



# Role of EE Financing for Energy Transition

6 May 2024

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**One Community  
for Sustainable  
Energy**

# About ASEAN Centre for Energy (ACE)



## Think Tank

Identifying and surfacing innovative solutions

Policies, Legal & Regulatory Frameworks and Technologies



## Energy Data and Knowledge Hub

Provide a knowledge depository for AMS

Policy and Research Analytics

Energy Database



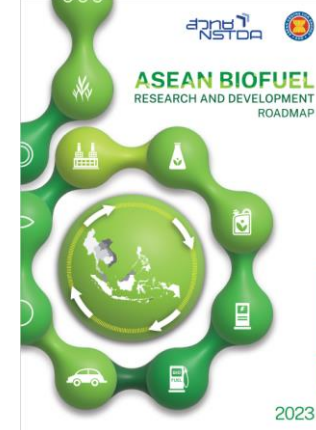
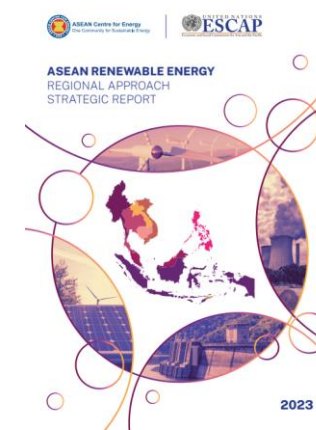
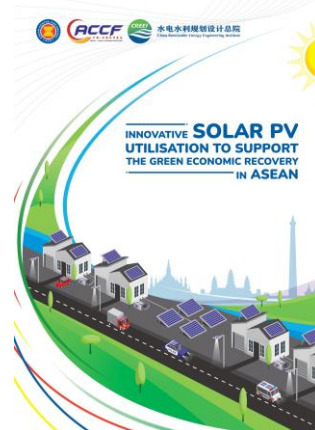
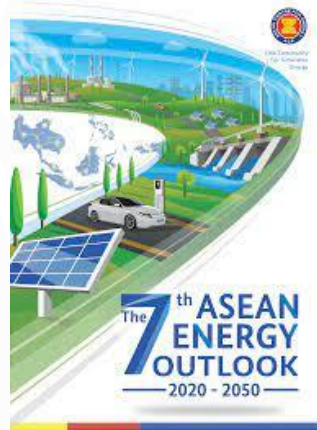
## Catalyst

Unify and strengthen ASEAN Energy Cooperation and Integration

APAEC Activities, including with DPs/IOs

Secretariat

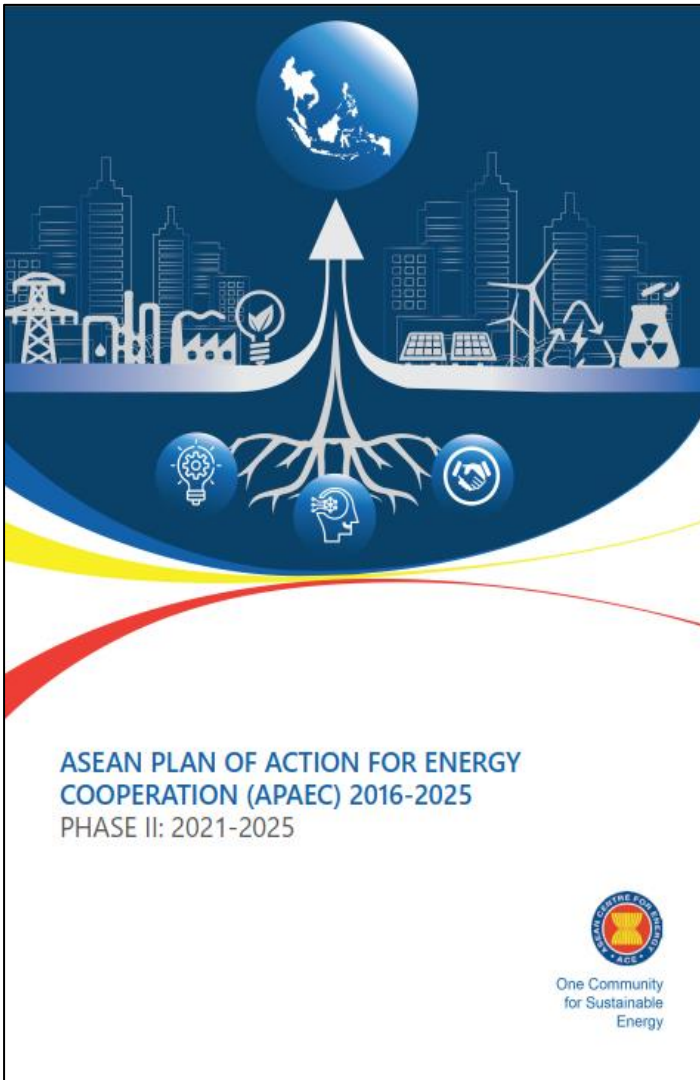
*Research, publication, training, capacity building, workshop, policy exchange and recommendations, etc.*



