



Accelerating Clean Energy Transition to Achieve Net-Zero in ASEAN:

A Comparative Analysis of Energy Transition Mechanism

Team 4

Lee Josephine (Singapore)

Luu Thi Tang (Vietnam)

Phimdaphon Daophet (Lao PDR)

Phoo Pwint Pwint Thu (Myanmar)

Song Vergenylundy (Cambodia)



Scope of Presentation



- ❖ Overview of ASEAN's Energy Landscape
- ❖ ASEAN's Energy Transition Challenges
- ❖ Energy Transition Mechanism (ETM)
- ❖ Feasibility Assessment Framework
- ❖ Recommendations and Conclusion

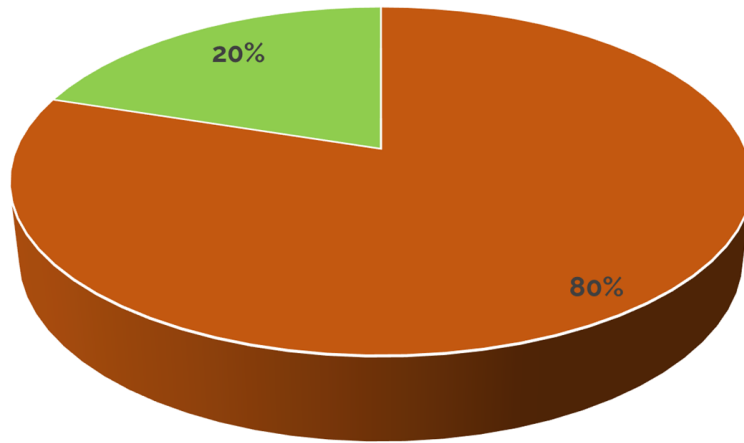


1 Overview of ASEAN's Energy Landscape

Current Regional Energy Mix



■ Fossil Fuels ■ Renewable Energy



ASEAN's Growing Appetite for Energy

4.5%

Estimated GDP growth per annum (2021-2025) as the ASEAN's economy recovers well from 2020's sharp contraction.



723 M

Estimated population by 2030, making ASEAN the 3rd largest in terms of population globally.

USD2tr

Infrastructure investment opportunities required by 2030 to maintain the economic growth.



60%

Expected growth in overall energy demand between now and 2040.

ASEAN's Commitments

SUSTAINABLE DEVELOPMENT GOALS



ASEAN Member States ratified to Paris Agreement



ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025

Energy Transition Readiness



Speed of energy transition is fast in emerging economies, but large gaps remain



Energy Transition Index (ETI): 2021

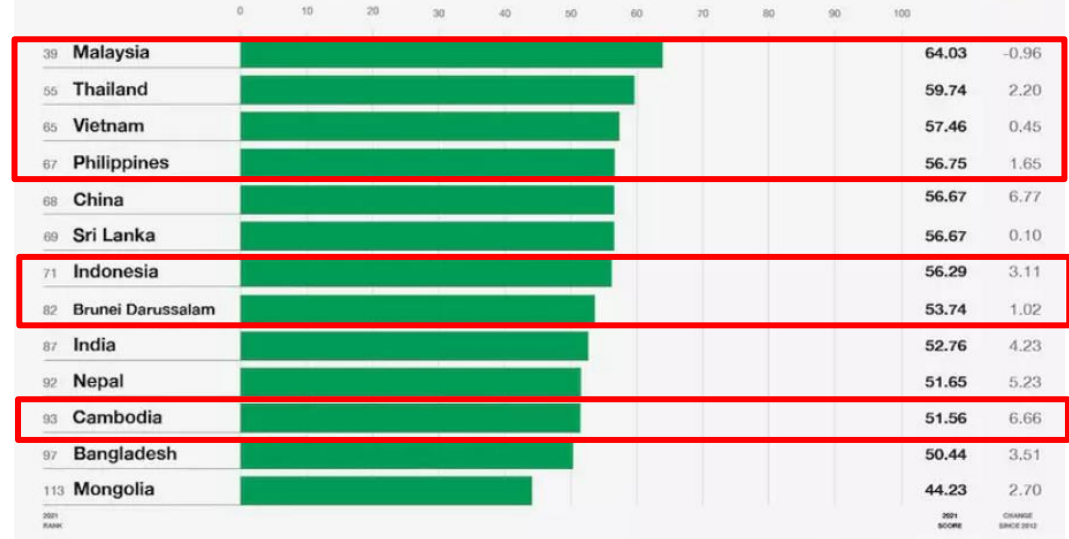


Year: 2021

Country Archetype: (All)

Regions: (All)

