

# RE Outlook for ASEAN – a REmap Analysis

ACE-USAID Workshop: Developing Renewable Energy Policies and  
Incentives to Achieve ASEAN's REmap Goals  
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# ASEAN – A Community of Opportunities



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The ASEAN Economic Community:

- *Calls for a well-connected ASEAN to drive an integrated, competitive and resilient region*
- "… ASEAN as a single market …"

At US\$ 2.4 trillion, ASEAN economy in 2015 was

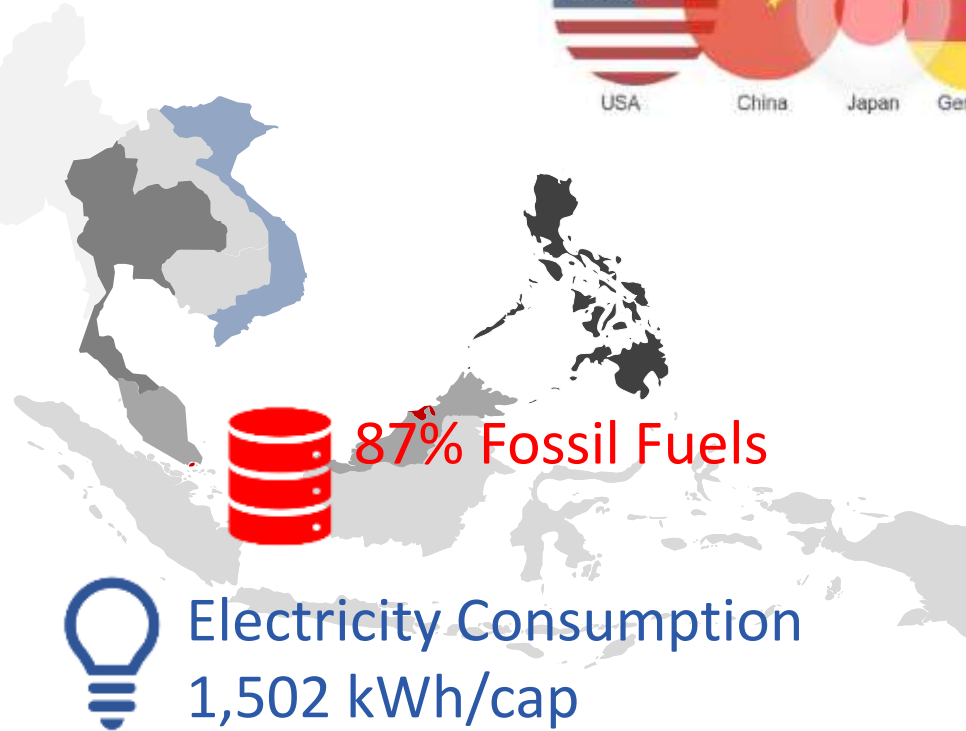
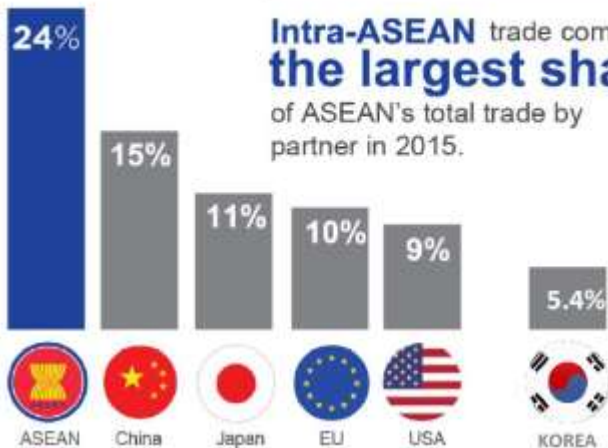
the **6th largest in the world** & the **3rd largest in Asia.**



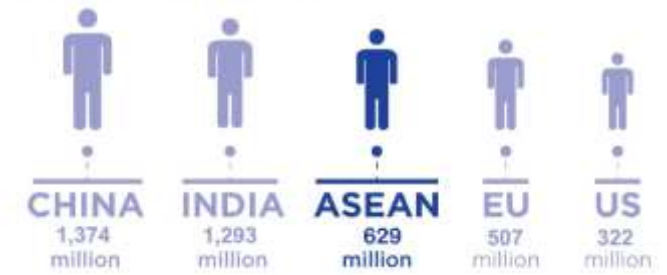
Total Trade  
US\$ 2.367 Trillion

## Major Trading Partners

Intra-ASEAN trade comprised the **largest share** of ASEAN's total trade by partner in 2015.



