Scaling up the Energy Transition Mechanism in Southeast Asia: Process and Achievements

David Elzinga
Principal Energy Specialist (Climate Change)
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Coal-fired electricity must drop, but remains significant in developing Asia

Large-scale solution needed to simultaneously and rapidly decarbonize and build up clean energy in Asian developing countries.

Source (left): Carbon Action Tracker 2020 and calculations based on IEA Data
Source (right): BP “Statistical Review 2020”; IPCC “Special Report on Global Warming of 1.5°C”
Author: Donald Kanak (WEF blog “How to accelerate the energy transition in developing economies” https://www.weforum.org/agenda/2021/01/how-to-accelerate-the-energy-transition-in-developing-economies)
Why speed up the retirement of coal-fired power plants?

Early retirement of existing coal-fired power plants can
• reduce emissions and improve population health,
• create additional demand for clean energy investments, and
• lower overall generation costs in the long-run.
ADB's Holistic 4P Approach Anchoring the ETM

**People**
Supporting just transition, protecting livelihoods and affordable electricity
- Just transition assessments, financing facility, and technical assistance
- Environmental and social safeguards

**Policy**
Supporting policies and regulations to accelerate energy transition
- Climate change policy programs
- Energy sector reform programs
- Sector analyses and advisory

**Power**
Promoting scalable, market-based model for reducing emissions from power plants
- Coal retirement and repurposing
- Investments in clean energy, storage, or grid

**Partnership**
Based on solid partnership with national and international stakeholders
- Governments
- International financial institutions and global climate finance
- Commercial lenders and investors
- Private sector
- Nongovernment organizations and civil society organizations
- Philanthropies
Energy Transition Mechanism (ETM)
Accelerating the transition from coal to clean energy

Background
An innovative mechanism is needed to intervene and accelerate the switch from coal to clean energy.
- Asia is responsible for over half of global GHG emissions and 80% of coal consumption.
- Once coal plants are built and commissioned, they operate for decades, locking in carbon emissions in the long-term.

ETM
- Accelerates the retirement or repurposing of coal-fired power plants and scales up investment in clean energy and energy storage using public and private finance through refinancing, acquisition or sustainability linked corporate loans.
- Aims to achieve just and affordable transition by addressing impacts to people and communities from coal retirement.

Governments / Philanthropies
Grants and highly concessional funding*

ETM Partnership Trust Fund (ADB-managed)
Concessional finance

IFIs
Int’l/local investors and lenders
Debt, equity, or guarantee

ETM Fund/Vehicle
Direct ADB Transactions
Technical Assistance

* Grants and highly concessional funding (low-cost equity and debt) are critical to catalyze private capital and make ETM a success.
Ongoing ETM Feasibility Study and Piloting

**Project Selection**
- Critical factors to focus on when selecting power plants:
  - Grid stability
  - Utilization
  - Plant age
  - Renewable replacement potential
  - Transactional appetite

**Transaction Structuring and Financial Analysis**
- Commercial and legal structure to efficiently retire the assets
- Valuation approach
- Role of existing stakeholders
- Cost of capital needed to achieve a significant lifetime reduction
- Potential additional revenue sources or costs (e.g., carbon and decommissioning)

**Funding Vehicle Structuring**
- Legal structure of ETM entity
- Capital structure and sources of funding
- Management structure
- Incentive structure
- Return expectations
- Major risks
- Safeguard policy
- Governance requirements

**Environmental, Social, and Governance**
- Replacement plan for retired capacity to ensure ETM has positive climate impacts
- Socioeconomic impact assessment of direct, indirect, and induced impacts in the coal value chain due to CFPP early retirement
- Planning of Just Transition activities and funding needs over short- and long-term
- Regional or country strategic environmental and social assessment of ETM options
- Asset-level audits
### Transaction Structuring and Financial Analysis

Transaction models to accelerate retirement/repurposing of coal-fired power plants (CFPPs)

