

# **Adnan Tareen**

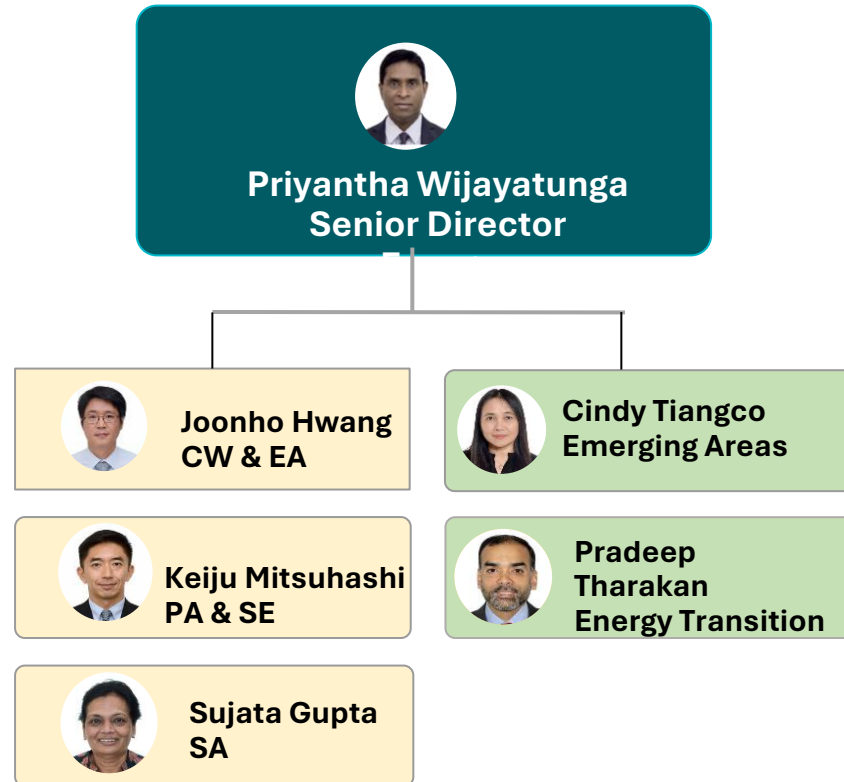
## **Principal Energy Specialist**

**Energy Sector**  
**Sectors Department 1**  
**ADB**

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## Energy Sector Organogram



### ❖ **3 regional teams:**

- East, Central and West Asia (13 DMCs)
- Southeast Asia and Pacific Area (8+ 14 DMCs)
- South Asia (6 DMCs)

### ❖ **2 practice teams:**

- Emerging Areas (EA)
- Energy Transition (ET)



# Energy Sector

- **VISION**

- An inclusive, just, and affordable low-carbon energy transition in Asia and the Pacific

- **MISSION**

- Endeavor for optimizing **energy security** of ADB DMCs that is sustainable and resilient, with greater **private sector participation** and good **governance** along with emphasis on **regional energy cooperation and integration**, and integrated **cross-sector operation** to maximize development impact



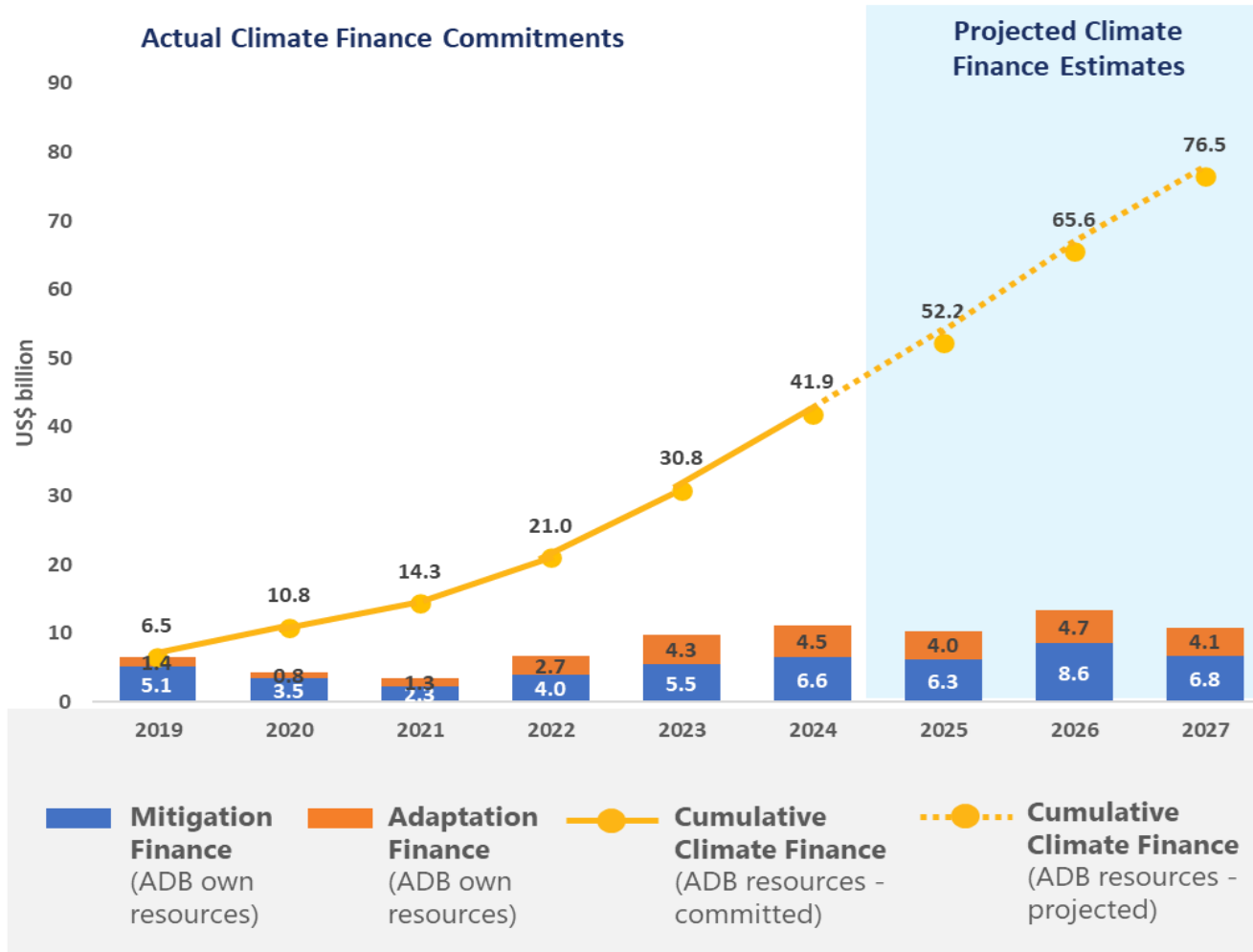
# ADB Energy Policy 2021

| Energy Landscape                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Global Commitments                                                                                                                                                                                                                                                     | ADB's Commitment                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Profound changes in Asia and the Pacific:</p> <ul style="list-style-type: none"> <li><b>Falling cost</b> of renewable energy vs. conventional energy</li> <li>Emerging new and innovative <b>low-carbon energy technologies</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Global commitments to universal access and climate action:</p> <ul style="list-style-type: none"> <li>Sustainable Development Goal 7: <b>Universal Energy Access by 2030</b></li> <li>Paris Agreement: <b>Nationally Determined Contributions (NDCs)</b></li> </ul> | <ul style="list-style-type: none"> <li><b>\$100 billion of cumulative climate finance from 2019 to 2030</b></li> <li><b>100% Paris Agreement alignment</b> on sovereign operations from <b>July 2023</b></li> </ul> |
| <ul style="list-style-type: none"> <li>Optimizing <b>energy security</b> of ADB DMCs that is sustainable and resilient</li> <li>Prioritizing <b>decarbonization</b> of energy supply and demand through EE and RE via <b>digitalization, intelligentization, and innovation</b></li> <li>Emphasizing <b>energy governance, regional cooperation and integration, and private sector participation</b></li> <li>Promoting integrated <b>cross-sector</b> operations to maximize development impact</li> <li>Supporting <b>critical minerals to manufacturing value chains</b> for clean energy technologies</li> <li><b>Nuclear power</b></li> </ul> |                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                     |





# ADB Climate Finance Commitments (2017–2024) & Projections (2025-2027)



Overall, ADB is on track to reach \$100 billion by 2030



**\$41.9**

cumulative finance for  
climate action  
(2019-2024)

Note: Amount for 2025 to 2027 are  
from WPBF 2025-2027.