Collectively, ASEAN population was the **3rd largest in the world** in 2015.





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# RE – National & Regional Targets

27% Installed  
Capacity (2030)



30% TFEC (2025)



Aspirational  
23% TPES (2025)



21% Installed Capacity<sup>2</sup> (2030)

927 MW<sup>1</sup> (2017)



350 MWp (2020)



15,300 MW (2030)

30% TFEC (2036)



10% Installed Capacity (2035)

2,080 MW<sup>2</sup> (2020)



23% TPES (2025)

<sup>1</sup> Large Hydro only

<sup>2</sup> Exclude Large Hydro (>30 MW)

# REmap – Concept



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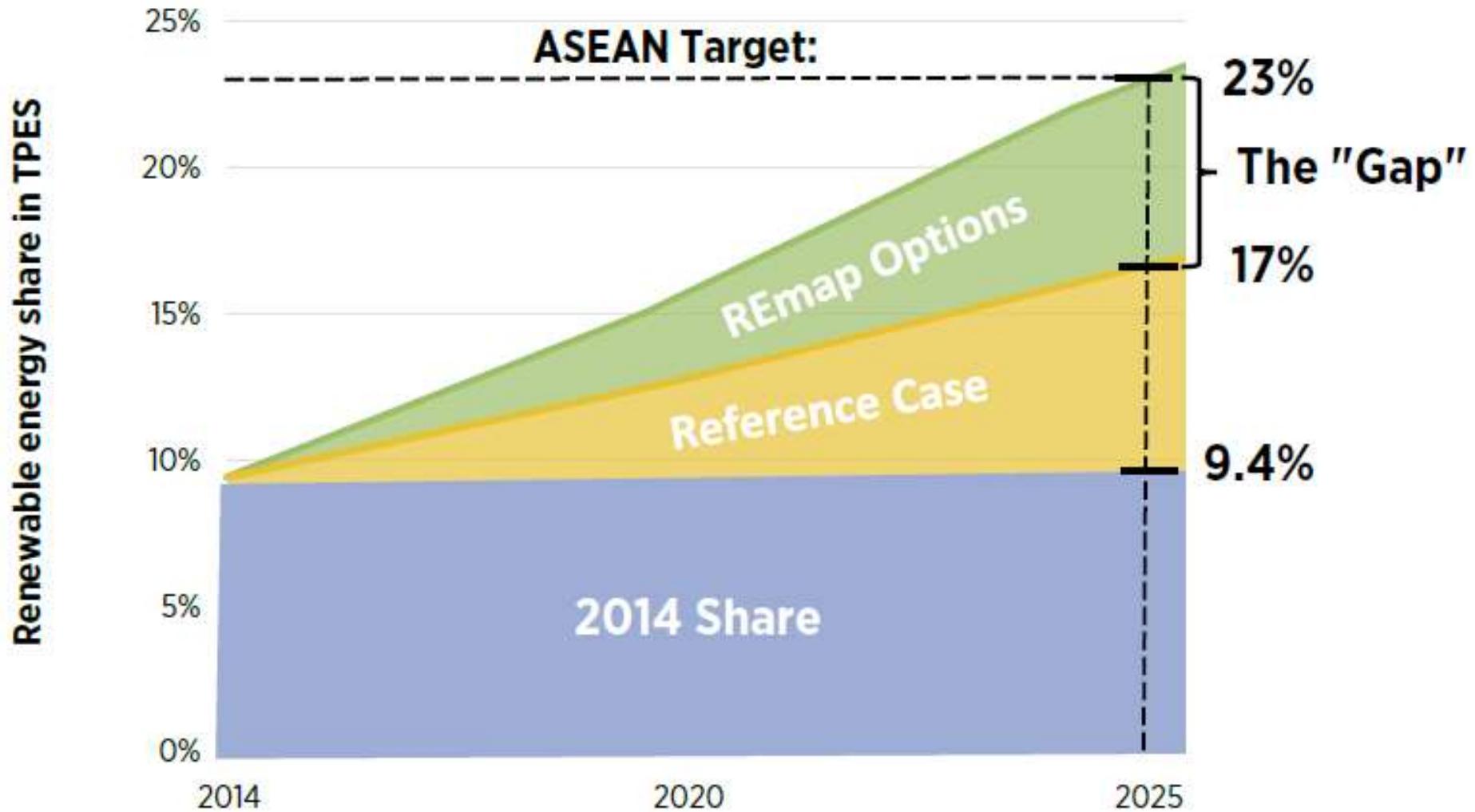
Two RE Scenarios:

- ✓ Reference Case is based on ASEAN Member States (AMS) renewable energy policies.
- ✓ RE Map Option is considering various options in achieving the ASEAN aspirational target of 23% RE in 2025.

