



# Energy transition: Challenges and Opportunities in ASEAN

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# With You Today



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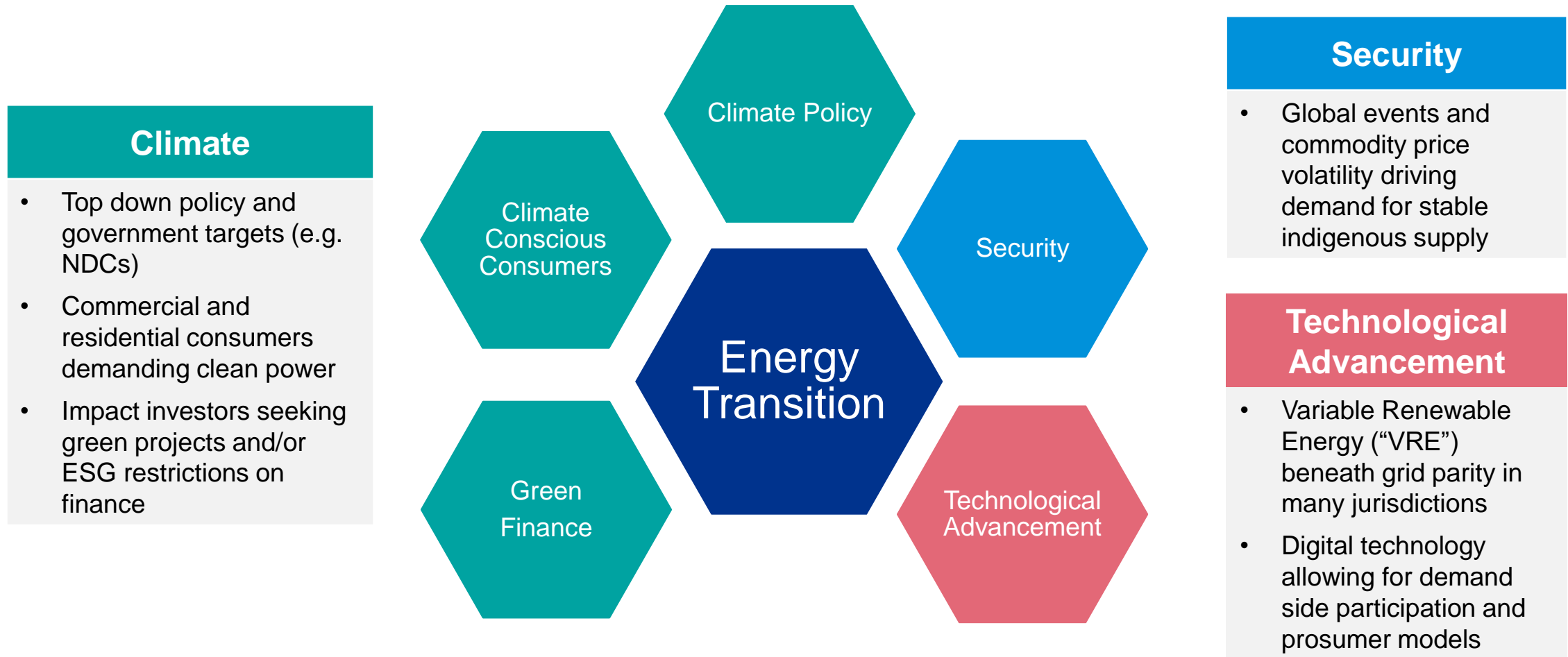
Andrew Craig is part of the Infrastructure Advisory team in KPMG Singapore and has been advising clients on energy markets across the ASEAN region for close to 10 years.