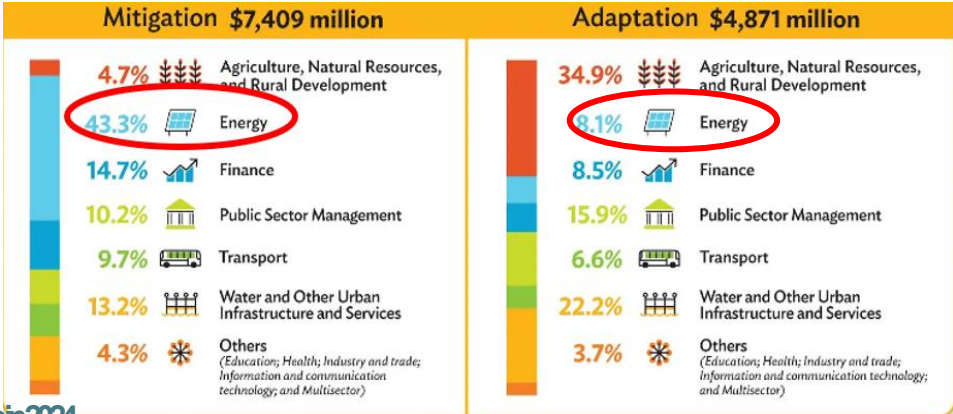


# ADB's Energy Sector Commitment and Climate Finance in 2024

Commitments by Sector, 2020–2024 (\$ million)

| Sector                                                | 2020          | 2021          | 2022          | 2023                      | 2024          |
|-------------------------------------------------------|---------------|---------------|---------------|---------------------------|---------------|
| Agriculture, Natural Resources, and Rural Development | 1,281         | 1,490         | 2,218         | 3,228                     | 2,637         |
| Education                                             | 1,066         | 975           | 799           | 1,389                     | 543           |
| Energy                                                | 4,292         | 1,837         | 1,446         | 2,227                     | 3,829         |
| Finance                                               | 4,601         | 4,116         | 5,686         | 3,611                     | 5,886         |
| Health                                                | 3,512         | 5,882         | 823           | 2,275                     | 1,145         |
| Industry and Trade                                    | 2,215         | 716           | 238           | 661                       | 98            |
| Information and Communication Technology              | 32            | 55            | 86            | 94                        | 71            |
| Multisector                                           | 12            | 10            | 11            | 6                         | 21            |
| Public Sector Management                              | 9,561         | 2,294         | 3,725         | 3,354                     | 3,220         |
| Transport                                             | 3,147         | 3,396         | 4,344         | 4,779                     | 3,906         |
| Water and Other Urban Infrastructure and Services     | 1,862         | 1,989         | 1,098         | 1,919                     | 3,348         |
| <b>TOTAL</b>                                          | <b>31,581</b> | <b>22,759</b> | <b>20,473</b> | <b>23,542<sup>1</sup></b> | <b>24,304</b> |

Including private sector operations. Source: 2024 ADB Annual Report



Source: ADB 2025 Climate Finance 2024



# Energy Sector Operational Priorities

Decarbonize energy supply system

- Promotion of affordable and reliable RE (energy storage)
- Digitalization of TD system
- Decentralized power systems

Decarbonize Energy Consumption

- Air quality improvement
- RE++ agriculture, ecological rehabilitation and environmental protection, Critical Minerals to Manufacturing Value Chains
- Building- Grid ecosystem; Vehicle- Grid ecosystem; CCUS/green hydrogen for hard to abate sectors

Enabling Private Sector Participation

- Sovereign loan or Partial Credit Guarantee to create enabling environment for private investments in clean energy supply

Regional cooperation and integration

- ASEAN Power Grid
- Caspian Sea Green Energy Corridor

Strengthening Sector Governance and Regulatory Framework

- PBLs: power market reform & regulations for RE integration and energy transition