<table>
<thead>
<tr>
<th>01</th>
<th>Acquisition Model¹ (SPV Level)</th>
<th>02</th>
<th>Synthetic Model (SPV Level)</th>
<th>03</th>
<th>Portfolio Model (Corporate Level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETM acquires share capital in CFPP</td>
<td>ETM invests senior/junior debt and/or other mezzanine capital to the CFPP</td>
<td>ETM provides funding to the corporate sponsor with CFPPs and greenfield clean energy projects</td>
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</tr>
<tr>
<td>ETM to take role as owner and operator of the coal plant</td>
<td>Equity ownership and operational responsibility kept with the current asset owner</td>
<td>Sponsor guarantees greenfield clean energy projects will be built and coal plants retired ahead of schedule</td>
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</tr>
<tr>
<td>ETM agrees an early termination date with the utility and operates the plant until that date and then closes it or repurposes</td>
<td>Investment conditional on early termination being contractually agreed with owner and utility and appropriate security being provided</td>
<td>Incentives (such as penalty interest) can be used to ensure that the transition occurs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most suitable for IPP plants with international bankable PPA</td>
<td>Most suitable for IPP plants with international bankable PPA</td>
<td>Most suitable for Utilities with a portfolio of plants</td>
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<td></td>
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</tbody>
</table>

While multiple transaction options exist, ETM will seek commitments from:
- current project investors not to develop any new coal; and
- host country commitment to energy transition as a pre-condition for any deal.

¹ Acquisition Model to be utilized only in exceptional scenarios.
Emission Reduction = Baseline emissions – Project Emissions

Baseline emissions are the CO₂ generated by the combustion of coal in the power plant.

Project emissions are CO₂ emissions due to replacement power generation once CFPP is retired.

CO₂ = carbon dioxide; COD = commercial operation date; PPA = power purchase agreement
Environmental, Social, and Governance
ADB’s commitment to Safeguards and Just Transition are critical parts of ETM work

Comprehensive Approach to Just Transition under the ETM

Just Transition (JT) activities extend beyond the scope and implementation timeframe of ETM.

JT considers the geopolitical context and enabling environment, including policy frameworks, education systems, and economic structure.

ETM considers the direct, indirect, and induced impacts along the coal value chain and national system-level effects.

JT activities include asset-level impact assessments, social dialogue, and development of JT plans, considering direct and indirect workers, employers, labor unions, and environmental remediation issues as well as communities in general.

JT entails coordination with other development partners, stakeholders, and national or regional platforms, including the JETP.

JT considers the availability of alternative employment, potential for economic diversification, and impacts on local and subnational budget.

It mobilizes investments in social sector projects to strengthen the enabling environment.

Together with ADB’s social and environmental safeguards, Just Transition provides support for workers, communities, and regions impacted by the intervention of the ETM and associated projects, while preserving the environment.
Strategic environmental and social assessment and stakeholder engagement

- A regional strategic environmental and social assessment (SESA) scoping study completed in 2022.
- Country-level SESA for Indonesia and SESA scoping study for Philippines are underway.
- Stakeholder analysis conducted and stakeholder engagement plan prepared for SESA.
- Consultations with CSOs at regional and country level (Indonesia) conducted and will continue.
- A dedicated email address set up to allow for a real-time feedback (ETMfeedback@adb.org).
Piloting ETM in Southeast Asia: Progress and Updates

**Indonesia**

- Technical support for the establishment of the Indonesia ETM Country Platform, aiming to mobilize domestic and international financial resources and support. MOF Regulation for ETMCP and MEMR decree for early retirement roadmap being finalized.
- Conducted 4 focus group discussions in 2022 in Jakarta, and 5th on Mar. 2023
- MOU signed for first ETM transaction exploring early retirement of the first coal power plant (Cirebon 1, 660MW)
- Submission of $500 million in highly concessional funding investment plan under the CIF-ACT program

**Ongoing work:**
- Finalization of feasibility report
- RBL and PBL processing
- JT studies being finalized
- Country SESA for INO
- Engagement with CSO/NGO community at national and subnational levels
- Power system analysis and grid impact studies

**Philippines**

- Conducted 2 joint MDB missions for the preparation of an investment plan under CIF-ACT.
- ADB’s first climate action policy-based loan (May 2022) includes DOE and DOF commitment to establish an ETM financing framework, considering energy security and just transition.