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- Strategy, Market Entry, Market Forecasts and Planning
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- Feasibility Assessment
- Structuring, Financing, and Divestment
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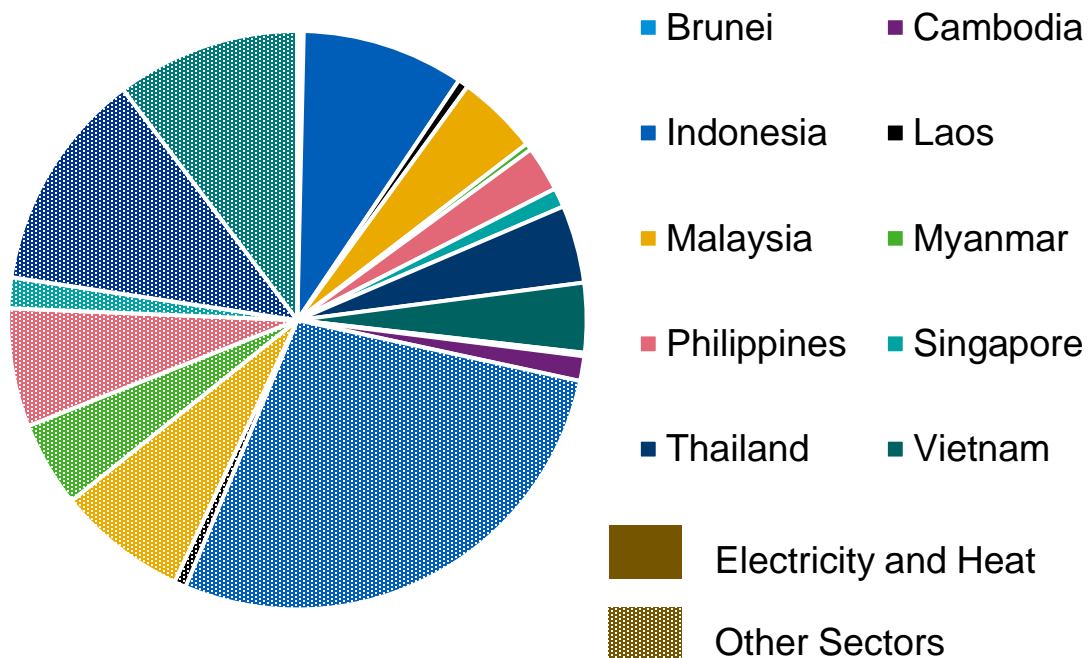
# Energy transition is gathering pace due to alignment of different drivers





# Power sector is a major source of emissions in ASEAN and will need to be tackled.....

## GHG Emissions from Electricity vs. Other Sectors



Source: KPMG analysis based on CAIT data



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## Key Issues/Considerations

### High Coal Capacity

Significant number of coal plants with long remaining lifetimes

### Low RE Deployment (especially VRE)

With the exception of some success stories (e.g. Vietnam), RE deployment is low compared to global benchmarks

### Limited EE and Demand Side Management

Limited use of EE (e.g. appliances, buildings street lights) and 'smart' price signals

### Low Use of Decentralized Power

Behind the meter prosumers often face regulatory uncertainty in many jurisdictions

### Low Connectivity

Power grids tend to be isolated/little cross border trade allowing resources to be shared