Energy Transition Index 2021 Emerging and Developing Asia



Not Quite There Yet, But Work in Progress



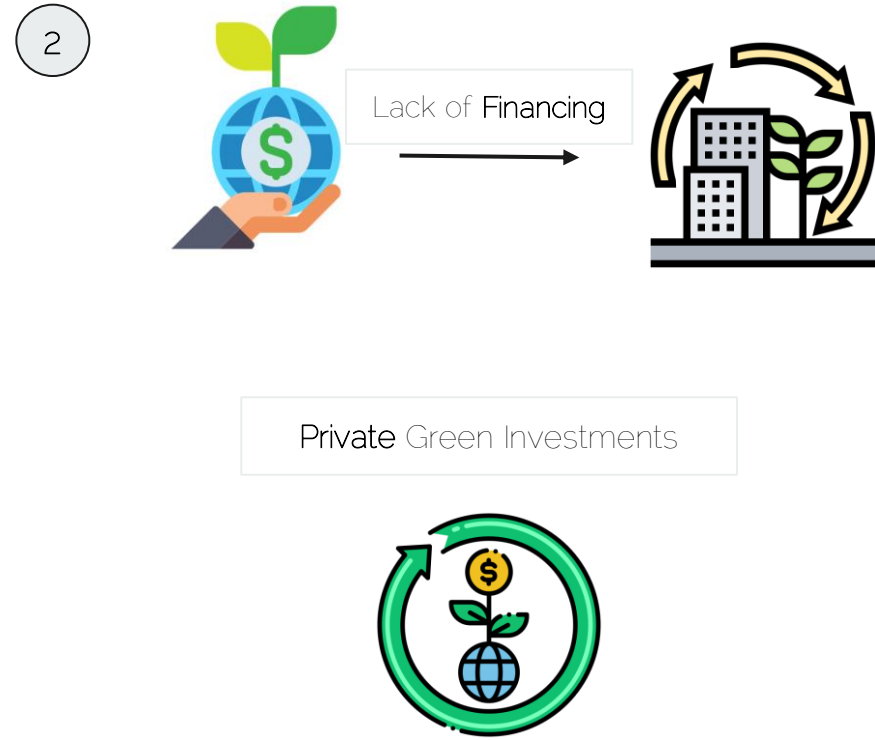
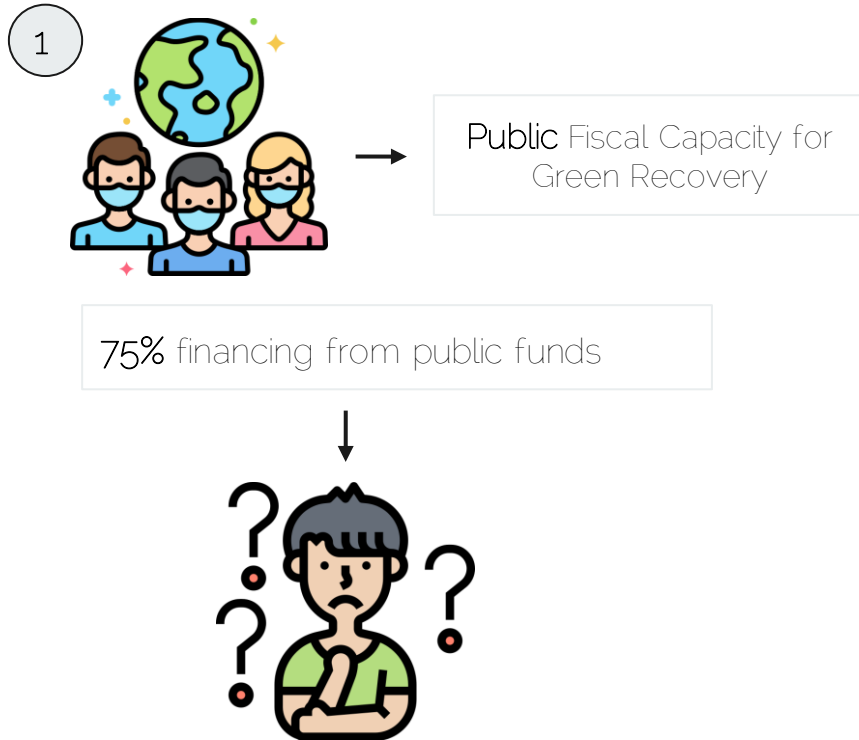
	Target under AMS' Energy Policies		APAEC Target		SDG Target	
Year	2025	2040	2025	2040	2025	2040
% of Renewable Energy in Total Primary Energy Supply	17.7%	22.1%	23%	28.7%	17.2%	21.7%

Projected % of renewable energy in total energy mix under current AMS' energy policies vis-a-vis APAEC targets and SDGs

