

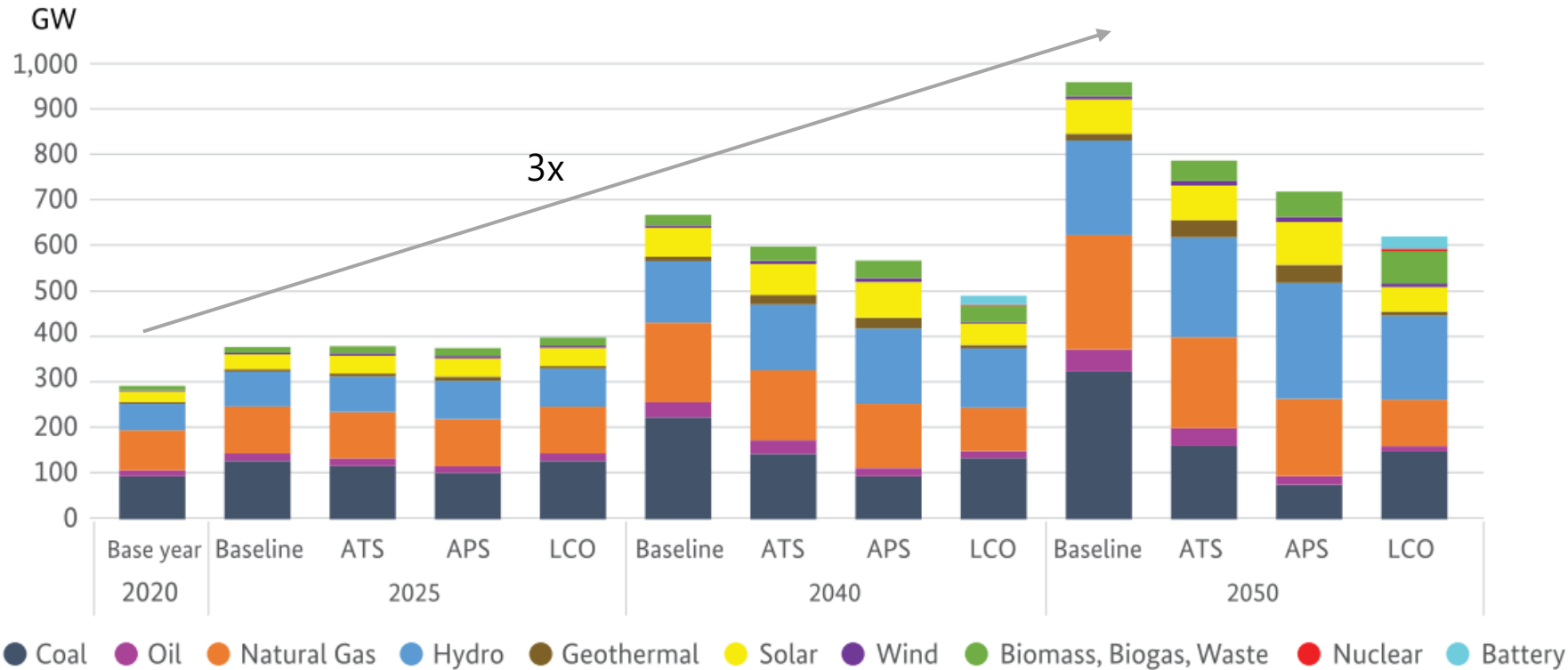
Financing ASEAN Clean Energy Transition

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ASEAN Installed Power Capacity Projection



Baseline Scenario
The energy growth pattern kept at constant level as of last historical year

AMS Targets Scenario (ATS)
Achievement of ASEAN official national energy targets

APAEC Targets Scenario (APS)
Achievement of APAEC's aspirational regional targets on RE and EI

Least-Cost Optimisation (LCO)
Least-cost power sector dispatch to attain APAEC's regional targets

Increase ambitions of RE and EE/EI standards

Least-cost option in power sector

Source:
The 7th ASEAN Energy Outlook, 2022
<http://go.aseanenergy.org/AEO7>

- Meeting demand growth requires power capacity expansion and investment.
- Based on the **PDP of ASEAN Member States (AMS)**, 60% of the newly installed capacity between **2021-2025** will come from **renewables**.
- With **national policies (ATS)**, **787 GW** of power plant capacity is needed to supply the electricity demand in 2050.
- On average, **RE investment** accounts for about 59% in ATS and 77% in APS of the total investment required for the power sector.

