

RE Invest Indonesia – Renewable Energy Investment Forum

Energy Transition Mechanism (ETM) in Indonesia

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PT Sarana Multi Infrastruktur (Persero)

Tokyo, Japan
Friday, 3 March 2023



01. About Us & Our Role in Climate Action and Scaling-Up Private Finance

02. Energy Sector in Indonesia

03. Energy Transition Mechanism



PT SMI is the only Special Mission Vehicle of the Indonesian Government Responsible to Accelerate the Infrastructure Development in Indonesia



PT Sarana Multi Infrastruktur (Persero) (“PT SMI”) was established in 2009 as a State-Owned Enterprise under the Indonesian Financial Service Authority Regulation Number 46/POJK.05/ 2020 on Infrastructure Financing Companies.

Structure of PT SMI



Government of Indonesia

Shareholder

Ministry of Finance
Republic of Indonesia

100%



30%



Vision

“A leading catalyst in the acceleration on the national infrastructure development”

Mission

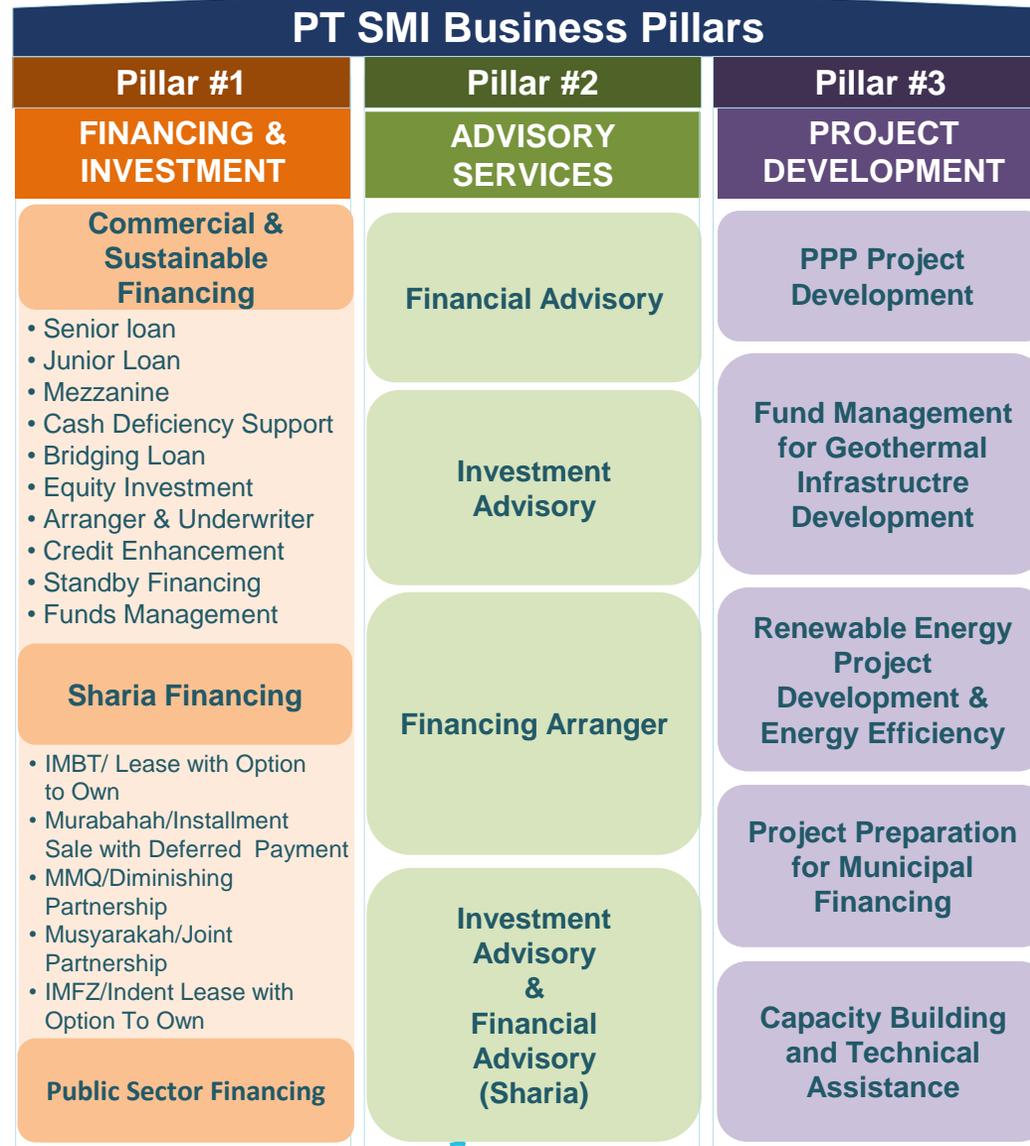
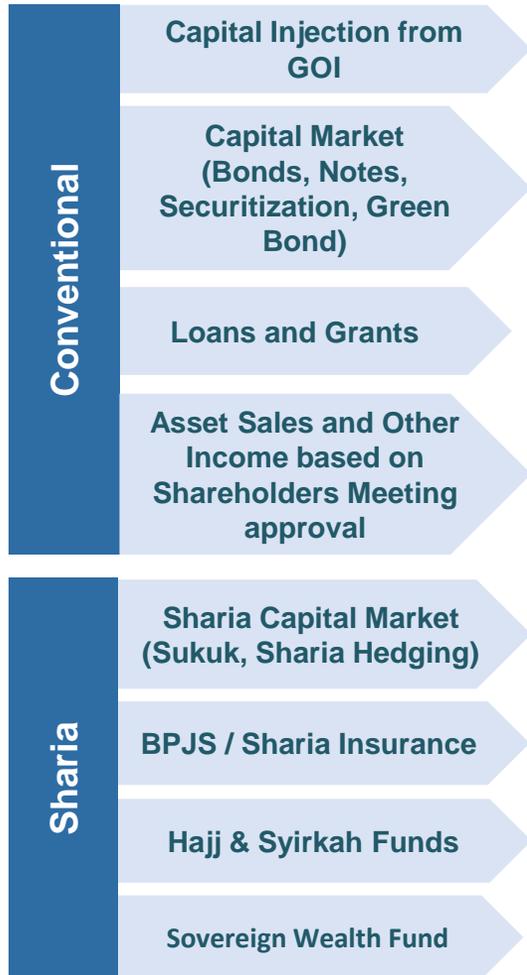
1. To become a strategic partner who provides added value in infrastructure development in Indonesia.
2. To establish flexible financing products.
3. To provide quality services which comply with good corporate governance.

