

ASIA CLEAN ENERGY FORUM 2025

Empowering the Future: Clean Energy Innovations,
Regional Cooperation and Integration, and Financing Solutions

2–6 June | ADB Headquarters, Manila



ADB's Regional Cooperation and Integration Initiatives in Central, South, and Southeast Asia

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In cooperation with



Global Energy Interconnection
Development and Cooperation Organization
全球能源互联网发展合作组织

Regional Cooperation and Integration (RCI) is a key focus area for ADB

- to promote cross-border infrastructure, trade integration, financial links, and regional public goods

ADB serves as secretariat or advisor for:

CAREC

Azerbaijan
China
Georgia
Kazakhstan
Kyrgyz Republic
Mongolia
Pakistan
Tajikistan
Turkmenistan
Uzbekistan

Sustainable Energy
Domestic and regional interconnections
Distribution strengthening

SASEC

Bangladesh
Bhutan
India
Maldives
Myanmar
Nepal
Sri Lanka

Domestic interconnections
T&D Grid Modernization
Rural electrification

BIMSTEC

Bangladesh
Bhutan
India
Myanmar

Nepal
Sri Lanka
Thailand

BIMSTEC Grid Interconnection Master Plan

GMS

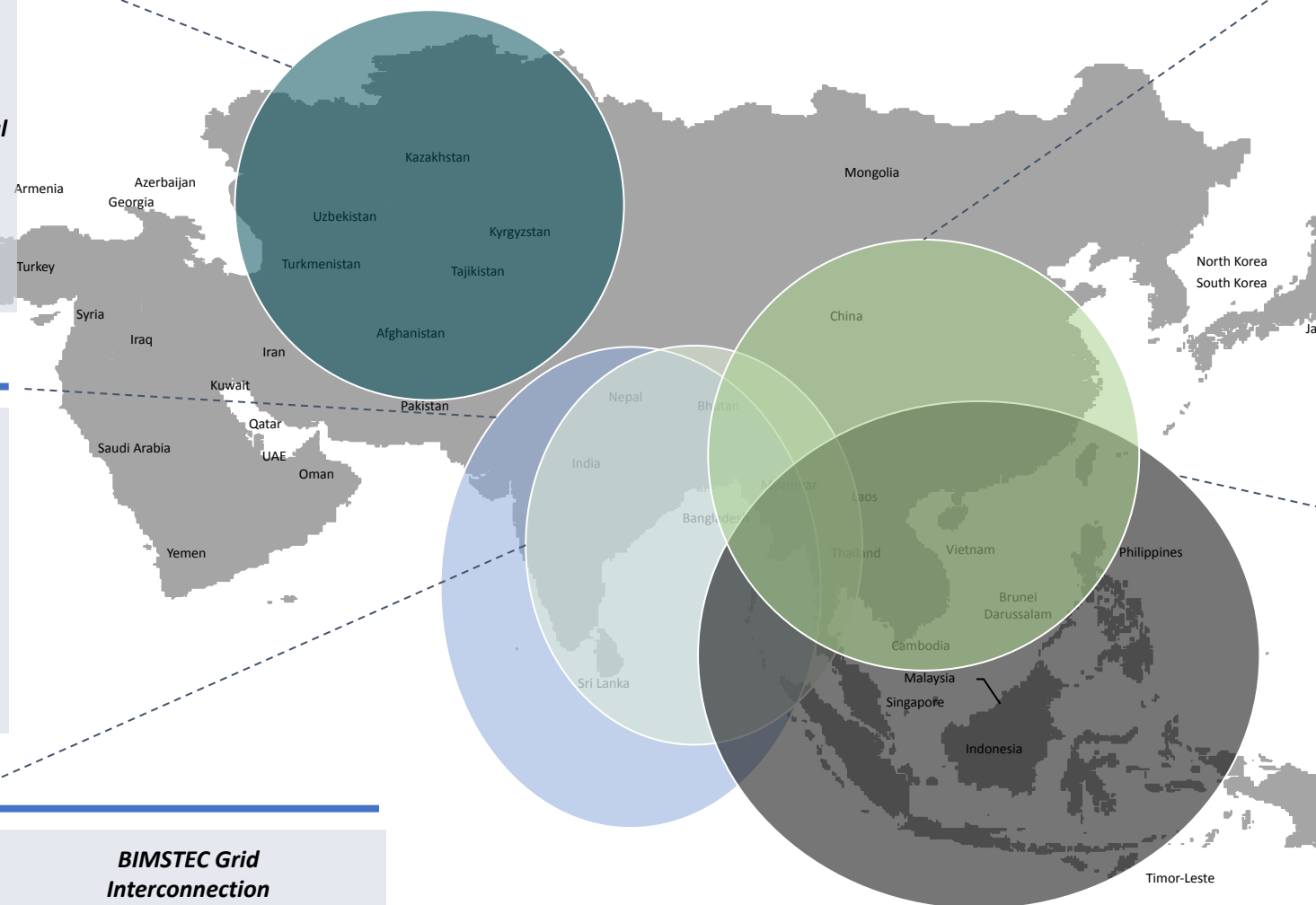
Cambodia
China
Myanmar
Thailand
Vietnam
Lao PDR