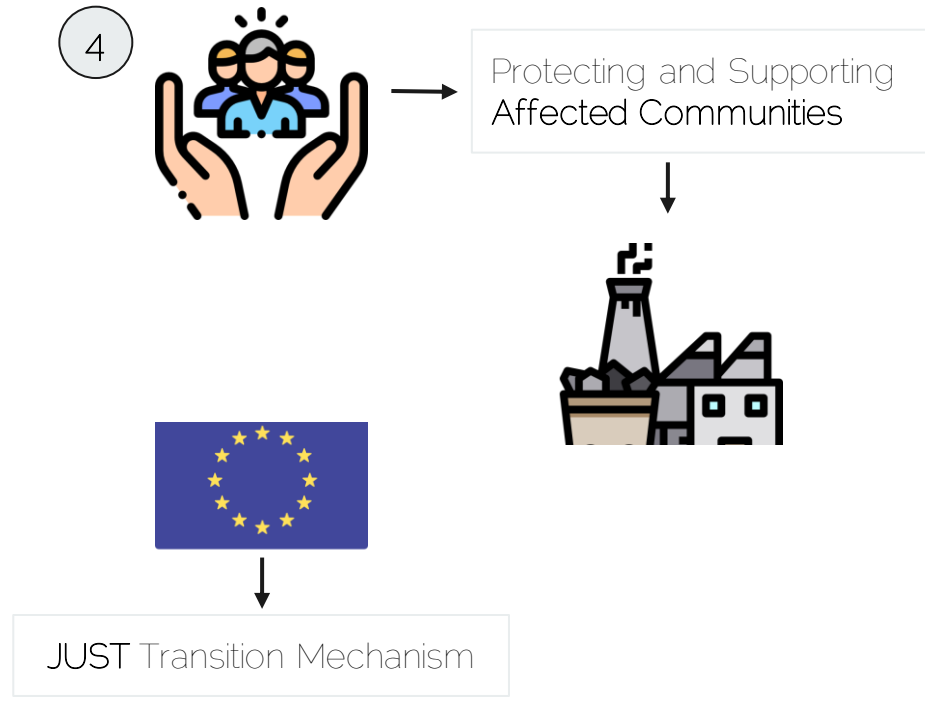
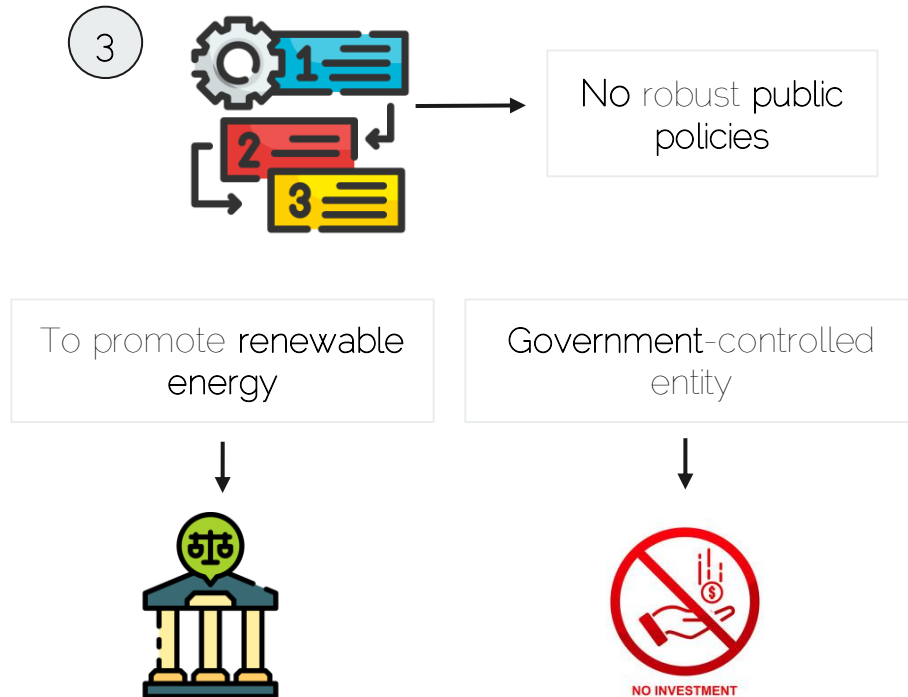


2 ASEAN's Energy Transition Challenges

ASEAN's Energy Transition Challenges



ASEAN's Energy Transition Challenges





③ Energy Transition Mechanism (ETM)

Energy Transition Mechanism (ETM)

What?



Market-Based

Who?



Collaborative Partnership

When?