PT SMI carries the duty of supporting the Government’s infrastructure development agenda for Indonesia through partnerships with private and/or multilateral financial institutions including in Public-Private Partnership (PPP) projects.

PT SMI has received an additional mandate given by The Government of Indonesia through Government Regulation (PP) Number 53 of 2020.

Offers Complete Infrastructure Development Solutions through its Three Core Business Pillars

Source of Funds



Sectoral Focus



Expansion of Mandate

Other development financing based on government assignment



GHG Emissions Avoided by the Renewable Energy Projects & Green Transportation Project Sample



Renewable Energy

17 Mini-hydro(s) 4 Micro-hydro(s) 1 Geothermal
4 Biomass(es) 3 Hydro 1 Solar



3,237,364 MWh
Potential annual energy output*



669 MW
Potential additional renewable energy*



3,361,026 ton CO₂e
Potential annual GHG emission avoided*

3,401,878 -ton CO₂e
Potential Annual Total GHG Avoided*



Green Transportation

2 Light Rail Transit Train Projects



2,641 TJ
Potential annual energy savings*



40,852 ton CO₂e
Potential annual GHG avoided¹

USD 6,803,756
Potential Annual Total Carbon Credit Equivalent¹

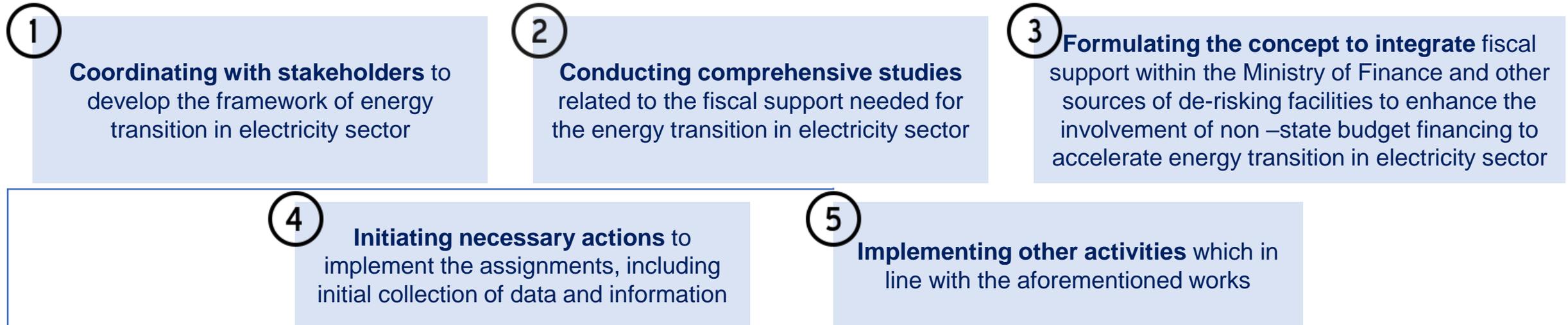
- As of December 2022, PT SMI has financed 60 climate-related projects with a cumulative commitment of IDR 17.4 trillion and a project value of IDR 86.5 trillion.
- 34 sample projects with a commitment value of IDR 6.6 trillion and a project value of IDR 31.3 trillion have been calculated and resulted in Potential annual GHG avoided of 3.4 million tons of CO₂-Equivalent and a potential annual total Carbon Credit Equivalent of USD 6.8 million.

*PT SMI calculated the estimated environmental impact and other additional impact on those three projects finance by issuance of the green bond. Indicators are derived from 1 December 2020 to 31 December 2020 data. Main indicators for renewable energy related projects includes: potential additional energy output (in MWh), potential annual green house gas ("GHG") avoided (in ton CO₂e), and additional renewable energy (in MW).

