SIEW Thinktank Roundtable (27 October 2023)

# Financing ASEAN Decarbonisation Roadmap Towards Carbon Neutrality

A joint presentation by the Energy Studies Institute and the ASEAN Centre for Energy

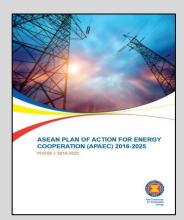


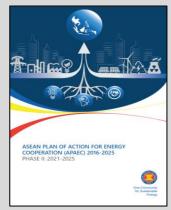




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# ASEAN Plan of Action for Energy Cooperation (APAEC)





APAEC is a series of guiding policy documents to support the implementation of ASEAN multilateral energy cooperation to advance regional integration and connectivity goals.

Serves as a blueprint for better energy cooperation under seven (7) programme areas in achieving the goals of the ASEAN Economic Community (AEC) pillar of the ASEAN Community.



To reduce energy intensity by 32% by 2025 and encourage EE&C efforts, especially in transport and industry



To increase the share of RE to 23% in TPES and 35% in installed power capacity by 2025



- Trans-ASEAN Gas Pipeline
  - Coal and Clean Coal Technology
- Energy Efficiency and Conservation
- Renewable Energy
- ( Regional Energy Policy and Planning
- Civilian Nuclear Energy







# 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





# **ASEAN** Strategy for Carbon Neutrality





Accelerate green value integration



Regional circular economy supply chains



**Enable ASEAN** 

interoperability



Interoperable carbon markets



Credible & common standards

Attracting international

capital & increasing liquidity

**Establish global credibility** 





Green talent development & mobility

**Build green capabilities** 

Developing talent & expertise

to drive the transition



Green best practice sharing

#### **Outcomes**

#### **Boost green industries**

Capturing full value of regional green industries



Identify & boost opportunities for greenification of the manufacturing value chains regionally





Upgrade ATIGA to comprehensively include circular products



Harmonize measurement, reporting & verification standards and policies to access global liquidity and regional carbon sink potential



Promote de-risking through adoption of innovative sustainable finance instruments



**Enable ASEAN feedstocks** pathways for biofuels to capture global markets



Enable regional power trading, physical interconnection, and policy cooperation



Establish globally credible regional GHG inventory to flow from national reports

Standardize globally credible

frameworks for corporate



Incentivize green fund managers to locate in ASEAN, and local funds to develop





Coordinate development of regional policies and regulations to support CCS/CCUS infrastructure



Enable interoperability of regional transport & logistics infrastructure



Encourage adherence to ASEAN Taxonomy on Sustainable Finance

climate reporting



Establish green skills taxonomy & facilitate movement of natural persons



Facilitate best practice sharing to support effective just transition at national level



Conduct capability building for sustainable infrastructure & smart cities



Promote regional energy efficiency (EE) & conservation







## Investment Needed to Meet the Targets

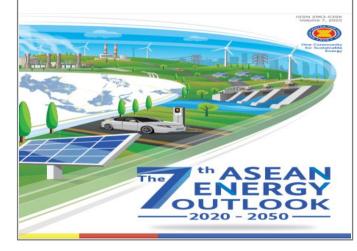
#### **IRENA & ACE (2016)**

To reach the 23% target, ASEAN would need to attract investment of US\$27 billion in renewable energy generation and infrastructure every year between 2014 and 2025.



#### **ACE (2022)**

- Approximately US\$160 billion will be required for RE for 2021-2030 period.
- In the long run (2031-2050), an additional investment of US\$400 billion is required.



#### **IEA (2022)**

Energy investment in Southeast
 Asia reaches an annual average of
 US\$130 billion by 2030 in the
 STEPS and it reaches US\$190
 billion in the SDS.

Southeast Asia Energy Outlook 2022









## Financing Decarbonisation Projects in AMS

Bilateral/multilateral
 ODA/Development finance

International public climate finance

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Government expenditure

Financial products, such as green bonds and loans

Domestic public/private climate finance

ASEAN Member States

Private
investment
(international
/ domestic)

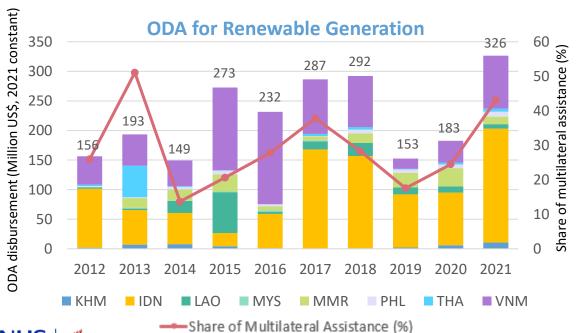
- FDI in decarbonisation projects
- Domestic investment