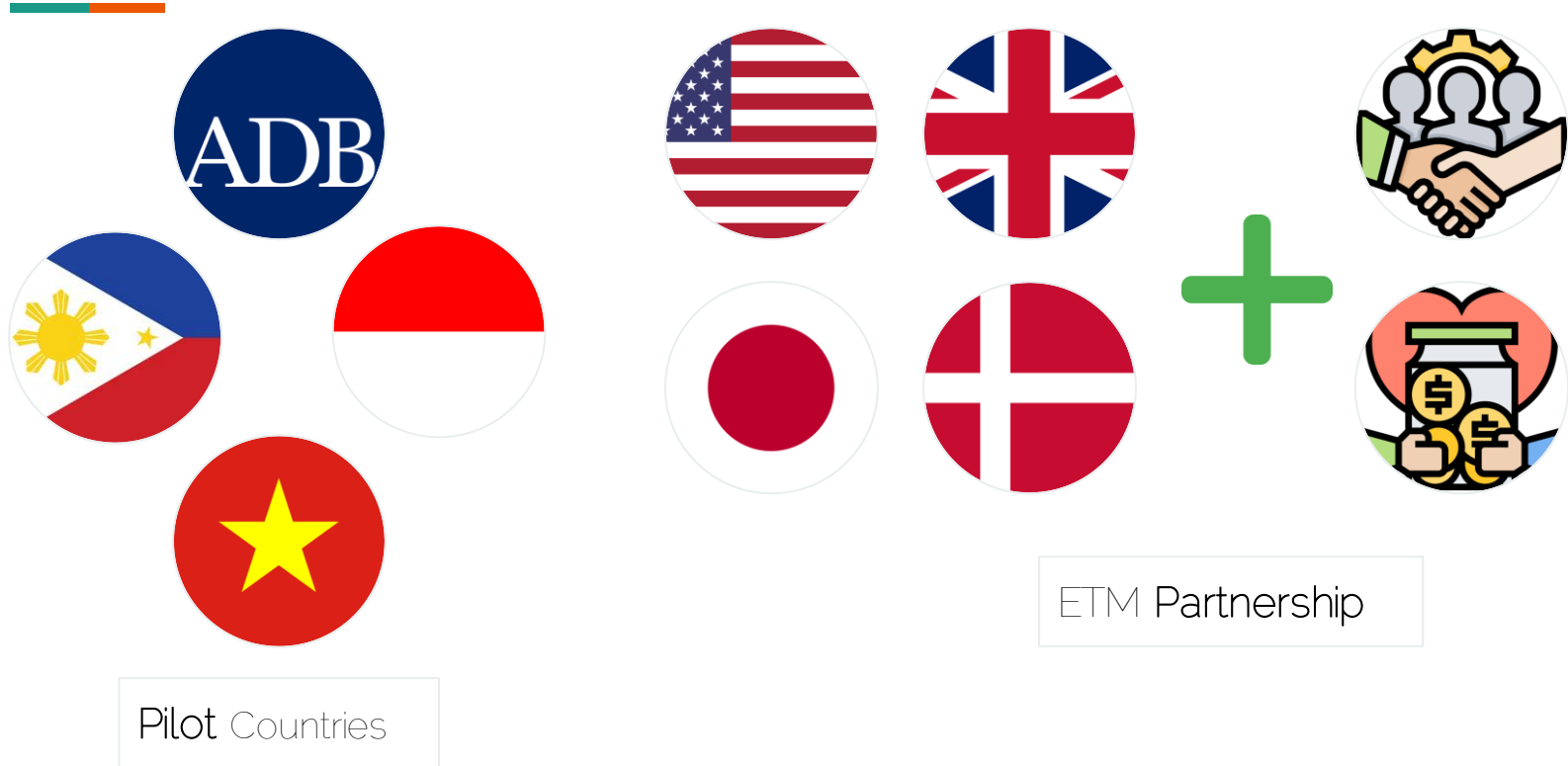
Glasgow, COP26

Why?