# About ASEAN Plan of Action for Energy Cooperation (APAEC)



Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability & Sustainability for All  
**Accelerating Energy Transition and Strengthening Energy Resilience Through Greater Innovation and Cooperation**



## 1. ASEAN Power Grid

To expand regional multilateral electricity trading, strengthen grid resilience and modernisation, and promote clean and renewable energy integration.



## 2. Trans-ASEAN Gas Pipeline

To pursue the development of a **common gas market** for ASEAN by enhancing gas and LNG connectivity and accessibility.



## 3. Coal and Clean Coal Technology

To optimise the **role of CCT** in **facilitating the transition** towards sustainable and lower emission development.



## 4. Energy Efficiency and Conservation

To **reduce energy intensity** by 32% by 2025 and encourage **EE&C** efforts, especially in transport and industry



## 5. Renewable Energy

To **increase the share of RE** to 23% in TPES and 35% in installed power capacity by 2025



## 6. Regional Energy Policy and Planning

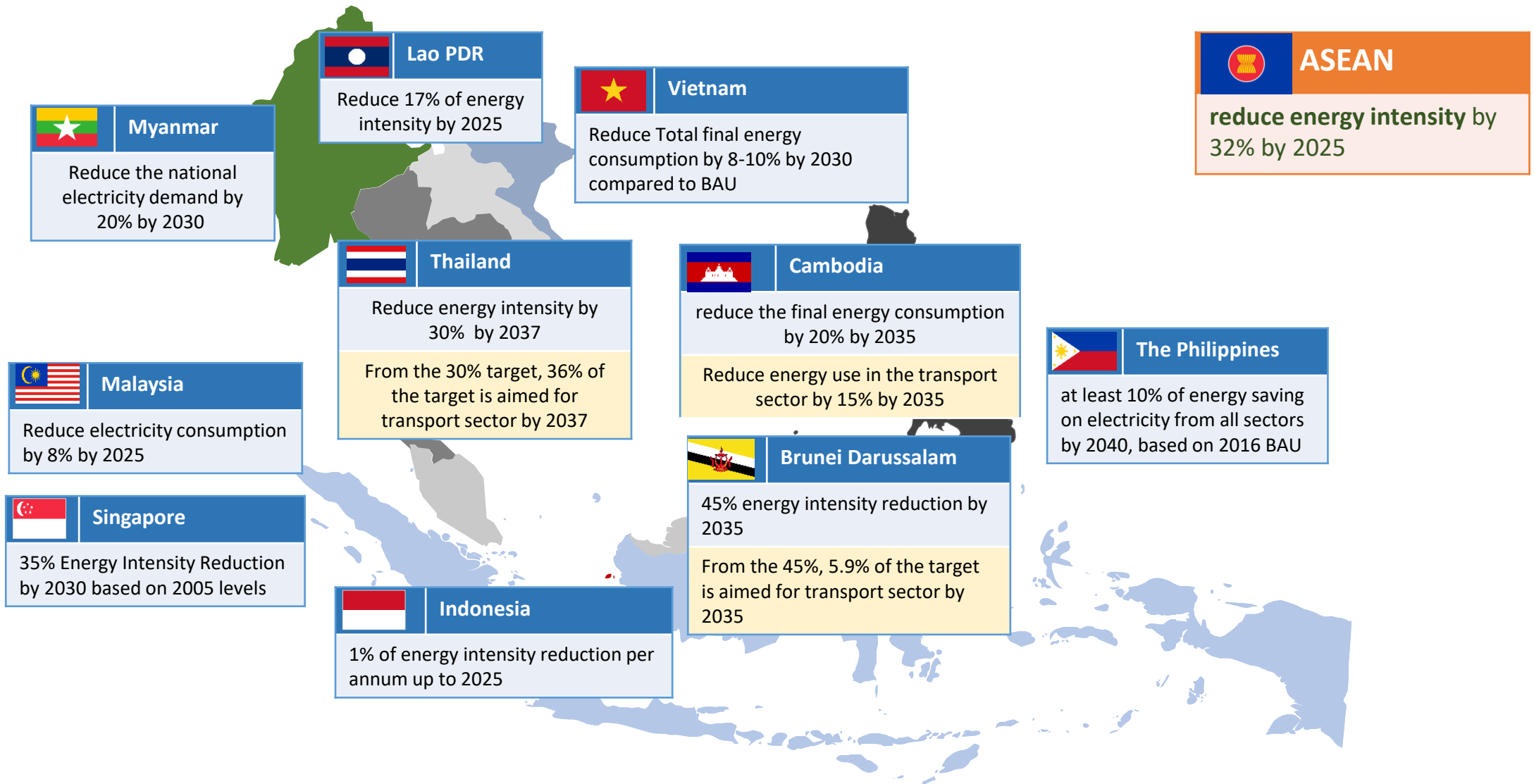
To advance energy policy and planning to **accelerate the region's energy transition and resilience**