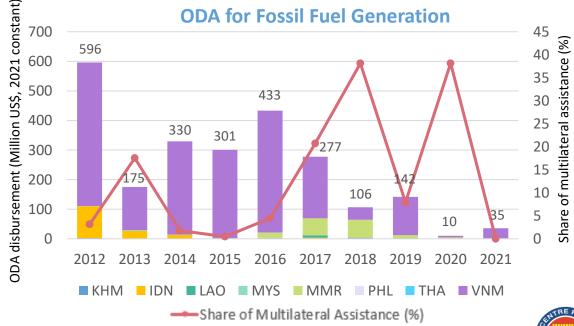




## Power Sector ODA for AMS

- US\$2.24 billion have been disbursed to renewable energy generation projects in AMS between 2012 and 2021.
  - Bilateral ODA (US\$1.6 billion, 69%) has outweighed multilateral ODA (US\$0.7 billion, 31%).
  - Indonesia (44%) and Vietnam (34%) have been the most significant recipients.
  - Hydroelectric generation and geothermal generation were two major RE technologies.
- While RE ODA shows a gradually increasing trend except for 2019-2020 period, ODA for fossil fuel generation seems to decline.





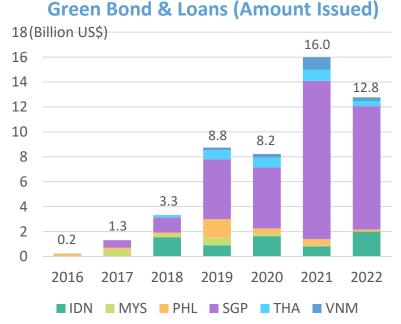


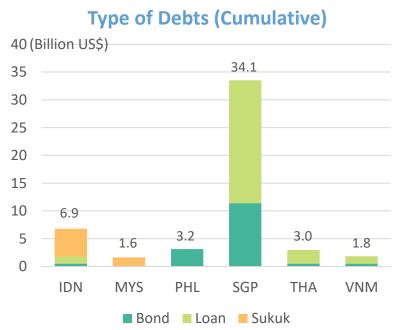


Data Source: OECD Creditor Reporting System (2023).

## Green Bonds & Loans in AMS

- Green debt issuance, including green bonds, loans, and sukuks, was US\$12.8 billion in 2022. The cumulative amounts between 2016 and 2022 reached US\$50.6 billion.
- Almost 80% of proceeds have been allocated to green building and energy projects.
  - In Singapore, approximately 75% of proceeds have been used for green building projects.
  - In Malaysia, Philippines, Thailand and Vietnam, more than 50% of proceeds have funded energy projects.











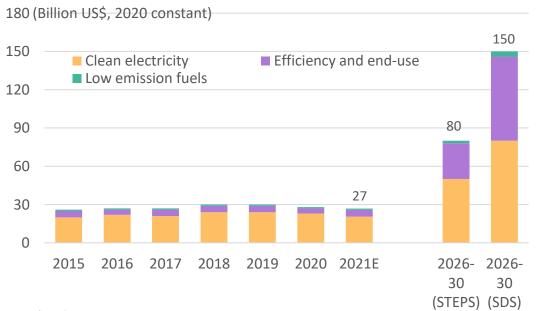
Data source: Almeida and Wong (2023); CBI (2023).



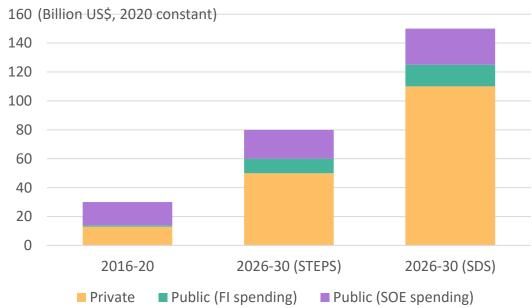
## Clean Energy Investment

- Clean energy investment in Southeast Asia in 2021 was estimated at US\$27 billion.
- Annual clean energy investment has never exceeded US\$30 billion but has to increase to US\$150 billion to comply with SDS.
- Clean energy investments in Southeast Asia have relied heavily on public sources of finance but in the SDS over 70% of
  investments are required to come from private capital.

#### **Clean Energy Investment in ASEAN**



#### **Sources of Finance for Clean Energy Investment**







Source: IEA (2022).



## In This Roundtable

- Discuss the current and future energy investment landscape.
- Explore the solutions to bridge the gap between the current trajectory and the targets, including
  - Identifying innovative financial sources;
  - Setting the budget allocation; and
  - Building strong collaboration between the public with the private sector and international funding.







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# **THANK YOU**

<u>Disclaimer:</u> The views and opinions expressed herein are those of the author and do not represent the views and opinions of the ASEAN Centre for Energy and the National University of Singapore or any of its subsidiaries or affiliates.

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