Domestic and regional interconnections
T&D Grid Modernization
Sustainable Energy

ASEAN

Brunei
Darussalam
Cambodia
Indonesia
Lao PDR
Malaysia
Myanmar
Philippines
Singapore
Thailand
Vietnam

Support to:
Brunei Darussalam-Indonesia-Malaysia-Philippines, East ASEAN Growth Area (BIMP-EAGA)
Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT)
ASEAN Power Grid



RCI is a key enabler for energy security and resilience

ADB serves as secretariat or advisor for:

1

ASEAN

Brunei Darussalam Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar Philippines Singapore, Thailand, Vietnam

Brunei Darussalam-Indonesia-Malaysia-Philippines, East ASEAN Growth Area (BIMP-EAGA)

Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT)
Indonesia, Malaysia, and Thailand

2

CAREC

Azerbaijan, China, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, Uzbekistan

3

GMS

Cambodia, China, Myanmar, Thailand, Vietnam, Lao PDR

4

SASEC

Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, and Sri Lanka

Project Themes

- Regional Power Trading / Pools
- Grid Interconnection
- Renewable Energy
- Energy Efficiency

- Sustainable Energy
- Transmission – Domestic and regional
- Distribution strengthening

- Regional Interconnections
- Domestic interconnections
- T&D Grid Modernization
- Sustainable Energy

- Domestic interconnections
- T&D Grid Modernization
- Rural electrification
- Digital Interventions

TA Areas

- Grid Interconnection Planning
- Network Planning
- Policy Assessment
- Feasibility studies

- Cross border power trade
- Grid Modernization
- Project preparation
- Master Plan and Financing

- Cross border power trade
- Climate Change Mitigation
- Project Preparation
- Integrated Resource Plan

- Feasibility studies
- Policy & regulatory reforms
- Digital Utility
- Project preparation



Regional Energy Connectivity and Trade in Central Asia and West Asia



Sectoral Context and Challenges



Energy Security

Fossil fuel dependency impacts trade balance and air quality.



Energy Affordability

Tariff reforms needed while protecting vulnerable populations.



State Ownership

SOE dominance limits private capital mobilization opportunities.

Central Asian Power System:

Backbone of Regional Energy Cooperation

CAPS was established in the **1970s** during Soviet rule and reconfigured after 1991. It enables synchronous grid operation across **Kazakhstan, Kyrgyzstan, Uzbekistan, and Tajikistan.**

The system facilitates cross-border electricity trade and seasonal balancing. It's **operated by the Unified Dispatch Center "Energia" in Tashkent.**

CAPS serves as a platform for regional energy security and future decarbonization initiatives.





Caspian Sea Green Energy Corridor Project

ADB

This initiative will develop renewable energy infrastructure across Central Asia, establishing green energy export corridors to European markets.



MOU Signed

Azerbaijan, Kazakhstan, and Uzbekistan partnership formalized May 2024.



SPV/JV

established

Shareholder's agreement signed on 27 December 2024.



Collaboration

Opportunities

Exploring synergies with Black Sea Submarine Cable

Project among other alternative routes



Technical Assistance

ADB supports from very initial stage.

Total of \$ 1 225 000 TA for preparatory stage and 1st phase feasibility study Parallel financing with **AIIB**.

