



# Accelerating Coal Transition Investment Plan for the Philippines



**Department of Energy, Philippines**

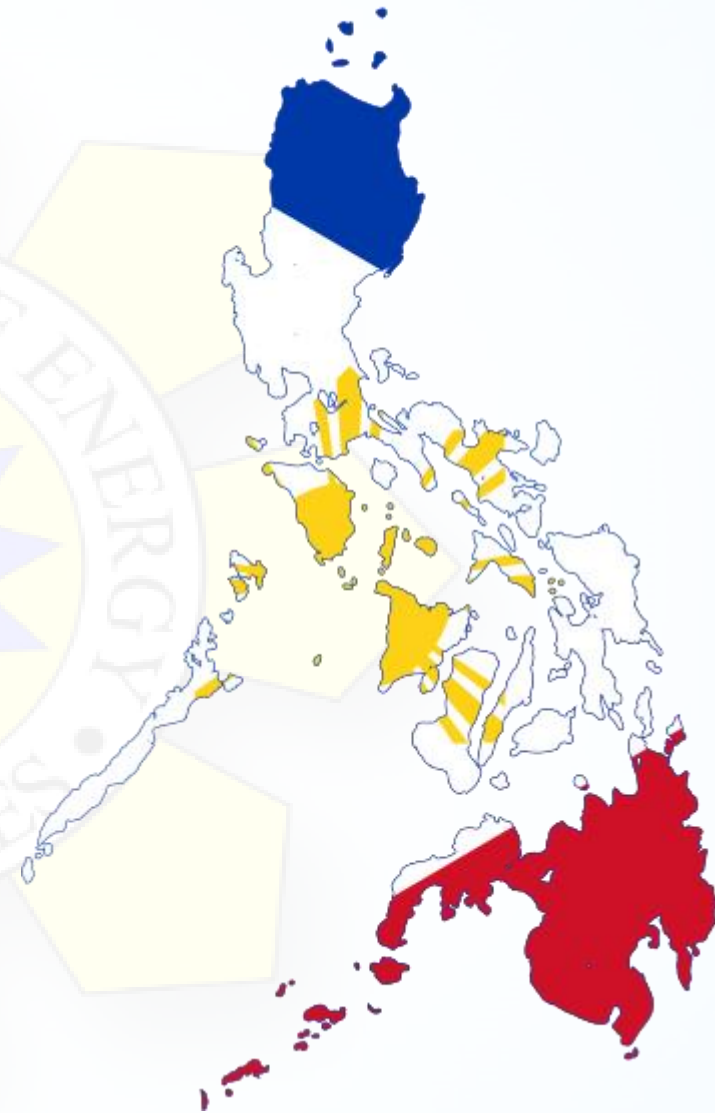
Clean Technology Fund Trust Fund Committee Meeting  
08 November 2023

# Outline of Presentation

1. Overview of the Philippine Energy Sector
2. Philippines' Clean Energy Transition Initiatives
3. Accelerating Coal Transition Investment Plan: Financing Plan
4. Appendix



# Overview of the Philippine Energy Sector

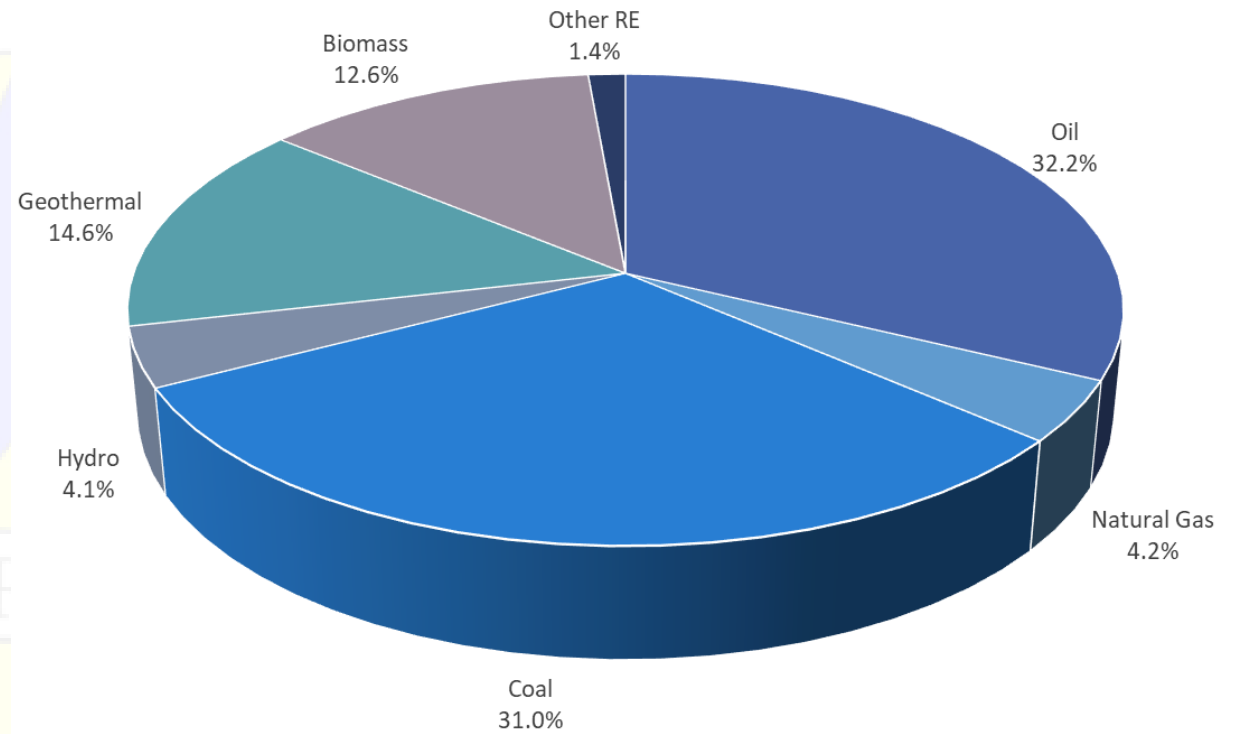
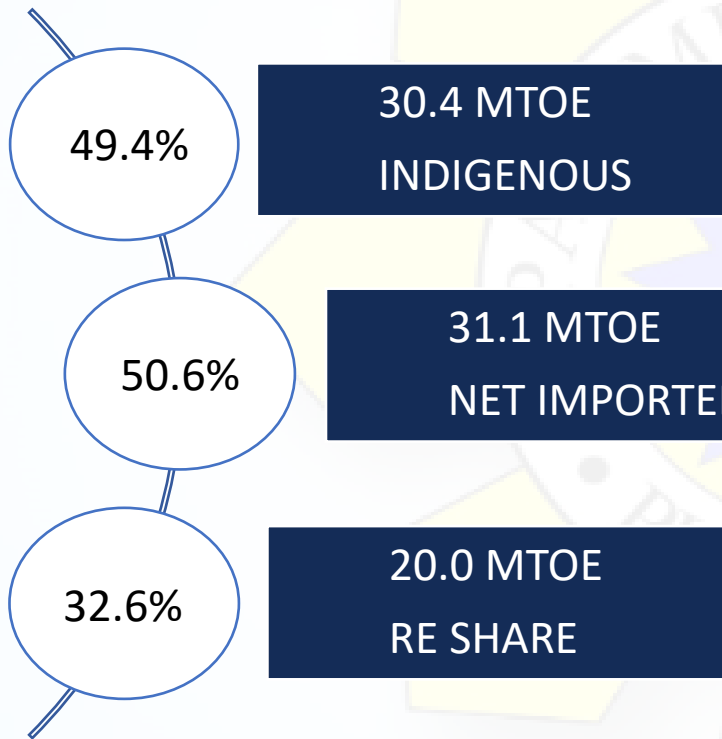