## 7. Civilian Nuclear Energy

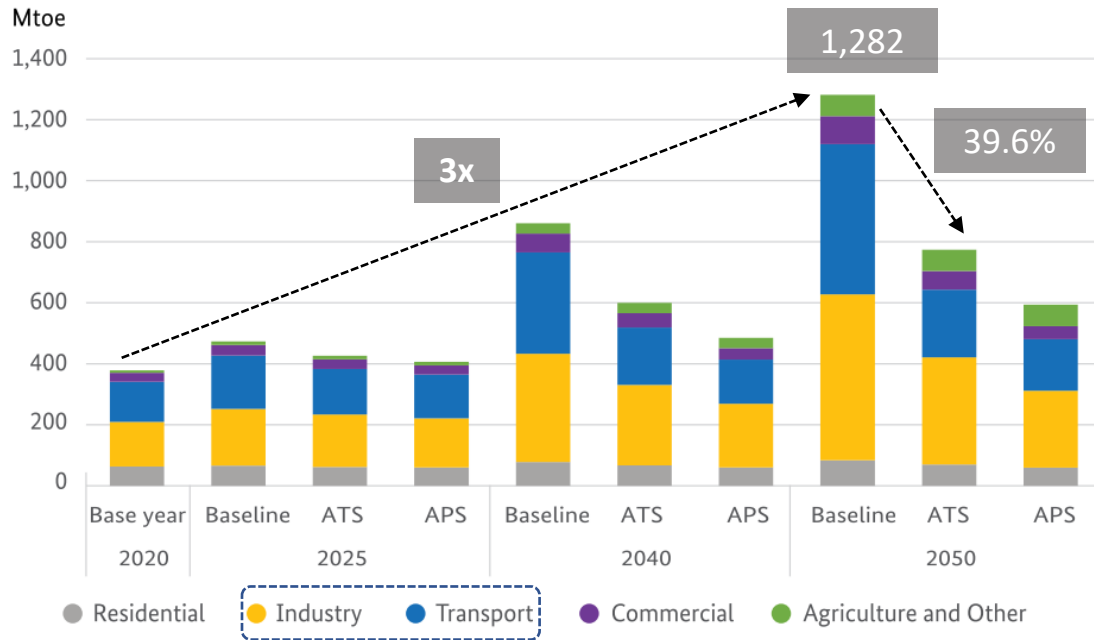
To build **human resource capabilities on nuclear science and technology** for power generation.