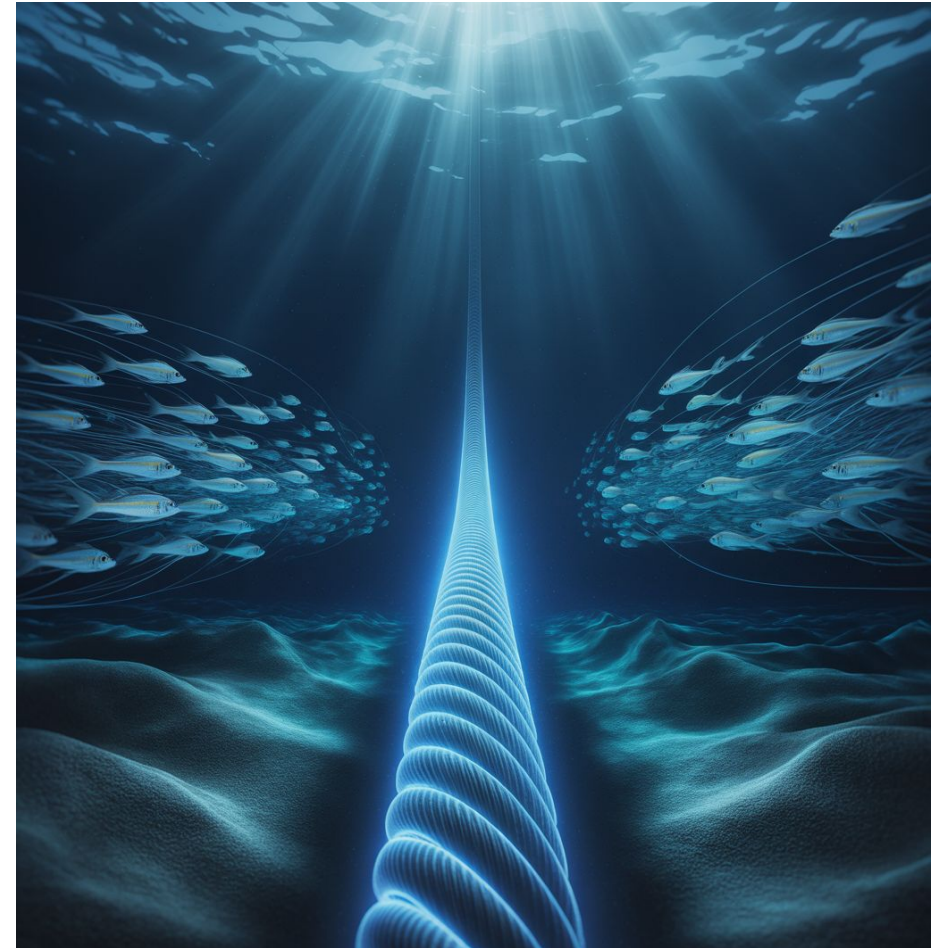
Black Sea Submarine Cable

Project

The 1,355 km submarine cable will connect renewable energy resources across the Black Sea, creating an important energy corridor between the South Caucasus and Europe. Supported by **World Bank** financing.

Key Project Elements

- 1,300 MW HVDC submarine cable capacity
- Integrated optical fiber communication link
- Four-country collaboration (Azerbaijan, Georgia, Hungary, Romania) through a JV Green Energy Corridor Power Company created on 3 September 2024
- Crucial component of EU's green energy transition



One Vision, Joint Action: Advancing Regional Power Interconnections



Political Commitment

Elevate power trade as strategic priority. Establish joint platforms for cross-border planning.



Regulatory Alignment

Harmonize grid codes and market rules. Create frameworks for cross-border renewable PPAs.



Renewable Development

Coordinate renewable energy zones. Plan balancing resources and grid upgrades regionally.



Project Financing

Develop joint feasibility studies. Package projects for blended MDB and private financing.