# Overview of the Philippine Energy Sector

## PRIMARY ENERGY MIX 2022

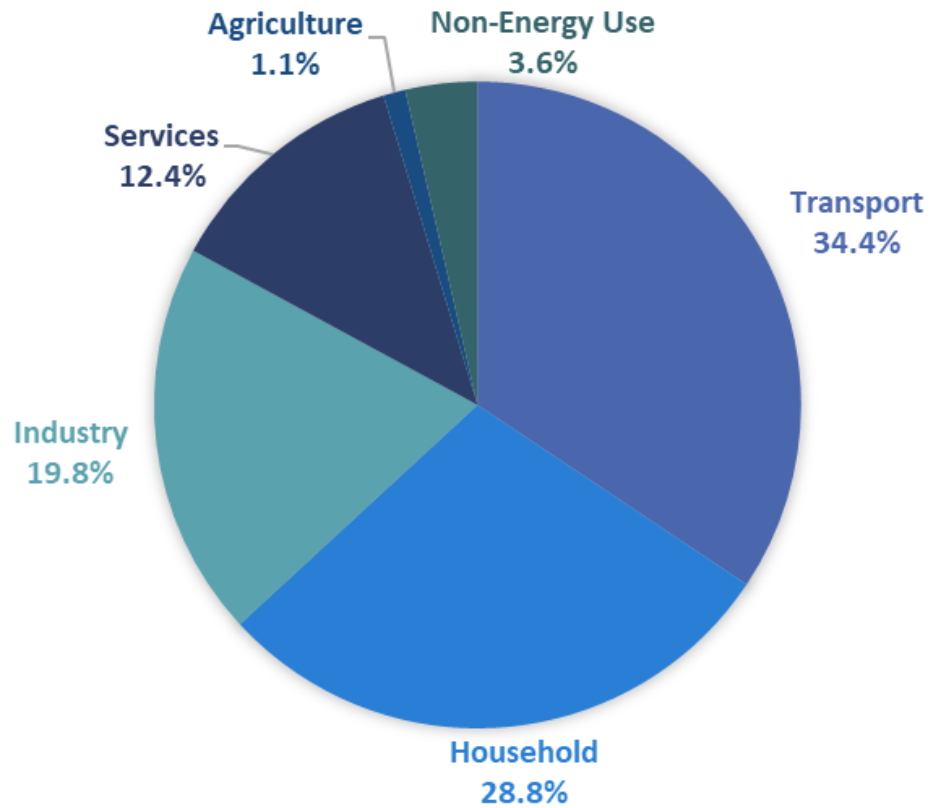
**61.6 MTOE**

2022 Total  
Primary Energy  
Supply

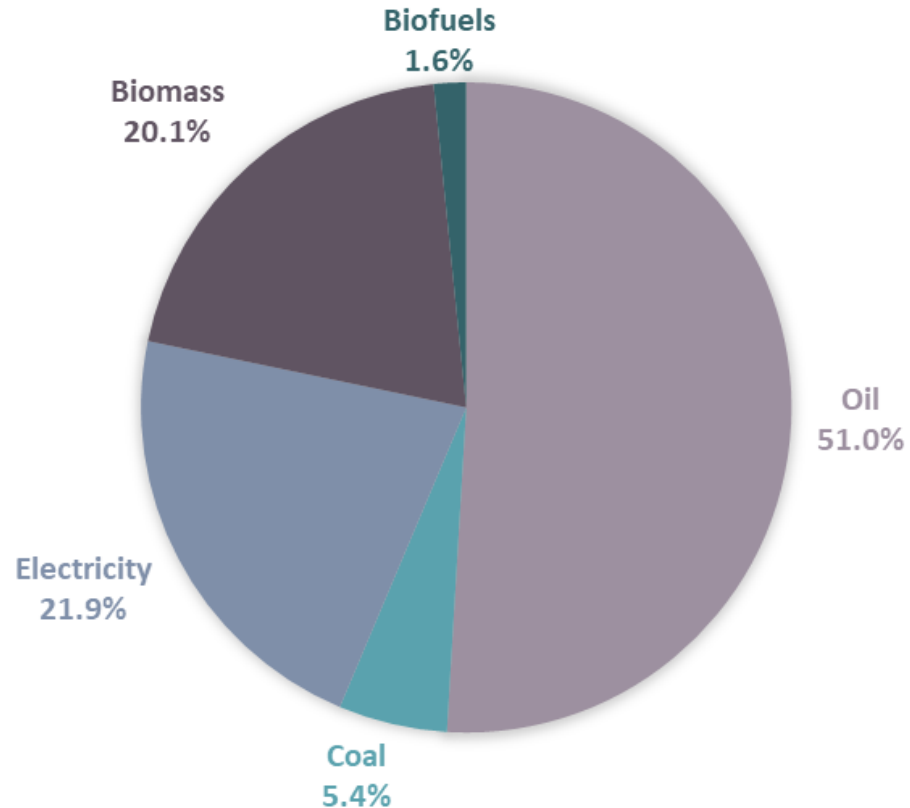


# Overview of the Philippine Energy Sector

## TOTAL FINAL ENERGY CONSUMPTION 2022



By Sector



By Fuel

**35.9 MTOE**  
2022 Total Final  
Energy Consumption



# Market-Driven Policies



## Republic Act (RA) No. 7638 or the Department of Energy Act of 1992

Develop and update Philippine energy programs which shall provide for integrated and comprehensive exploration, development, utilization, distribution and conservation of energy resources, with *preferential bias for environment-friendly, indigenous, and low-cost sources of energy*



## RA No. 9136 of the Electric Power Industry Reform Act of 2001

Promote the utilization of *indigenous, and new and RE* resources in power generation to reduce dependence on imported energy



## RA No. 9513 or the Renewable Act of 2008

Accelerate the exploration, development, utilization, and commercialization of RE



## RA No. 11234 or the Energy Virtual One-Stop Shop Act of 2019

Online platform to streamline the processing of energy application



## RA 11285 or the Energy Efficiency and Conservation Act

Institutionalize energy efficiency and conservation as a national way of life and promote/encourage the development and utilization of efficient renewable energy technologies



## RA No. 11697 or the Electric Vehicle Industry Development Act of 2022

Establish the Comprehensive Roadmap for the Electric Vehicle Industry to accelerate the development, commercialization and utilization of EVs



## RA No. 11952 or the LPG Industry Regulation Act

Establish regulatory framework for the LPG industry

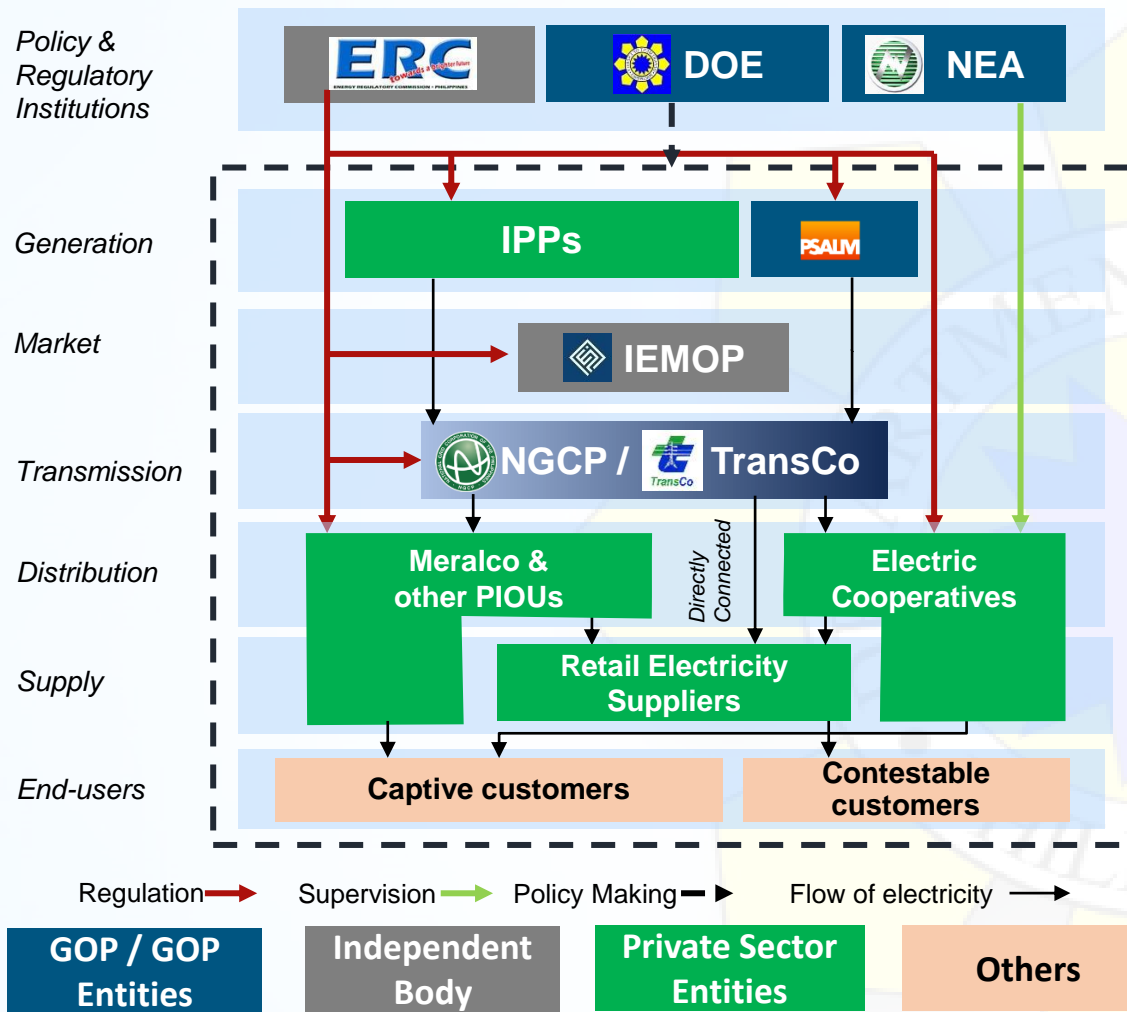


## RA No. 11646 or the Microgrid Systems Act

Fill the gap in the country's goal of achieving 100 percent electrification by encouraging the installation of microgrids in unserved and underserved areas