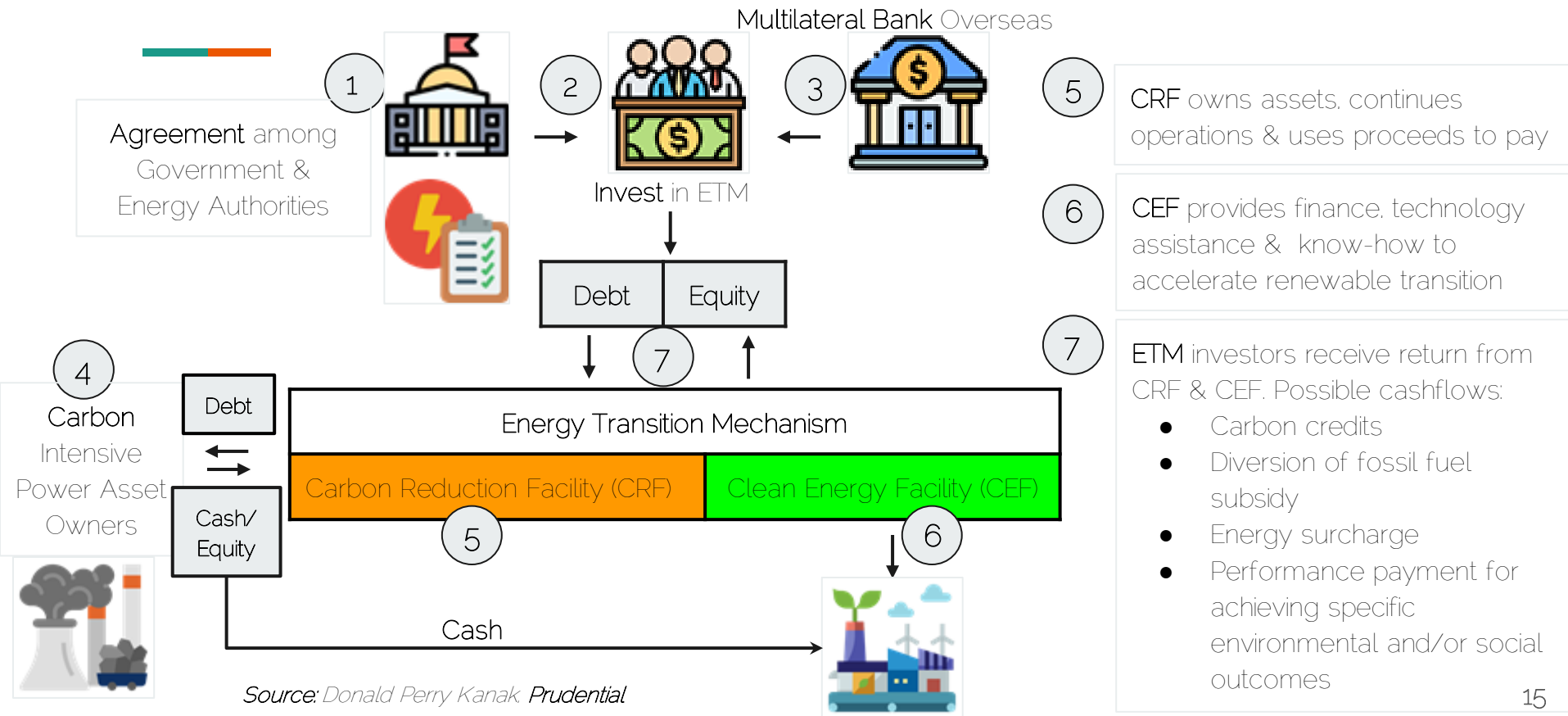


Climate Target

ETM Partnership Launch in ASEAN



How ETM Works?