How ADB is Powering Regional Connectivity



High-Level Dialogue

Convene platforms for political commitment



Policy Framework

Align grid codes and cross-border energy trading mechanisms



Renewable Integration

Design RE zones aligned with regional grid plans



Investment Mobilization

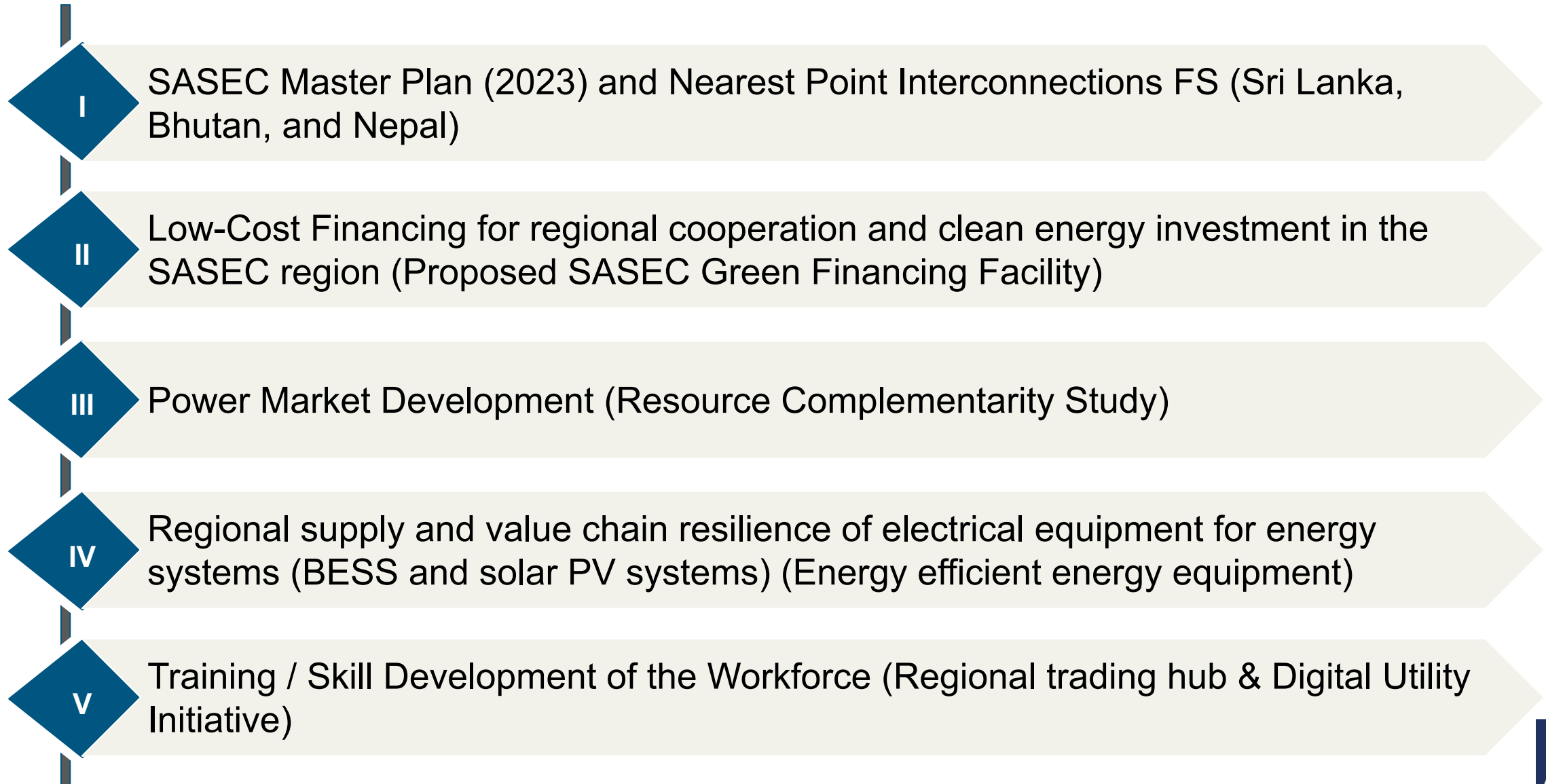
De-risk infrastructure through guarantees and blended finance



Photo Credit: ADB

Overview of ADB activities in the energy sector (RCI) in South Asia

Ongoing Initiatives under SASEC



Support to the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

BIMSTEC countries signed **the MOU on regional grid integration** in 2018.

ADB is supporting the BIMSTEC Secretariat and the member countries towards preparation of **grid interconnection masterplan**. The key objectives of the plan entail –

- Indicate economic benefits for BIMSTEC Region, as a result of regional grid interconnections, exploring India-Myanmar-Thailand links.
- Prepare high level BIMSTEC Grid Interconnection Master Plan, individual countries Master Plans.
- Identify/develop power generation options and estimate the potential of their energy outputs.
- Develop regional generation plan up till 2035 expanding on existing national generation master plans.
- Conduct economic analysis on different regional interconnection scenarios.

