Energy Transition Progress in Cambodia

**1. Current Power mix**
Power mix in 2023, focusing on share of fossil fuel and renewable energy.

**2. PDP: 2030 & 2040**
An update of the PDP 2022-2040, and revised points.

**3. Goals in the 7th mandate**
Six priority goals and CARE PRINCIPLES.

**4. Briefing about ETM**
Scopes, expected results, and current status of the project.

Presenter: Mr. Keo Vichet (DED, GDE, MME)
1. Power Mix 2023

- Domestics: 3977, 86%
- Import: 672, 14%

- Coal: 1300, 33%
- RE: 2277, 57%
- HFO/DO: 400, 10%

src: mme
2. An overview of RE Outlook by 2030 and 2040, and the latest update on the PDP

- **RE2030**: Hydro 32%, Solar 16%, PSH + Solar 15%, Hydro Laos 7%, Biomass 1%
- **RE2040**: Solar 35%, Hydro 25%, PSH + Solar 8%, Hydro Laos 4%, Biomass 1%, Wind 1%
- Even earlier, Cambodia plans to integrate 2000 MW of Solar + BESS in 2026. By 2030, 1000 MW of pumped storage hydro, a 2800 MW solar project, and a 550 MW wind farm will be online.
3. Energy Sector Principles: CARE

**CLEAN**
Manage energy transition towards net zero carbon, including EV charging infrastructure, and increase renewable energy to at least 70% by 2030, while exploring the feasibility of retiring small fleet of CPPs early.

**AFORDABILITY**
Aim to maintain the current tariff for the new mandate until 2028. Plus, ensure the incentives for keeping the current tariff structure through REF by providing relatively low tariffs for the poor.

**RELIABILITY**
Diversification of power sources, prioritizing domestic RE resources, grid enhancement, and modernization to integrate more VRE and EV, reducing SAIDI & SAIFI, etc.

**EQUITABILITY**
Balance socioeconomic goals and business stability, sharing competitive cost of RE generation with all types of consumers, gender (at least 60% women construction and operation of utility-scale solar PV).

src: presenter’s summary
Why?

Coal Retirement

Security

Excessive dependence on imported coal leads to vulnerability to supply shocks and price swings, and increased transition to domestic energy sources would ensure access to energy resources.

Sustainability

Reduced carbon emissions contribute to the earlier achievement of national climate objectives, and reduced air/water/soil pollution would increase health benefits.

Affordability

Reduced cost of electricity supply, in the long run, will Lower the LCOE of renewables, and increased competitiveness of manufactured products would Lower carbon costs.
Characteristics of ETM transaction

**Coal Power Plant Retirement**
- ETM will use Blended Finance (concessional + market) to refinance the early retirement
- There will be no increased costs in the transaction → PPA tariff does not change

**Clean Energy Development**
- ETM can support replacement with Renewable Energy technologies → increased % RE
- Develop energy storage, ancillary services and smart grid technology → higher grid stability

**Just Transition Activities**
- Mitigation of coal power retirement impact on affected communities, including supply chain
- Support decommissioning and environmental remediation of retired sites

src: adb
Current IPP Model

Lenders

Sponsors

Project Co.

Off-taker EDC

Current debt repayment

Current dividend

Payment under PPA

Payment under Fuel Supply Agreement

Payment under O&M Contract

Fuel Supplier

Other Contracts (e.g. O&M)

4. ETM

src: adb
In terms of process, the ETM transaction is expected to require the following steps:

1. Shortening of the PPA tenor to be agreed with EDC with other key terms
2. Shortening of the tenor of other major project agreements (e.g., O&M and fuel supply) to be agreed with counterparties with other terms
3. ETM invests into the project company via senior debt and is repaid before the end of the shortened PPA tenor
4. Portion of investment is used to fully refinance the existing lenders, exiting the project
5. Remaining proceeds from ETM loan are paid to existing shareholders as an upfront special dividend to recover the lost future dividends caused by the shortening of the PPA. Existing shareholders continue to receive equity dividends post-ETM FV debt service until the end of the shortened PPA tenor.
6. Existing sponsors continue to own the CFPP and operate it until the end of the shortened PPA tenor.
The Ministry of Mines and Energy (MME) of Cambodia is considering revising a platform developed by ADB and requested support to carry out an assessment of the retirement of the existing CEL I and II power plants (TEPM).

Against this background, ADB is considering hiring a Consultant to prepare an impact assessment that this transaction(s) would have on three key parameters:

1. Impact on grid stability
2. Sources of replacement power
3. Expected impact on future electricity tariffs

The task list includes:
- Task 1: Confirm Assumptions
- Task 2: Dispatch simulation for Critical Year(s)
- Task 3: Power System Modelling
- Task 4: Compensation Strategies
- Task 5: LCOE Impact
- Task 6: Document Findings

ADB has agreed that with just commercial refinancing (as confirmed by an assessment) and a refinancing pre-approval in place and they are ready to administer by ADB, the PPA could be further shortened to possibly 2035 (8 years earlier retirement). This means that the government of Cambodia would have more than a decade to plan for replacement of CEL I 100MW firm capacity.