# REmap – Forecast and Gap Result



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# REmap – Options Importance



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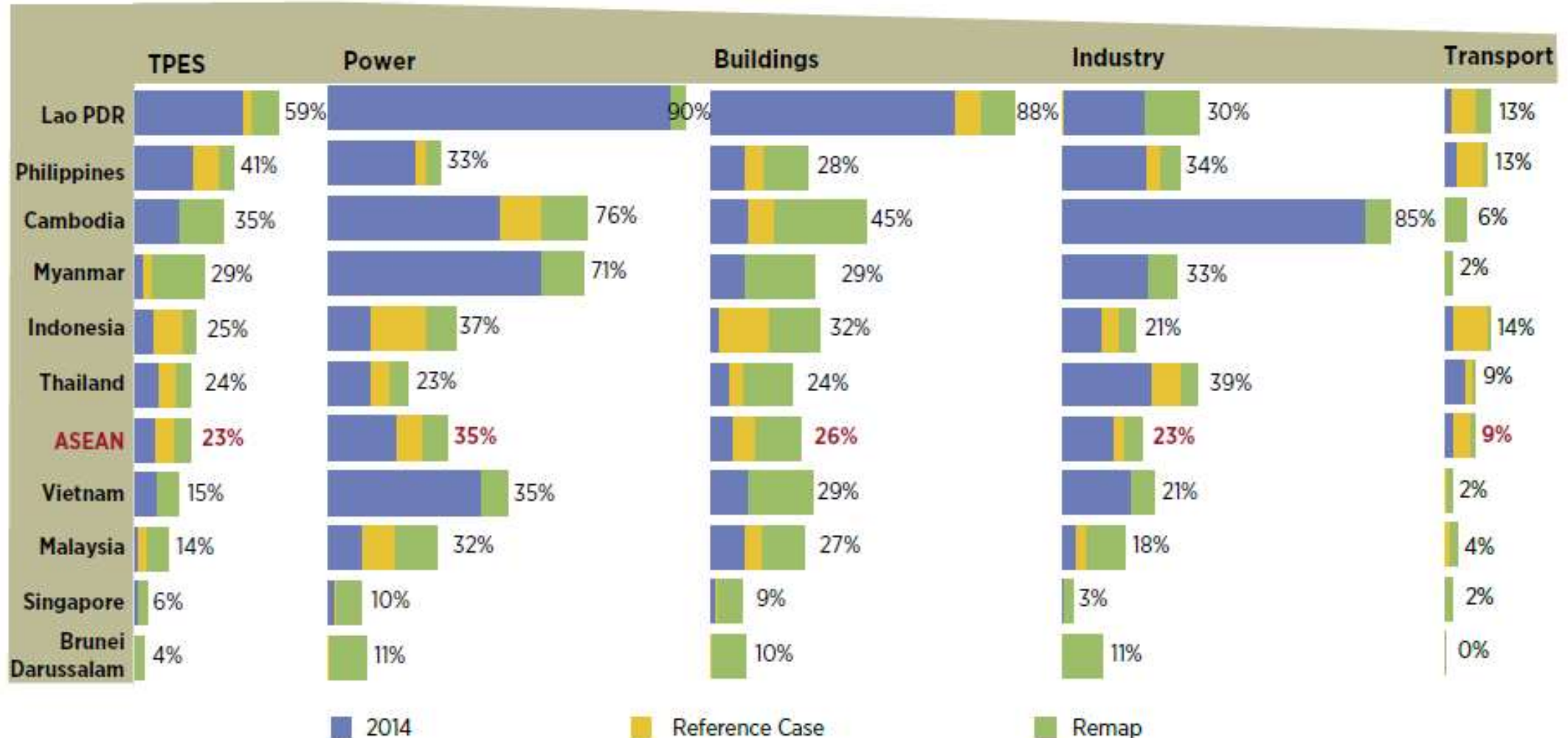
	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
<b>Industry Sector</b>										
Bioenergy	+++	+	+++	+++	+++	++	+++	++	++	++
Solar thermal	++	+	++	++	+	+	+++	+	+++	++
<b>Transport Sector</b>										
Liquid biofuels	+	++		+	++	+	++		+	+
Electric mobility	++	+	++	+	++	+	++	++	+	++
<b>Building Sector</b>										
Solid bioenergy		+++	+++	+	+	++	+++			+++
Biogas	+	++	+			+++	+++	+	+++	++
Solar thermal	+	+	+++		++	++	++	+	+++	++
<b>Power Sector</b>										
Small hydro			+	+						
Solid bioenergy		+	+		+++					
Biogas	++	+	+	++	+	++	++	+	++	+
Solar PV	+++	++	+++	+++	+++	++	+++	+++	++	++
Wind	+	+	+		+	++	++	+++	++	++
Geothermal				++	+		+			