# AMS National EE&C Targets

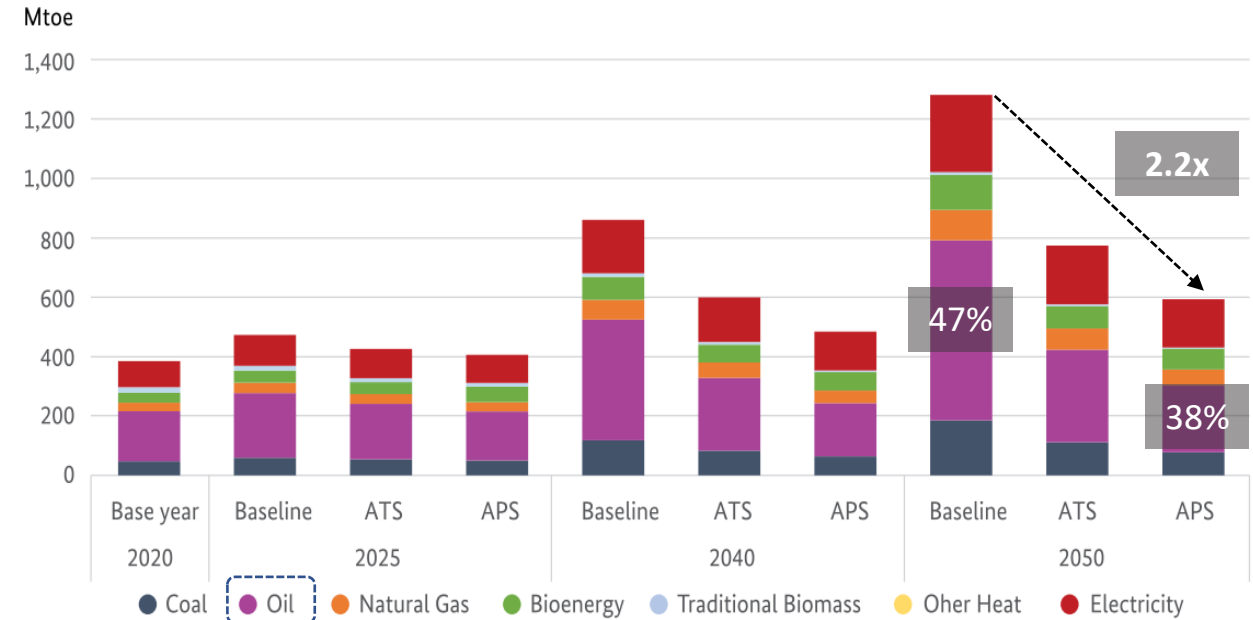


# ASEAN Energy Demand – Importance of Energy Efficiency

## By Sector



## By Fuel



Industry and transport sectors remain the largest energy-consuming sectors in the region.

- ❑ The national energy efficiency and conservation policies in ATS scenario will help to greatly reduce total demand by 2050.
- ❑ Oil products continue to be the highest consumed, with 47% share in the 2050 Baseline Scenario, and reduced to 38% in APS for the same year.

**Baseline Scenario**  
The energy growth pattern kept at constant level as of last historical year

**AMS Targets Scenario (ATS)**  
Achievement of ASEAN official national energy targets

**APAEC Targets Scenario (APS)**  
Achievement of APAEC's aspirational regional targets on RE and EI

**Least-Cost Optimisation (LCO)**  
Least-cost power sector dispatch to attain APAEC's regional targets

Increase ambitions of RE and EE/EI standards

Least-cost option in power sector

Source: The 7<sup>th</sup> ASEAN Energy Outlook, 2022 <http://go.aseanenergy.org/AEO7>



# AEO7 Key Insights for the Energy Transition



- ❑ Baseline Scenario: 4x primary **energy growth** (2020-2050)  
ATS: 3x; APS: 2.7x (due to Energy efficiency measures)
- ❑ Baseline Scenario: **net** natural gas **importer** by 2025, coal by 2039 (same level of demand and production/reserve)
- ❑ LCO Scenario 2050: 26.6 GW of **storage** capacity for about 1,100 GWh of electricity. Up to 5.2 GW of **nuclear** by 2050.
- ❑ Baseline Scenario 2050: 8.8 million Ha of **land** for biodiesel (oil palm) and 2.3 million Ha for bioethanol (sugarcane), or about 2.5% of the AMS land mass
- ❑ Baseline 2050: Oil 91% of **transport** energy consumption  
APS: Oil 72% biofuel 17%, electricity 8%, NG 2%
- ❑ **Jobs** Creation: 5.5 million in APS by 2050