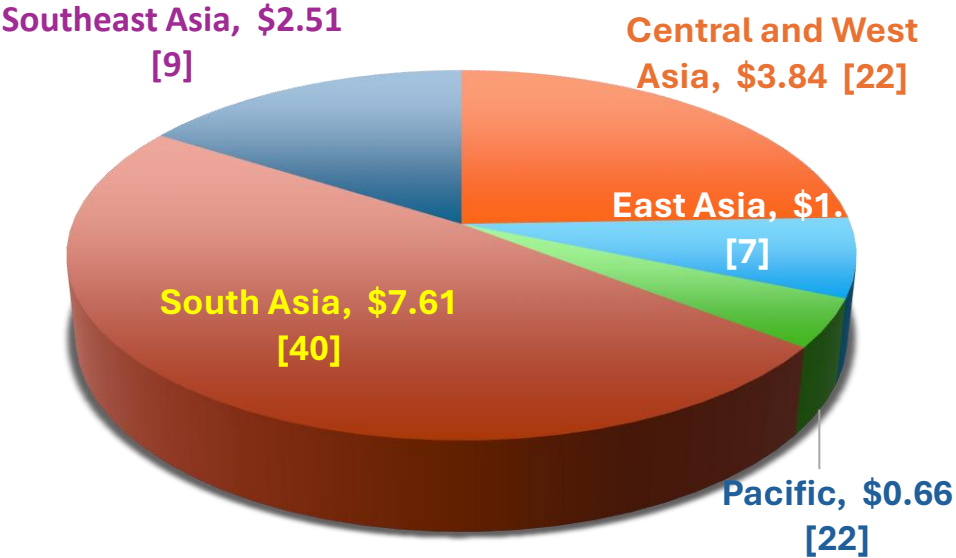




# Overview – Energy Sector Lending Portfolio and Pipeline

Active Lending Portfolio by Region

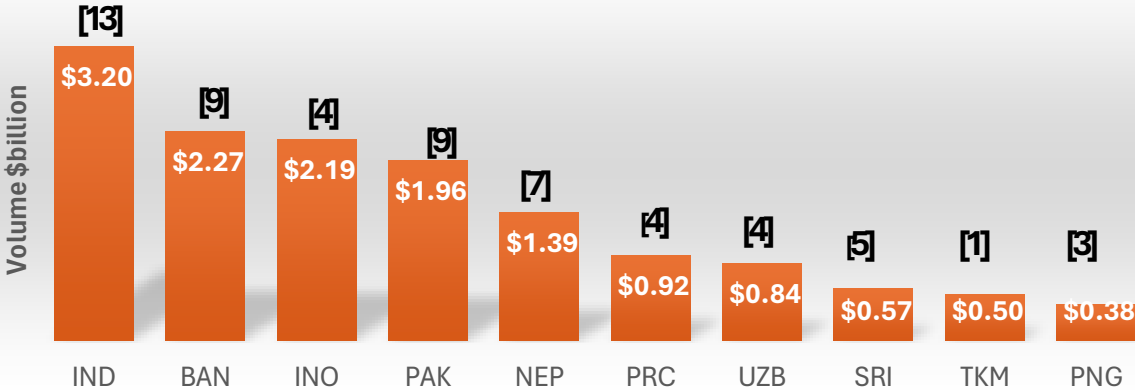
Volume: \$15.71 billion



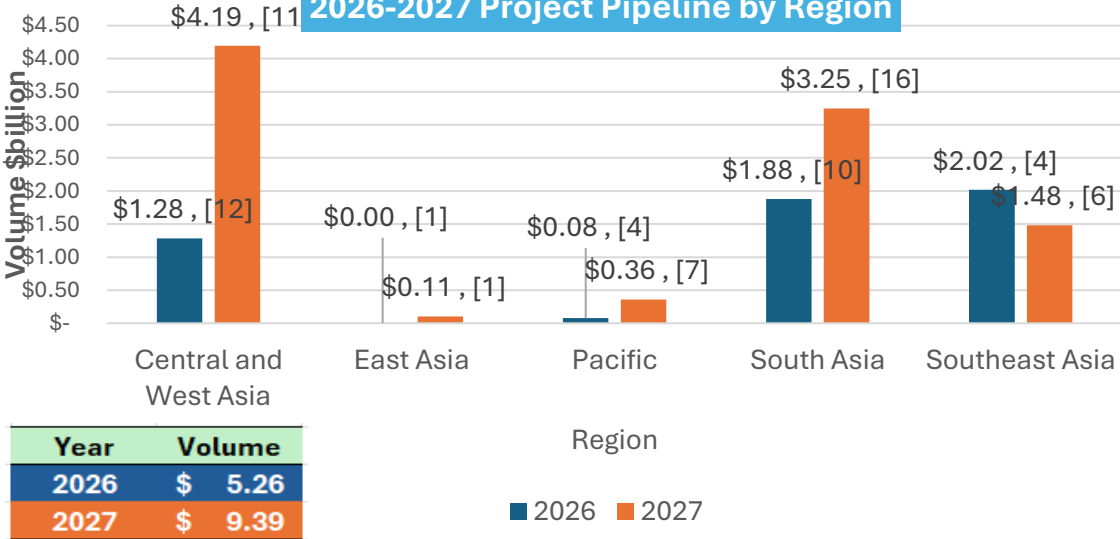
**Notes:**

1. The numbers enclosed in parentheses refer to the total number of projects for each region and DMC.
2. AFG and MYA projects are excluded.

Top 10 DMCs for Active Lending Portfolio



2026-2027 Project Pipeline by Region



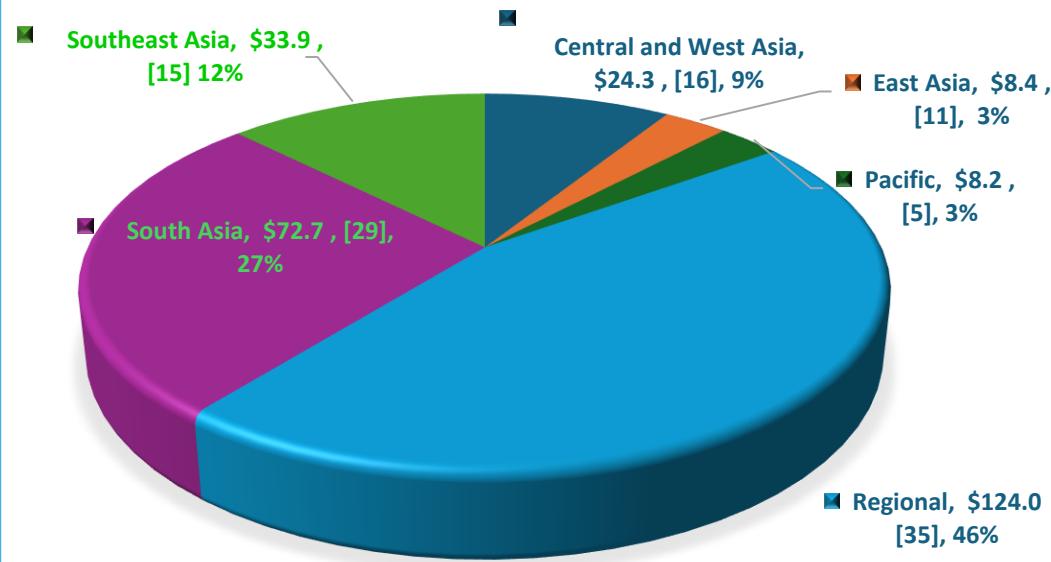




# Overview – Energy Sector Non-Lending Portfolio and Pipeline

## ACTIVE NON-LENDING PORTFOLIO

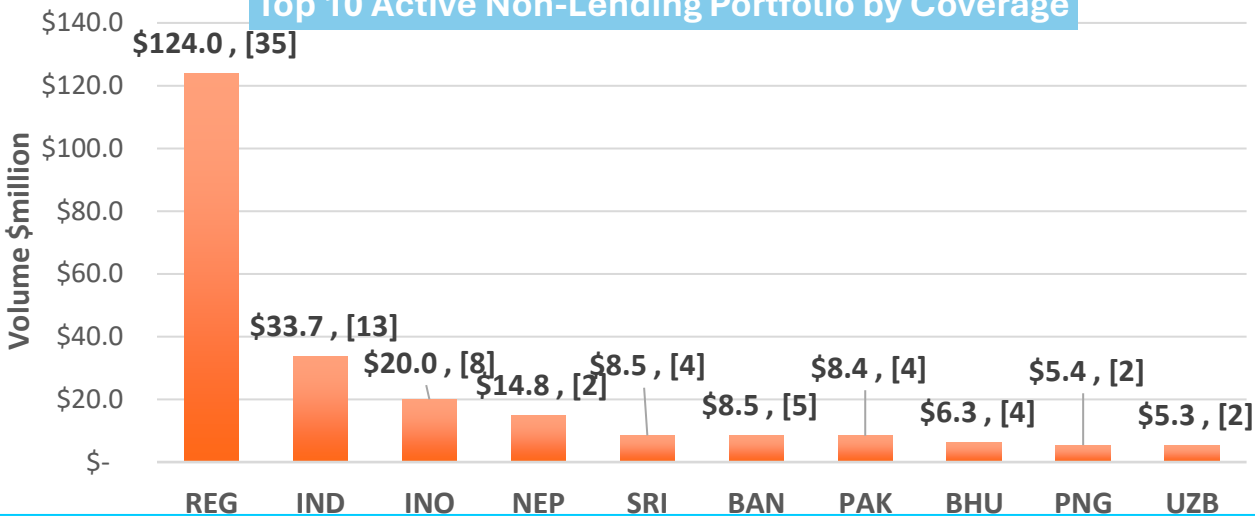
Volume: \$217 million



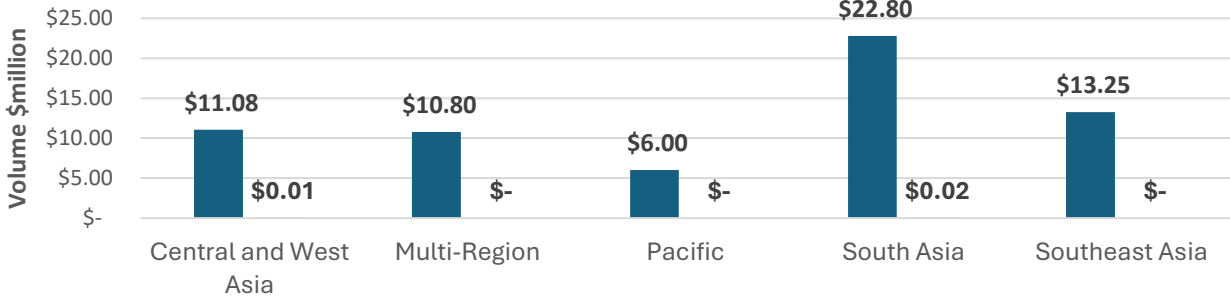
### Notes:

- The numbers enclosed in parentheses refer to the total number of TAs for each region.
- MYA TAs excluded.