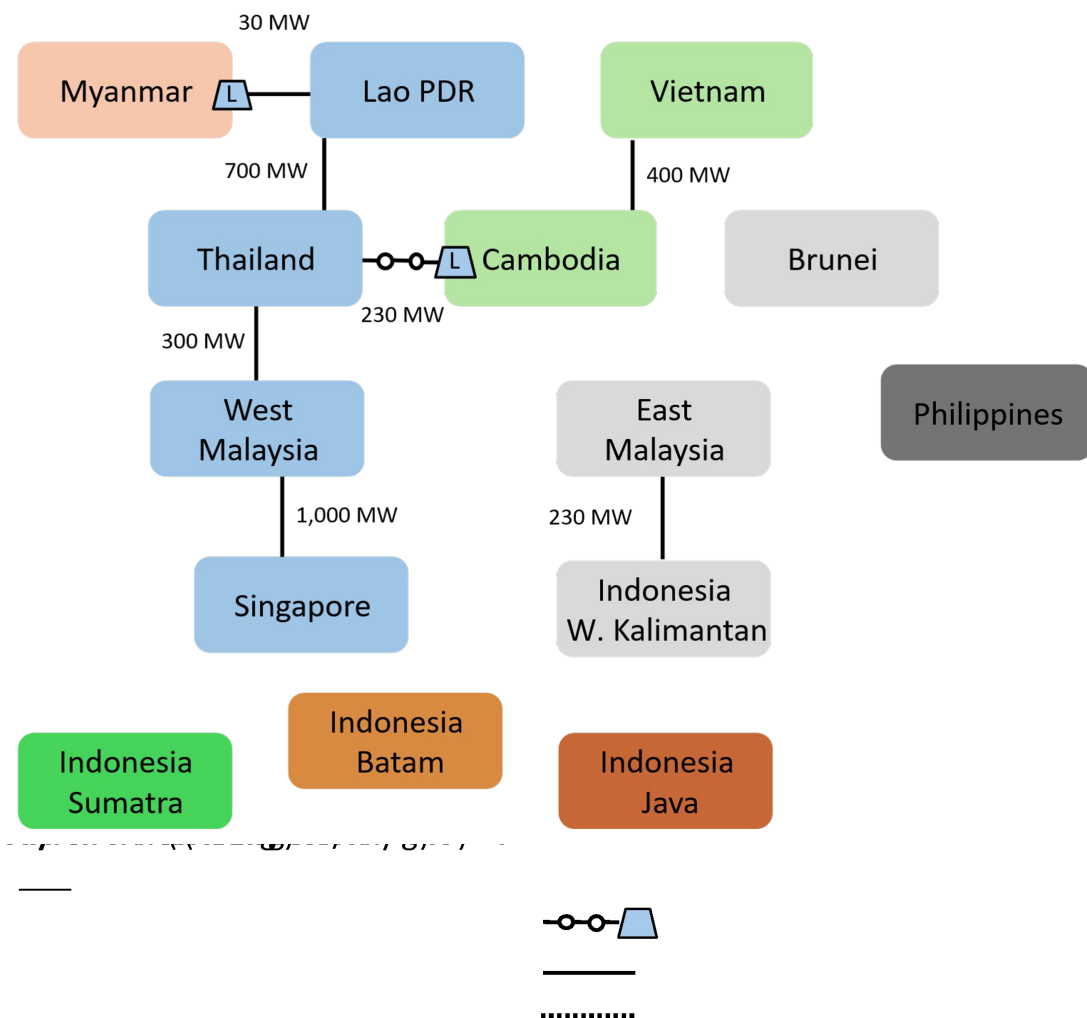
Two workshops organized:

- 18–20 February 2024 in Dhaka, Bangladesh; and
- 13 to 15 May in Bangkok, Thailand
- **Final draft is expected by 31 July 2025**



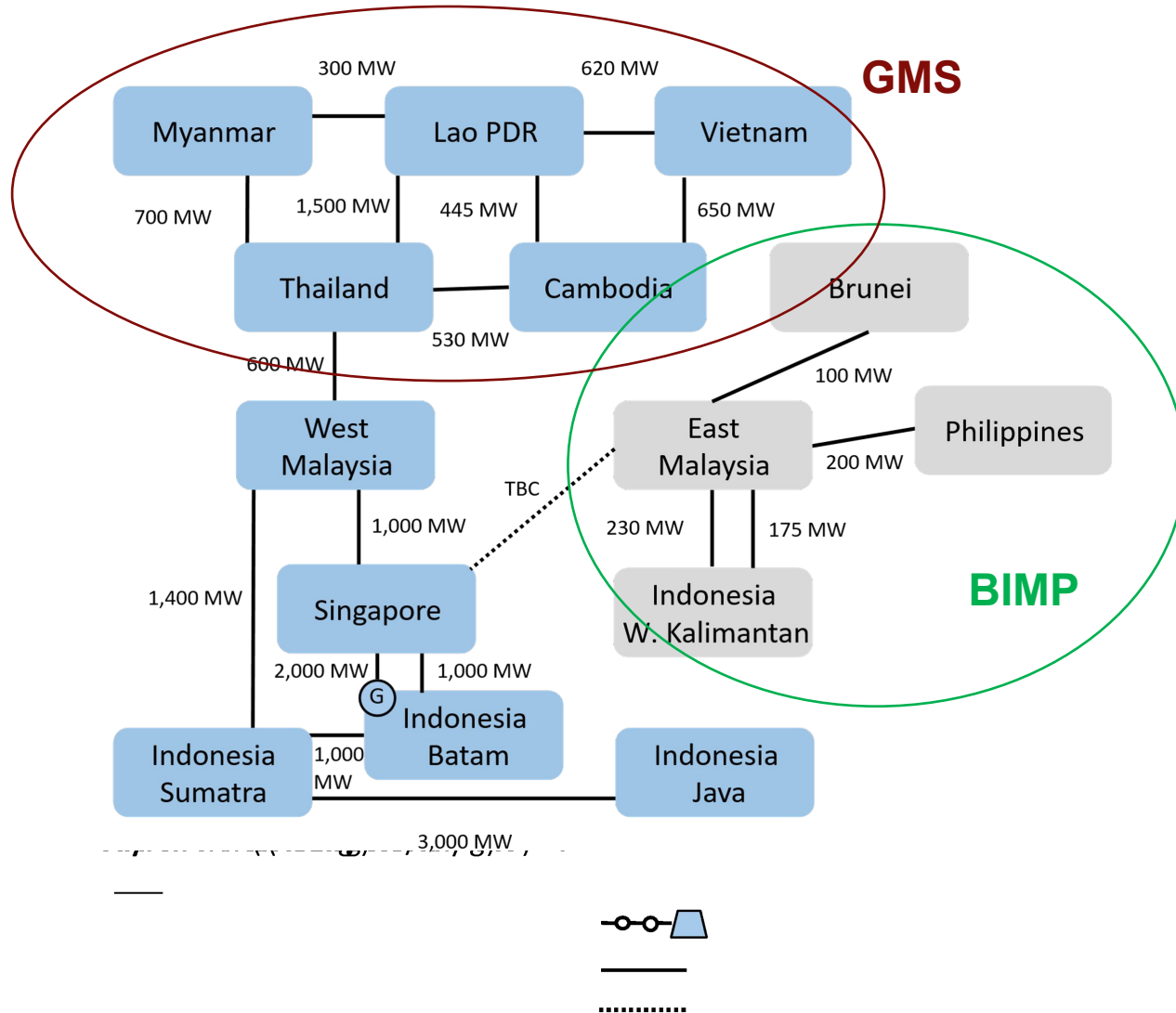
Regional Power Trade and Interconnection Initiatives in Southeast Asia Region

