

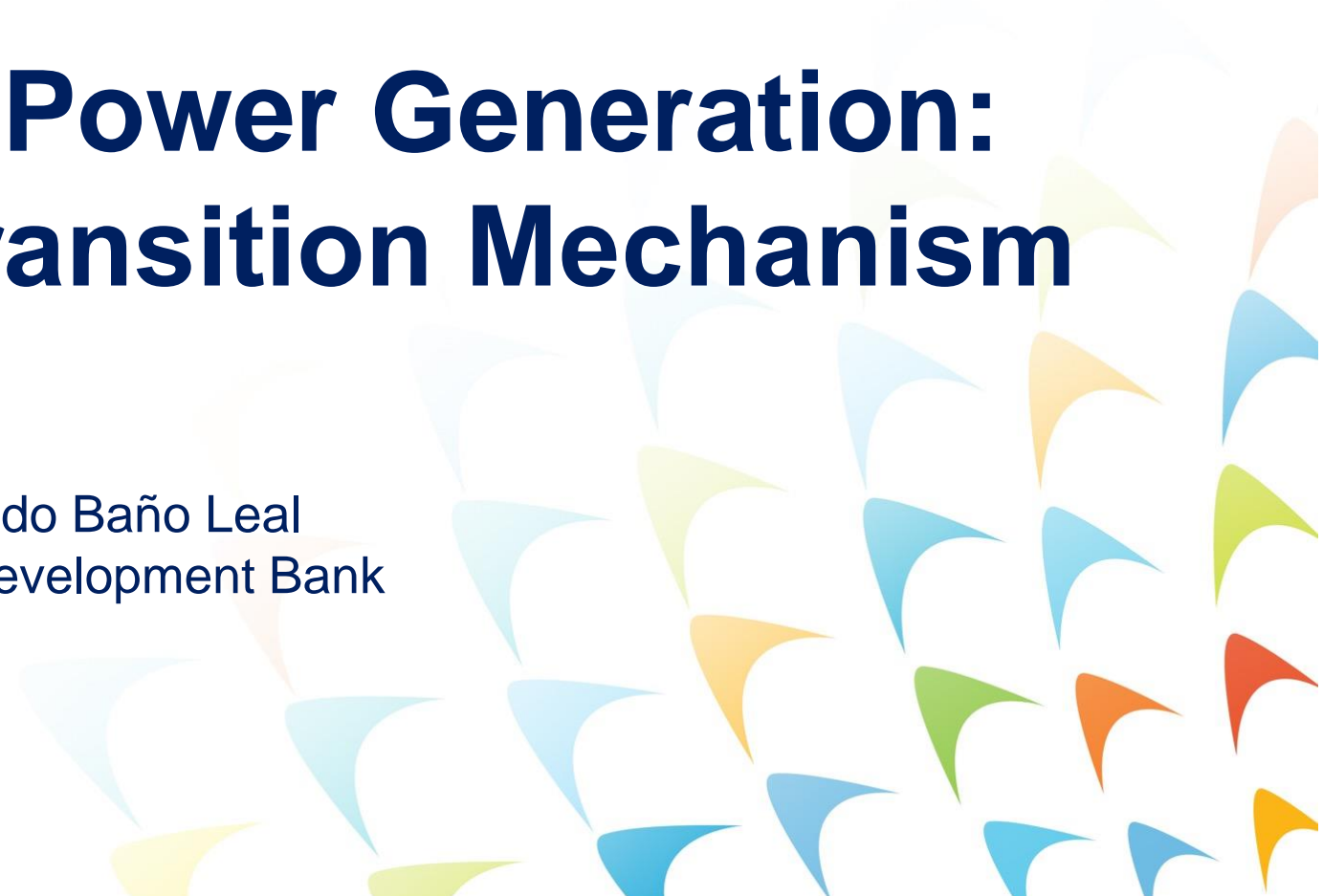


6th CAREC Energy Investment Forum
28-29 November 2023, Tbilisi, Georgia



Decarbonizing Power Generation: ADB's Energy Transition Mechanism

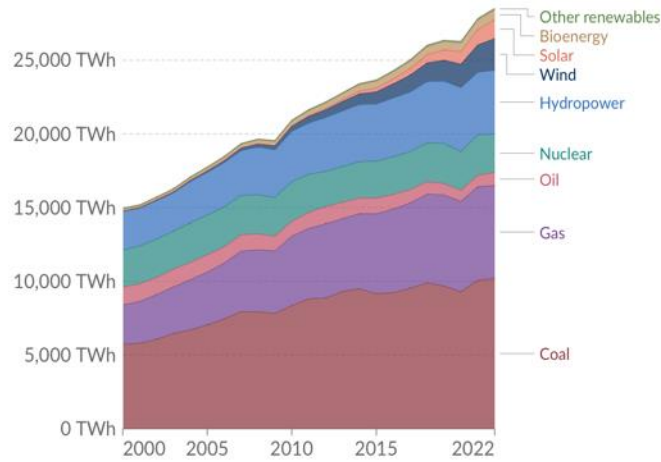
Alfredo Baño Leal
Asian Development Bank