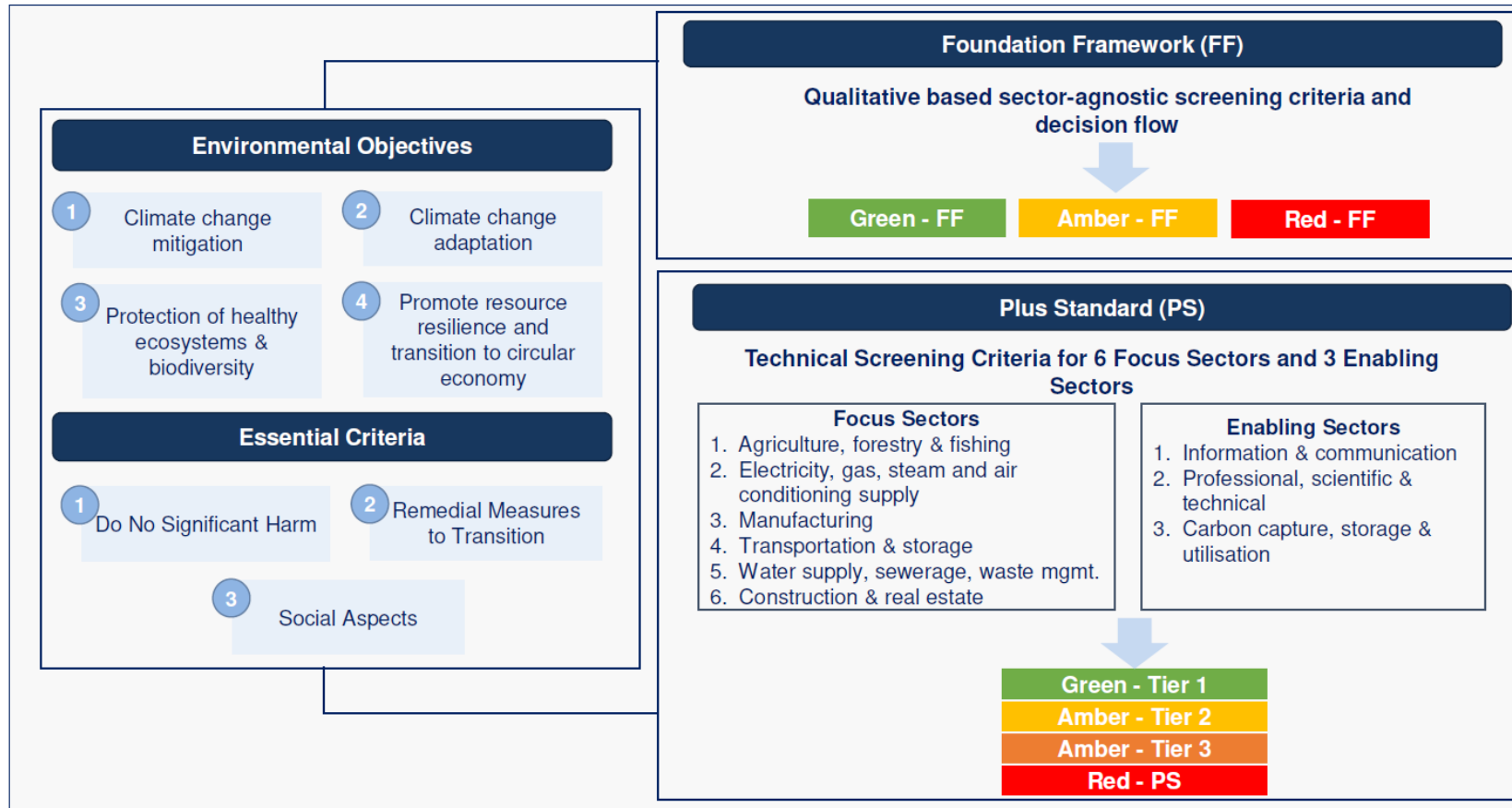
## Investment Needs until 2050

	AEO7: ATS	2 <sup>nd</sup> REO2: 1.5S
Investment – Power	879 billion	2,834 - 3,723 billion
Investment – All Energy		6,318 - 7,391 billion
RE in Elect. Generation	50.4%	90%
Electricity Share in TFEC	25.5%	52%

\*) 2<sup>nd</sup> RE Outlook investment need covers 2018-2050

- ❑ IEA Southeast Asia Energy Outlook 2022, annual energy investment in Sustainable Development Scenario (SDS) is USD 190 billion by 2030
- ❑ In comparison, 2<sup>nd</sup> RE Outlook 1.5S is USD 192-224 billion (all energy) and USD 55-113 billion (power)
- ❑ In comparison, AEO7 ATS is USD 30 billion (power)

# ASEAN Initiative: Taxonomy for Sustainable Finance



❑ The ASEAN taxonomy is the overarching guide and acts as a common building block to enable an orderly and just transition and foster sustainable finance adoption by AMS.

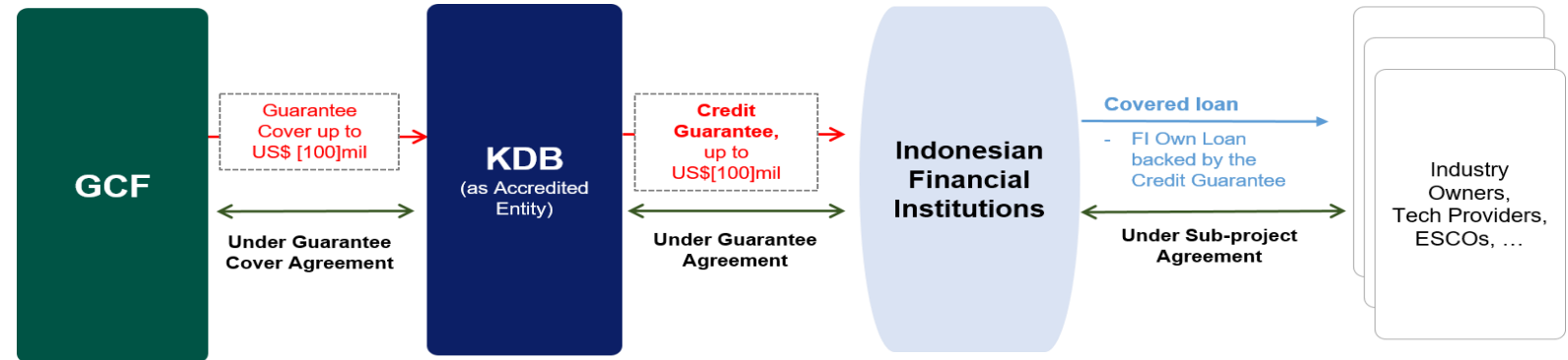
❑ ATSF provides alignment on underlying principles and serves to inform AMS policy makers and financial sector as well as real economy stakeholders. It will help to harmonise the classification of sustainable activities and assets across ASEAN.