PT SMI Has Received The Assignment From The Indonesian Government Through Ministry Of Finance to Implement ETM Country Platform

The MoF has assigned PT SMI as the implementing agency, through the Ministry of Finance Decision No. 275/KMK.010/2022

The decision of the minister of finance describe PT SMI's **scope of work**, as follows:



Comprehensive studies

Recommendation

Steering Committee

Ministry of Finance
(State Budget)

Fiscal Policy
Agency

Output

1 **Financing Modalities**

2 **Funds Mobilization**

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The Indonesian Government Commitment in Climate Change

Commitment to reach net zero carbon emissions by 2050

The Indonesian government commits to tackling climate change by taking part in the 2015 Paris Agreement and Indonesia JETP Joint Statement

Indonesia NDC Commitment

Indonesia JETP Joint Statement

By 2025

Renewable mix in power generation: **23%**



Renewable mix in power generation to reach at least **34% by 2030**

By 2030

Updated NDC: GHG reduction of **31.89% unconditionally** and **43.20% conditionally** with International Support

Peak power sector emission at no more than **290 mtCo₂ in 2030**

By 2060

The Achievement of Net Zero Emissions



Achieve NZE by 2050

The government identified several critical sectors for implementing strategic measures on climate change:

Agriculture

Forestry and Other Land Uses (FOLU)

Energy

Waste management

Industrial Process and Product Uses

Sectors with the largest GHG emission contribution in Indonesia

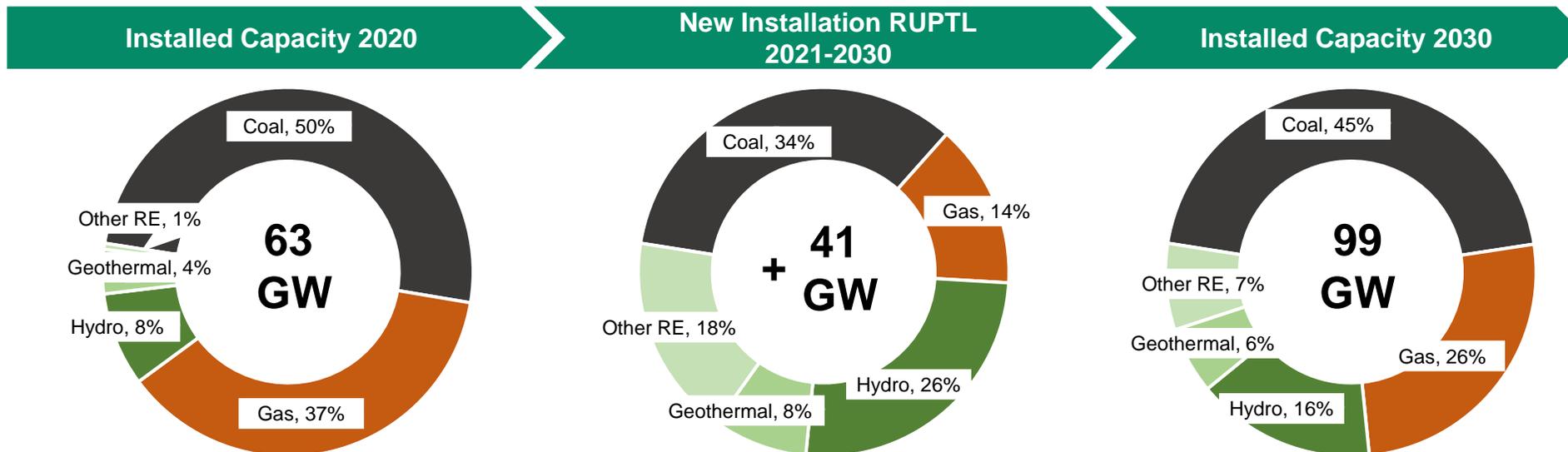
JETP Investment Plan:

- Accelerating the deployment of RE
- Accelerating the early retirement of coal-fired power plants
- Accelerating the widespread deployment of energy efficiency and electrification
- Delivering a just energy transition

Plan to Achieve Indonesia's Commitment Target

Additional in renewables and coal retirement as part of Indonesian Government plan

Additional RE Plan



Scaling up RE is needed in Indonesia's electricity plan to achieve the ambitious JETP joint-targets. Indonesia Energy Transition Roadmap would become the baseline of the new RUPTL.

Current RUPTL 2021-2030 comes in support of the Government's NDC commitment, to achieve energy mix of 23% target by 2025. By 2030 RE expected to reach 29.1% share in the Indonesia energy mixture. New RUPTL 2023-2032 that accommodates energy transition plan is currently under development of MEMR and is expected to be published this year.

Coal Plant Early Retirement Plan

"PLN has planned to **retire 6.7 GW** of coal plants **by 2040** which consisted of 3.2 GW from natural retirement and 3.5 GW being early retired."

- PLN & MEMR Early Retirement Plan Narrative, FGD ADB IV Sept 2022

"...gradual 4.5 GW **early retirement** in Java (**5.2 GW across Indonesia**) is needed in **2028-2030** conditional to JETP grants and low-cost financing."

- JETP's Pathway towards Energy Transition, PLN Feb 2023

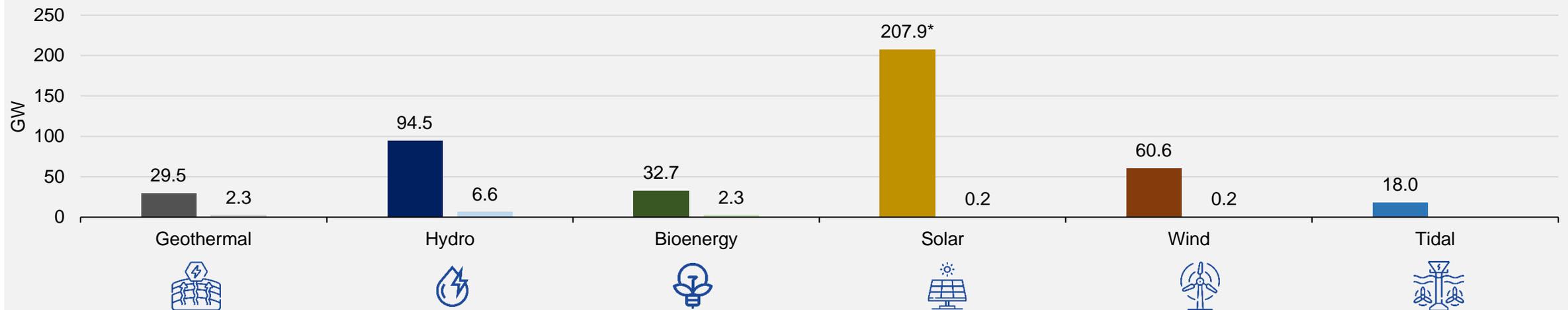
Indonesia's coal plant early retirement plan would be in Indonesia Energy Transition Roadmap which currently under development.