**Ongoing work:**
- Full feasibility study ongoing
- Preparation of draft CIF-ACT Investment Plan, with World Bank Group
- Continue discussions with private sector independent power producers on transaction structuring models and financial analysis
- Country SESA scoping study being initiated

**Viet Nam**

- Pre-feasibility study completed in 2021.
- ETM workshop held in May 2022, hosted by MONRE.
- VIE Country Partnership Strategy 2023–2026 highlights ETM support.

**Ongoing work:**
- Dialogue ongoing with key ministries to commence feasibility study in 2023
- Coordinating with development partners to support policies and regulations on energy transition
ETM: from a concept toward an operational program

Initial focus on Indonesia, Philippines, and Viet Nam with additional interest expressed by Pakistan and Kazakhstan.

Exploration of the first private sector ETM transaction in Indonesia (660MW plant).


Catalyzing active participation from G7 countries including through discussions around the Just Energy Transition Partnership (JETP).

Collaborating with other DMCs in Asia, which are embarking on their own energy transition strategies.
Just Energy Transition Partnership (JETP)
An umbrella initiative for international support for just energy transition

- JETP was announced for South Africa at COP26 to help reduce emissions in the energy sector and accelerate coal phase-out with support from the International Partners Group (IPG), which consists of G7+ countries.
- JETP is being developed for India, Indonesia, Senegal, and Viet Nam.
- ADB is closely coordinating with the JETP IPG and will contribute where possible, including through the ETM.

Indonesia JETP (I-JETP)

- Indonesia and the International Partners Group (IPG) announced to mobilize an initial $20 billion in public and private financing over a 3–5-year period. Launched on 15 November 2022 at the G20 Leaders’ Summit in Bali, Indonesia;
- JETP Secretariat launched on 16 February 2023, led by the Governments of Japan and the United States; hosted by Indonesia’s Ministry of Energy and Mineral Resources;
- Four working groups established: Technical, Policy, Financing, and Just Transition workstreams to support the Secretariat’s delivery of commitments under the I-JETP;
- Aims to support Indonesia’s just energy transition through an accelerated deployment of renewable energy and a phase down of on-grid and off-grid coal-fired electricity generation;
- ADB to provide institutional support and implementation capacity to the Secretariat through a technical assistance.
Thank you!
ADB’s Energy Transition Mechanism: Increasing momentum from Glasgow COP26 to Bali G20 and Egypt COP27

- Indonesia and the Philippines joined as key partners to launch the pilot study for ETM in Southeast Asia.
- Japan’s Ministry of Finance announced a $25 million grant, the first seed financing for ETM.
- The partnership was endorsed by senior cabinet-level officials from Denmark, the UK, and the US, as well as leading global financial institutions and philanthropies.
- MOU was signed with Rockefeller Foundation, including to accelerate the transition to clean energy.

- Signing of a MOU on the landmark precedent ETM transaction in Indonesia between ADB, PT Perusahaan Listrik Negara, Cirebon Electric Power, and Indonesia Investment Authority.
- Signing of MOU between ADB and PT Sarana Multi Infrastruktur, Indonesia ETM Country Platform Manager.

- Government representatives from Indonesia, Kazakhstan and Viet Nam provided updates on country-level ETM implementation.
- Germany’s Ministry of Foreign Affairs announced its €30 million contribution to the ETM Partnership Trust Fund.

Philippine Finance Secretary Carlos G. Dominguez, Indonesian Finance Minister Sri Mulyani Indrawati, and ADB President Masatsugu Asakawa during the ETM Launch at UN Climate Change COP26, Glasgow on 3 Nov. 2021.