ASEAN Power Grid: low level of interconnections but successfully demonstrating the feasibility of multilateral power trade



- APG is the ASEAN's flagship initiative, implemented by APG bodies such as APGCC, AREN, and HAPUA, coordinated by the ACE. Enhanced MOU is expected to be signed in 2025 towards multilateral power trade and regional energy integration.
- Grid-to-Grid Interconnects are either at low voltage or have limited utilization on high-voltage connections.
 - Lao PDR, Thailand, Peninsular Malaysia, Singapore (LTMS) demonstrated a successful multilateral power trade using the existing infrastructure (100-200 MW)
 - Vietnam - Cambodia
 - Sarawak – W. Kalimantan
 - Thailand – Cambodia (load switchable) at 115 kV
 - Lao PDR – Myanmar (load switchable) at 115 kV
- High-voltage interconnections developed mainly for source-to-grid bilateral power trade projects between Lao PDR (hydro) and its neighboring countries in the GMS (Greater Mekong Subregion).

ASEAN Power Grid Vision: To be fully operated by 2045



- ASEAN leaders have committed to achieve APG's full operation by 2045. This is to meet ASEAN's energy demand, which is projected to nearly triple by 2050, due to rapid growth and digitalization.
- AIMS III (2022) identified 18 interconnection projects, targeting a combined capacity of 17.7 GW and requiring at least \$17 billion CAPEX investment.
- Singapore's 6GW clean energy import has spurred strong private sector interest in subsea interconnection projects.
- GMS and BIMP programs have been aligned and synergized to accelerate the APG development.

Growing number of interconnection projects under preparation across Southeast Asia (with mostly subsea components)

Project	Scope / Developers	COD	Potential Financing Mode
Batam–Singapore	600 MW subsea / Gallant, Pacific Light	2030	Private
Riau–Singapore	1.0 GW subsea / TotalEnergies, RGE	TBD	Private
Batam–Sumatra	1.6 GW subsea / PLN	TBD	Sovereign/PPP
Sumatra–Java	2.0 GW subsea / PLN	TBD	Sovereign/PPP
Sumatra–P. Malaysia	1.2 GW subsea / PLN, TNB	2035	Hybrid
Sarawak–PM	1.0 GW subsea / Sarawak, TNB	2033	Private
Sarawak–Singapore (Direct)	1.0 GW subsea / Sarawak, Sembcorp	2035	Private
Viet Nam–Malaysia–Singapore	2.0 GW subsea + overland / Gentari, TNB, PTSC	2035	Private
Laos–Cambodia–Malaysia–Singapore	1.0+ GW overland + subsea / Keppel, Royal Group	TBD	Private
Laos–Thailand–Cambodia (LTC)	MW TBD / Power exchange / EDL, EDC, EGAT	TBD	Utility
Thailand–Malaysia	600MW–1GW overland / EGAT, TNB	TBD	Utility
Sabah–N. Kalimantan	450MW overland / SEC, PLN	2031	Utility
BIMP-PIP	Grid projects in Borneo / PLN, SEB, etc, Potential subsea interconnection with the Philippines via Palawan or Mindanao	TBD	Utility

To address challenges, ADB and World Bank are developing financing solutions and partnership platforms for APG

42nd ASEAN Ministers of Energy Meeting – September 2024

*“The Meeting noted the initiatives by the **Asian Development Bank (ADB) and World Bank in supporting national and regional energy transition programme and facilitating ASEAN’s energy integration, including a dedicated financing facility for the APG.**” “The Meeting further noted the importance of **close coordination between the Multilateral Development Banks (MDBs) partners and AMS to enable the successful establishment of the financing facility.**”*