Financing Energy Transition

- The current financial source composition for clean energy investment in ASEAN is **dominated** primarily by **limited public finances**.
- The **high risk** and **low return** of investment has made most of capital banks in ASEAN **reluctant** to finance clean energy investment.
- The investment in **electricity transmission networks** should be prioritised due to their multiplier effect and meeting long term energy security and sustainability in ASEAN.
- **Innovations** are required to scale up the availability of financial sources, as well as **budget allocation** and **stronger collaboration** with the **private sector** and **international donors**.

Source: The 7th ASEAN Energy Outlook, 2022
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Attracting Clean Energy Investment in ASEAN

- To address the importance of attracting energy investments and sustainable financing for ASEAN
- To identify key priority areas in building up regional capabilities on energy investments and financing
- To provide insightful guidelines for ASEAN regulators and policymakers to design and make better decisions regarding investment policy in the energy sector

ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025 Phase II: 2021-2025

- **Aspirational RE Targets by 2025**
 - 23% RE share in Total Primary Energy Supply (TPES)
 - 35% RE share in installed power capacity
- **Energy Investment**
 - Programme Area No. 1: ASEAN Power Grid (APG), Action Plan 1.3: **Promote cross-border technical skills and knowledge transfer as well as promote financial investment for APG projects**
 - Programme Area No. 6: Regional Energy Policy and Planning (REPP), Action Plan 5.1: **Develop a Roadmap for 2021-2025 to enhance capabilities in enabling regulatory environments to attract investment in energy infrastructure and technologies**

Summary of AMS Clean Energy Targets and Investment Status (1)

AMS	Clean energy target	Electrification rate (2020)	Clean energy financing program
Brunei Darussalam	Achieve a 30% share of RE in the power generation mix by 2035	100%	<ul style="list-style-type: none"> • Net energy metering
Cambodia	25% increase in renewable energy in the power mix (generation capacity) by 2030 (solar, wind, hydro, biomass)	81.1%	<ul style="list-style-type: none"> • Green microfinance fund
Indonesia	Increase the share of new and renewable energy in Total Primary Energy Supply to 23% by 2025 and 31% by 2050	99.2%	<ul style="list-style-type: none"> • Feed-in Tariff or Ceiling Price for Renewable Energy • Funds from investment institutions, such as Indonesia Investment Authority (INA), Indonesia Infrastructure Guarantee Fund (IIGF), Indonesia Infrastructure Finance (IIF), and Sarana Multi Infrastruktur (SMI) • Clean Technology Fund

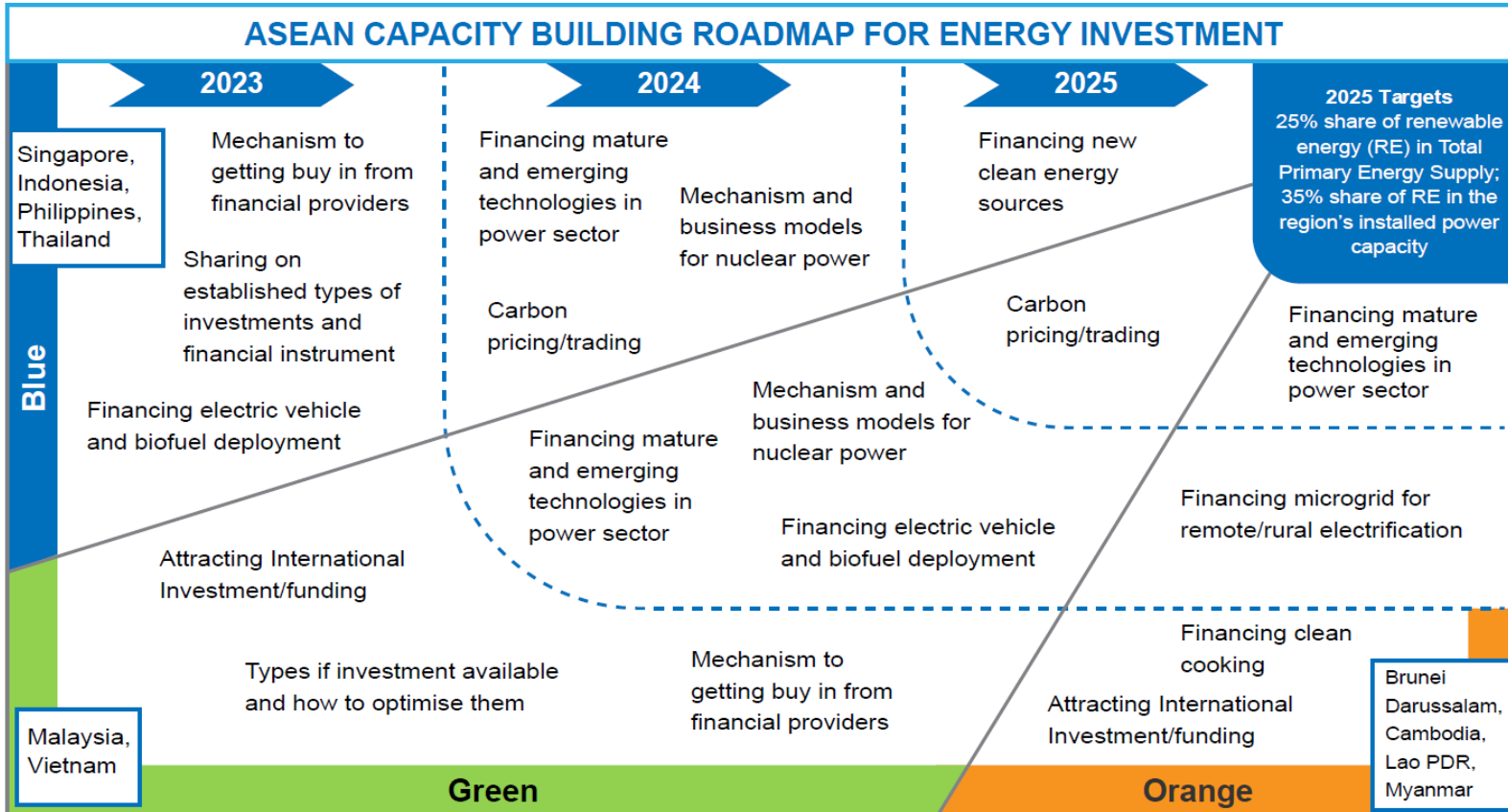
Summary of AMS Clean Energy Targets and Investment Status (2)