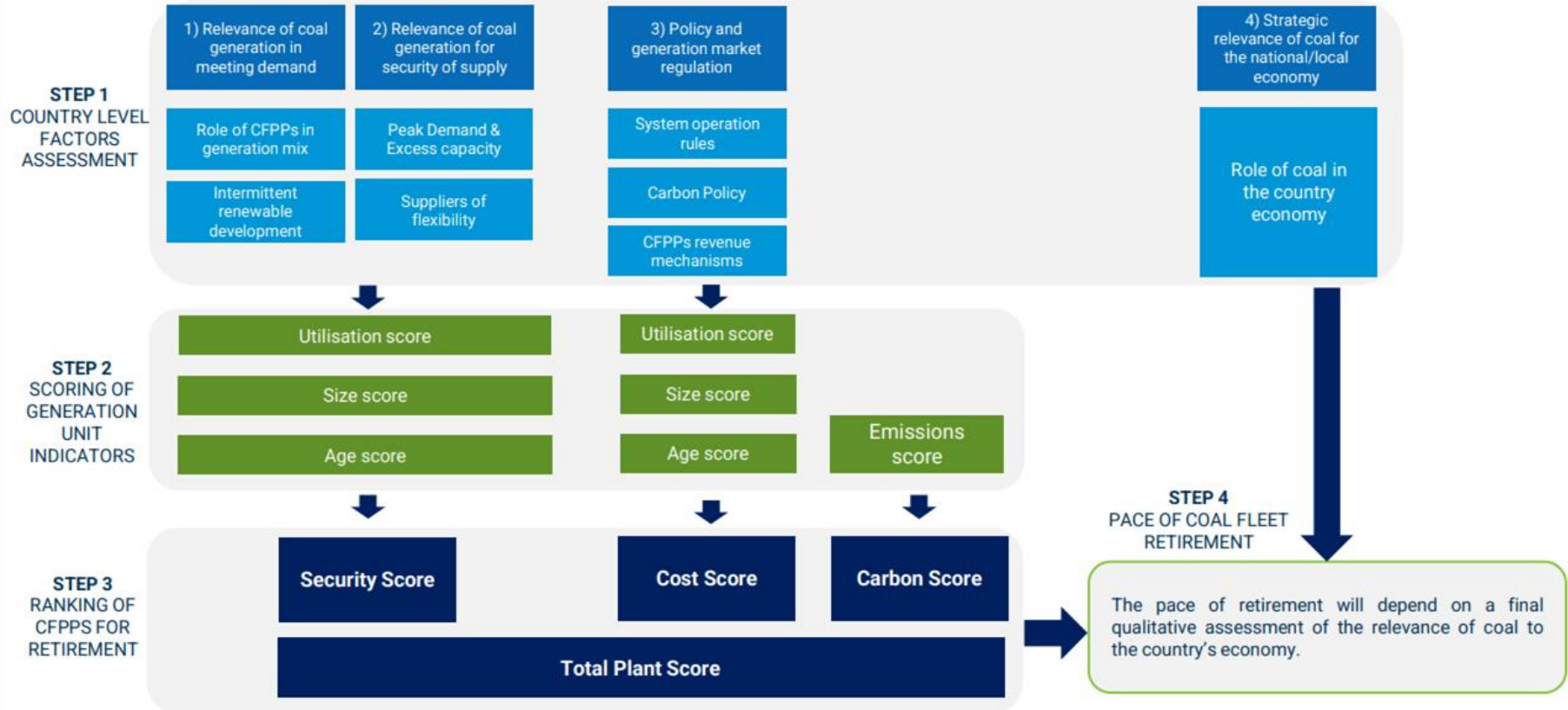




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Feasibility Assessment Framework

Building Blocks Multi-criteria Analysis Framework



Country-level Factor Assessment

Philippines

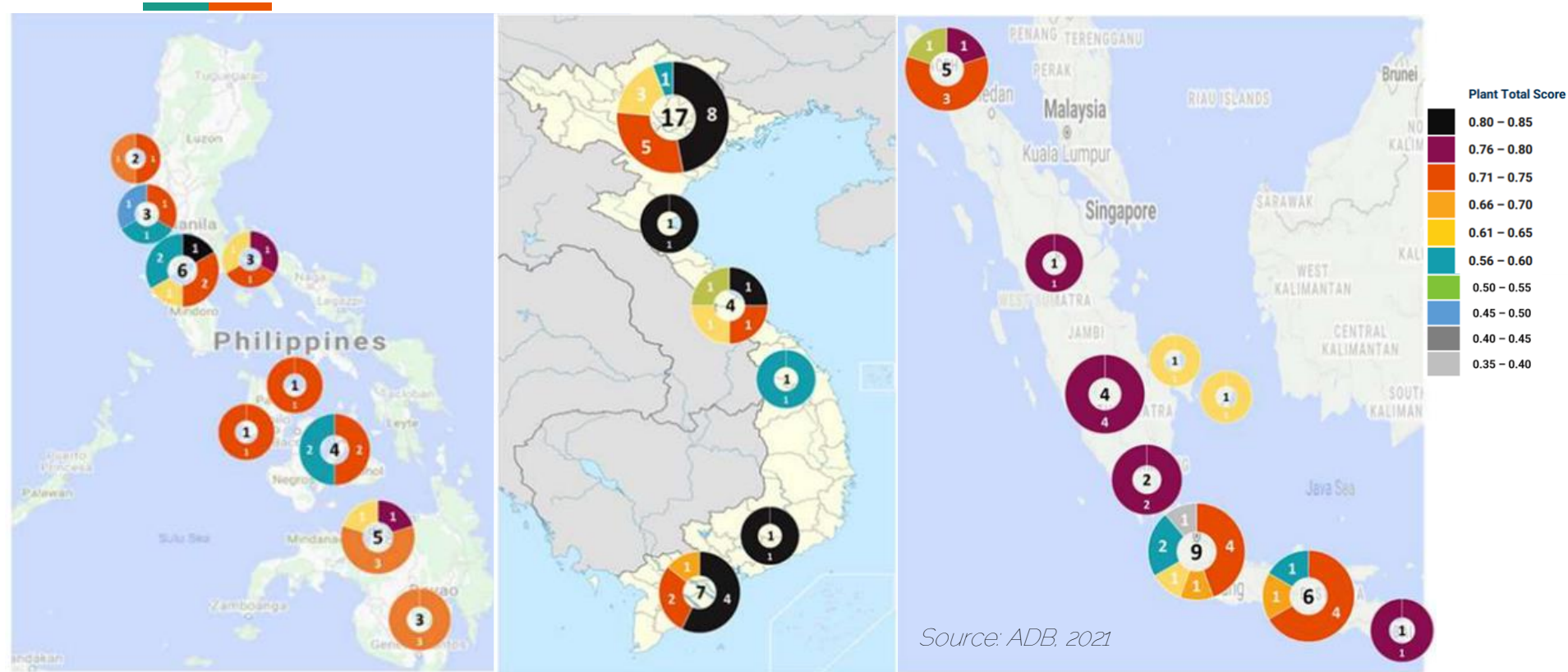
Luzon	Mindanao	Visayas
Energy from CFPPs is >10% but <50%	Energy from CFPPs is >50%	Energy from CFPPs is >10% but <50%
Energy from solar and wind is >10% but <30%		
Future limited excess capacity >20% and <50% of peak demand	Future limited excess capacity <20% of peak demand	Future limited excess capacity >20% and <50% of peak demand
A mix of CFPPs & other technologies		
Order by merit with prioritization rules towards CFPPs		
Financial value <u>not associated</u> with carbon market/tax		
With subsidy		