# GCF KDB: Innovative Mechanisms for Industrial EE Financing

## Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States

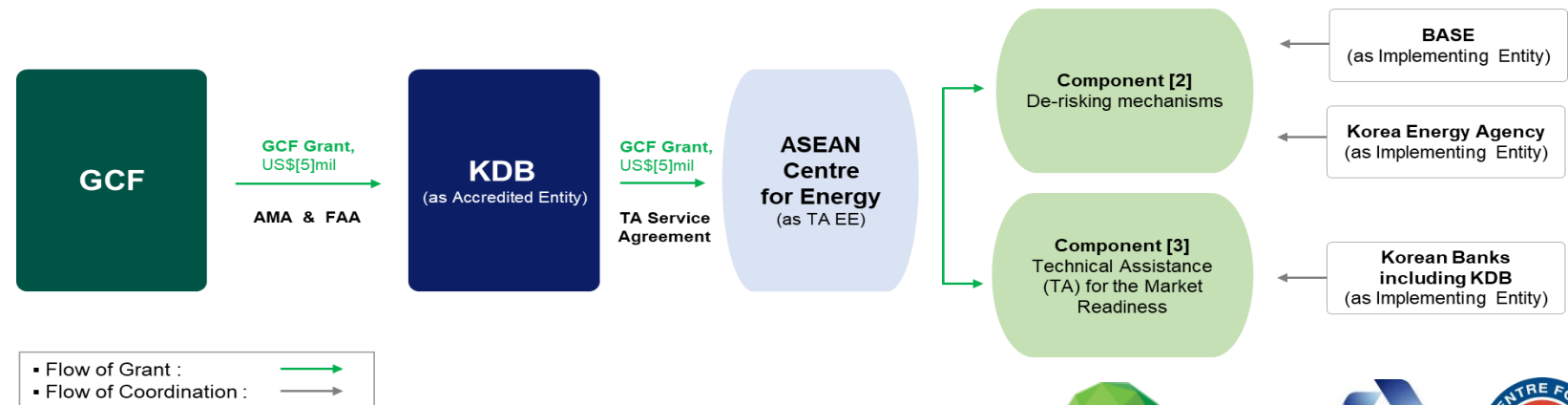
### FINANCING COMPONENT

- ✓ Backstopping credit risk of industry players with GCF credit guarantee provision (USD100M)