# Philippines Power Structure: Private, Unsubsidized and Heavily Taxed



Excise tax on coal and oil, Value added tax on electricity except RE

## • Generation:

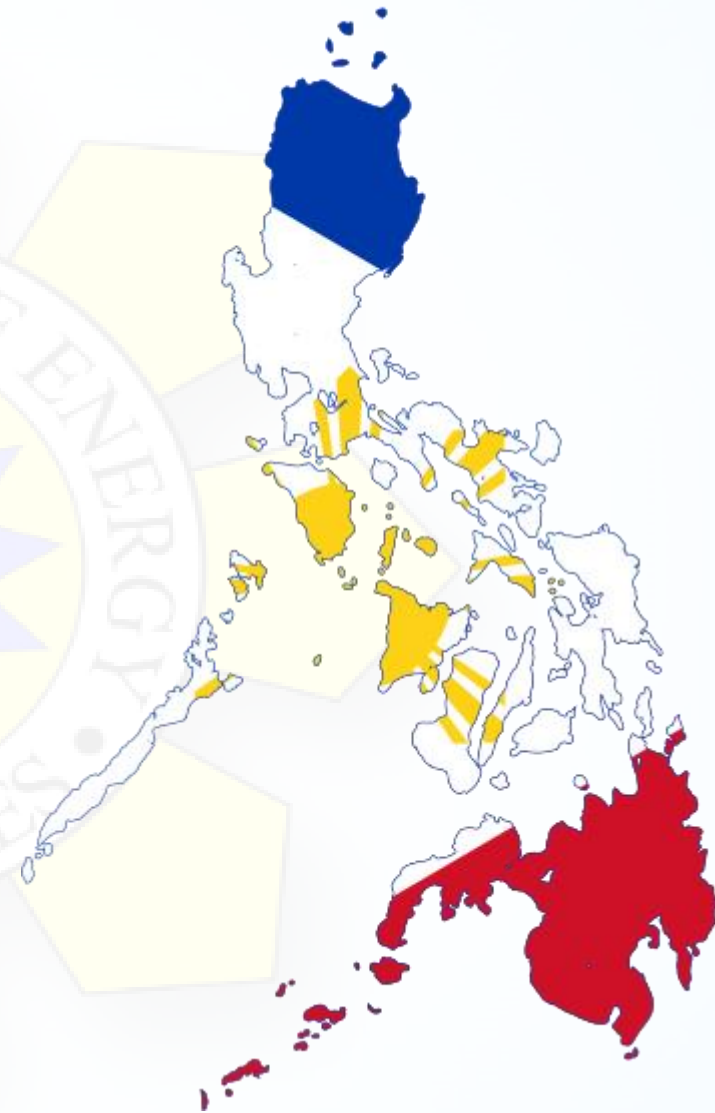
- Private IPPs contributed 91% of the total power supply whereas GOP-owned PSALM contributed only 6% in 2020
- All CFPPs (except for PSALM owned Mindanao CFPP) are owned and operated by the private sector

• **Transmission:** In 2009 NGCP won a 25-year concession to develop, operate, and maintain the Philippines' grid

• **Distribution:** Power distribution is managed by private owned PIOUs or cooperatives (ECs)

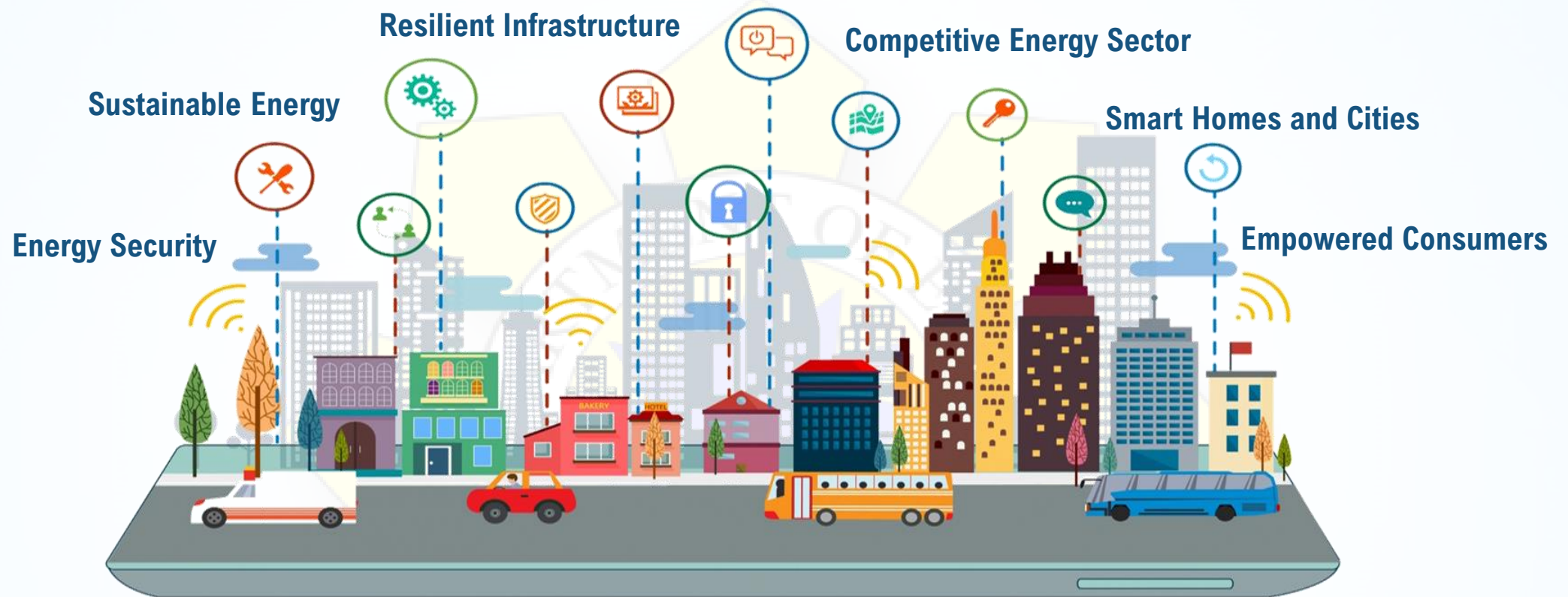
ERC: Energy Regulatory Commission; IEMOP: Independent Electricity Market Operator of the Philippines; IPP: independent power producer; NEA: National Electrification Administration; NGCP: National Grid Corporation of the Philippines; TransCo: National Transmission Corporation; PIOU: private investor-owned utility; PSALM: Public Sector Assets and Liabilities Management Corporation.