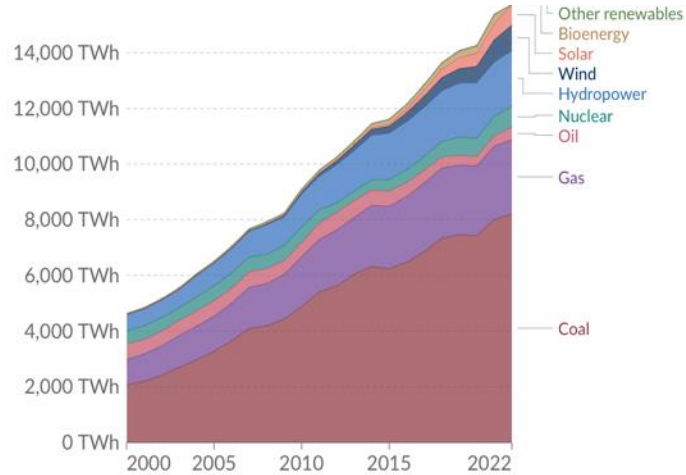
A Coal-Powered Asia...

Electricity Production per source, 2000-2022 (in TWh)

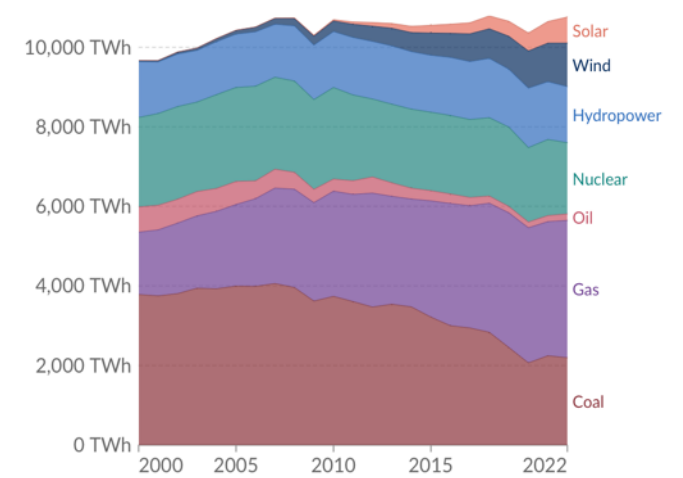
World



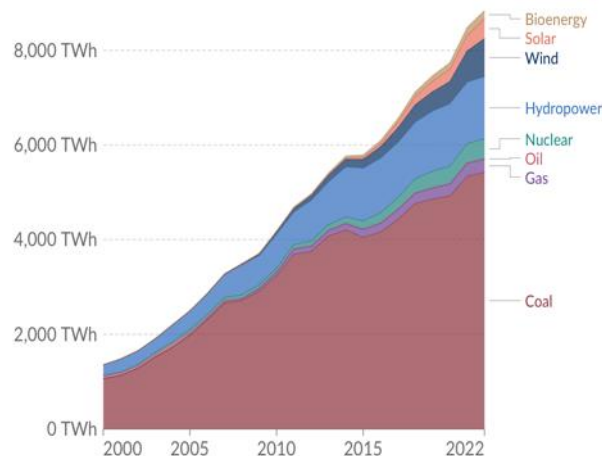
Asia



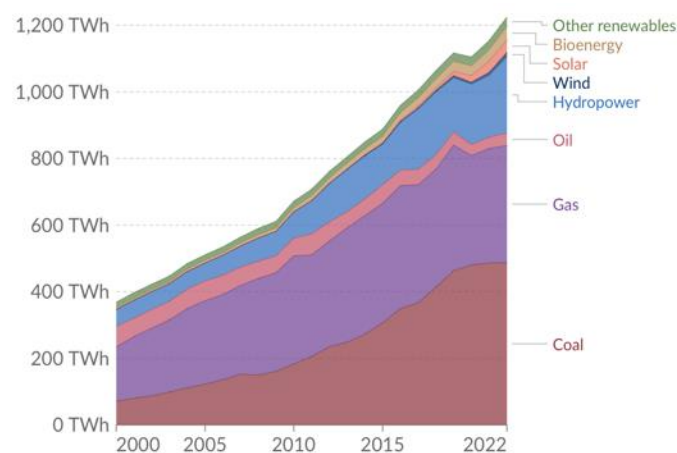
OECD



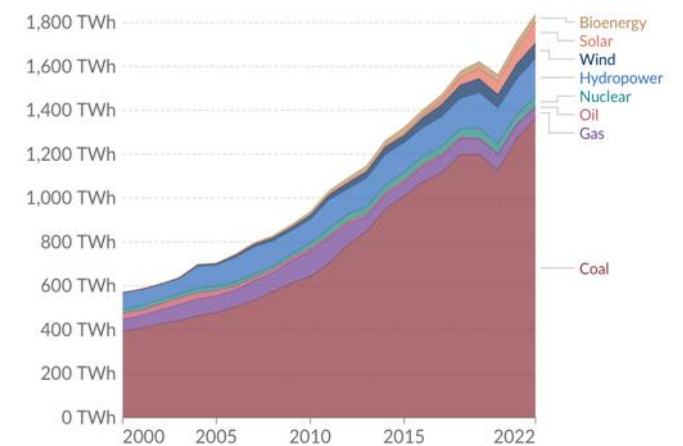
PRC



ASEAN



India



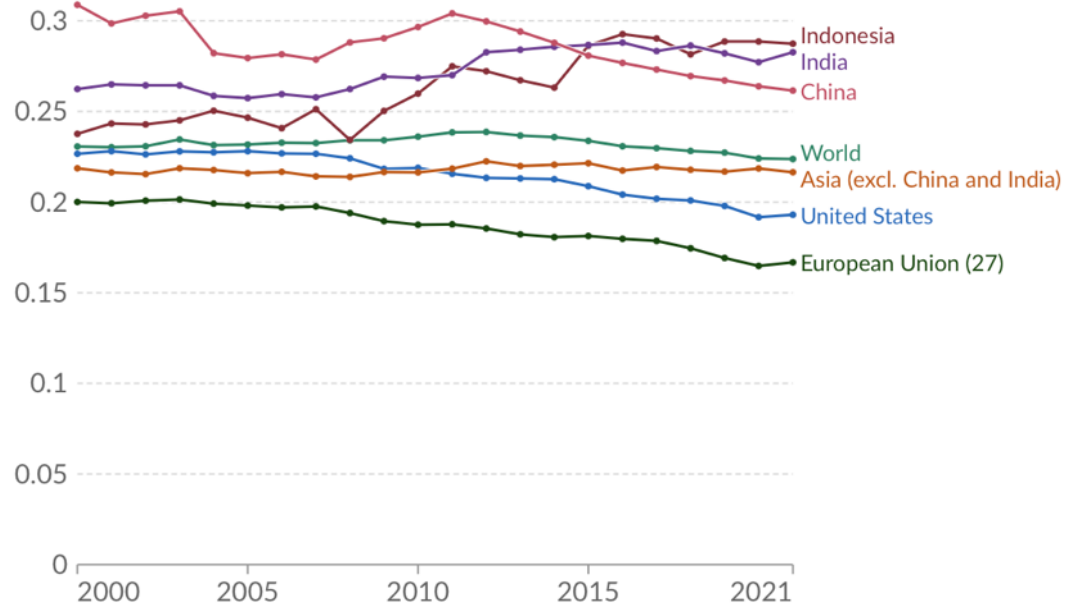
Source: Ember's Yearly Electricity Data; Ember's European Electricity Review; Energy Institute Statistical Review of World Energy

Note: 'Other renewables' includes waste, geothermal, wave and tidal. OurWorldInData.org/energy • CC BY

ASEAN = Association of South-East Asian Nations, OECD = Organisation of Economic Cooperation and Development, PRC = People's Republic of China, TWh = terawatt hour