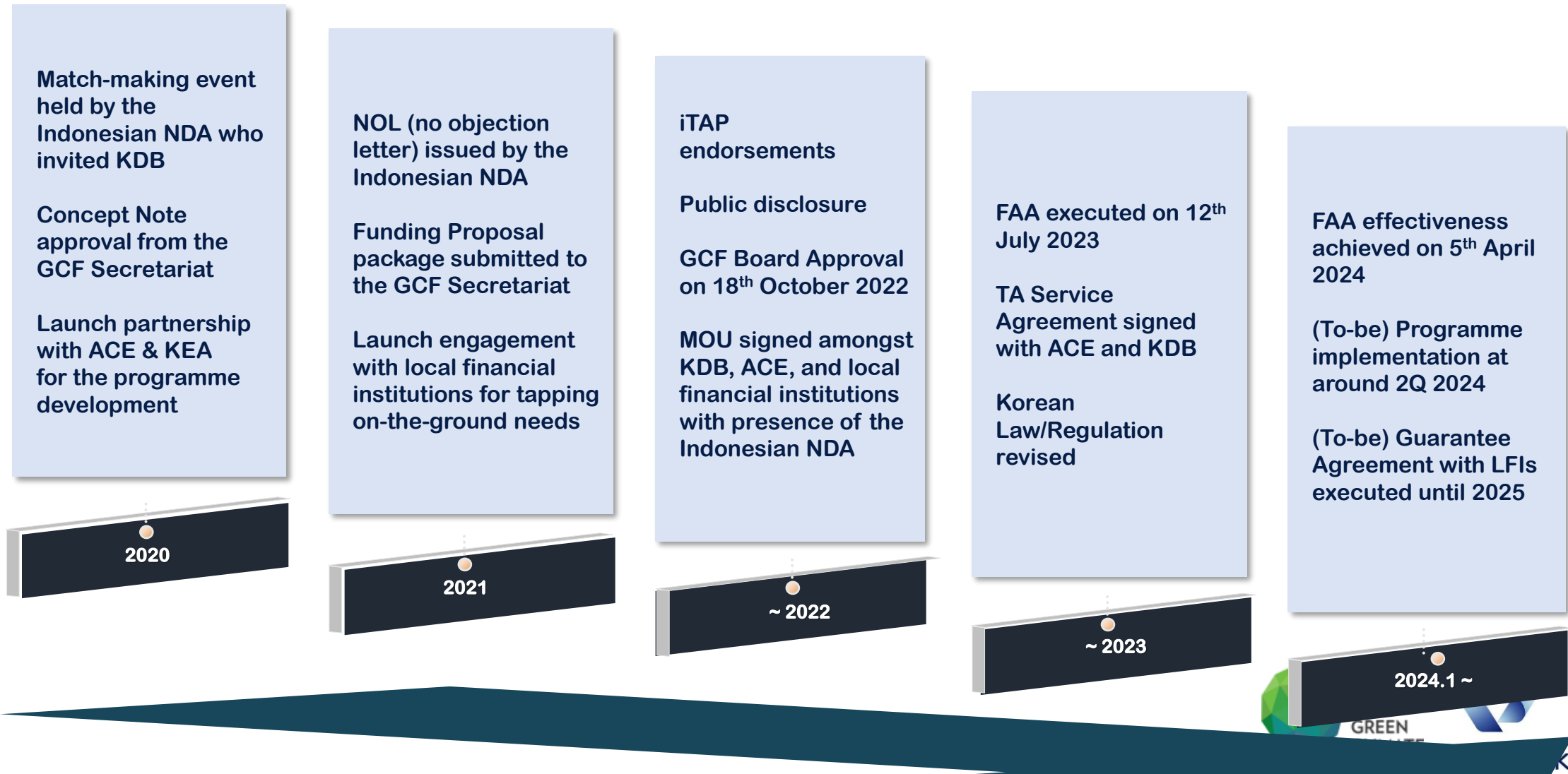
### TA (Technical Assistance) COMPONENT

- ✓ New De-risking Mechanisms Development
- ✓ Capacity Building Activities (USD5M)





# Programme Progress and Milestone



# Eligible Criteria

## General Terms and Conditions of Financing Component

### Final Beneficiaries

- **Industrial areas of Indonesia which aim to enhance energy efficiency** such as Industry owners, enterprises, technology providers, ESCOs, or project developers in any form of a greenfield, replacement, upgrade, scale-up and/or expansion
- **Purchase of technologies with energy efficiency improvement by more than 20%**, compared to the existing equipment of a beneficiary is mandatory. For cases where 20% is not achievable (e.g. motors), best in class equipment will be used subject to confirmation by the GCF Secretariat
  - The rate of improvement would be proven by evidence, such as catalogue/ brochure/ declaration from suppliers, reports/certificates from certified energy auditors/independent advisors, or reports developed under TA activities of Component 3;
  - No re-sale of existing equipment is allowed; Second-hand equipment is not eligible.

### Total Cost / Guarantee Ratio/ Equity Injection

- **Total Cost**
  - The cost of purchasing the energy efficient technologies and equipment
  - Including required costs/expenses for the energy efficient technologies and equipment, including freight, installation, customs duty, and related insurance and Other costs/expenses considered necessary for the project implementation by relevant FIs.