# Philippine Clean Energy Transition Initiatives





# FUTURE ENERGY SCENARIO



**Energy Efficiency and Conservation**  
 10% energy savings on oil products and electricity by 2040 up to 2050

**Renewable Energy**  
 35% of power generation mix by 2030, 50% by 2040, and more than 50% by 2050

**Emerging and Innovative Technologies**  
 50% EV penetration rate in road transport by 2040; Exploring new and efficient technologies

**Information and Communications Technology**  
 Adopting advanced and interoperable ICT in the energy chain

**Energy Resiliency**  
 Resilient and climate-proof energy infrastructure



# Energy Efficiency and Conservation (EEC)

## Republic Act No. 11285 (EEC Act)

Institutionalizes energy efficiency and conservation, enhances the efficient use of energy, and grants incentives to energy efficiency and conservation projects



### Government Energy Management Program (GEMP)

Energy Savings: **20.69 GWh**

Total Savings: **Php 206.87 Million**

Emission Reduction: **14,481 tonnes**

### IAEECC Resolution No. 8

Encouraging all government entities to install and utilize solar photovoltaic (PV) system or any equivalent renewable energy technology in their government-owned facilities and/or office buildings in a form of self-generating facility, distributed energy resources or net metering agreement with host distribution utility



#### INTER-AGENCY ENERGY EFFICIENCY AND CONSERVATION COMMITTEE (IAEECC)

##### RESOLUTION NO. 8, s. 2023

**ENCOURAGING ALL GOVERNMENT ENTITIES (GES) TO INSTALL AND UTILIZE SOLAR PHOTOVOLTAIC (PV) SYSTEM OR ANY EQUIVALENT RENEWABLE ENERGY TECHNOLOGY IN THEIR GOVERNMENT-OWNED FACILITIES AND/OR OFFICE BUILDINGS IN A FORM OF SELF-GENERATING FACILITY, DISTRIBUTED ENERGY RESOURCES (DER), OR NET METERING AGREEMENT WITH HOST DISTRIBUTION UTILITY (DU)**

**WHEREAS**, Republic Act (RA) No. 11285 or the Energy Efficiency and Conservation (EEC) Act, institutionalizes energy efficiency and conservation as a national way of life, enhances the efficient use of energy, and grants incentives to energy efficiency and conservation programs and projects;

**WHEREAS**, Section 5 of the EEC Act states that the Department of Energy (DOE) shall take the lead in the implementation of the law, and shall be responsible for the planning, formulation, development, implementation, enforcement, and monitoring of energy management policies and other related energy efficiency and conservation plans and programs;

**WHEREAS**, Section 2.b of the EEC Act declares that it is the policy of the State to promote and encourage the development and utilization of efficient renewable energy technologies and systems to ensure the optimal use and sustainability of the country's energy resources;

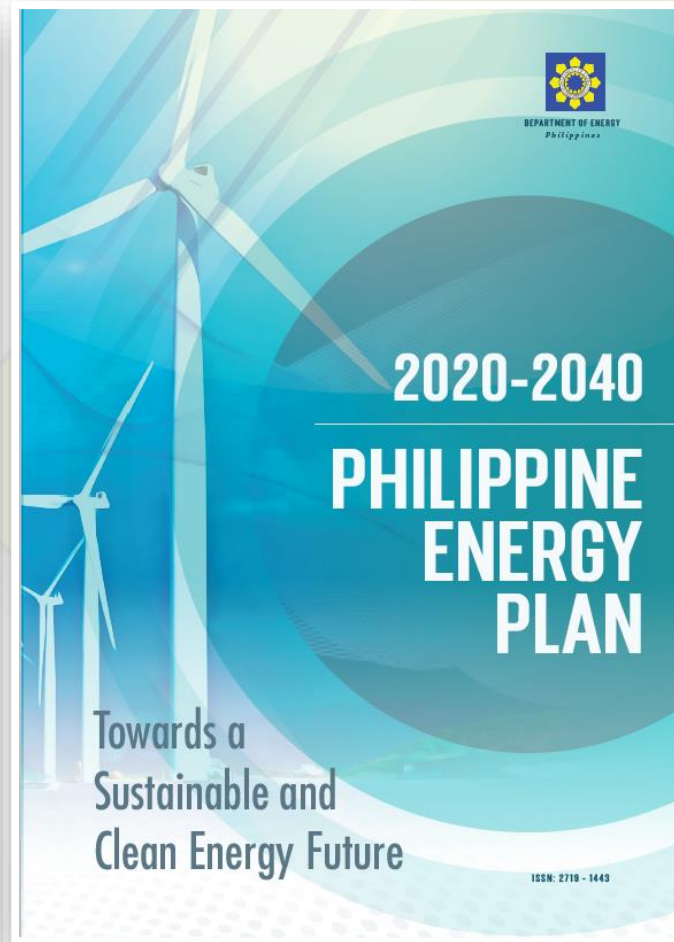
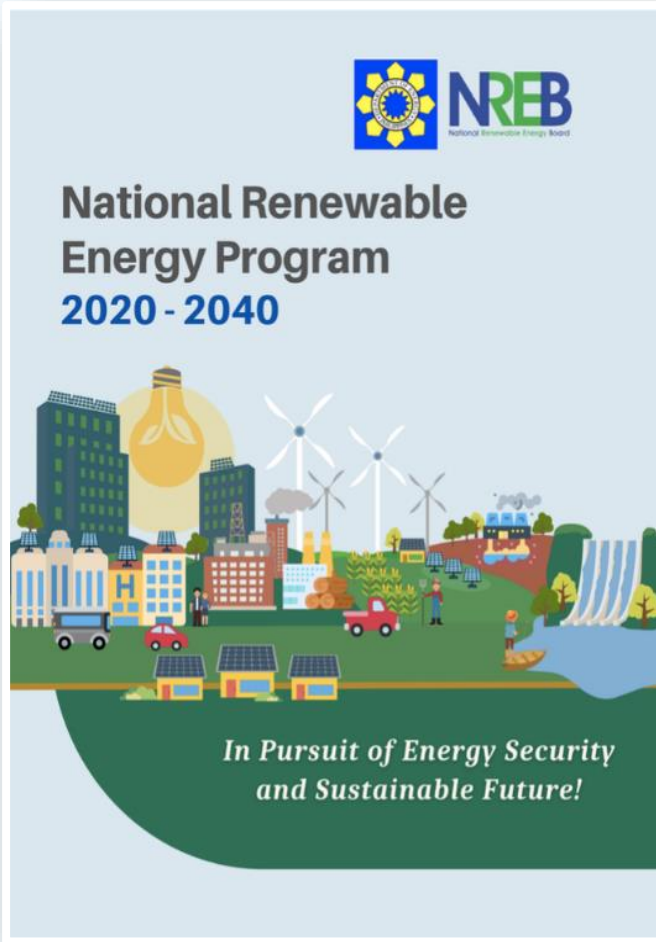
**WHEREAS**, RA No. 9513 or the Renewable Energy Act of 2008 affirms the policy of the state to accelerate the exploration and development of renewable energy to achieve energy self-reliance, through the adoption of sustainable energy development strategies to reduce the country's dependence on fossil fuels, and thereby minimize the country's exposure to price fluctuations in the international markets, which affect almost all sectors of the economy;

**WHEREAS**, the Renewable Energy Act of 2008 introduced the Net-metering for Renewable Energy (RE) Program to encourage electricity end-users to participate in the generation of electricity from RE sources to meet their monthly electricity requirements, and at the same time, promote the efficient and cost-effective applications of RE in the country;

**WHEREAS**, the Net-metering Program as defined under the Renewable Energy Act of 2008 refers to a system, appropriate for distributed generation, in which a distribution grid user has a two-way connection to the grid and is only charged for its net electricity consumption and is credited for any overall contribution to the electricity grid;



# Renewable Energy Targets



At least **35%** RE share  
in the power generation  
mix by 2030 and  
**50%** by 2040