Vietnam

Vietnam	Java-Bali	Sumatra
Energy from <u>CFPPs</u> is >10% but <50%	Energy from CFPPs is >50%	Energy from CFPPs is >10% but <50%
Energy from solar and wind is >10% but <30%	Energy from <u>solar and wind</u> is <10%	
Future limited excess capacity >20% and <50% of peak demand	Future limited excess capacity >20% and <50% of peak demand	
A mix of CFPPs & other technologies	CFPPs are not suppliers or have a very low contribution	
Order by merit with prioritization rules towards CFPPs	Order by merit with prioritization rules towards CFPPs	
Financial value associated with carbon market or taxes	Financial value associated with carbon market or taxes	
With subsidy	<u>No subsidy</u>	

Indonesia

Distribution of CFPF Generation Units



System Readiness and Plant Prioritization

Country	CFPP	Region	Size (MW)	Total Ranking	Security Ranking
Philippines	PCPC	Visayas	135		
	KSPC	Visayas	206		
	SEM Calaca	Luzon	600		
	Mindanao Coal	Mindanao	232		
Vietnam	Uong Bi Expansion	Northern Vietnam	630		
	Hai Phong 1	Northern Vietnam	600		
	Hai Phong 2	Northern Vietnam	600		
Indonesia	Keban Agung	Sumatra	240		
	Sumsel 5	Sumatra	300		
	Paiton 1	Java-Bali	1230		

Legend

CFPP scored within the top third	
CFPP scored within the middle third	
CFPP scored within the bottom third	

Policy Readiness for ETM Implementation



No actual prohibition against early retirement of coal in regulation or contract structures

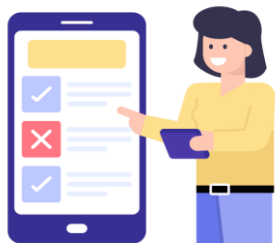


No existing regulations. Special Purpose Vehicle (SPV) Act allows transferring loans but would need new legislation



No single or consolidated legal instrument. Unclear future electricity tariffs, high investment cost of newer technologies

Survey on ETM



Online survey for data collection: 19 to 21 March



Target respondents:
Energy and sustainability
professionals mainly from,
but not limited to, ASEAN
countries

Sample size: 25

YSEALI Public Policy Seminar

Regional Environment and Resilient Development



Fulbright

ACCELERATING CLEAN ENERGY TRANSITION TO ACHIEVE NET-ZERO IN ASEAN: A COMPARATIVE ANALYSIS OF PRACTICAL-DRIVEN MECHANISMS

This survey was designed to assist in the development of a team project for the YSEALI Public Policy Seminar on "Regional Environment and Resilient Development" at Fulbright University Vietnam. This is a two-week seminar fully sponsored by the U.S. State Department for young professionals who intend to embark on a journey to address environmental issues. Our team is made up of Fellows from Singapore, Vietnam, Myanmar, Laos, and Cambodia. Thank you for taking time to participate in our survey.