Renewable Energy Utilization

Untap indigenous resources for renewable energy

“...renewable energy utilization in Indonesia is far below the potential of indigenous resources.”

Indonesia 2019 RE Estimated Potential (LHS) vs. Installed Capacity (RHS)



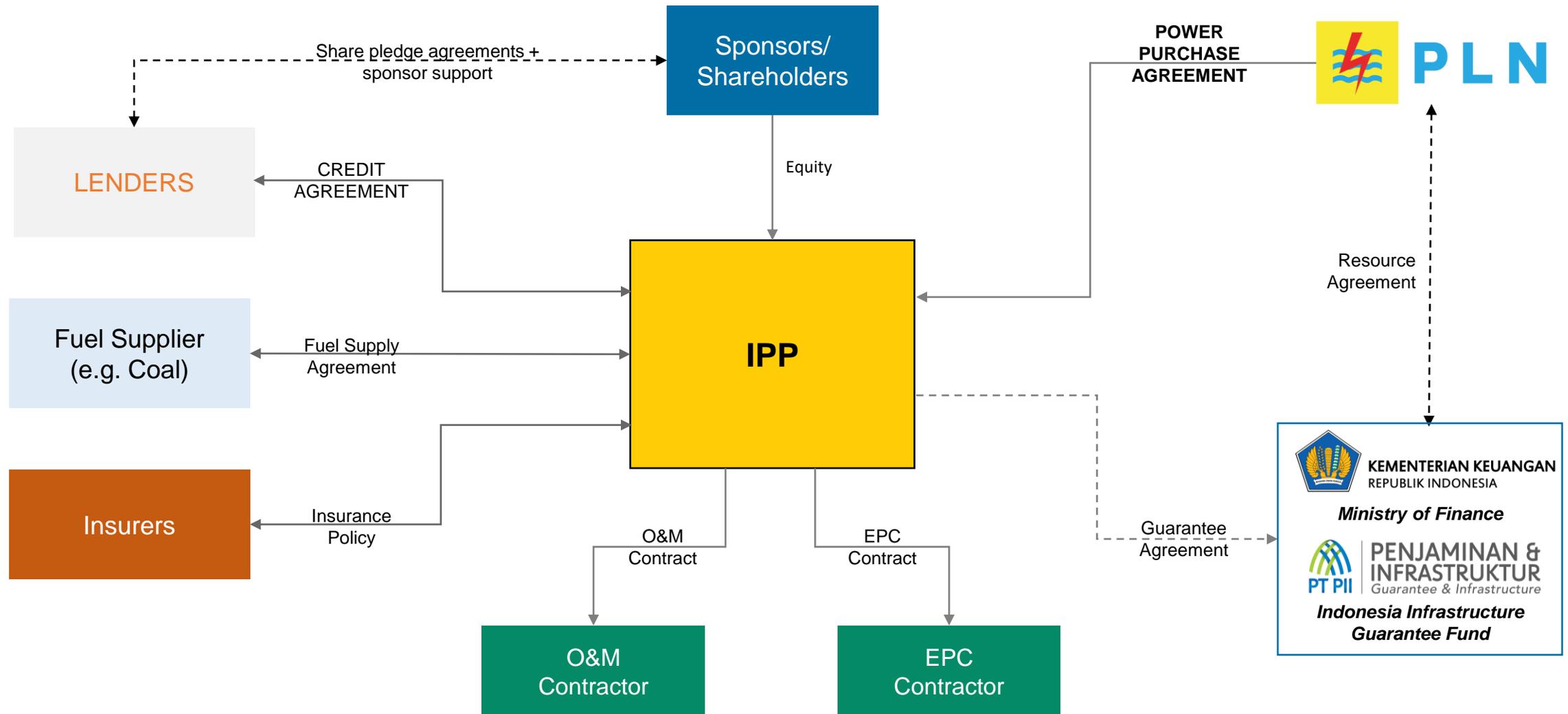
Note: GW = gigawatt. RE = Renewable Energy.

*Higher solar potentials cited by MEMR and IEA (between 3,397 – 19,835 GW) based on further technical potential analysis. It is noted that IESR’s analysis is based on available land cover and does not factor in economic or market potential (i.e. it does not consider projected costs and policy and regulatory limits).

Source: Institute for Essential Services Reform. 2021. 2021. *Beyond 443 GW: Indonesia’s infinite renewable energy potentials.*

- Based on the graph above, installed renewable energy capacity in Indonesia far below the potential renewable energy based on geothermal, hydro, bioenergy, solar, wind, and tidal resources.