One ADB ETM Team led by SDCC DG Bruno Carrasco is joined by Germany’s Anna Lührmann, Deputy Foreign Minister and State Minister, representatives from Kazakhstan and Viet Nam, and speakers from Bezos Earth Fund, Climate Policy Initiative, Glasgow Financial Alliance for Net Zero, Institute for Climate and Sustainable Cities, and Sustainable Energy for All during COP27 in Sharm El-Sheikh on 17 Nov. 2022.
Project Selection
Multi-criteria Analysis (MCA) for asset selection

Stage 1 – Technical Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just Transition (JT) Impact</td>
<td>17%</td>
</tr>
<tr>
<td>Health Impacts</td>
<td>17%</td>
</tr>
<tr>
<td>Grid Stability</td>
<td>33%</td>
</tr>
<tr>
<td>Repowering Potential</td>
<td>33%</td>
</tr>
</tbody>
</table>

Output: Technical MCA Score

Stage 2 – Optional Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Range (5-25 years)</td>
<td></td>
</tr>
<tr>
<td>Utilisation Cut-off (80%)</td>
<td></td>
</tr>
<tr>
<td>Manual Switch</td>
<td></td>
</tr>
</tbody>
</table>

Output: Adjusted Score

Stage 3 – Commercial Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract-ability</td>
<td>50%</td>
</tr>
<tr>
<td>Commercial Propensity to Buy</td>
<td>50%</td>
</tr>
<tr>
<td>Manual Switch</td>
<td></td>
</tr>
</tbody>
</table>

Output: Stage 3 Score

Stage 4 – Carbon Intensity

Carbon Intensity* (Ton CO2 / MW / Y)
(Ton CO2 / Y) / MWh / Y

Stage 1 Score + (Stage 2 Score) + (Stage 3 Score) = MCA Score

MCA Score x Carbon Score = Final MCA Score

The MCA results can be aggregated separately by stage or by applying the multiplication of the carbon intensity measures.
Funding Vehicle (FV) Structuring

ETM Funding Vehicle structuring is ongoing

- **CRF** will leverage the power of a blended finance approach, to accelerate retirement / repurposing of coal-fired power plants (CFPPs)
- **CEF** will catalyze and channel investment in new renewable energy generation, energy storage infrastructure, and requisite grid upgrades

Governments and Philanthropies

Grants and highly concessional funding*

**ETM Partnership Trust Fund (ADB-administered)**

Concessional finance**

Technical assistance (e.g.):

- Grid, technical, and financial analyses
- Just Transition (e.g., skills and livelihood development) and social/environmental safeguards
- Policy and regulatory support
- Carbon finance (e.g., carbon credit structuring)
- Measurement, reporting, and verification

**IFIs and global climate finance**

Grant, debt, equity, or guarantee

**International and local investors and lenders**

Coal retirement transactions (asset level)

Clean energy transactions (asset level)

Corporate transactions (portfolio level)

**Direct ADB Transactions**

(Sovereign or nonsovereign sectors with potential IFIs cofinancing)

- **Carbon Reduction Facility (CRF)**
- **Clean Energy Facility (CEF)**

Grants and highly concessional funding**

Just Transition activities to be supported in line with agreed JT plan.
Funding Vehicle (FV) Structuring

CEF Value Proposition: ETM will support project preparation to generate pipeline and will provide stapled financing for clean energy projects

**Project Development**
- ETM will work with the government to develop renewable energy master plans and identify renewable project pipelines
- ETM will support project preparation of specific clean energy projects or grid enhancements, incl. preparation of FS, due diligence, project structuring and development of bankable project documents
- ETM can also provide tender assistance, if applicable

**Financing Close**
- ETM would provide attractive stapled financing attached to the project when it goes to the market for private sector sponsor participation through tenders or other means.
  - could include both commercial capital (subject to being competitive with market rates) alongside concessional funding
  - concessional funding can be used to de-risk project and/or address viability gaps
- The private sponsor would use ETM debt attached to the project for part of its funding needs.

ETM CEF is being considered as a mostly debt vehicle but we are possibly open to ideas of taking non senior debt positions on a limited basis.