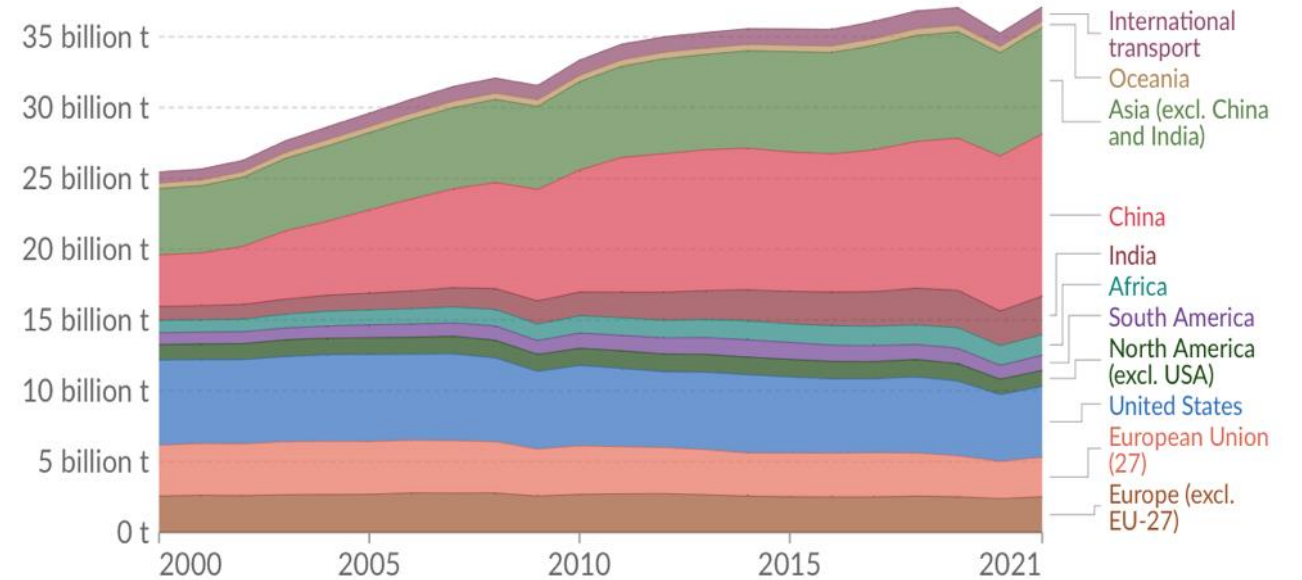
...is contributing to Climate Change

*Carbon Intensity of Energy Production, 2000-2021
(kgCO₂ / kWh)*



Source: Global Carbon Project (2022); Energy Institute - Statistical Review of World Energy (2023); U.S. Energy Information Administration (2023)
OurWorldInData.org/emissions-drivers • CC BY

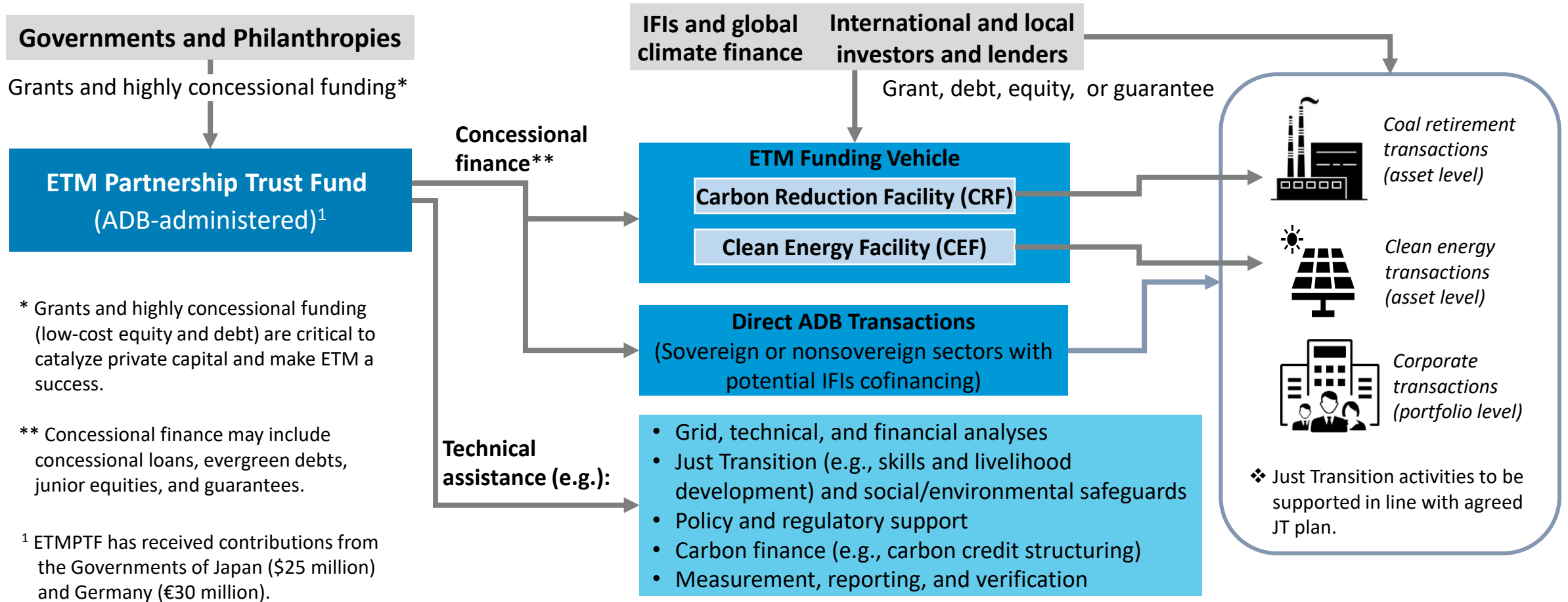
*Annual CO₂ Emissions by World Region
(tCO₂ billion)*



Source: Global Carbon Project (2022)

OurWorldInData.org/co2-and-greenhouse-gas-emissions • CC BY

Energy Transition Mechanism Overview



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

** Concessional finance may include concessional loans, evergreen debts, junior equities, and guarantees.

¹ ETMPTF has received contributions from the Governments of Japan (\$25 million) and Germany (€30 million).