## Top 10 Active Non-Lending Portfolio by Coverage



## 2026-2027 Non-lending Pipeline by Region



| Year | Volume \$million |
|------|------------------|
| 2026 | \$ 63.93         |
| 2027 | \$ 0.02          |

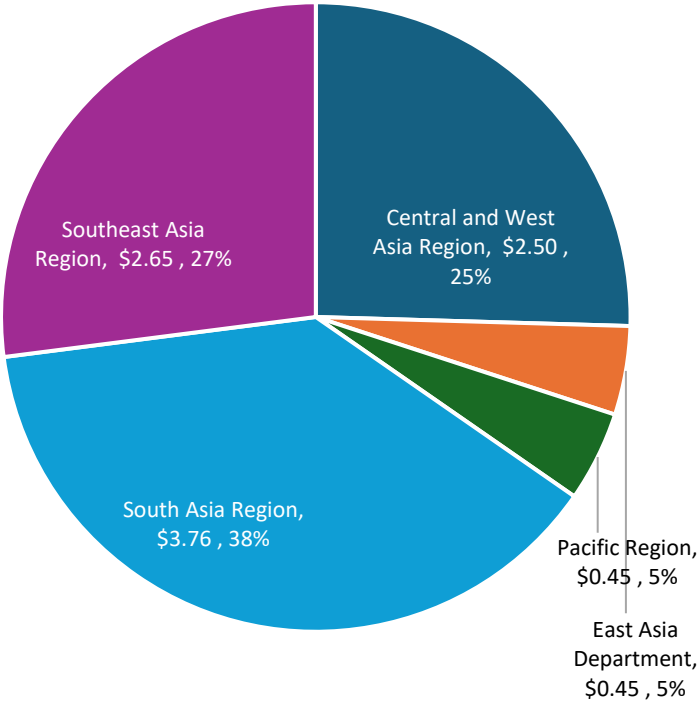
■ 2026 ■ 2027



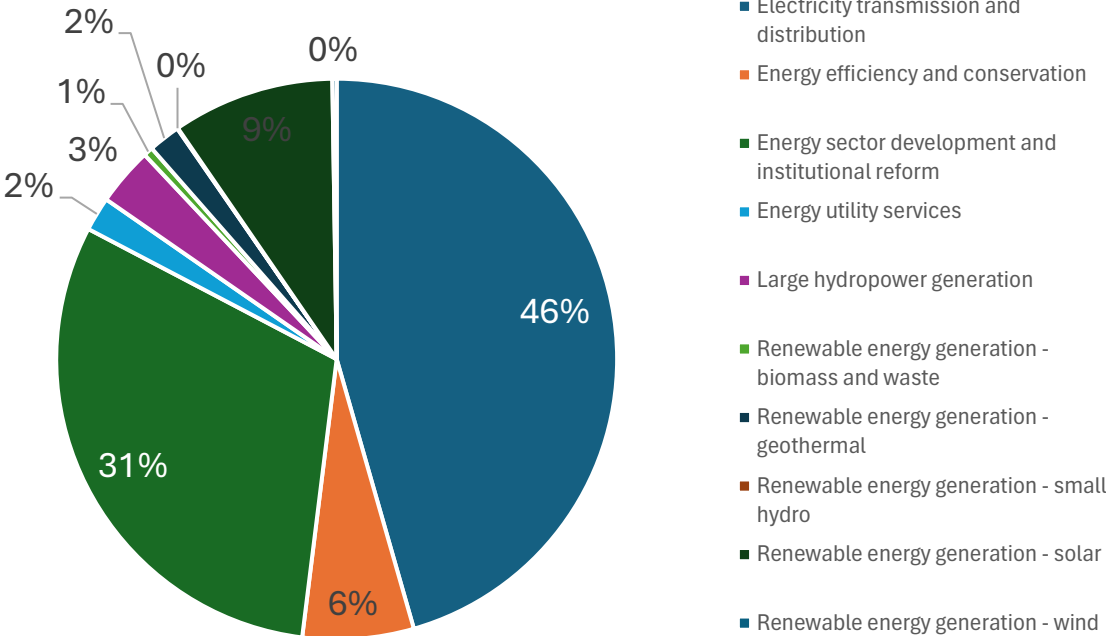
# Subsector Distribution, 2021-2025

Subsector Distribution for the Past 5 Years, by Region  
 Volume: \$ 9.8 billion

- Central and West Asia Region
- East Asia Department
- Pacific Region
- South Asia Region
- Southeast Asia Region



Subsector Distribution for the Past 5 Years

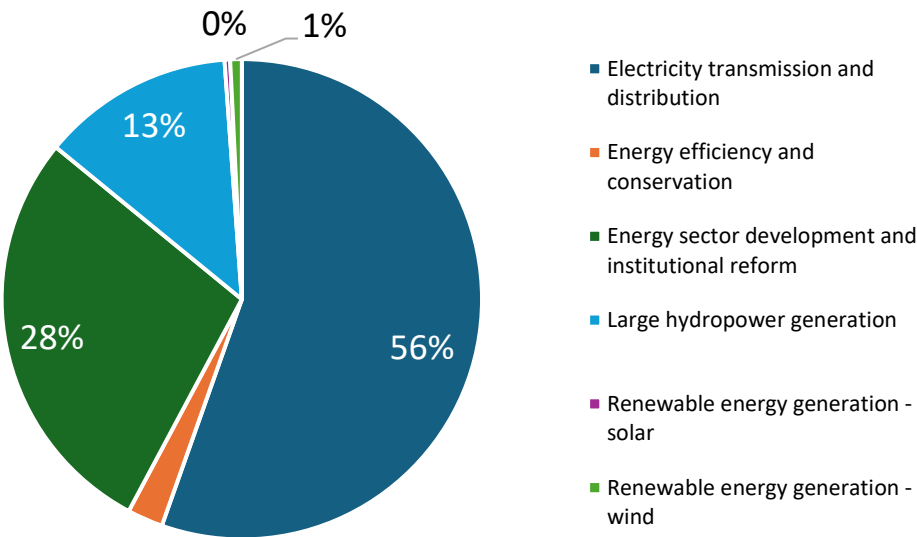


| Subsector                                          | 2021-2025       |
|----------------------------------------------------|-----------------|
| Electricity transmission and distribution          | 4,472.68        |
| Energy efficiency and conservation                 | 628.68          |
| Energy sector development and institutional reform | 3,015.48        |
| Energy utility services                            | 192.73          |
| Large hydropower generation                        | 328.33          |
| Renewable energy generation - biomass and waste    | 53.55           |
| Renewable energy generation - geothermal           | 180.00          |
| Renewable energy generation - small hydro          | 4.30            |
| Renewable energy generation - solar                | 916.48          |
| Renewable energy generation - wind                 | 24.36           |
| <b>Total</b>                                       | <b>9,816.59</b> |