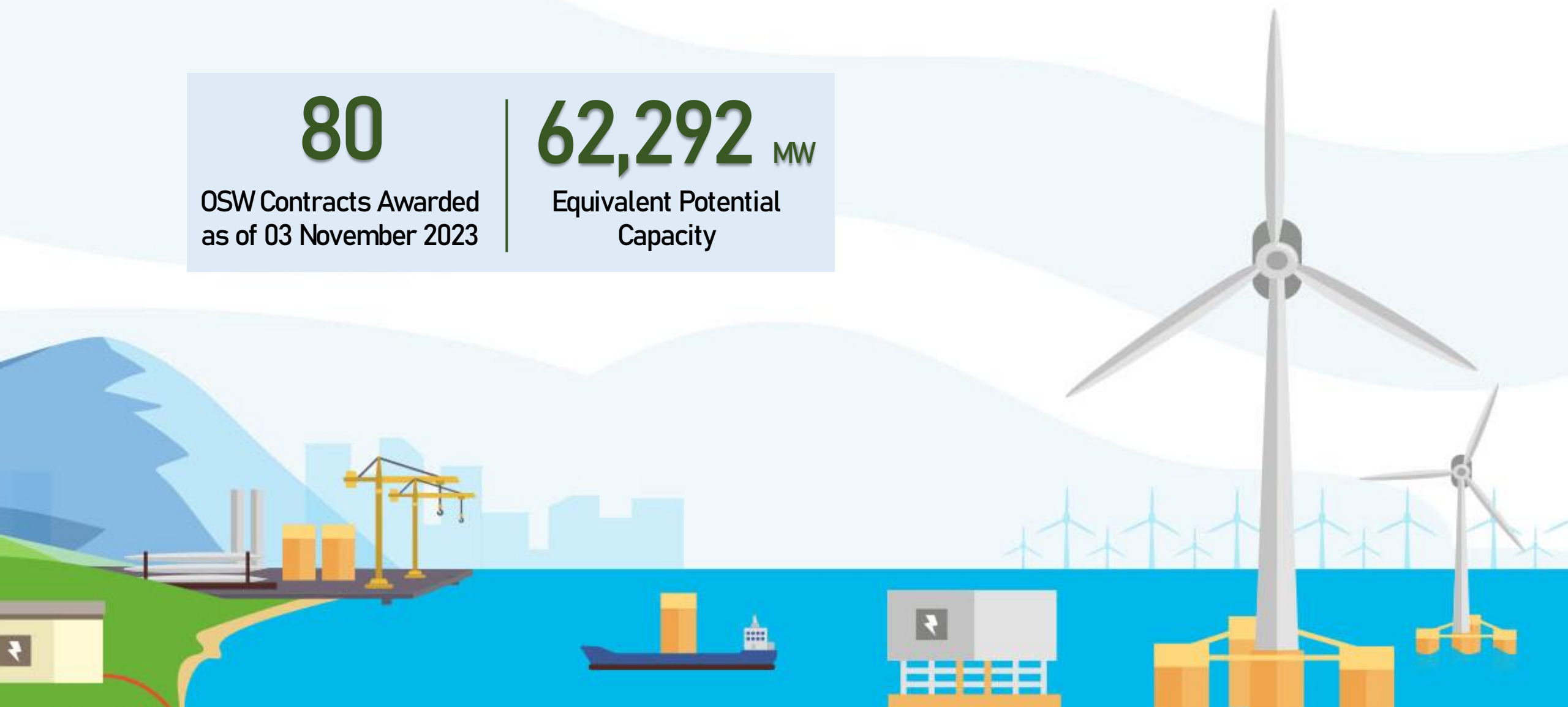
# Implemented EO 21 for the Development of OSW

**80**

OSW Contracts Awarded  
as of 03 November 2023

**62,292** MW

Equivalent Potential  
Capacity



# Clean Energy Transition Initiatives

- **Accelerated RE Deployment:**
  - In November 2022, **full Foreign Ownership in Renewable Energy Sector** was allowed
  - **Renewable Portfolio Standards (RPS)** require grid-connected distribution utilities and retailers to procure a defined share of energy from renewable sources
  - **Green Energy Option Program (GEOP)** to encourage end users to elect for RE generation sources
  - **Green Energy Auction Program (GEAP)** to drive large-scale renewable capacity additions
  - **Renewable Energy Market (REM)** for buying and selling renewable energy certificates (RECs), creating a supplementary revenue stream for generators whilst allowing offtakers to meet their obligations under RPS



# Clean Energy Transition Initiatives

- **Accelerated RE Deployment:**

- Development of **Competitive Renewable Energy Zones** by NGCP, to encourage renewables development via proactive transmission planning
- **Enhanced Net-Metering Program.** Allows end-users to generate electricity from RE-based systems up to 100kW for own use and sell their excess to the grid.
- **Open and competitive selection process.** Facilitates project development by offering well-characterized RE sites to project developers.
- **Preferential dispatch of all renewable energy resources in the wholesale electricity spot market.** On 5 October 2022, all RE generating units have been given preference in the wholesale electricity spot market (WESM) dispatch schedule to ensure its maximum output injection in the grid.



# Meeting the RE Targets is challenged by constraints in the transmission system



- Insufficient incoming transmission capacity to meet the RE targets
- Delayed projects by 1 to 9 years
- 8-10 years completion period
- Concessionaire's resistance to oversight and regulation

# Alternative Fuels and Emerging Technologies



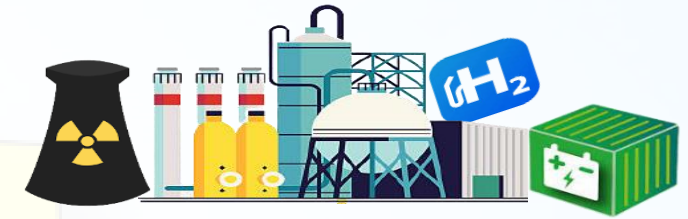
## Deployment of Alternative Fuels and Technologies for Transport

- Electric Vehicles (EVs)
- Hybrid Electric Vehicles (HEVs)
- Hydrogen Fuel Cells (HFCs)



## Establish Necessary Infrastructure and Regulatory Support

- EV Charging Stations
- Adoption of single EV charging protocol
- R&D on EV parts and components
- Establishment of testing laboratories, service shops and training modules
- Household/home solar storage batteries



## Pursue Other Cleaner Source of Energy and Support Technologies

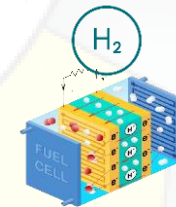
### NUCLEAR

- Development of a Nuclear Energy Roadmap
- Enactment of legislation for Nuclear Energy Regulatory Framework
- Feasibility of Small Modular Reactors (SMRs)



### HYDROGEN

- DOE and DOST launched a development and testing facility for fuel cell technology



### ENERGY STORAGE SYSTEM

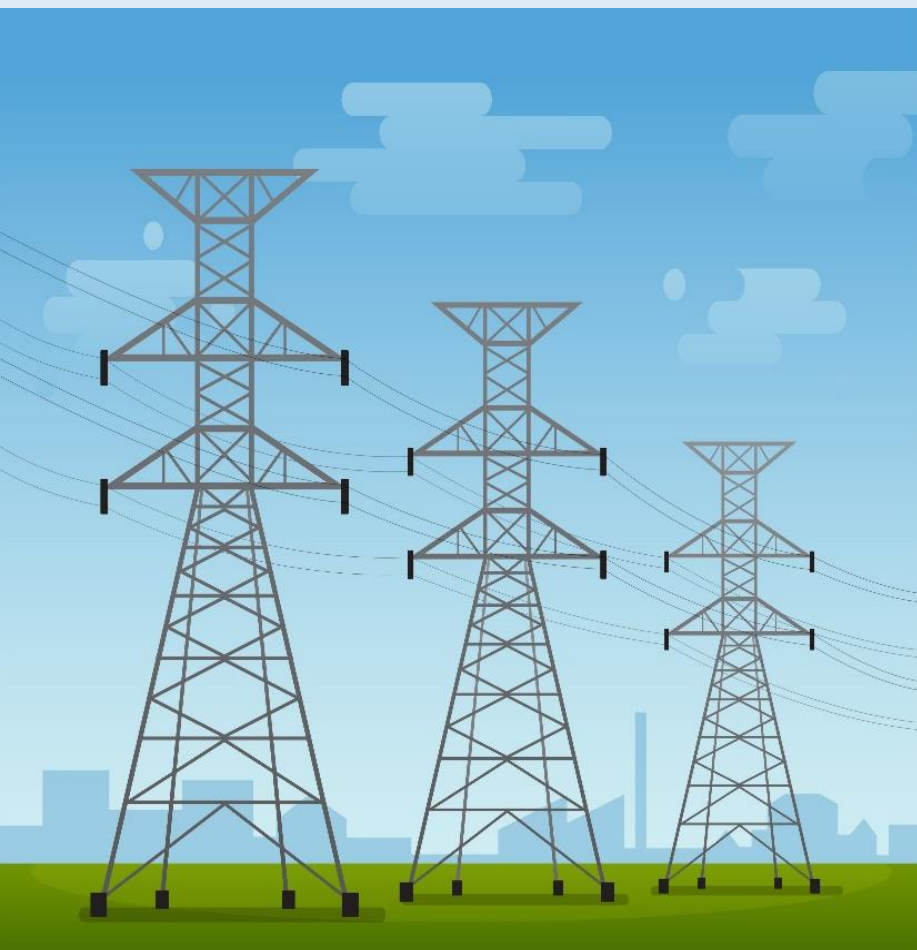
- Revised policy to enhance the power system and lower the electricity costs





# Smart and Green Grid Plan (SGGP)

The aggressive RE targets require the **timely development of a green and smart transmission system** to integrate and manage the additional RE capacity expected to come online from 2024 to 2040



## Objectives of the SGGP

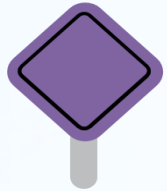
- Establish a policy and mechanism to address the timely implementation of Transmission Projects and efficient operation of the Transmission System.
- Create a framework to determine the level of completion of TDP projects and the overall performance of electric power industry stakeholders toward a holistic and comprehensive development of the country's power system.