Note: The colour and + indicator is meant to provide a qualitative perspective on the relative importance of the technology in the REmap Options. One + (light orange) indicates a low contribution, ++ (blue) indicates a moderate contribution, and +++ (green) indicates a high contribution.

# REmap – Forecast and Gap Result



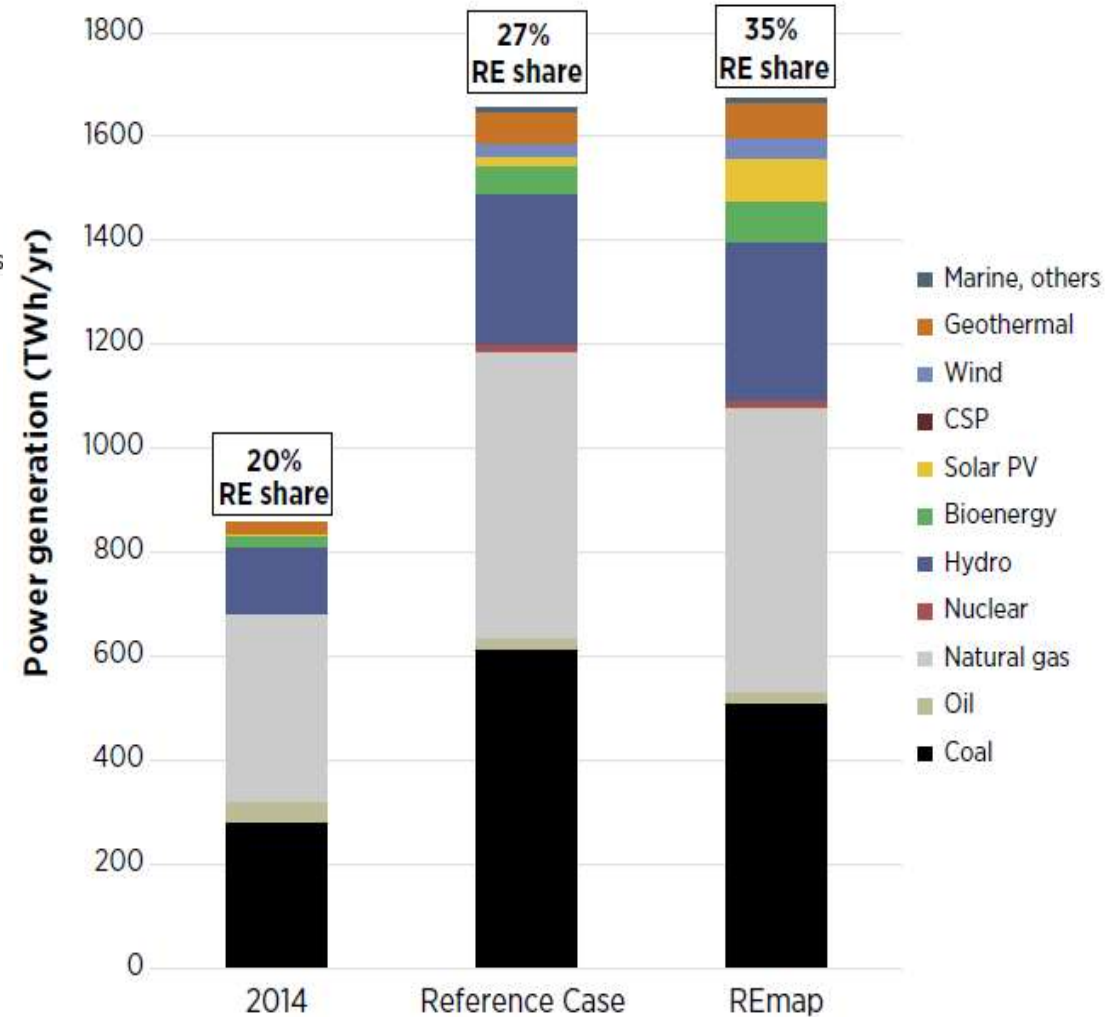
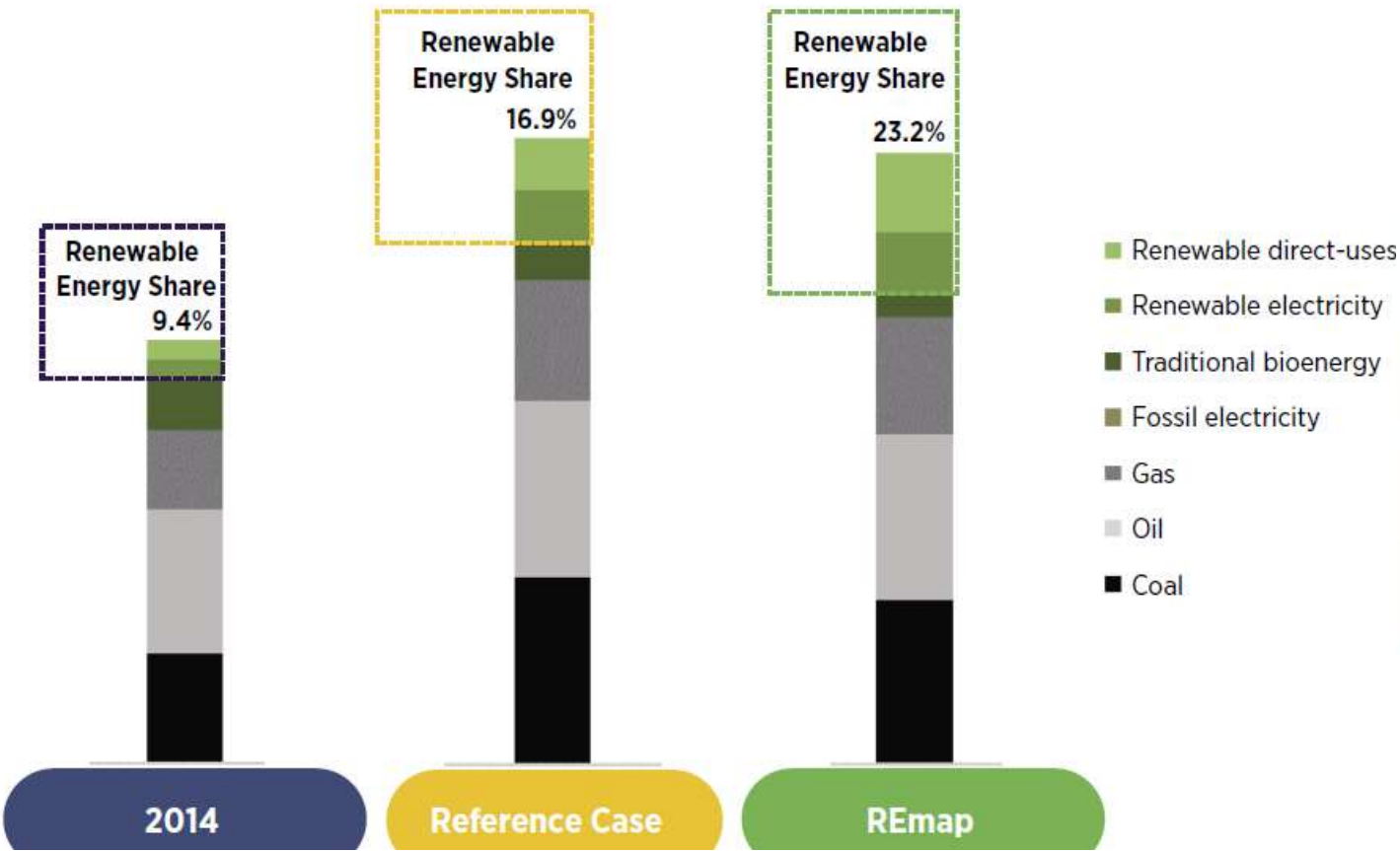
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Note: End-use sectors of buildings, industry and transport include renewable electricity in the share.