Typical Business Model of an IPP Project in Indonesia



Current Enabling Factors of Energy Sector in Indonesia for Private Finance

Attractiveness of energy sector for private sector



Indonesia pledge to reduce emission and increase renewable energy in energy mix, create more opportunity to build renewable energy power plant



Abundant resources to install new renewable energy power plant



Current take-or-pay scheme in electricity Power Purchase Agreement between PT PLN (sole electricity distributor) and IPP provide fixed payment to investor



Green finance facilities are being used to complement energy financing for private sector: de-risking facilities



Indonesia Energy Transition Mechanism Country Platform

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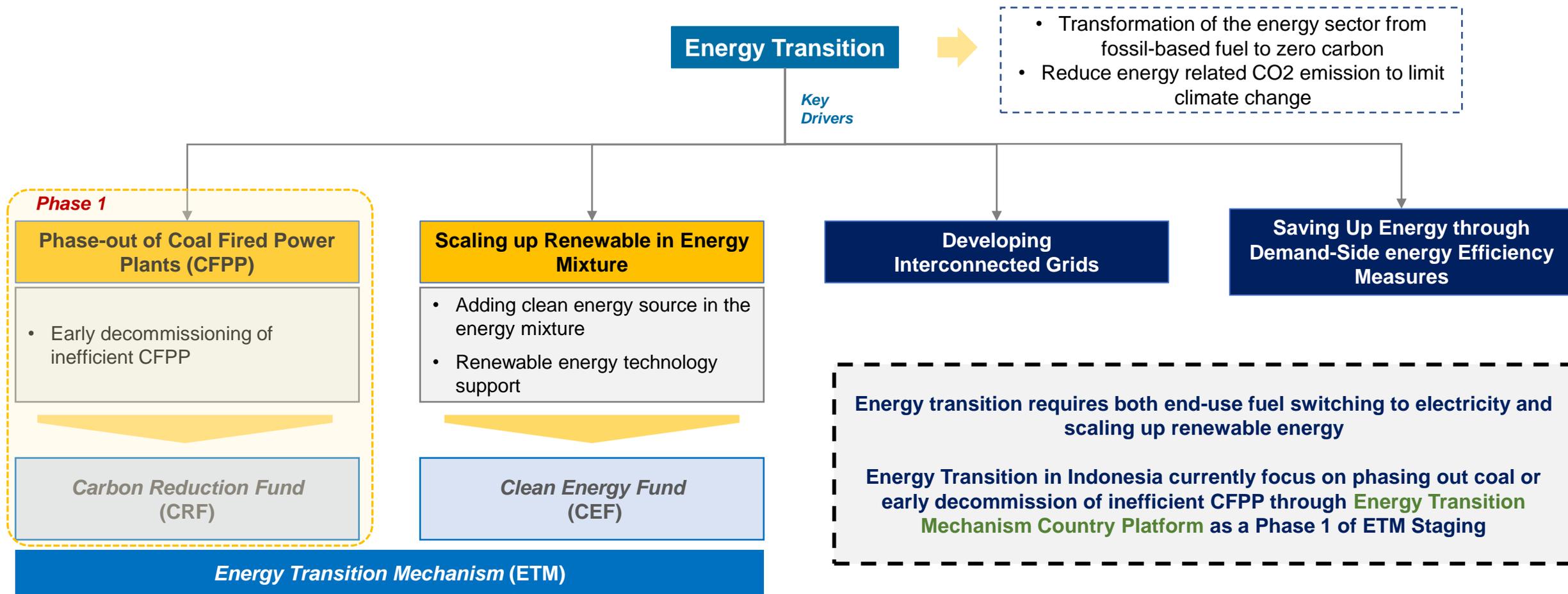
03. Energy Transition Mechanism