**The SGGP forms part of the Philippine Energy Transition Program (PETP) and will complement the PEP 2023-2050**



# Energy Resiliency Milestone

## Two (2) Energy Resiliency Policies and One (1) Contingency Plan



### Signed Supplemental Energy Resiliency Policy

To fill the gaps and ensure adequacy, responsiveness and effectiveness of the Energy Resiliency Policy (DC-2018-01-0001), the Department issued **Department Circular No. DC-2022-06-0028** titled, “Supplementing Department Circular No. DC2018-01-0001 on the Energy Resiliency Planning and Programming of the Energy Sector and on Task Force on Energy Resiliency (TFER) Functions and Structure to Mitigate Impacts of Disasters”.

### Updated Energy Resiliency Policy

Signed: June 24, 2022  
Published: August 12, 2022



### National Energy Contingency Plan for “The Big One”

The NECP is tailored to a Magnitude 6.5 - 7.2 Earthquake with at least Intensity VI or “The Big One” that may strike in the Greater Metro Manila Area (GMMA) which contains harmonized multi-sectoral contingency plans and coordinated disaster response and early recovery measures from various energy stakeholders.

### National Energy Contingency Plan for “The Big One”

Signed: December 02, 2022  
Launched: December 14, 2022



### DC2023-01-0002

Department Circular No. DC-2023-01-0002 titled “Adoption of the National Energy Contingency Plan for “The Big One”

### DC adopting the NECP for “The Big One”

Signed: January 11, 2023  
Published: February 02, 2023

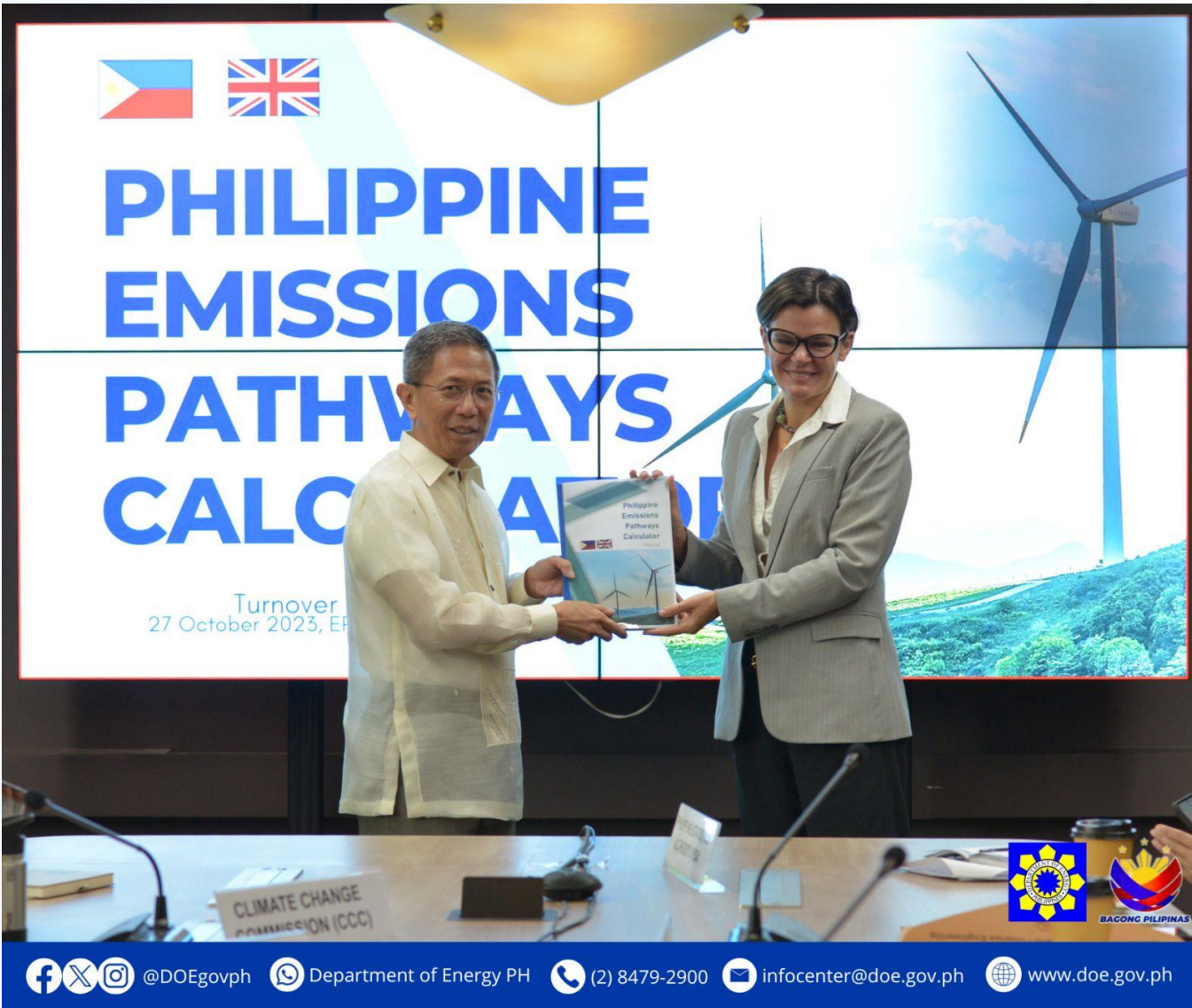


# Clean Energy Transition Initiatives

- **NDC Target:** 75% reduction on GHG emissions for 2020-30 (*of which 2.71% is unconditional and 72.29% is conditional*)
- **On Coal Moratorium:** The Philippines, through the Department of Energy, issued a moratorium of endorsements for greenfield coal-fired power plants (CFPPs) on 27 October 2020.
- **Guidelines on the decommissioning and mothballing of a generating plant or unit.** In July 2023, DOE issued guidelines regarding the decommissioning and mothballing of a generating plant or unit, excluding nuclear, providing clarity on procedures to be followed for decommissioning and mothballing of power plants.