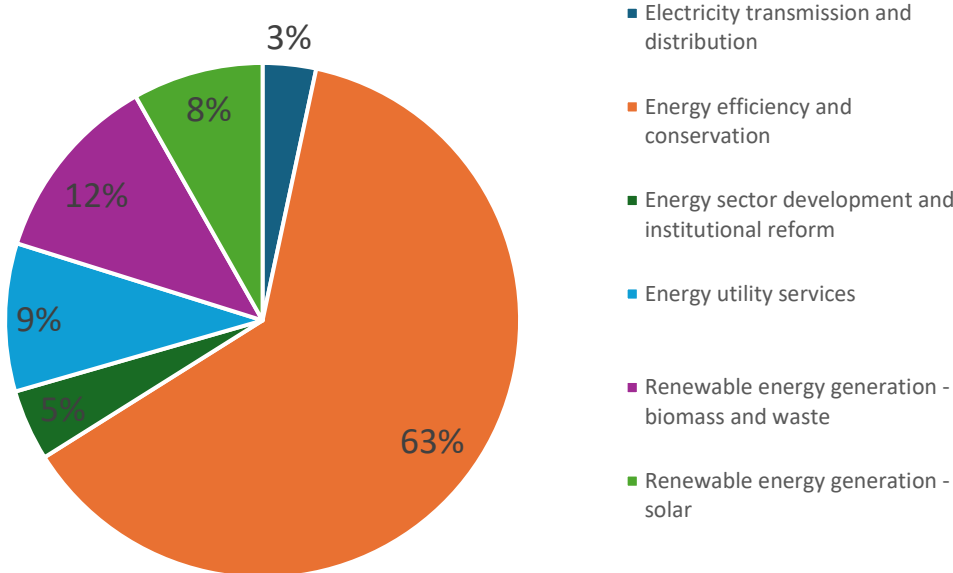
# Subsector Distribution by Region, 2021-2025

Central and West Asia Region



| Central and West Asia Region                       | 2,499.09 |     |
|----------------------------------------------------|----------|-----|
| Subsector                                          | Amount   | %   |
| Electricity transmission and distribution          | 1,384.70 | 55% |
| Energy efficiency and conservation                 | 60.00    | 2%  |
| Energy sector development and institutional reform | 702.23   | 28% |
| Large hydropower generation                        | 323.33   | 13% |
| Renewable energy generation - solar                | 9.37     | 0%  |
| Renewable energy generation - wind                 | 19.46    | 1%  |

East Asia Region



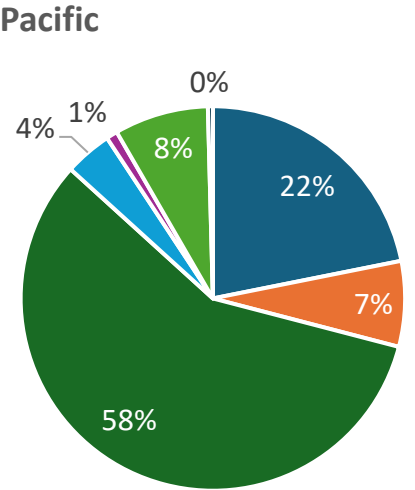
| East Asia Department                               | 447.86 |     |
|----------------------------------------------------|--------|-----|
| Subsector                                          | Amount | %   |
| Electricity transmission and distribution          | 15.00  | 3%  |
| Energy efficiency and conservation                 | 280.94 | 63% |
| Energy sector development and institutional reform | 20.00  | 4%  |
| Energy utility services                            | 41.63  | 9%  |
| Renewable energy generation - biomass and waste    | 53.55  | 12% |
| Renewable energy generation - solar                | 36.74  | 8%  |





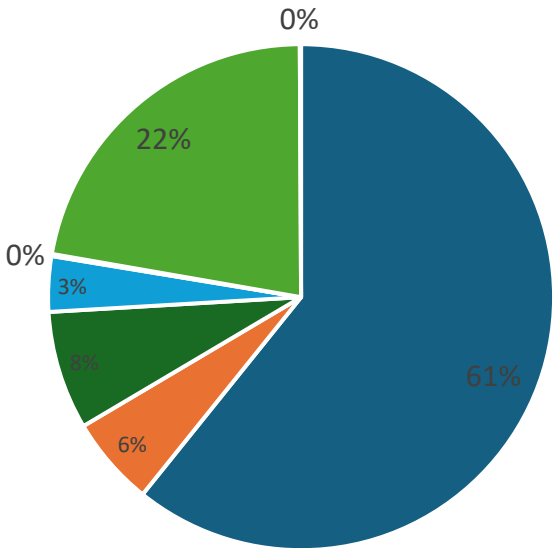
# Subsector Distribution by Region

- Electricity transmission and distribution
- Energy efficiency and conservation
- Energy sector development and institutional reform
- Energy utility services
- Renewable energy generation - small hydro
- Renewable energy generation - solar
- Renewable energy generation - wind



| Pacific Region                                     |        | 454.99 |  |
|----------------------------------------------------|--------|--------|--|
| Subsector                                          | Amount | %      |  |
| Electricity transmission and distribution          | 99.46  | 22%    |  |
| Energy efficiency and conservation                 | 32.74  | 7%     |  |
| Energy sector development and institutional reform | 262.44 | 58%    |  |
| Energy utility services                            | 18.10  | 4%     |  |
| Renewable energy generation - small hydro          | 4.30   | 1%     |  |
| Renewable energy generation - solar                | 36.05  | 8%     |  |
| Renewable energy generation - wind                 | 1.90   | 0.4%   |  |

## South Asia



- Electricity transmission and distribution
- Energy efficiency and conservation
- Energy sector development and institutional reform
- Energy utility services
- Large hydropower generation
- Renewable energy generation - solar
- Renewable energy generation - wind

| South Asia Region                                  |          | 3,761.12 |  |
|----------------------------------------------------|----------|----------|--|
| Subsector                                          | Amount   | %        |  |
| Electricity transmission and distribution          | 2,285.80 | 61%      |  |
| Energy efficiency and conservation                 | 215.00   | 6%       |  |
| Energy sector development and institutional reform | 285.00   | 8%       |  |
| Energy utility services                            | 133.00   | 4%       |  |
| Large hydropower generation                        | 5.00     | 0%       |  |
| Renewable energy generation - solar                | 834.32   | 22%      |  |
| Renewable energy generation - wind                 | 3.00     | 0%       |  |

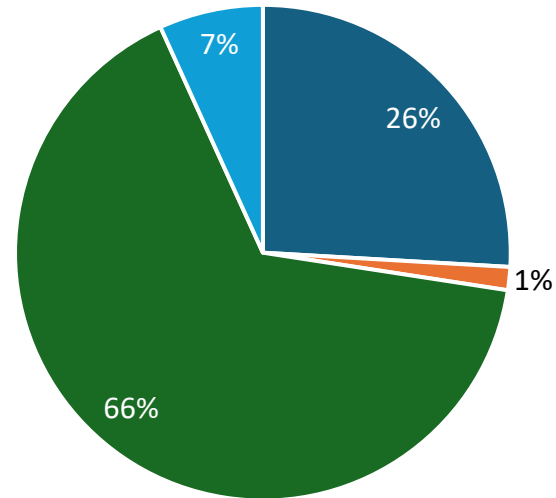




# Subsector Distribution by Region

## Southeast Asia

- Electricity transmission and distribution
- Energy efficiency and conservation
- Energy sector development and institutional reform
- Renewable energy generation - geothermal