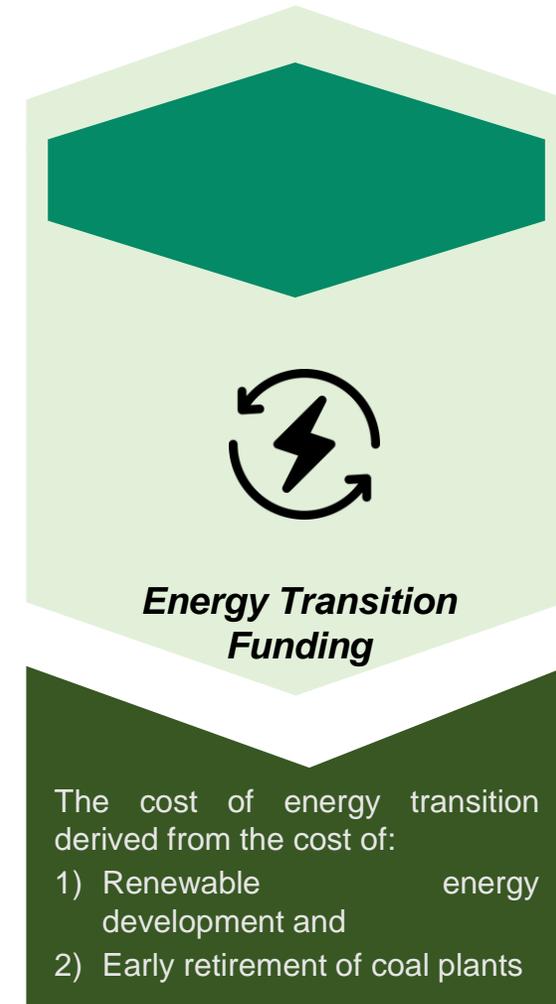
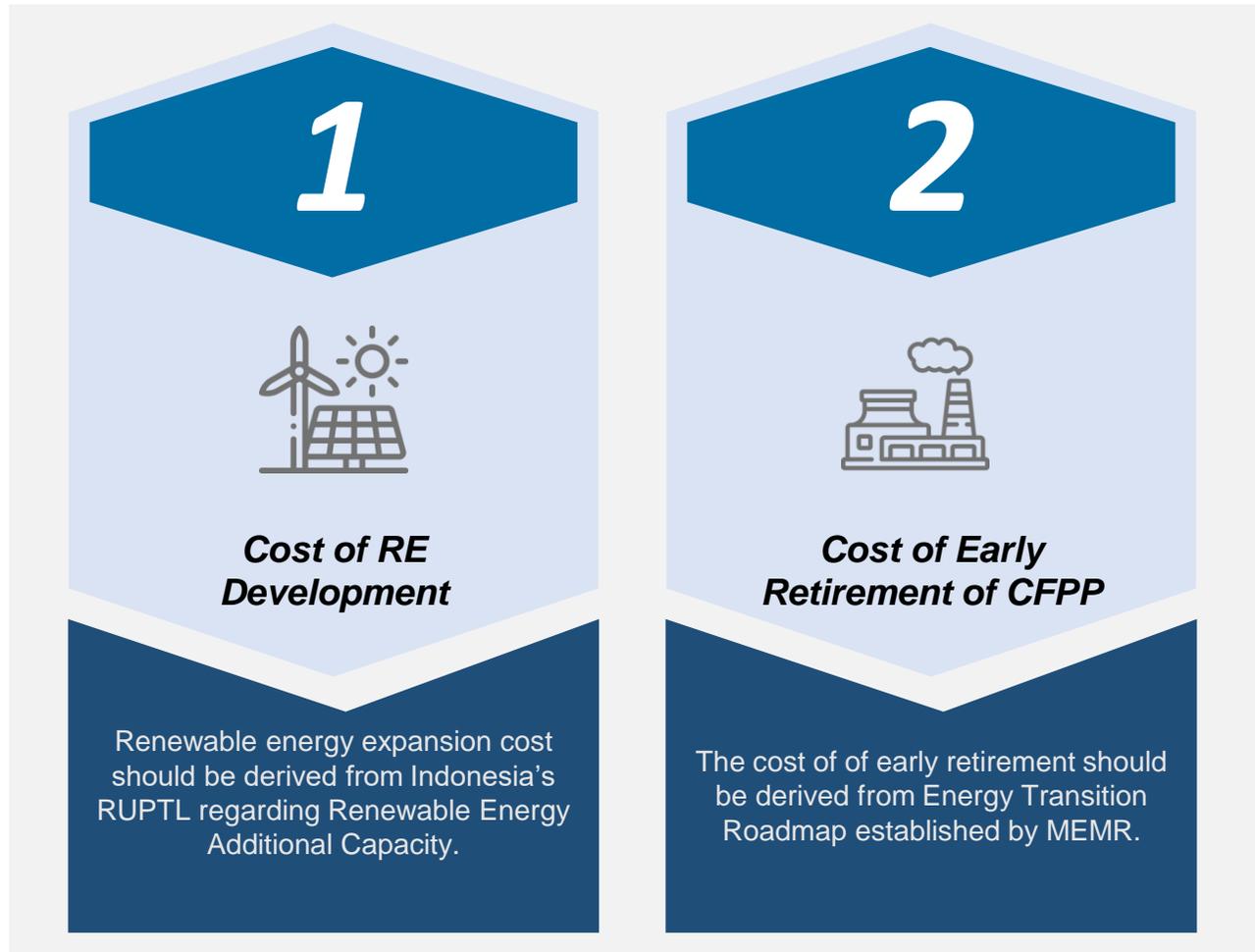


Energy Transition Concept in Indonesia

Indonesia recognizes the need of energy transition, start with coal phasing out

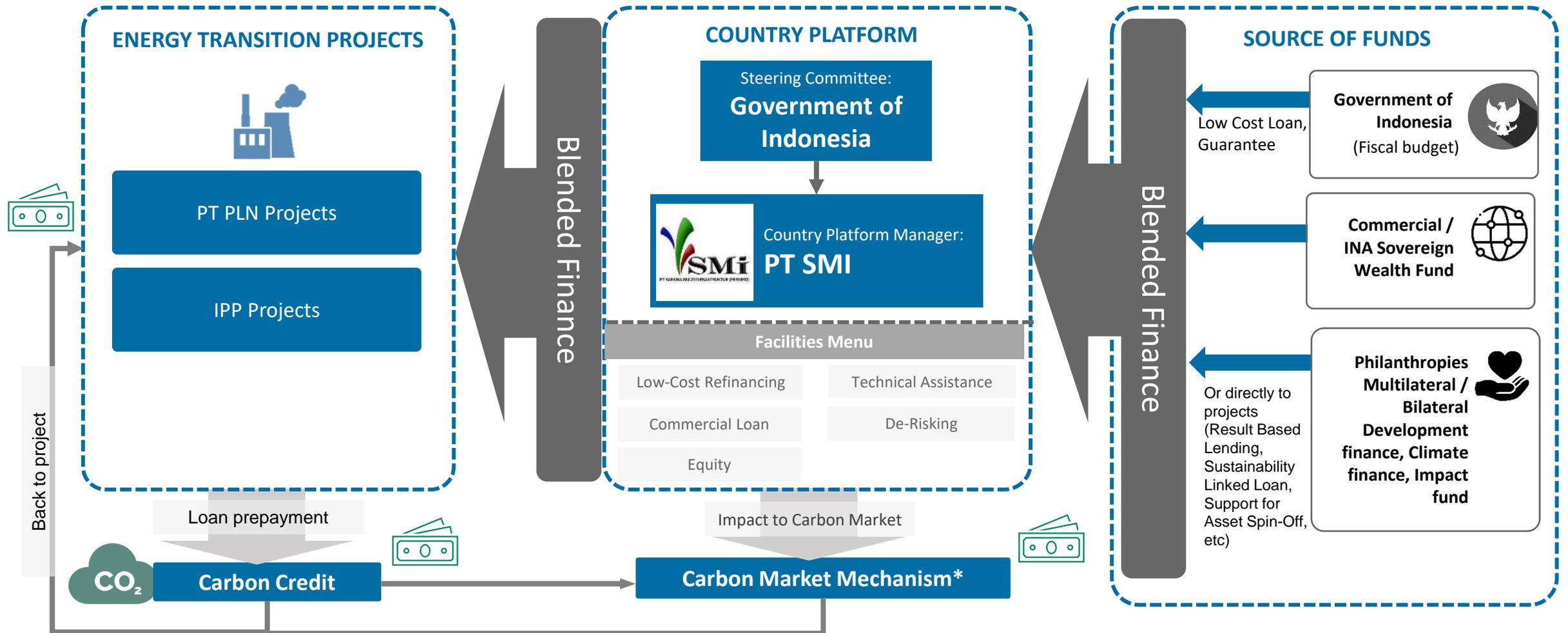
Indonesia's energy supply increased nearly 60% for the past 20 years. As Indonesia's economy growth, energy demand rose and supplied through coal energy. The growth in Indonesia economy has led to more CO2 emissions. Energy transition is needed to reach net zero emissions as a path to becoming advanced economy.