# Monitoring the GHG Emissions Reduction

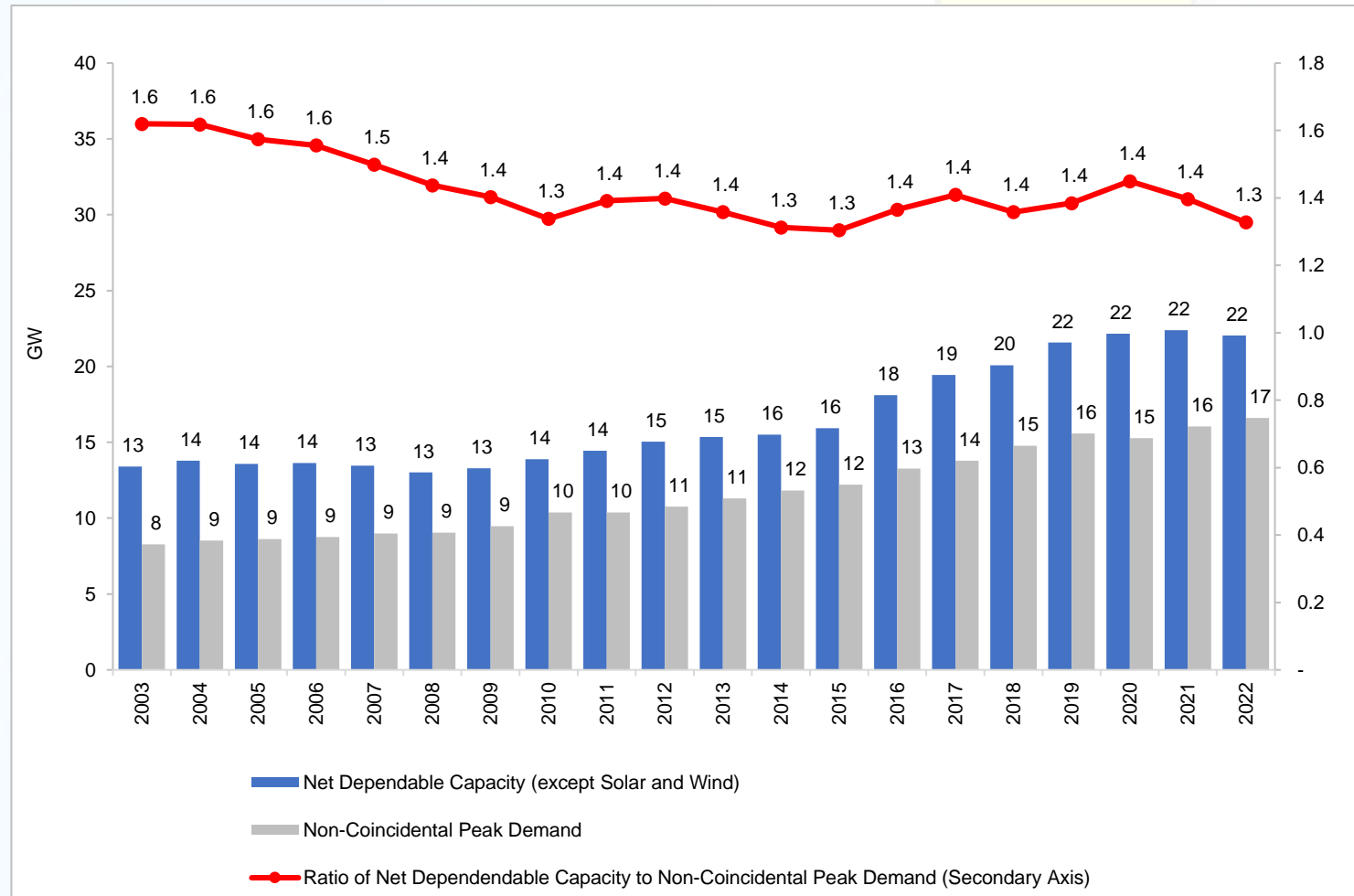


## Aims of the PH 2050 Calculator Program

- Improve long-term energy strategies
- Support implementation and improvement of NDCs
- Assessment of mitigation actions and targets
- Improve the long-term modelling capability of the Philippine Department of Energy (DOE)
- Increased engagement of senior officials, politicians, experts, academics and the public in determining feasible and credible low-carbon pathways

# Need for additional investments for reserves to address increasing demand

## Net Dependable Capacity vs Peak Demand (2003-22)



- Generation reserve has declined gradually as supply increase is unable to keep up with growing demand
- Philippines' grid reliability still lags slightly behind regional peers
- In 2022, there were:
  - 10 instances when generation capacity wasn't enough to meet the reserve requirements
  - 3 instances when supply fell so low that it led to rotating power interruptions



# Investment Requirements (PEP 2020-2040)



**USD 153 Billion**

**Total Required Energy Investments**

**USD 115.3 Billion**

**Construction of New Power Plants**

**Renewable Energy:**

**USD 94.3 Billion**



# Private Sector Response to Philippine Energy Transition Policies

Manila Standard

## San Miguel power unit signs P40-b financing deals for energy storage

Business



Ramon Ang

Manila Business Insight

## Meralco eyes to be coal-free by 2050

By Joel Mesapagal · October 30, 2023

The Manila Electric Co. (Meralco) will start implementing initiatives that will make it coal-free by 2050. The company said in a statement over the weekend it will first target to reduce direct emissions by 40 percent by 2030, the baseline of scope 1 emissions.

BUSINESS

## ACEN fully divests from coal power generation

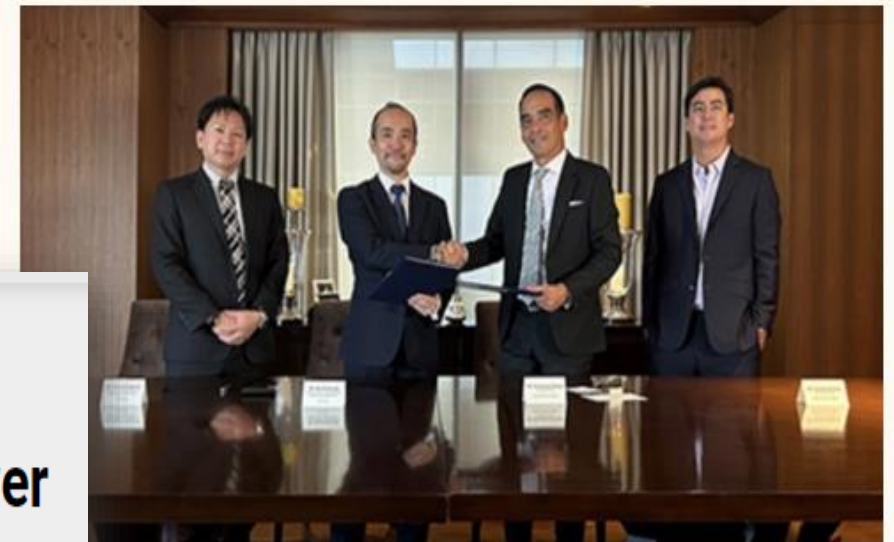
Danessa Rivera - The Philippine Star ⓘ

November 8, 2022 | 12:00am

## AboitizPower taps JBIC support to advance energy transition in the Philippines

November 7, 2023

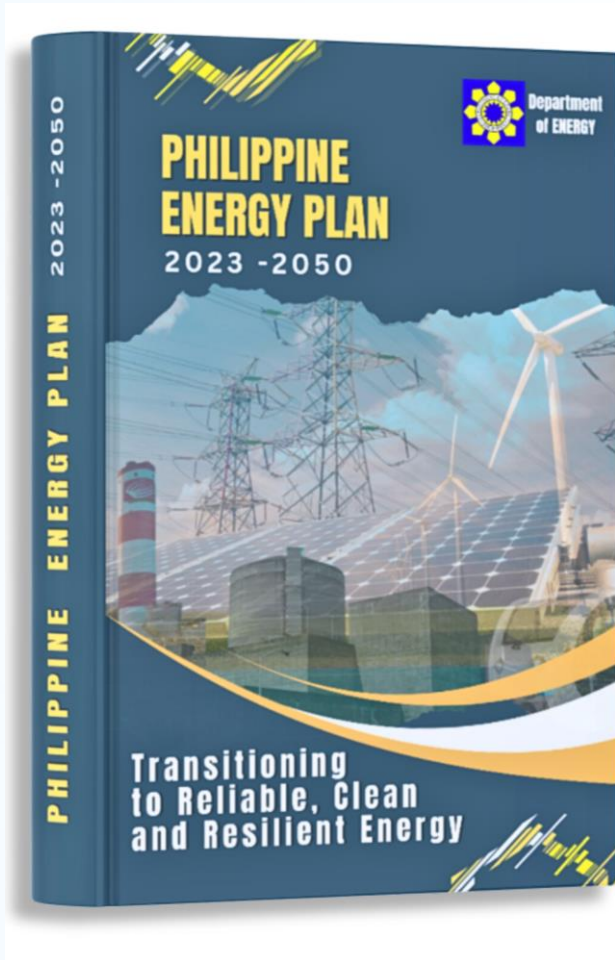
BILYONARYO.COM



AboitizPower Corp. signed a memorandum of understanding (MOU) with the Japan Bank for International Cooperation (JBIC), a public financial institution, to promote international cooperation in its energy transition.



# PEP 2023-2050 (Outlook Scenarios)



## Reference

- 35% RE Share in power generation mix by 2030
- 50% RE by 2040-2050

## High RE with Low OSW + Nuclear + Coal Retirement

- At least 35% RE Share by 2030
- 50% RE by 2040
- More than 50% by 2050
- Coal retirement based on economic analysis
- **19 GW of OSW**

## High RE with High OSW + Nuclear + Coal Retirement

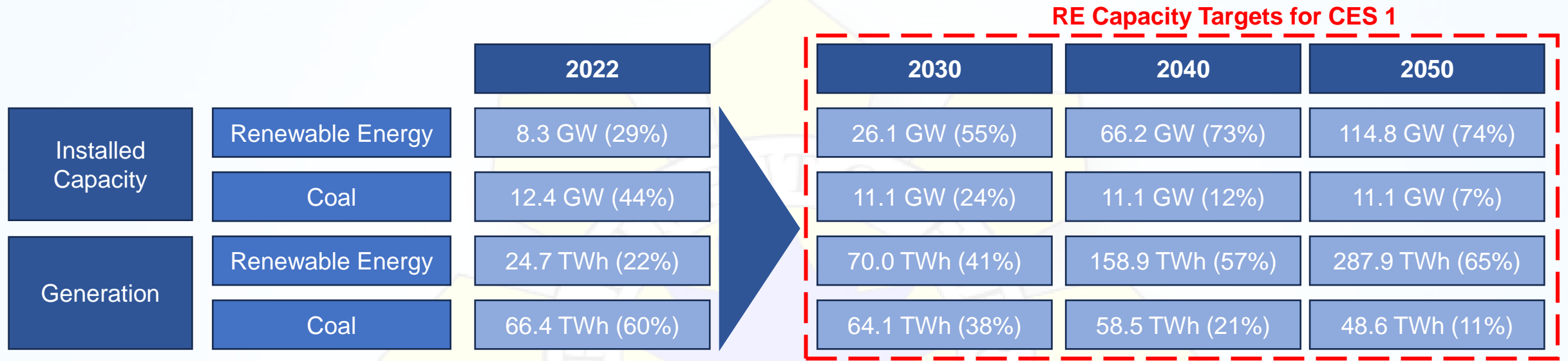
- At least 35% RE Share by 2030
- 50% RE by 2040
- More than 50% by 2050
- Coal retirement based on economic analysis
- **50 GW of OSW**