Your name? *

Short-answer text

Your affiliation/profession? *

Short-answer text



Enablers

44%

Government Policy



24%

Private Finance



Obstacles

40%

Lack of Government Policy Support



40%

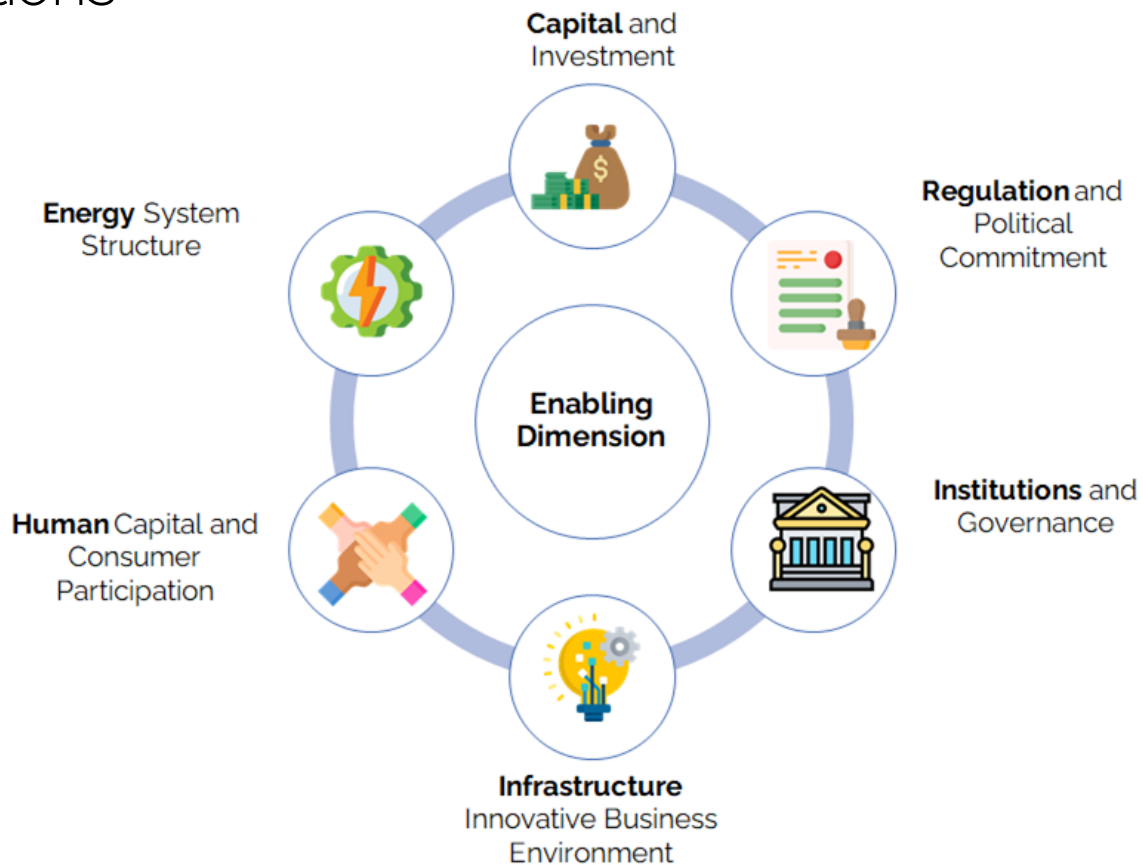
Lack of Sustainable Finance





5 Recommendations & Conclusion

Recommendations



Conclusion



Energy transition focused on technologies →



Technical and financial feasibility work on ASEAN countries with high share of coal power e.g.



The clean use of coal is crucial to address the priorities of energy affordability and climate change as part of ASEAN's energy transition

Future of ASEAN's energy sector

Accessible



Cleaner



Integrated



Inclusive & Just



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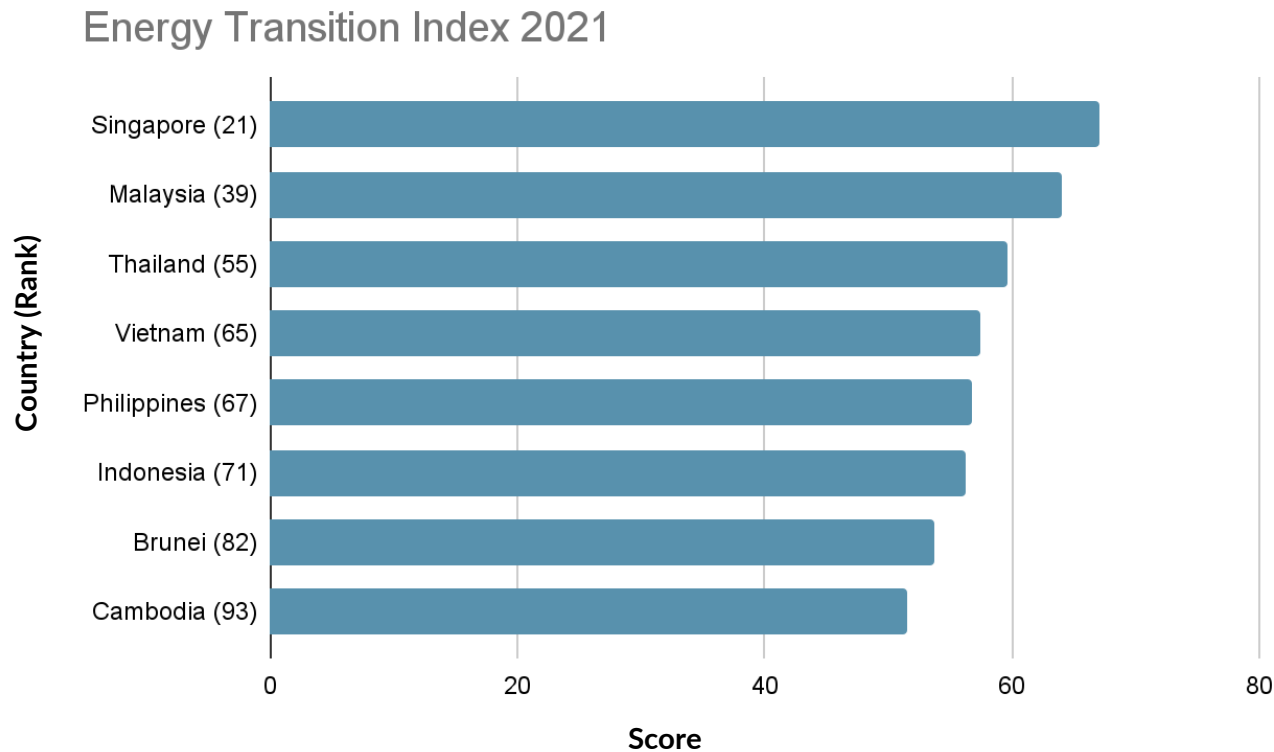


“ There’s No Planet B”



Thank You!

Appendix



Laos and Myanmar are not part of the benchmarking exercise