### Southeast Asia Region

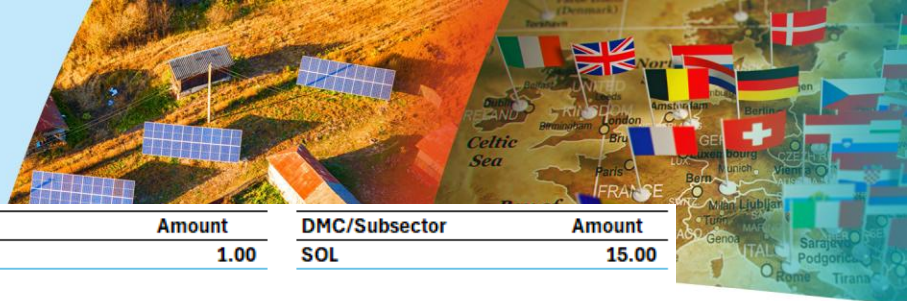
2,653.53

| Subsector                                          | Amount   | %   |
|----------------------------------------------------|----------|-----|
| Electricity transmission and distribution          | 687.72   | 26% |
| Energy efficiency and conservation                 | 40.00    | 2%  |
| Energy sector development and institutional reform | 1,745.81 | 66% |
| Renewable energy generation - geothermal           | 180.00   | 7%  |



# ADB Business Opportunities Seminar EUROPEAN ROADSHOW

ZURICH · PARIS · LISBON · MADRID · BRUSSELS



## Subsector Distribution by DMC

| DMC/Subsector                                      | Amount        | DMC/Subsector                                      | Amount          |
|----------------------------------------------------|---------------|----------------------------------------------------|-----------------|
| <b>MON</b>                                         | <b>36.00</b>  | <b>FSM</b>                                         | <b>20.50</b>    |
| Electricity transmission and distribution          | 15.00         | Electricity transmission and distribution          | 5.25            |
| Energy sector development and institutional reform | 20.00         | Energy sector development and institutional reform | 0.75            |
| Energy utility services                            | 1.00          | Energy utility services                            | 9.10            |
| <b>BAN</b>                                         | <b>651.00</b> | Renewable energy generation - small hydro          | 1.40            |
| Electricity transmission and distribution          | 451.00        | Renewable energy generation - solar                | 4.00            |
| Energy efficiency and conservation                 | 100.00        | <b>GEO</b>                                         | <b>212.66</b>   |
| Energy utility services                            | 100.00        | Electricity transmission and distribution          | 110.70          |
| <b>BHU</b>                                         | <b>53.26</b>  | Energy sector development and institutional reform | 101.97          |
| Large hydropower generation                        | 5.00          | <b>IND</b>                                         | <b>2,175.86</b> |
| Renewable energy generation - solar                | 48.26         | Electricity transmission and distribution          | 1,213.80        |
| <b>CAM</b>                                         | <b>142.72</b> | Energy efficiency and conservation                 | 100.00          |
| Electricity transmission and distribution          | 52.72         | Energy sector development and institutional reform | 81.00           |
| Energy efficiency and conservation                 | 40.00         | Renewable energy generation - solar                | 781.06          |
| Energy sector development and institutional reform | 50.00         | <b>INO</b>                                         | <b>2,246.19</b> |
| <b>COO</b>                                         | <b>0.50</b>   | Electricity transmission and distribution          | 600.00          |
| Energy efficiency and conservation                 | 0.50          | Energy sector development and institutional reform | 1,466.19        |
|                                                    |               | Renewable energy generation - geothermal           | 180.00          |

| DMC/Subsector                                      | Amount        |
|----------------------------------------------------|---------------|
| <b>KGZ</b>                                         | <b>25.53</b>  |
| Energy efficiency and conservation                 | 25.00         |
| Energy sector development and institutional reform | 0.27          |
| Renewable energy generation - solar                | 0.27          |
| <b>KIR</b>                                         | <b>23.23</b>  |
| Electricity transmission and distribution          | 10.91         |
| Energy sector development and institutional reform | 2.59          |
| Renewable energy generation - solar                | 9.73          |
| <b>MLD</b>                                         | <b>45.00</b>  |
| Energy sector development and institutional reform | 4.00          |
| Energy utility services                            | 33.00         |
| Renewable energy generation - solar                | 5.00          |
| Renewable energy generation - wind                 | 3.00          |
| <b>NEP</b>                                         | <b>421.00</b> |
| Electricity transmission and distribution          | 421.00        |
| <b>PAK</b>                                         | <b>#####</b>  |
| Electricity transmission and distribution          | 934.00        |
| Energy efficiency and conservation                 | 35.00         |
| Energy sector development and institutional reform | 300.00        |
| Large hydropower generation                        | 302.33        |

| DMC/Subsector                       | Amount        |
|-------------------------------------|---------------|
| <b>PAL</b>                          | <b>1.00</b>   |
| Energy utility services             | 1.00          |
| <b>PHI</b>                          | <b>229.62</b> |
| Energy sector development and i     | 229.62        |
| <b>PNG</b>                          | <b>308.60</b> |
| Electricity transmission and distri | 50.00         |
| Energy sector development and i     | 258.60        |
| <b>PRC</b>                          | <b>411.86</b> |
| Energy efficiency and conservati    | 280.94        |
| Energy utility services             | 40.63         |
| Renewable energy generation - b     | 53.55         |
| Renewable energy generation - si    | 36.74         |
| <b>RMI</b>                          | <b>26.32</b>  |
| Electricity transmission and distri | 17.10         |
| Energy utility services             | 7.00          |
| Renewable energy generation - si    | 0.32          |
| Renewable energy generation - w     | 1.90          |
| <b>SAM</b>                          | <b>35.14</b>  |
| Energy efficiency and conservati    | 32.24         |
| Renewable energy generation - si    | 2.90          |

| DMC/Subsector                  | Amount        |
|--------------------------------|---------------|
| <b>SOL</b>                     | <b>15.00</b>  |
| Renewable energy generation    | 15.00         |
| <b>SRI</b>                     | <b>415.00</b> |
| Electricity transmission and c | 200.00        |
| Energy efficiency and conser   | 15.00         |
| Energy sector development a    | 200.00        |
| <b>TAJ</b>                     | <b>36.00</b>  |
| Electricity transmission and c | 15.00         |
| Large hydropower generation    | 21.00         |
| <b>TIM</b>                     | <b>35.00</b>  |
| Electricity transmission and c | 35.00         |
| <b>TON</b>                     | <b>8.20</b>   |
| Electricity transmission and c | 8.20          |
| <b>TUV</b>                     | <b>10.50</b>  |
| Electricity transmission and c | 2.00          |
| Energy sector development a    | 0.50          |
| Energy utility services        | 1.00          |
| Renewable energy generation    | 7.00          |
| <b>UZB</b>                     | <b>653.57</b> |
| Electricity transmission and c | 325.00        |
| Energy sector development a    | 300.00        |
| Renewable energy generation    | 9.11          |
| Renewable energy generation    | 19.46         |
| <b>VAN</b>                     | <b>6.00</b>   |
| Electricity transmission and c | 6.00          |





## Sample Projects under Implementation



### UZB: Distribution Network Digital Transformation & Resiliency

- 26 distribution substations upgraded to digital substations
- Digital protection installed and climate proofing design implemented to improve reliability and resilience of substations
- Increased integration of renewables



### IND: Maharashtra Power Distribution Enhancement Program for Agriculture Solarization

- 75 MWh pilot project for **BESS for integrating renewable energy** into the grid and skill development interventions to support innovative sustainable irrigation practices and **agriculture-linked solar energy-based** livelihoods options



### TUV: Increasing Access to Renewable Energy – Additional Financing

- ADB's first engagement in the country's energy sector
- Installation of a total of 224 kWp solar PV capacity to increase share of renewable energy in the generation mix
- 17,800 tons of carbon dioxide equivalent of greenhouse gas emissions to be reduced



### MLD: Accelerating Sustainable System Development Using Renewable Energy

- **Install grid-scale battery energy storage (44MWh) to attract private sector RE investments** in generation
- Integrates effective gender mainstreaming elements
- **One-ADB collaboration- SG-ENE and OMDP**
- **Water- Energy- Food Nexus** support **through cross sectoral approach**.
- **Flow battery , Ocean Energy technologies** and small wind introduced.