# REmap – Details Energy & Power Mix



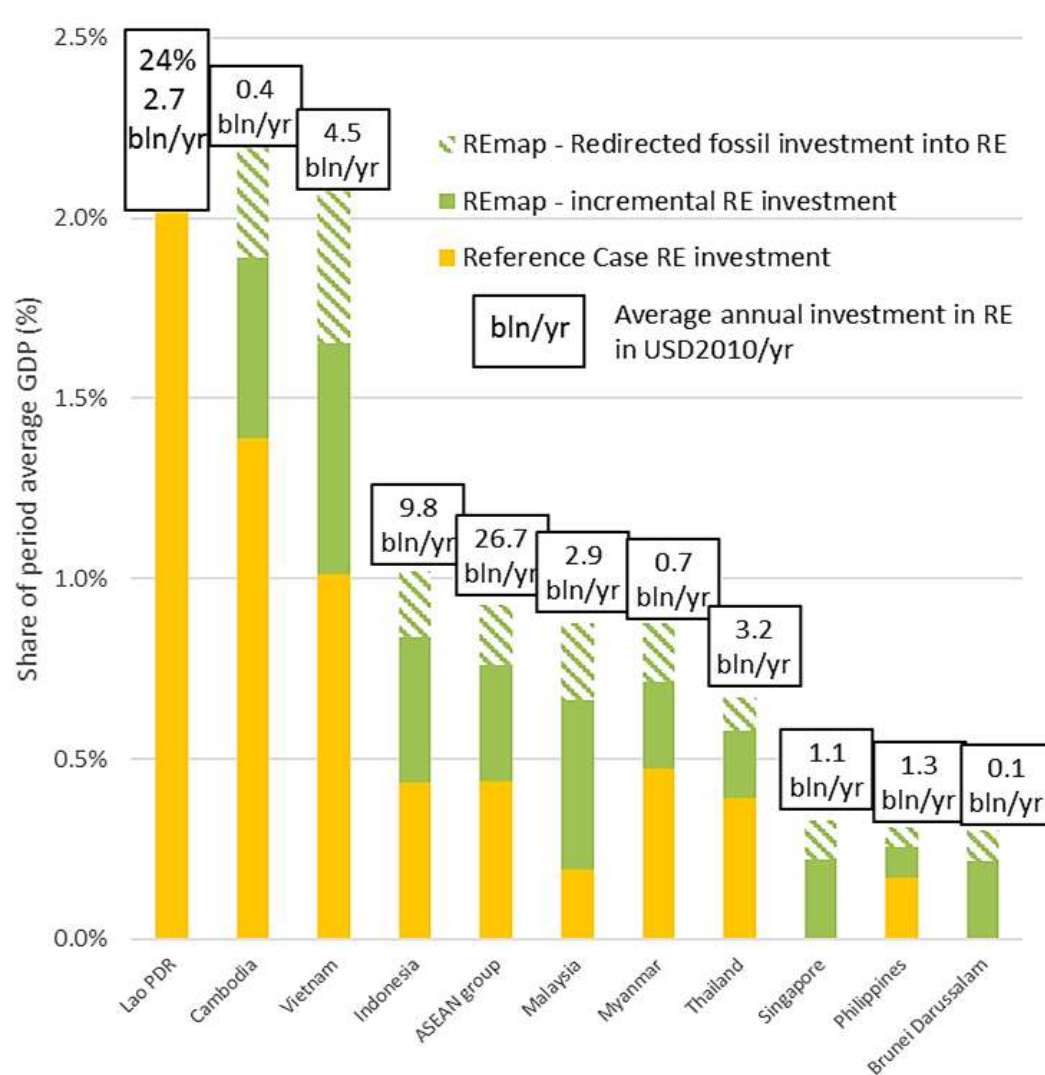
- RE reach **16.9%** in Reference; and **23.2%** in RE Map
- In Power Generation, RE Share will be **27%** in Reference; and will be **35%** in RE Map Scenario

RE Map and Reference Case are based on 2025.

# REmap – Investment Need



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- The region will need to invest 1% of its GDP annually into renewable energy capacity to reach its 23% target
- Average annual investment to reach 23% RE would total USD 27 billion – Three-quarters of all renewable energy investment is for power sector or 22 billion.

# REmap – Action Areas

- Increase power system flexibility in the ASEAN region, while using renewables to provide modern energy access for all.
- Expand efforts for renewable energy uptake in power but also importantly in the heating, cooking and transport sectors.
- Create a sustainable, affordable, and reliable regional bioenergy market.
- Address the information challenge by increasing the availability of up to date renewable energy data and the sharing of best practice for RE technologies.



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**Thank you.**



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