Blended Finance Structure on Indonesia Energy Transition Mechanism

Blended finance will be implemented both in funding and financing support by Country Platform Manager



*) Carbon Trading, Carbon Bond, Result Based Payment, Stand By Buyer

Country Platform Partnership Highlights

Products



Products

- 1
Result Based Lending
- 2
Divestment of Coal Power Plant
- 3
IPP Asset Acquisition

Partners

17

Partners

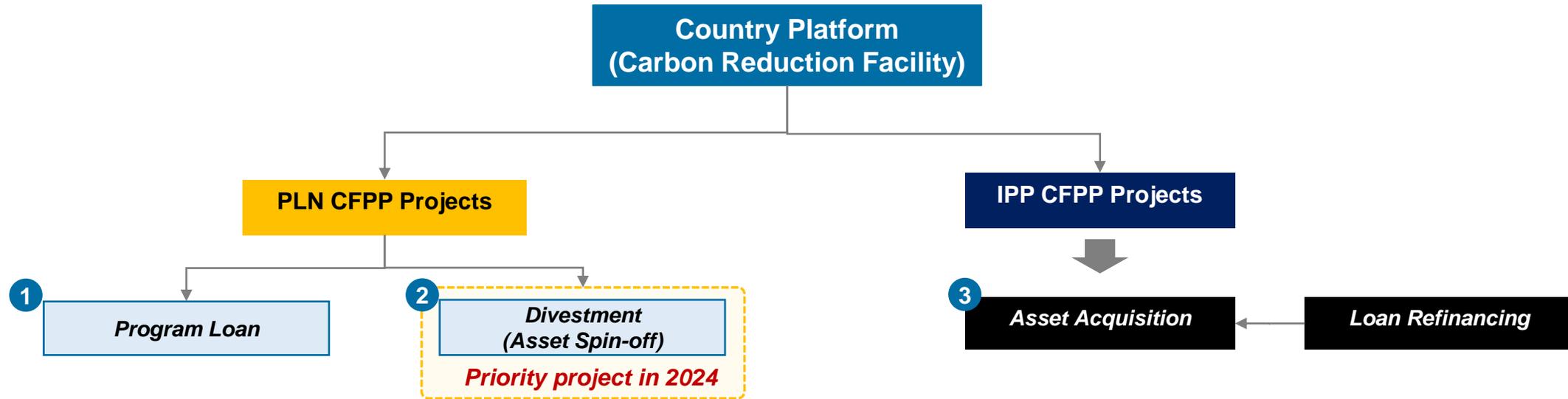
Grant Partners

Financing Partners

Knowledge & Technical Partners

Investment Partners

Potential Support of Country Platform Manager to the Transaction



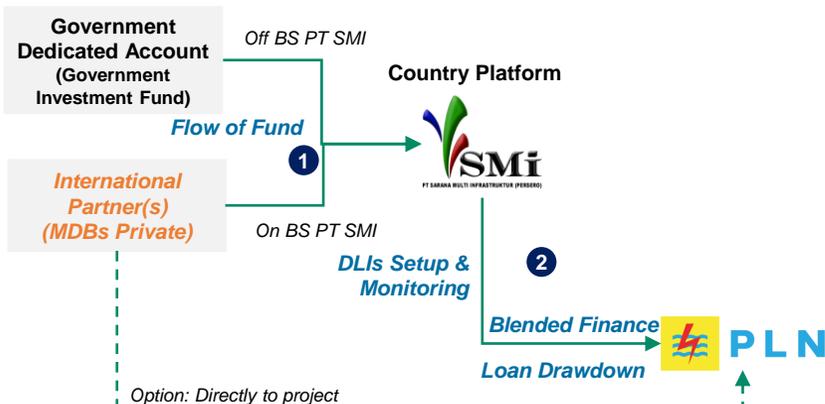
The objectives of the transactions are as follows:



