’s largest) and LNG, and is an increasing importer of oil.

**Brunei Darussalam**
- Among the wealthiest countries in the world on a per-capita basis, thanks to oil and LNG exports.

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This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.
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
The power sector is fundamental to the energy outlook of Southeast Asia.

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

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

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

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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Savings in 2035:
- Coal: 100 Mtce
- Oil: 0.7 mb/d
- Gas: 28 bcm
Improved energy efficiency brings economic gains

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