ETM Feasibility Study Process

01



Project Selection

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

02



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)

03



Fund/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

04



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
- Strategic environmental and social assessment of ETM options
- Asset-level audits

Transaction Structuring Models

01 Acquisition Model¹ (SPV Level)

ETM acquires share capital in CFPP

ETM to take role as owner and operator of the coal plant

ETM agrees an early termination date with the utility and operates the plant until that date and then closes it or repurposes

Most suitable for **IPP plants with international bankable PPA**

02 Synthetic Model (SPV Level)

ETM invests senior/junior debt and/or other mezzanine capital to the CFPP

Equity ownership and operational responsibility kept with the current asset owner

Investment conditional on early termination being contractually agreed with owner and utility and appropriate security being provided

Most suitable for **IPP plants with international bankable PPA**

03 Portfolio Model (Corporate Level)

ETM provides funding to the corporate sponsor with CFPPs and greenfield clean energy projects

Sponsor guarantees greenfield clean energy projects will be built and coal plants retired ahead of schedule

Incentives (such as penalty interest) can be used to ensure that the transition occurs

Most suitable for **Utilities with a portfolio of plants**

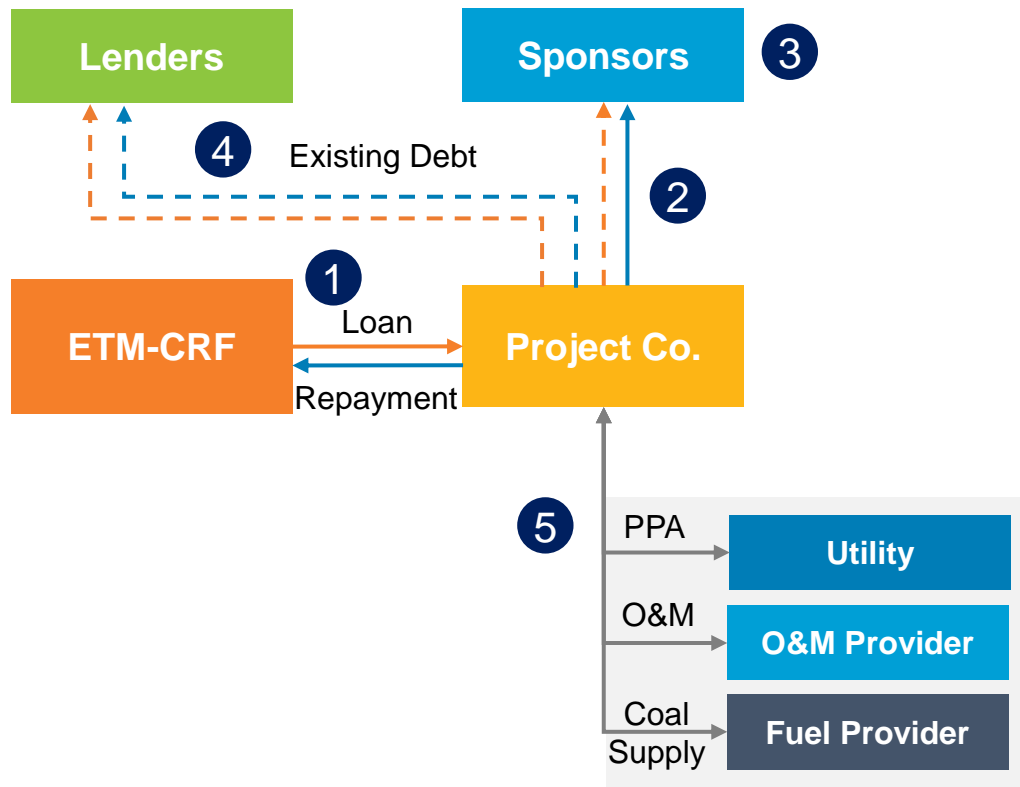
While multiple transaction options exist, ETM will seek commitments from

- (i) current project owners to not develop any new coal, and*
- (ii) host country commitment to energy transition as a pre-condition for any deal*

¹ The Acquisition Model will be utilized only in exception scenarios.