**Annual Sales Volume up to \$200 mil**

**Class A < 35 mil  
and ESCOs**

**35 mil < Class B**

- |   |   |
|---|---|
| • <b>Equity Injection:</b><br><b>More than 5%</b> of Total Cost                 | • <b>Equity Injection:</b><br><b>More than 10%</b> of Total Cost                |
| • <b>Guarantee Coverage:</b> <b>Up to 95%</b> of Total Eligible Investment Cost | • <b>Guarantee Coverage:</b> <b>Up to 50%</b> of Total Eligible Investment Cost |

# Main Terms and Conditions

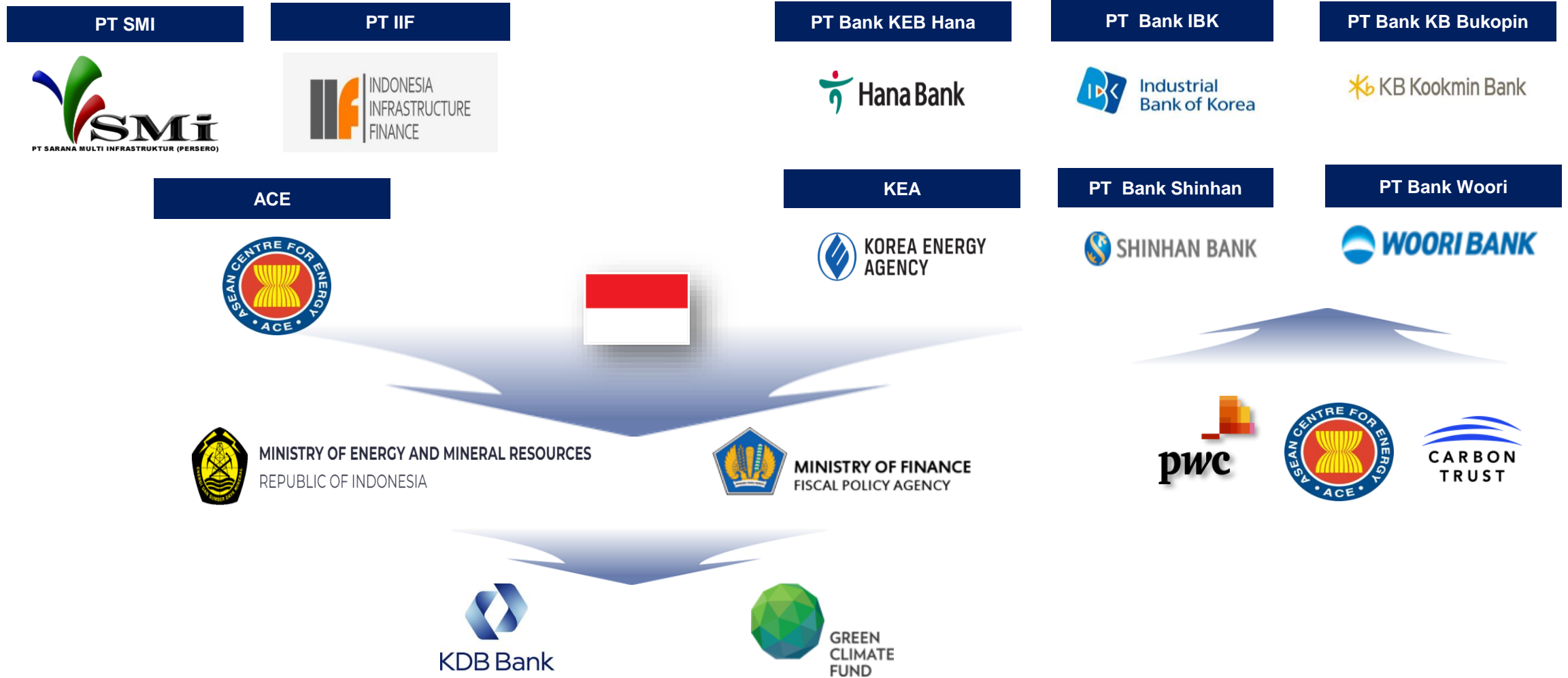
## Guarantee Agreement / Sub-Loan Agreement

### Payments and Transactions



No.	Financial Terms	Description
1	Covered Loan to Borrowers	Comply Eligible Criteria Strictly, E&S Category B and C only
2	Guarantee Confirmation from KDB	If Borrowers are satisfied with an Eligible Facility Agreement, KDB will issue a Guarantee Confirmation
3	Guarantee Premium to KDB (USD)	<p><b><math>A \times (B + C) \times D/360 \times 0.75\%</math> (per year)</b></p> <p>"A" is the Guaranteed Percentage</p> <p>"B" is the average principal amount of the Eligible Facility disbursed and scheduled to remain outstanding during that Interest Period.</p> <p>"C" is interest scheduled to accrue in that Interest Period at the Covered Interest Rate.</p> <p>"D" is the number of days in that Interest Period, divided by 360.</p>
4	Loan Interest from Borrowers	All-in Interest Rate may not exceed 12% p.a. (for Sub-Project Loans in IDR) or 8% p.a. (for Sub-Project Loans in USD).

# Partnerships with qualified private and public partners



***“Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States”***

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# Thank You