### LAO: Monsoon Wind Power

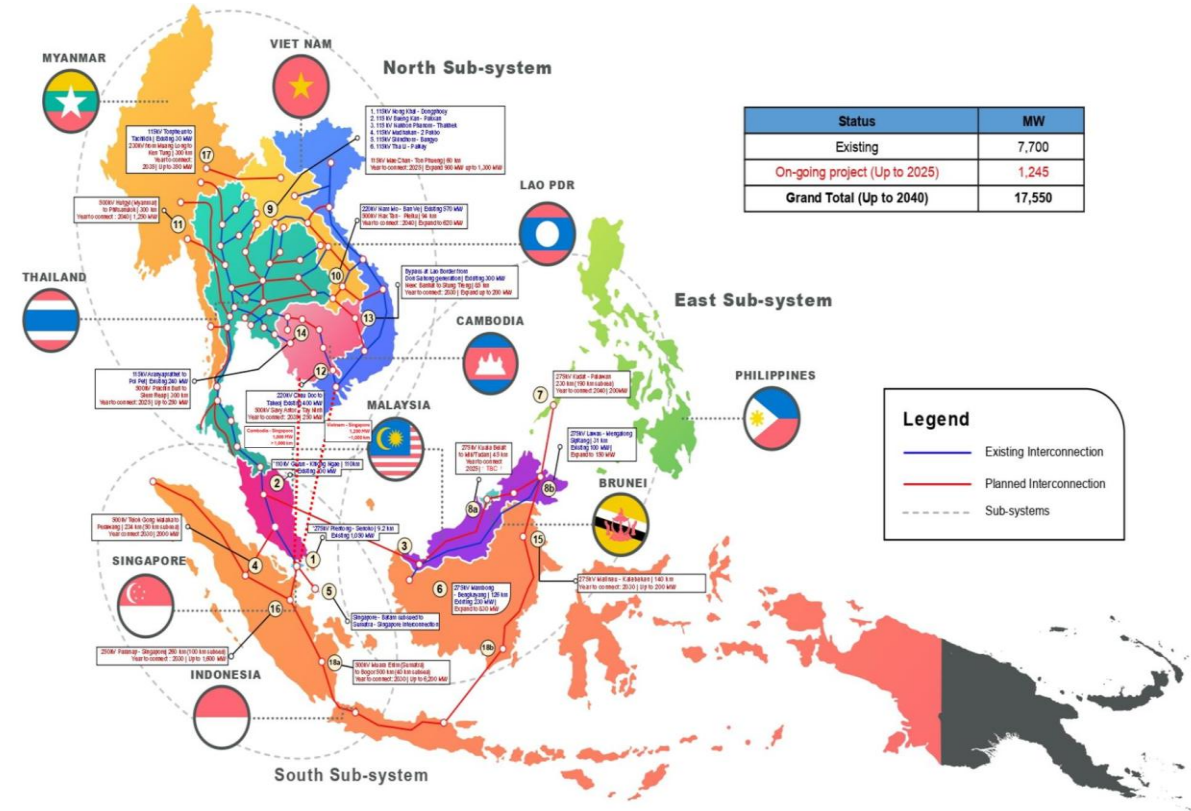
- **First cross border wind project in Asia**
- First wind power plant in Laos PDR
- **Largest wind power project in ASEAN with ADB** as the sole mandated arranger and bookrunner
- The project is estimated to contribute to the reduction of at least 748,867 tons of carbon dioxide equivalent of greenhouse gas emissions annually





## ASEAN Power Grid (APG): A power grid for 700 million people in Southeast Asia

- The APG initiative aims to **fully integrate grid operations of ASEAN Member States by 2045**. Realizing the APG will require **over \$100 billion** of investments **over the next 20 years** – from both public and private sources.
- ADB has launched the **APG Financing (APFG)** with ASEAN and the World Bank to convene partners, mobilize capital, and develop financing solutions.
- ADB has pledged to commit up to **\$10 billion of financing for the APG** over the next decade, which includes subsea and overland interconnectors and domestic grid upgrades.
- In the next five years, **business opportunities** are
  - Power system studies, pre-FS and FS, HVDC subsea route selection and geo-tech surveys, grid integration studies, commercial structuring
  - Regional policy and regulatory harmonization for subsea cable development and market design for multilateral power trade
  - High-voltage transmission and substation EPC and other key grid technologies supply (including smart grid equipment)
- European experience, technology and knowledge** on power grid connectivity are highly relevant.



Source based: Updated Power Development Plan (PDP) scenario under AIMS III, 2022

Source: ASEAN Centre for Energy

Note: Boundaries, colors, denominations or any other information shown on the maps do not imply, on the part of ADB, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries, colors, denominations or information.

# Industrial Decarbonization and Hard-to-Abate Sectors

**OUTCOME: Achieving energy transition** by accelerating decarbonization, energy efficiency, and green tech in hard-to-abate industries<sup>1</sup>, ports, and industrial parks.

## Challenges



### High-intensity emissions

Steel, cement, and chemicals industries contribute ~30% of ASEAN energy-related CO<sub>2</sub> and are still coal-centric



### Technology maturity and cost

Green H<sub>2</sub>, CCUS and electrified heat add 15-40 % to product costs without carbon pricing.



### Capital-market friction

Paybacks > 7 yrs; limited green-capex lending windows and no established off-take contracts for low-carbon materials.



### Policy and price signals

Carbon prices hover at US\$ 0-5 / tCO<sub>2</sub> and sector-specific performance standards or tax incentives are minimal.

## Solutions

### Carbon capture and storage

Support for regulations, standards, and regional hubs

### Green industries and alternative fuels

Standards and regional hubs development for green steel transition, green hydrogen, and alternative fuels

### Methane reduction in oil and gas

Technical assistance for methane mitigation

### Maritime decarbonization

Port and logistics emissions reduction; Collaboration with ADB SD1-TRA

### Institutional coordination

Regional dialogue and collaboration platform; OneADB Industrial Decarbonization Working Group

## Focus Countries

India      Turkmenistan  
Philippines      Uzbekistan

## Key Partners

Bilateral donors  
Private sector  
Asia Zero Emission Community (AZEC)

## Achievements

### Project pipeline development

- IND: FI loan for Green Fuels Development (USD400M, 2025)
- IND: Green Ammonia Project
- PHI: Asia Green Steel Project
- INO: Policy-based loan

### CIF Industry Decarbonization Program

- IND and TUR: Development of IPs for each to access \$60-80M of CIF concessional loans to be blended with ADB OCR
- INO and PHI: Introduction of CIF Transition Investment Plan (TIP) framework to include Industry Decarbonization under the CIF Accelerated Coal Transition IPs

### Knowledge support

- Through publications such as "Report on Transition Finance in Southeast Asia"

<sup>1</sup> Target sectors: cement and concrete; iron and steel; zero-emission shipping (excluding international shipping); chemicals; eco-industrial parks; pulp and paper; glass, ceramics, and construction materials; non-ferrous metals (i.e., aluminum, copper); textiles; clean technology supply chains, etc.