Joint Ministerial Statement,
26 September 2024

12th ASEAN Finance Ministers’ and Central Bank Governors’ Meeting– April 2025

*We welcome the ongoing discussion on the **World Bank and Asian Development Bank’s proposed development of the ASEAN Power Grid Financing Framework (APGFF)**, which will be a “living document”- one that will be actively reviewed and updated to seize opportunities for attracting global capital flows. This is a promising step in advancing the region’s sustainability agenda. We also call on **the private sector, financial institutions, philanthropic capital providers and relevant stakeholders, including multilateral development banks, ...***

Joint Ministerial Statement,
10 April 2025

ASEAN 44th Leaders Summit – Oct 2024

*“...we welcomed initiatives by multilateral financing institutions and partners in **developing financing facilities to support the building of APG’s cross-border interconnection infrastructure**, in collaboration with ASEAN Member States.”*

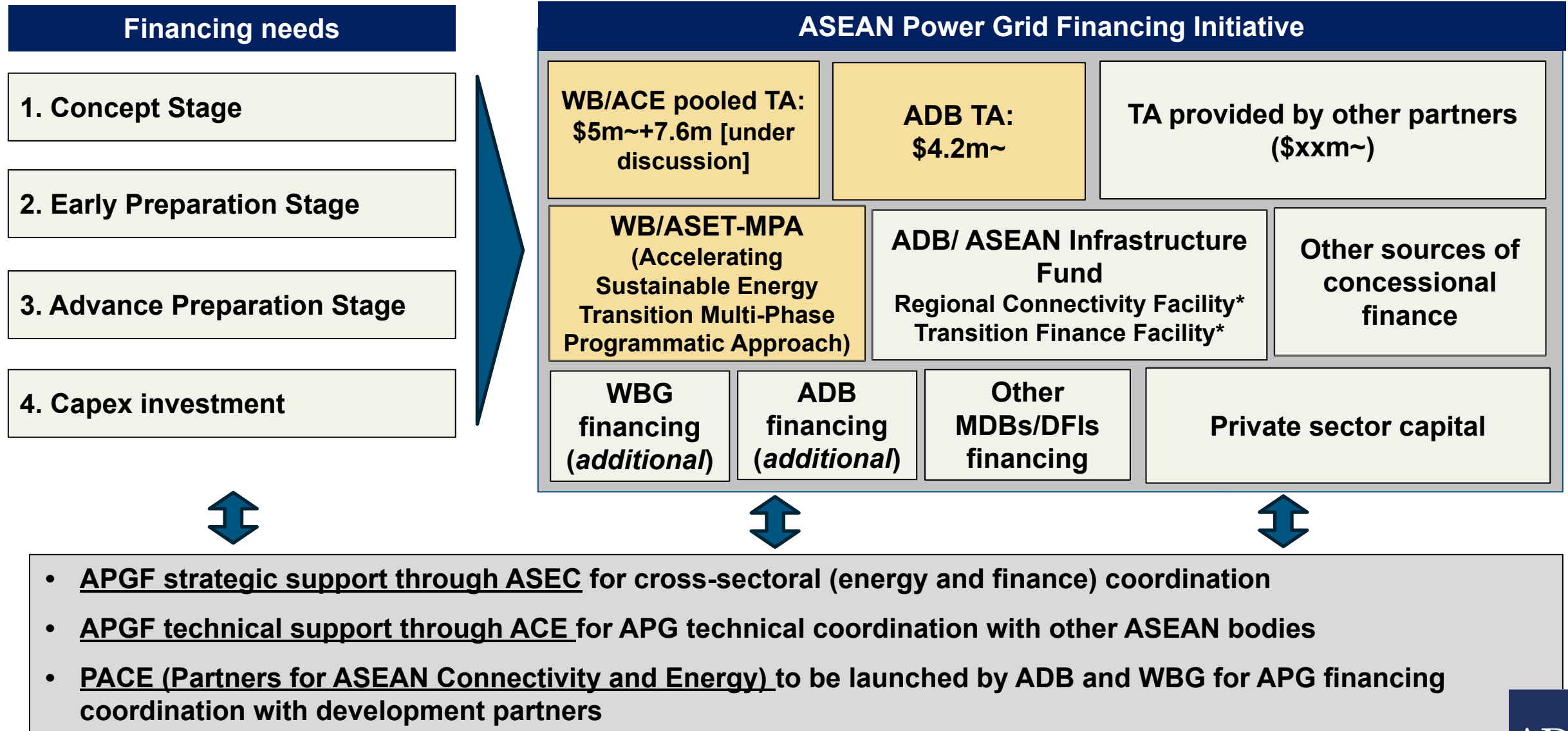
Chairman’s statement,
9 October 2024

ASEAN 46th Leaders Summit – May 2025

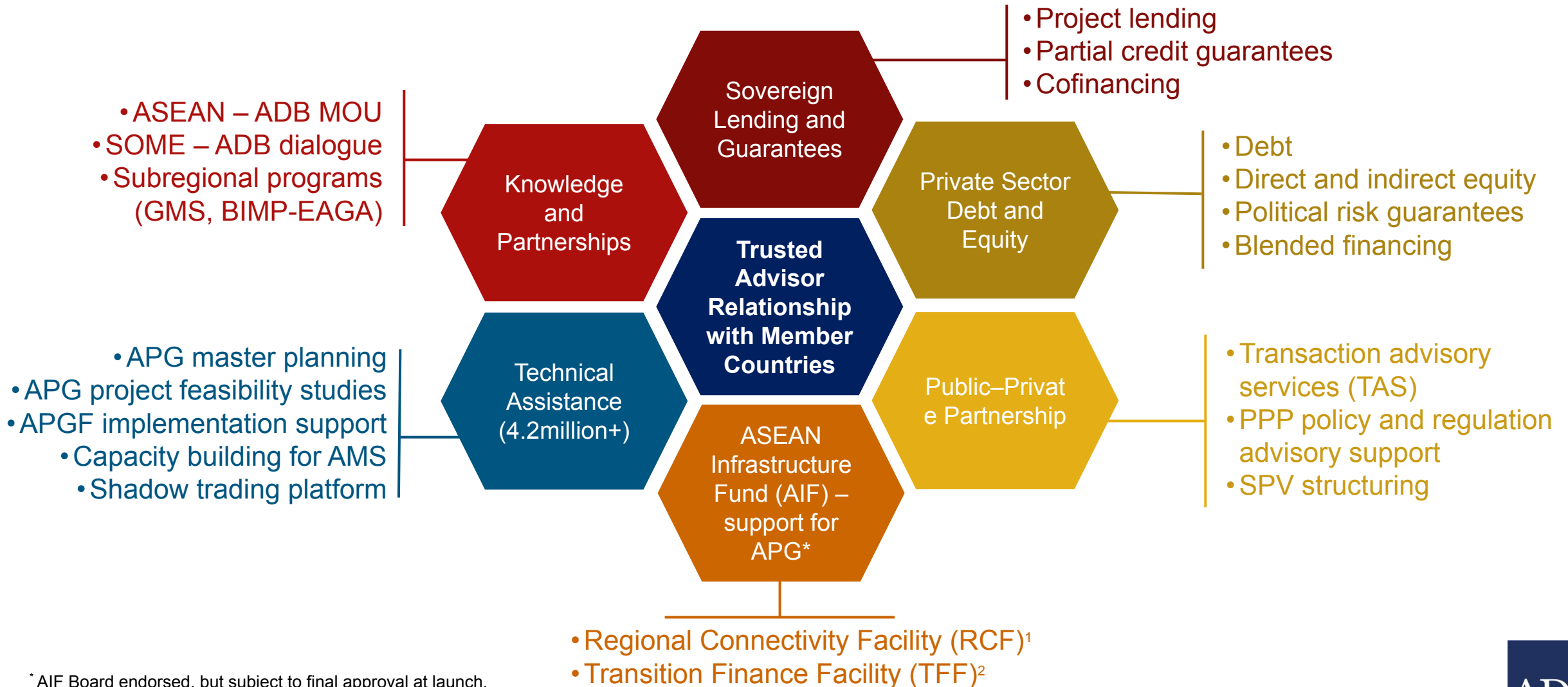
*We welcomed the ongoing discussions at the ASEAN Finance Ministers and Central Bank Governors Meeting (AFMGM) on the **proposed development of the ASEAN Power Grid Financing Framework (APGFF)** as a promising step in advancing the region’s sustainability agenda. We also called on the private sector, financial institutions, philanthropic capital providers and relevant stakeholders, including multilateral development banks, to actively support the APG’s development, and the region’s overall transition efforts by mobilising green financing, expertise, technology, and resources.*

Chairman’s statement,
26 May 2025

Proposed ASEAN Power Grid Financing Initiative: “End-to-End” Support



ADB stands ready to commit \$10 billion for APG and related projects and provide tailored solutions to support APG initiatives both national and regional levels (two-tier approach)



* AIF Board endorsed, but subject to final approval at launch.

¹ RCF to support early- and late-stage project preparation

² TFF to support de-risking and finance mobilization for APG-related projects

**ADB remains committed to advancing regional energy integration
as a key enabler of energy security, resilience, and
decarbonization.**

Thank you!