- To shorten the economic life (early decommissioning) of Coal Fired Power Plants
- To get additional CO2 emission reductions to Indonesia's NDC achievement
- To gain access to lower cost of fund (both from equity & loan side) and leveraging the state budget
- To encourage the implementation of just and affordable transition scheme
- PLN's asset efficiency and reducing the fiscal burden
- To promote carbon finance (tax dan incentives)

Product of Support Program Loan, Divestment, Equity Investment

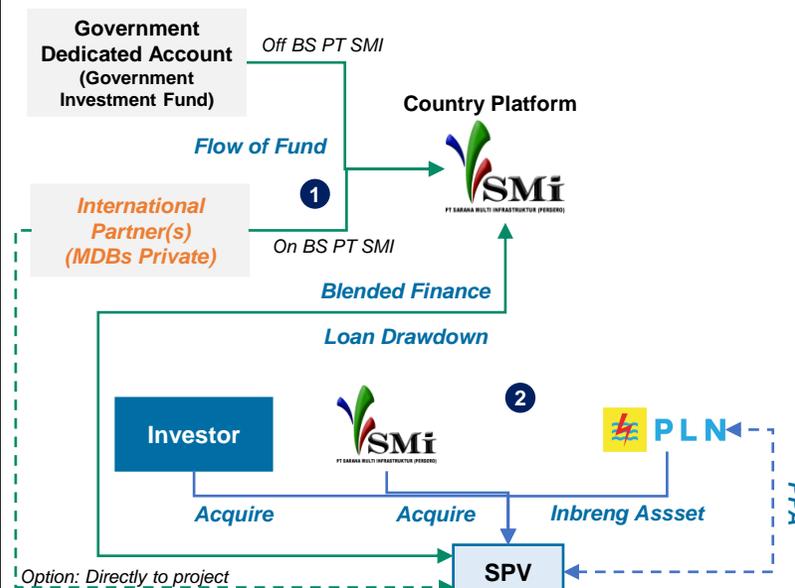
Program Loan



Structure

1. Fund raising from **commercial lenders/capital market, Multilateral Development Bank (MDB), and Government budget** through Government Investment Fund (OIP) **to be blended as loan facility to PLN**. Loan will be received by PLN in the form of blended finance with **set of Disbursement Linked Indicators**.
2. PT SMI will arrange a set of Disbursement Linked Indicators with inputs from the Government and International Partners, exclusion list for the loan's use of proceed which will be stated in the loan agreement to PLN. PT SMI will monitor the agreed upon Disbursement Linked Indicators during the loan period.

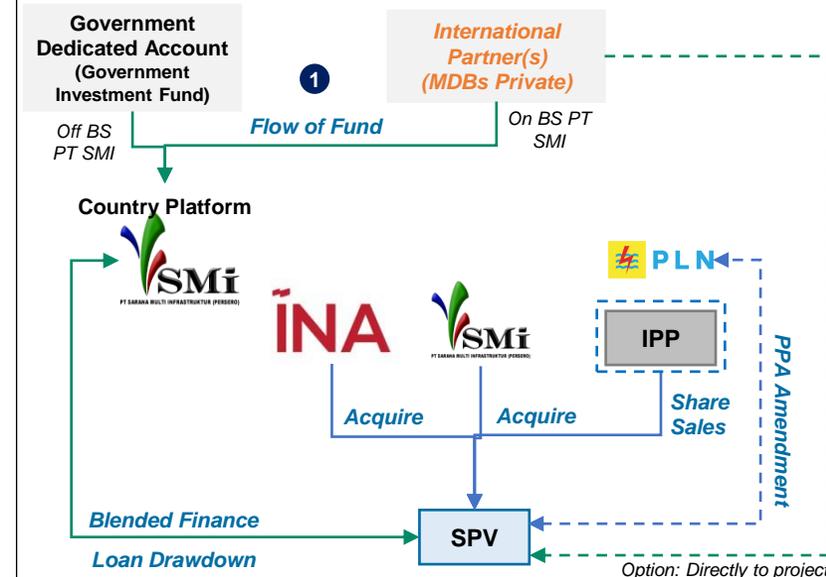
Divestment (Asset Spin-off)



Structure

1. PLN will set up a SPV where PLN will carve out selected CFPP assets to the SPV as a capital. PLN will arrange a new Power Purchase Agreement (PPA) with the SPV. PLN to divest ownership in SPV to PT SMI and potentially strategic investor.
2. Fund raising from **commercial lenders/capital market, Multilateral Development Bank (MDB), and Government budget** through Government Investment Fund (OIP) **to be blended as loan facility to SPV**. Loan will be received by SPV in the form of blended finance with set of KPI.

IPP Equity Investment



Structure

1. INA as a lead investor originate to acquire majority portion of CFPP shares in the SPV from the existing IPP investor and PT SMI will act as co-investor.
2. Fund raising from **commercial lenders/capital market, Multilateral Development Bank (MDB), and Government of Indonesia** to be blended as loan facility to SPV. Loan will be received by SPV in the form of blended finance from PT SMI as country platform with set of KPI.

Key Factors to Enable Increases Private Finance in Energy Sector

Factors to scale up private finance in energy sector



Low-cost financing is critical to provide acceptable blended finance pricing provided by country platform



Coal phasing out is essential as a pathway for the development of renewable energy in Indonesia



Mechanism that ensure acceptable credit risk and just transition for investors and lenders is key for the energy transition mechanism

Thank you,



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