AMS	Clean energy target	Electrification rate (2020)	Clean energy financing program
Lao PDR	Achieve a 30% share of renewables in total energy consumption by 2025	95%	<ul style="list-style-type: none"> • Energy Access Solar Home Systems Fund • Environmental Protection Fund • Laos Energy Promotion Fund • Rural Electrification Development Fund
Malaysia	Increase the RE share to 31% in the power capacity mix by 2025 and 40% by 2035	100%	<ul style="list-style-type: none"> • Green Technology Financing Scheme 2.0 (GTFS 2.0) • Net Energy Metering (NEM) • Feed-in-Tariff • Large Scale Solar (LSS) • Self-Consumption (SELCO)
Myanmar	Increase the share of RE to 39% in electricity generation by 2030	51.6%	<ul style="list-style-type: none"> • Japan Fund for Poverty Reduction Programme • Smart Power Myanmar • Village Development Fund
Philippines	Increase the RE share to 35% in the power generation mix by 2030 and 50% share by 2040	97.2%	<ul style="list-style-type: none"> • Green Energy Auction Program • Renewable Energy Trust Fund • Competitive RE Zones

Summary of AMS Clean Energy Targets and Investment Status (3)

AMS	Clean energy target	Electrification rate (2020)	Clean energy financing program
Singapore	Increase solar energy deployment to at least 1.5 GWp by 2025 and 2 GWp in 2030	100%	<ul style="list-style-type: none"> • Energy Efficient Fund (E2F) • Carbon Pricing Act • Metering Credit Schemes • Renewable Energy Certificates (RECs) • Solar Financial Incentives for Energy Efficiency in Singapore
Thailand	Increase share of renewables in final energy consumption to 30% by 2037	100%	<ul style="list-style-type: none"> • Feed-in-Tariff • Promotions through the Board of Investment (BOI)
Vietnam	Increase the RE share in TFEC to 32.3% by 2030 and 44% by 2050; Increase the RE share in power generation to 32% by 2030 and 43% by 2050	100%	<ul style="list-style-type: none"> • Feed-in-Tariff • Incentive Policies for Rooftop Solar Power Systems (RSPS)

Capacity Building Roadmap



- Engagement with financial providers on financing terms
- Attracting international investment/funding
- Mature and emerging technologies in power sector
- Mechanisms for nuclear power
- Carbon pricing and trading
- Financing electric vehicle and biofuel deployment
- Clean cooking financing
- Microgrid for rural electrification

Moving forward, ASEAN will work with Dialogue Partners, International Organisations and other stakeholders for the implementation of each capacity building program

Download here



<https://aseanenergy.org/asean-capacity-building-roadmap-on-energy-investment/>



Policy Recommendation (1)

1. Enhancing capability and capacity to attract clean energy investment

- a. Strengthening regional communication and **cooperation amongst the AMS** is the most important step to attract clean energy investments into the region. The roadmap presented earlier can serve as the starting point in designing the forms of cooperation and collaboration between the countries.
- b. Regional body, e.g., ASEAN energy transition academy or ASEAN clean energy capacity building network, can be established to **develop a syllabus more or create a training curriculum and materials** to make capacity-building programmes on clean energy investments and funding more structured
- c. At the very minimum, the more advanced **AMS can disseminate and share the lessons learned** with the AMS to expedite the latter's progress.
- d. Related recommendations include **coordination for enabling regulatory environment** in relation to capacity building in clean energy investments and funding, and establishment of effective efficiency policies and regulatory frameworks in clean energy transition and clean energy investment.