Synthetic Model

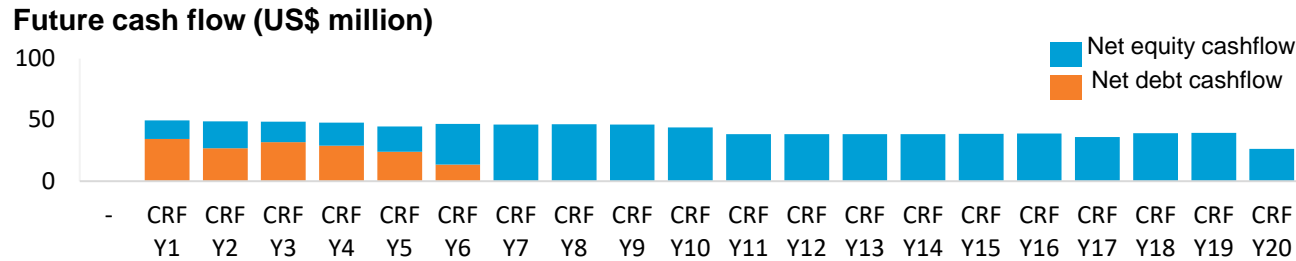
ETM will re-leverage coal-fired power plants with low-cost capital while **existing owners remain as equity owners and operators**



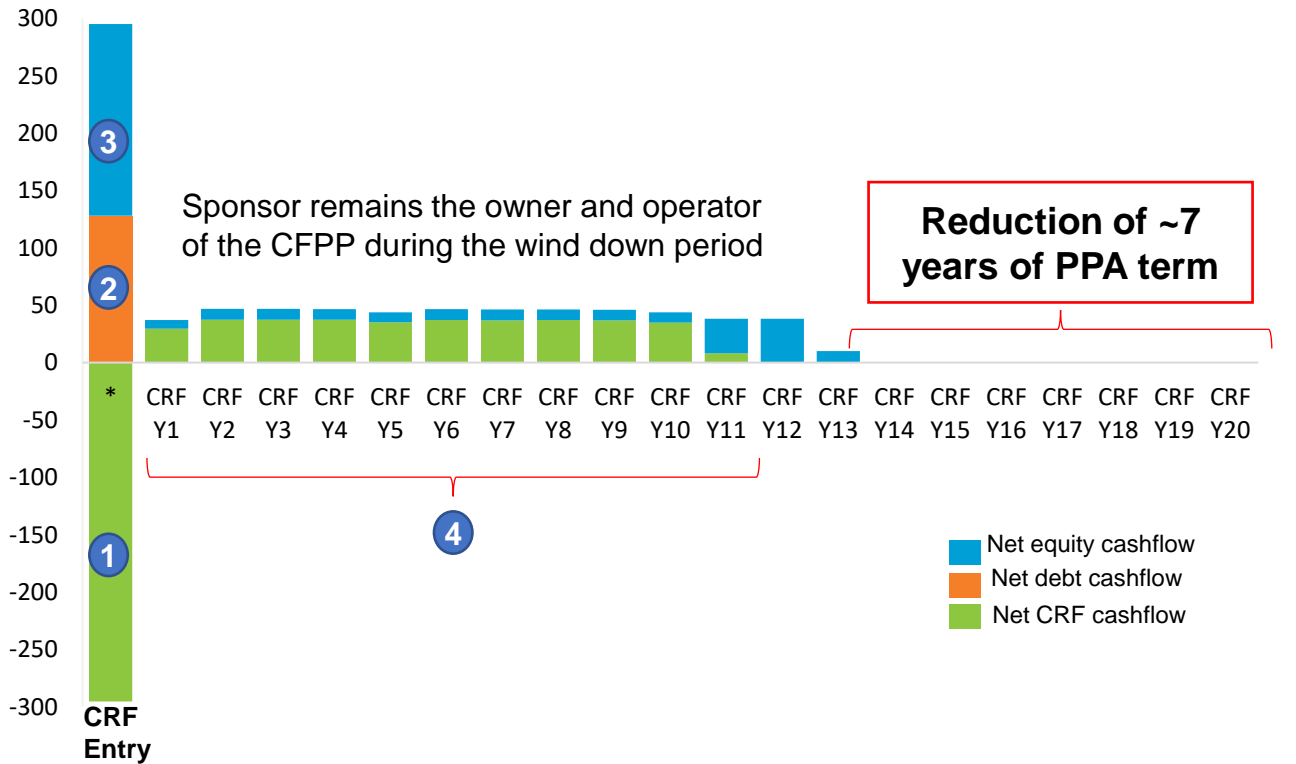
- 1 **ETM invests in debt-like instrument** into the project company and receives repayment based on sculpted cash flow (% of CFADS) over the investment horizon
- 2 **Proceeds from ETM investment are paid to existing shareholders as a special dividend** as a form of equity return. Existing shareholders continue to receive equity dividends (but at a lower level than without CRF)
- 3 **Existing shareholders remain as 100% common shareholders** until the end of the shortened PPA tenure
- 4 Transaction to be structured for **existing financing arrangement to remain** (e.g., pari-pasu with CRF) **or fully exit**
- 5 **Shortening of PPA tenure to be contractually agreed with the Utility**; major project agreements (O&M, Fuel) to remain as is but with shorter tenor