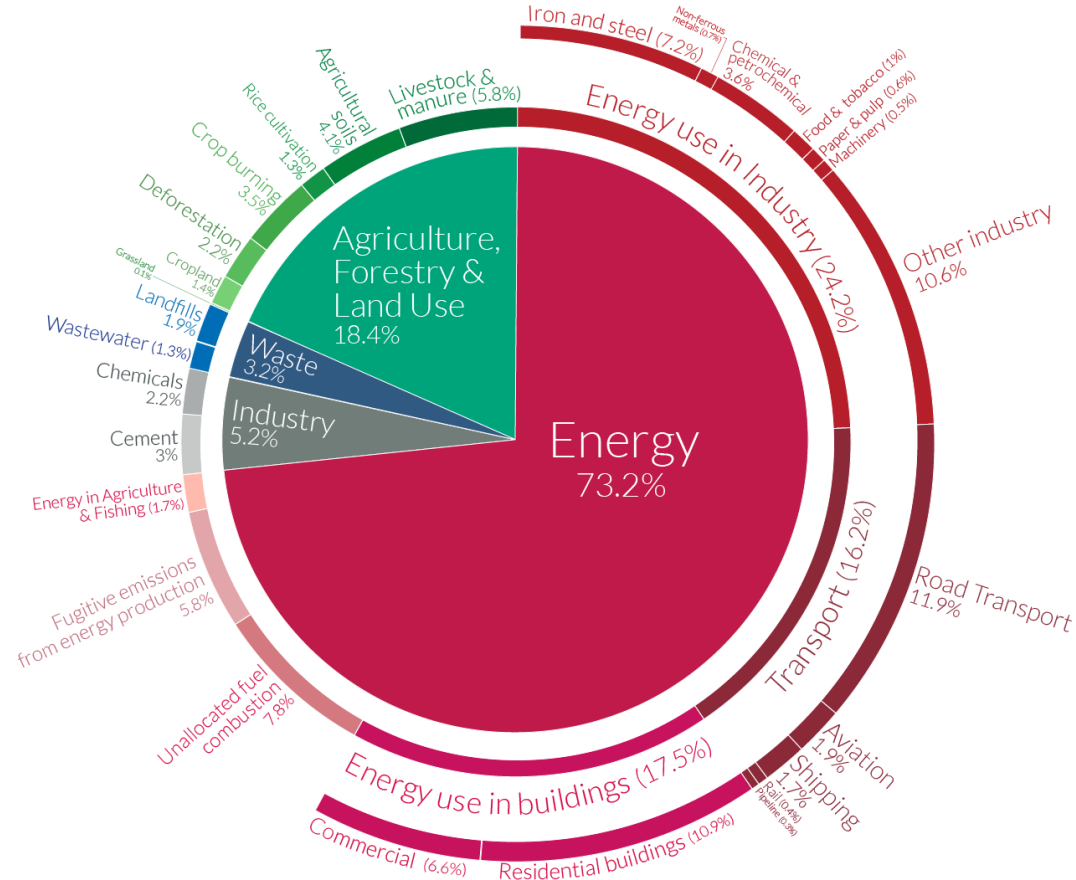


...However, whole energy sector needs to be addressed to have a meaningful impact.....

## Global greenhouse gas emissions by sector

This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO<sub>2</sub>eq.

Our World  
in Data



## Potential Drivers of Decarbonisation

### Electrification

Electrification of transport (particularly personal vehicles and mass transit) and some industrial processes in combination with RE development

### Energy Efficiency

Energy efficiency of industrial processes

### Hard to abate sectors

Use of green/blue hydrogen (e.g. iron/steel production, chemicals, fertilizer and heavy transport)

OurWorldinData.org – Research and data to make progress against the world's largest problems.

Source: Climate Watch, the World Resources Institute (2020).

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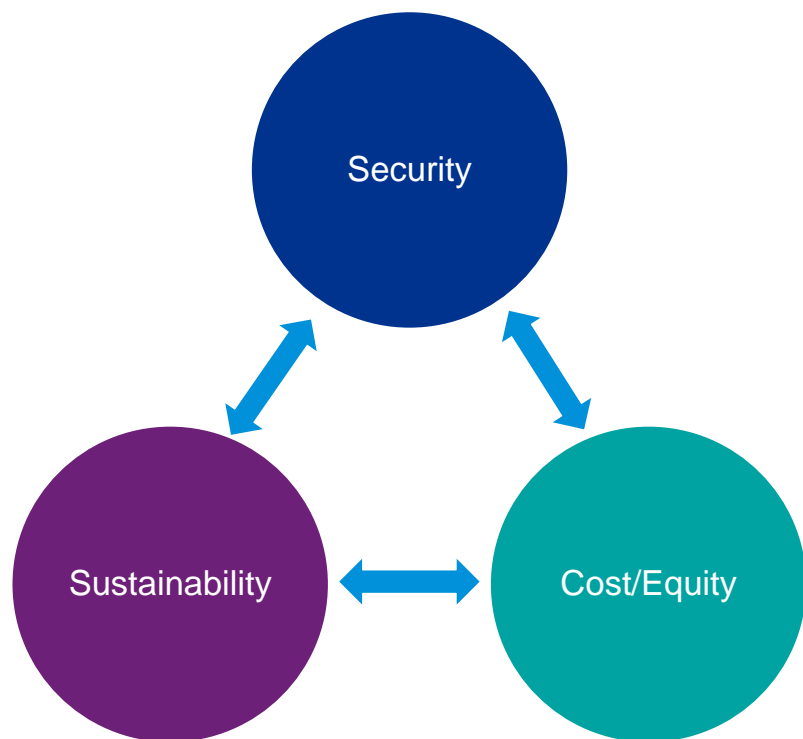


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# Facilitating and funding a Just Energy Transition means finding ways to overcome the energy trilemma -support is being made available.....