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<https://aseanenergy.org/strategic-report-measure-and-investments-for-clean-energy-and-power-sector-resilience-in-asean/>

Policy Recommendation (2)

2. Integrated approach to green fiscal consolidations

- a. Efforts undertaken to reduce GHG emissions can be achieved by a well-designed integrated approach to **green fiscal consolidation** that includes **well-designed tax policies** e.g., carbon tax, and non-tax instruments such as emission trading system, feebates or regulations i.e., revenue increment.
- b. Implementing green or any fiscal consolidation at the regional level can be challenging for ASEAN that, for example, does not share common currency, therefore, a more appropriate implementation would be at the national level with general guidance or framework made at the regional level.
- c. The proposed strategic initiatives include establishing a proper entity to establish close collaboration between AMS, such as **ASEAN green fiscal policy network**, where activities like a dialogue between AMS to exchange and share ideas on instruments, tools and models for green fiscal and budgetary/monetary policy can be conducted.



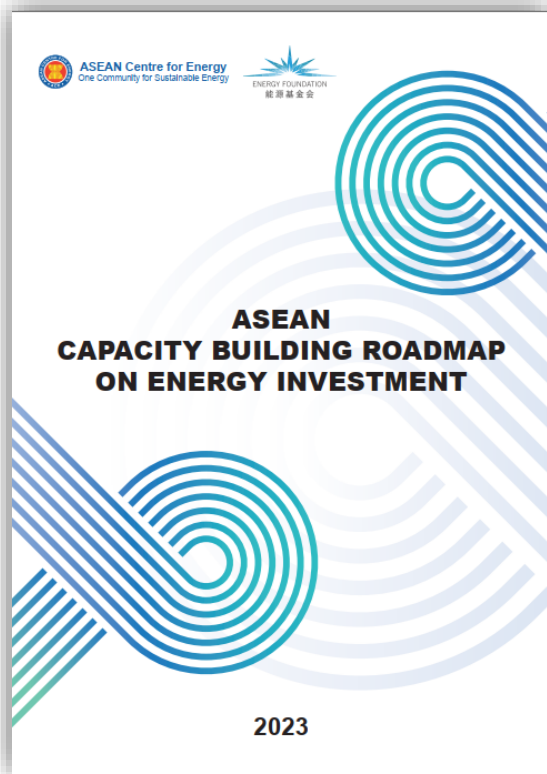
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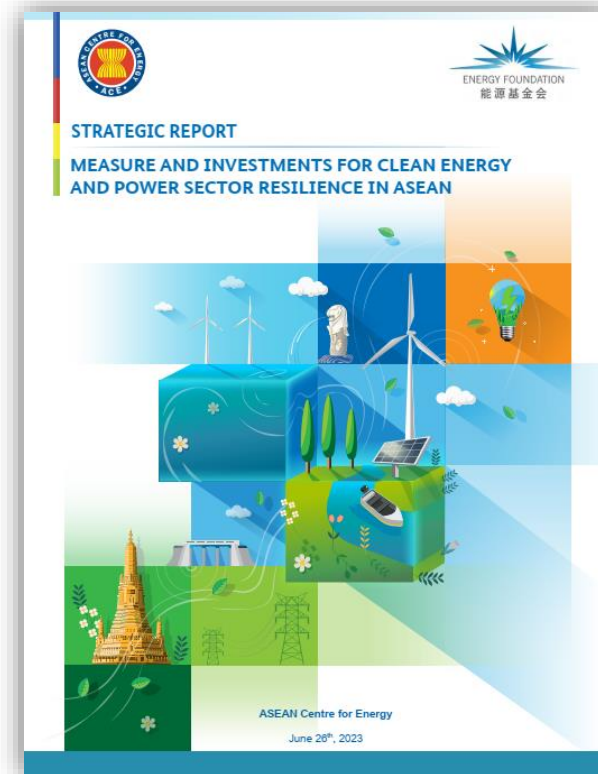
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Roadmap



<https://aseanenergy.org/asean-capacity-building-roadmap-on-energy-investment/>

Report



<https://aseanenergy.org/strategic-report-measure-and-investments-for-clean-energy-and-power-sector-resilience-in-asean/>



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