Synthetic Model: Illustrative Cash Flows

Business as Usual (without ETM-CRF entry refinancing)



After ETM-CRF Investment

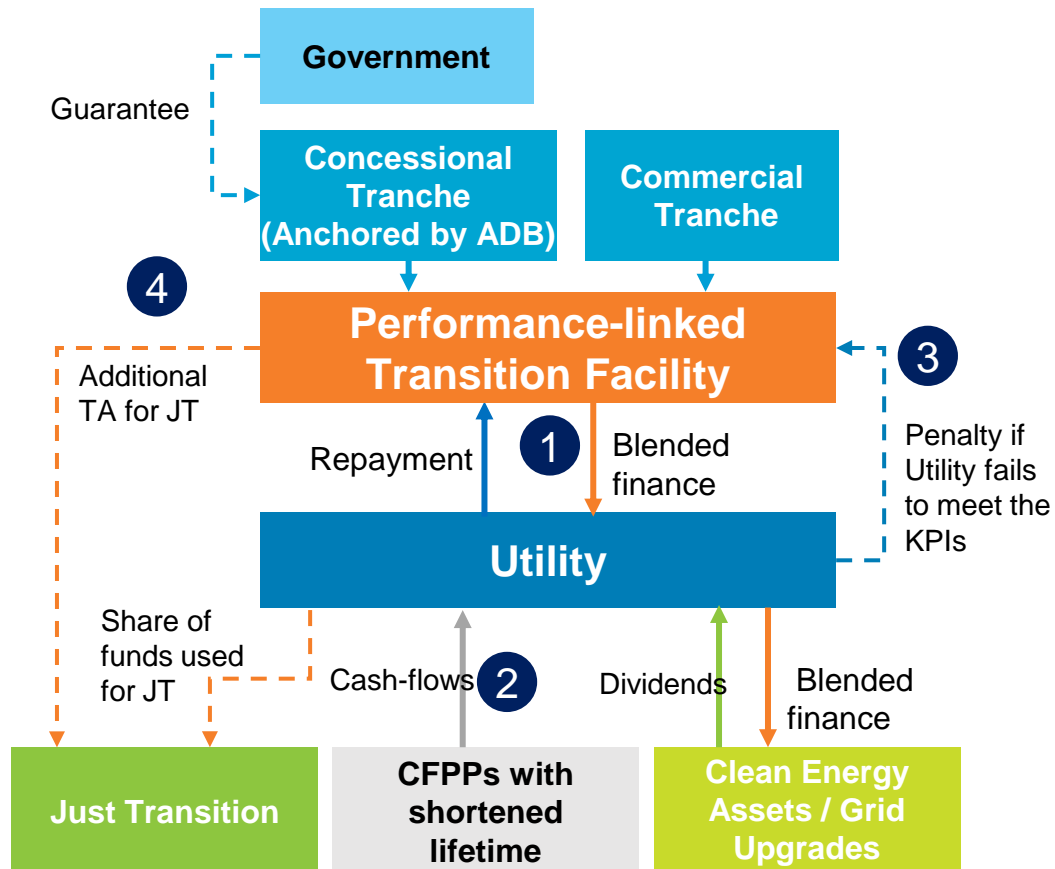


- 1 \$300m ETM 10Y loan (funded by ~25% concessional capital) is provided to the project.
- 2 ETM loan proceeds are used to repay existing lenders.
- 3 Remaining ETM loan proceeds are used to pay a special dividend to sponsors, to compensate them for the economic loss due to the shortened operation period (same IRR as BAU scenario).
- 4 Project cash flows are used to repay ETM loan.

ETM's market-based approach will significantly reduce coal plant life by re-leveraging with lower-cost capital from governments, multilateral banks, philanthropies, and private sector investors

Portfolio Model

ETM will establish a performance-linked transition facility with financing provided at corporate level.



- ETM to provide a corporate loan facility to Utility. KPIs could include items such as:
 - Individual coal plant shutdown (identified CFPP(s) to close)
 - Overall GW of coal plants closure by a certain date (Utility choose CFPP(s) to close)
 - CO2 reduction achievement - Utility and ADB/Financiers to agree a mechanism for calculating current emissions baseline and achieved CO2 reductions vis-à-vis this baseline
- Utility uses cash receipt to shut CFPPs over time and use funding for renewable energy and grid upgrade projects
- Utility to pay penalty for not meeting KPIs which may include
 - Penalty interest – level of concessionality of the loan would be reduced if KPIs are not met by applying a penalty interest (potentially cumulative since the inception of the loan)
 - Default – inappropriate use of funds or failure to meet KPIs could provide financiers the right to withhold future drawdowns and/or immediate repayment
- Additional concessional capital/TA could be provided to help fund Just Transition (JT) activities