## Energy Trilemma



## Key Financing Support

Multilateral Financing  
and Assistance

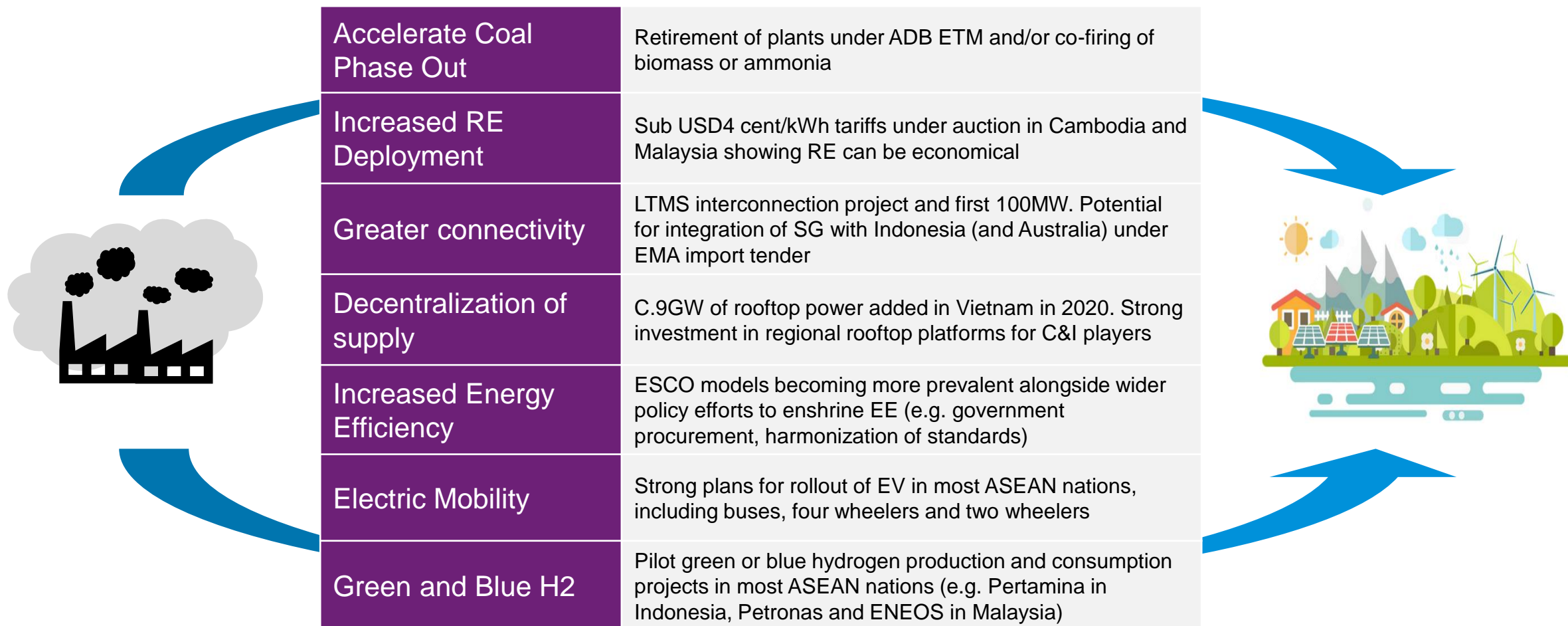
ESG Investment

Bilateral Support

Carbon Finance  
(Article 6)



# Energy Transition in ASEAN is already providing opportunities which are only likely to grow



Thank You!





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