# Opportunities to work on industrial decarbonization (green H<sub>2</sub>, CCUS, industrial parks, etc.):

- **TA 10700-India:** Accelerating India's transition from hydrocarbon to **green hydrogen economy** through novel technologies (\$2M).
- **TA 10167-India:** Supporting India's energy transition through **carbon capture, utilization, and storage (CCUS)** and low-carbon technologies (\$2M). Will conduct a feasibility study with detailed assessment of underground storage of carbon in locations like depleted oil wells and will include technical and financial feasibility.
- **TA 10359-Regional:** Focused on the **decarbonization of hard-to-abate industrial and maritime sectors** for countries including Turkmenistan, Philippines, India, Uzbekistan, Indonesia, and Azerbaijan (\$2.35M).
  - **India:** assessment studies to identify decarbonization pathways for the Ministry of Steel.
  - **Uzbekistan:** feasibility study on pursuing a sector development program for an industrial park.
- **Climate Investment Funds Industrial Decarbonization Program:** ADB is supporting the investment plan preparation of Uzbekistan and Türkiye in close partnership with EBRD, WB, IFC, among other MDBs.





# Opportunities to work on industrial decarbonization (green H<sub>2</sub>, CCUS, industrial parks, etc.):

- **Georgia:** A US\$104 million financing for the first grid-scale battery energy storage system (BESS) includes \$400,000 TA for green hydrogen development
- **Knowledge:**
  - **Knowledge platform:** In partnership with International Solar Alliance, ADB supported the development of [Green Hydrogen Innovation Center](#)
  - **ADB Data Room:** [ADB Green Hydrogen Economy](#) (Knowledge Series 2024-2025)
  - **Key publications:** Accelerating the Net Zero Transition in Asia and the Pacific: Low-Carbon Hydrogen for Industrial Decarbonization (2024), Hydrogen in Decarbonization strategies in Asia and the Pacific (2023), Role and Development Pathways of Green Hydrogen Energy (2023), etc.

# Critical Minerals-to-Manufacturing Value Chains

**OUTCOME: Achieving energy transition** by boosting energy security, jobs, sustainable and inclusive regional growth through diverse, responsible, and resilient value chains

## Challenges



Limited value addition and industrialization



Weak value chain linkages



Low level of geo-prospective



Supply chain vulnerabilities



Unsustainable practices

## Solutions



Regional cooperation and integration



Government capacity building



Environmental, social, and governance practices



Private sector investments



Innovative technologies and digital solutions



Greater recycling and circularity

### Focus Countries

India  
Indonesia  
Kazakhstan  
Lao PDR  
Mongolia  
Pakistan

Papua New Guinea  
Philippines  
Sri Lanka  
Uzbekistan  
Viet Nam

### Key Partners

Government (line ministries, mineral authorities, regulatory agencies, trade and investment ministries)  
Industry and trade associations  
Knowledge institutions  
International organizations  
Investors and financial institutions

## Achievements

- Approval of **Board Direction** and Operational Approach Paper in July 2025
- Knowledge support through publications
- Internal ADB brown bags and webinars





## Opportunities to work on CMM:

- **TA 10312-Regional Advance Sustainable Clean Energy Network for Development (\$1.65M)** focused on supporting critical minerals for countries including India, Indonesia, Kazakhstan, Mongolia, the Philippines, Tajikistan, Uzbekistan and Viet Nam.
- **New TA 10767-Regional Responsible Critical Minerals Value Chains for a Clean Energy Future (\$1M)** focused on supporting private sector critical minerals development in Lao PDR, Sri Lanka, and Papua New Guinea.
- ADB is working with peer institutions to build an **investment pipeline across mining, manufacturing, and recycling**. A dedicated Financing Partnership Facility is being designed to mobilize sovereign and non-sovereign financing, and is expected to be launched in 2026.





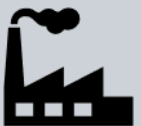
## Way Forward- Climate Actions



Supply: Decarbonize energy supply and develop new pattern energy system.



End-use: B-G ecosystem; V-G ecosystem;  
Biofuels, SAF;  
Integrated cross-sectoral interventions:  
RE++ agriculture, water, ecological rehabilitation, environmental protection



Hard to abate sectors: CCUS

Integrated solutions: Zero-carbon emission industrial parks





## Way Forward- Private sector development shift

- Policy dialogue with the governments
- Joint Sovereign & non-sovereign interventions
- Develop PPP opportunities with OMDP

### Upstream

- Policy Reform
  - ✓ Cost-reflective tariff
  - ✓ State-owned enterprises commercialization
  - ✓ Improve investment climate
- Policy Dialogue
  - ✓ RE generation
  - ✓ Specific transmission and distribution investments
  - ✓ Green mining principles and clean energy manufacturing

### Midstream

- Develop bankable contractual framework for RE projects
- Screening, preparation, and tendering of RE projects
- Innovative financial products, and market development

### Downstream

- Sovereign financing: credit enhancement for RE development
- NSO financing: mobilize co-financing for solar, wind, and hydropower



## Way Forward- Solutions shift

### Digitalization and intelligentization for RE integration and energy efficiency

- Grid management
- Smart meters

### Decarbonized technologies

- Advanced biofuels
- Geothermal systems
- Ocean and marine renewable energy
- Carbon capture, use, and storage

### Integrated cross-sector approach

- Agri-photovoltaic systems
- Energy efficient disease resilient air-conditioning systems





## Way Forward- Special initiatives and knowledge activities

### New Energy Sources

- Hydrogen, Methanol, Biofuels etc
- Marine RE, floating PV



### Hard-to-abate sectors

- Cement, Steel
- Long distance transport



### Energy Efficiency

- Buildings, industries



### Clean technology manufacturing

- Critical Minerals



Asia Clean Energy Forum  
(ACEF)

Singapore International  
Energy Week

Transpacific Sustainability  
Dialogue

Clean Energy Ministerial  
Meeting

World Energy Congress



## Opportunities (under Ongoing Projects)

- <https://www.adb.org/projects/tenders>
- <https://www.adb.org/projects/documents/ind-51308-008-pp>

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| 4271-PAK: Second Power Transmission Enhancement Investment Program - Tranche 4 | Active | 28 Oct 2024 |
| 48078-006; Pakistan; Energy; Posting date: 11 Sep 2024                         |        |             |
| Notice Type: Invitation for Bids                                               |        |             |
| Approval Number: 4271                                                          |        |             |

| Project Title                                                                  | Status | Deadline    |
|--------------------------------------------------------------------------------|--------|-------------|
| 4271-PAK: Second Power Transmission Enhancement Investment Program - Tranche 4 | Active | 30 Oct 2024 |
| 48078-006; Pakistan; Energy; Posting date: 11 Sep 2024                         |        |             |
| Notice Type: Invitation for Bids                                               |        |             |
| Approval Number: 4271                                                          |        |             |

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### Uttarakhand Climate Resilient Power System Development Project: Procurement Plan

Procurement Plans | March 2023

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Procurement plans describe and update the procurement of major goods, works and consulting services either ongoing or expected to take place related to a project or program.

This document dated 20 March 2023 is provided for the ADB project 51308-008 in India.

**THANK YOU**