Progress of ETM & Partnerships in ADB DMCs

Indonesia



Phase 2 | PILOT TRANSACTIONS



Phase 1 | FULL FEASIBILITY STUDY

- Ongoing country SESA, JT framework development, and stakeholder engagement
- Support for the Indonesia ETM Country Platform
- Ongoing studies (captive power analysis, grid impact analysis, generation planning)
- MOU for precedent transaction (Cirebon-1) signed in November 2022; Ongoing due diligence
- CIF ACT IP approved in June 2023 (\$500M concessional funding to leverage \$4.5B+ of MDB and other cofinancing and government investment)
- Institutional support for JETP Secretariat (TA approved)

Philippines



Phase 1 | FULL FEASIBILITY STUDY

- Feasibility study ongoing
- Pipeline development for private sector transaction opportunities
- CIF ACT IP being drafted; for submission October 2023

Viet Nam



Phase 1 | FULL FEASIBILITY STUDY

- Ongoing discussions with government (Commission for Management of State Capital at Enterprises) for MOU and launching a feasibility study
- JETP announced in December 2022; Donor engagement

Kazakhstan



Phase 0 | PRE-FEASIBILITY STUDY

- Ongoing preparation for pre-feasibility study
- Stakeholder consultation conducted in August 2023

Pakistan

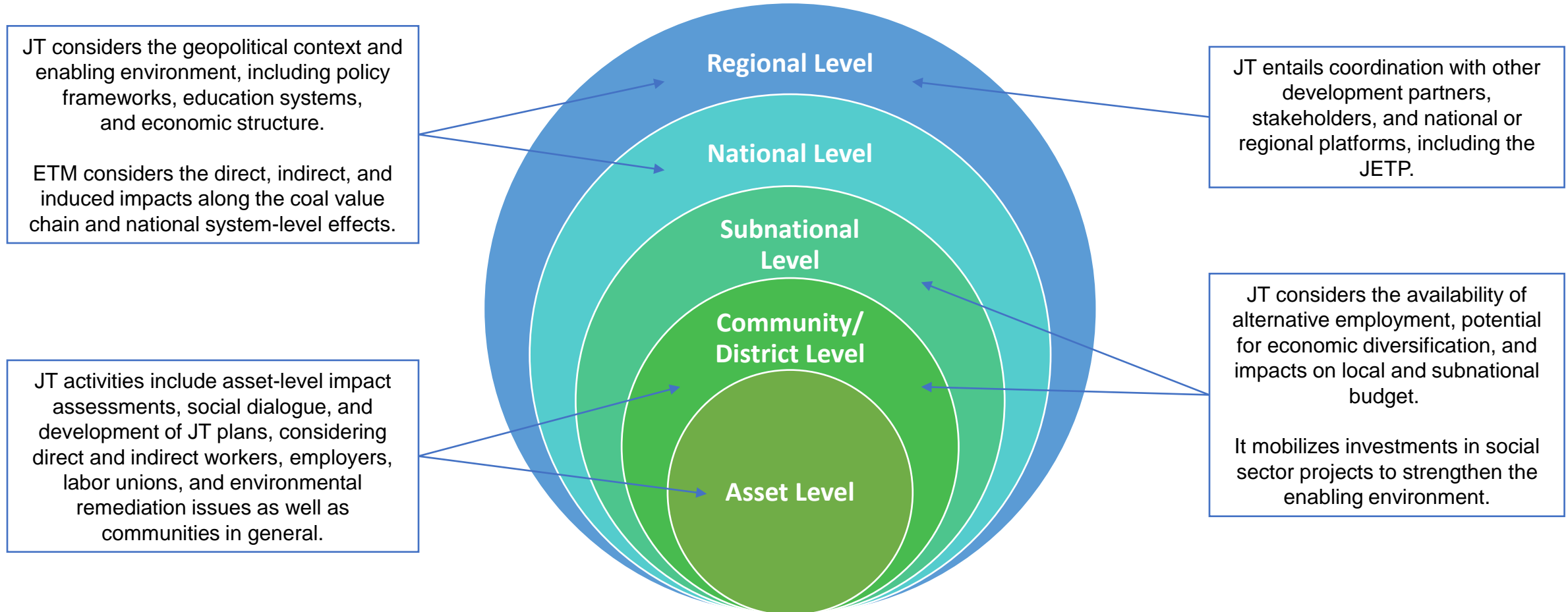


Phase 0 | PRE-FEASIBILITY STUDY

- Pre-feasibility study being finalized
- Comments received from the government are being incorporated

Comprehensive Approach to Just Transition

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



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.

Thank you all for your attention

Alfredo Baño Leal

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