\*Energy supply assumption: 40-year technical life cycle for coal plants

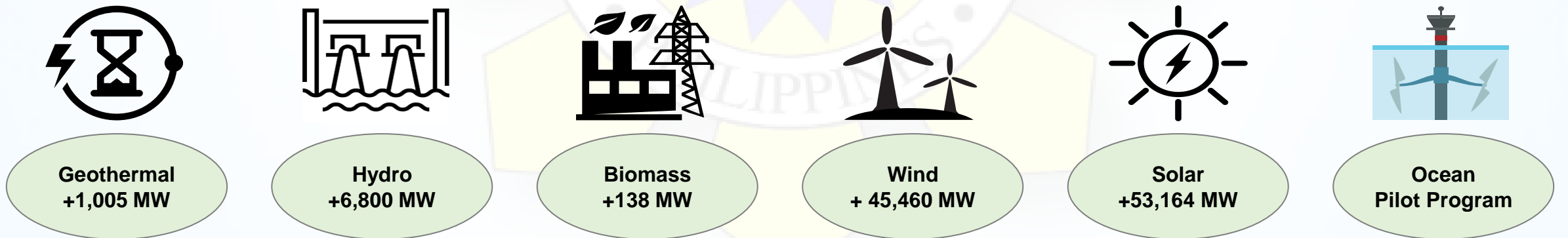




# RE Targets under Clean Energy Scenario 1 in Draft PEP



## Additional New Capacity Targeted under PEP 2023-2050 (CES1)



# Accelerating Coal Transition Investment Plan: Financing Plan



# MDB ACT Philippines Proposal: IP Concepts and Indicative Financing

#	Component	MDB Sector	ACT	MDB	Other / Private	GoP	TOTAL	Pillars		
								Governance	People & Communities	Infrastructure
<b>Component 1: Accelerating Retirement / Repurposing of CFPPs and Replacement of Power</b>										
1.1	Early Retirement of Mindanao CFPP	ADB (Private / Public <sup>a</sup> )	95 and 1 (grant) <sup>b</sup>	95	285		475 and 1 (grant)	✓	✓	✓
1.2	Private Sector Decarbonization and Repowering Program	ADB (Private / Public <sup>a</sup> )	120 and 2 (grant) <sup>b</sup>	240	240		600 and 2 (grant)	✓	✓	✓
1.3	Accelerating Development of Renewable Energy and Transition from Coal	IFC (Private)	140 and 5 (grant) <sup>b</sup>	280	280		700 and 5 (grant)	✓	✓	✓
<b>Component 2: Just Transition and Governance</b>										
2.1	Project PRISTINE	ADB (Public)	120 and 5 (grant)	260		20	400 and 5 (grant)	✓	✓	✓
2.2	National Just Transition Approach Development Program	ADB (Public)	2 (grant)	1 (grant)			3 (grant)	✓	✓	
2.3	Energy Transition Technical Assistance	WB (Public)	10 (grant)	600		5	605 and (10 grant)	✓	✓	
<b>TOTAL (\$ million)</b>			<b>475 and 25 (grant)</b>	<b>1,476</b>	<b>805</b>	<b>25</b>	<b>2,780 and 26 (grant)</b>	<b>23 (5%)</b>	<b>115 (23%)</b>	<b>362 (72%)</b>

a. ADB (Public) will manage the grant received for the Project.  
b. Grant funding will be utilized for Just Transition related activities.



# MDB ACT Philippines: IP's Key Impacts

Pillar/Co-benefit	Indicator	Target	Project Concept
Governance	Number of policies, regulations, etc. amended or adopted	<b>6</b>	2.3
	Coal transition strategies finalized	<b>1</b>	2.3
People	Number and percentage of employees of retired coal plants that have access to sustained income	<b>374, 80%</b>	1.1, 1.2, 1.3
	Number of direct beneficiaries of implemented social plans and economic regeneration activities	<b>468</b>	1.1, 1.2, 1.3
Infrastructure	GHG emissions reduced or avoided	<b>33 million tCO<sub>2</sub></b>	1.1, 1.2, 1.3
	Volume of cofinance leveraged	<b>\$2,306 million</b>	all
	Capacity of existing coal power generation assets accelerated for retirement	<b>900 MW</b>	1.1, 1.2, 1.3
	Installed capacity of RE	<b>1,500 MW</b>	1.1, 1.2, 1.3
	Amount of coal diverted	<b>11 metric tons</b>	1.1, 1.2, 1.3
Co-benefit: Just Transition	Students enrolled on renewable, clean, and climate technology	<b>5,000</b>	2.1





# STATEMENT

## FROM THE PHILIPPINE SECRETARY OF ENERGY

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# Thank you!



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# Appendix



# Accelerating Coal Transition Investment Plan: Proposed Concepts



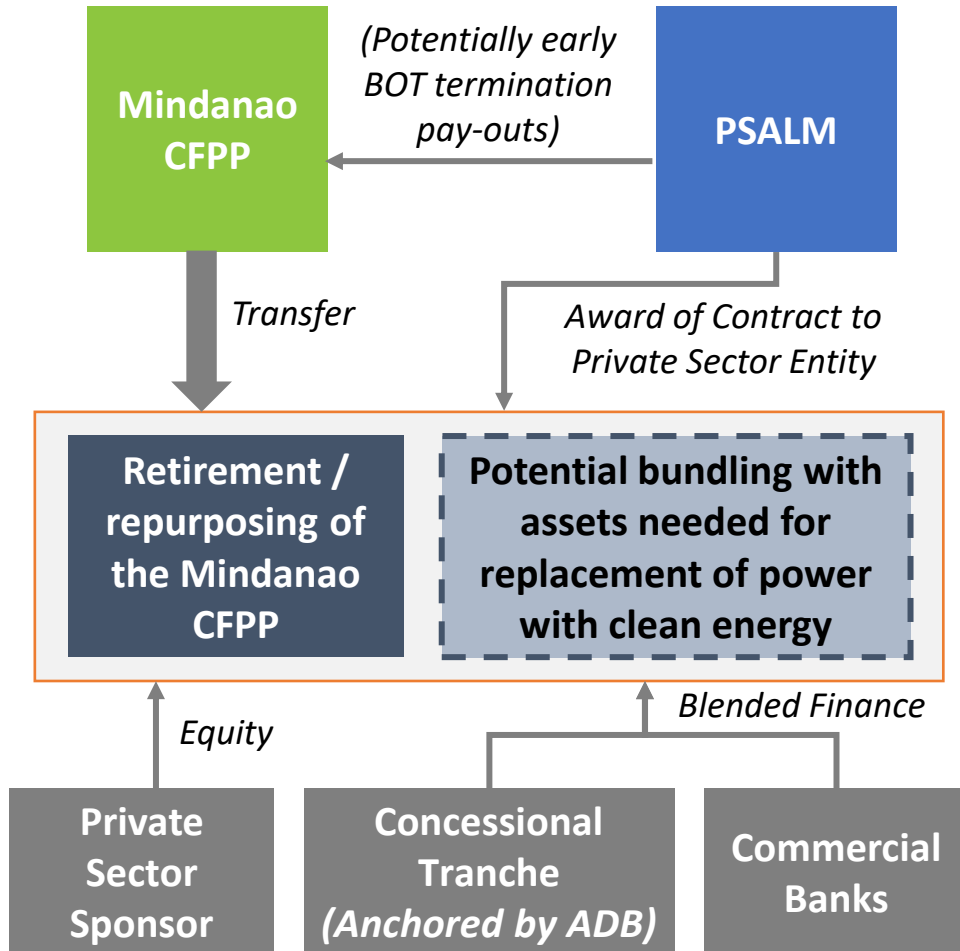


## **Component 1:**

Accelerating Retirement / Repurposing  
of CFPPs and Replacement of Power

# Component 1.1 (ADB) – Early Retirement of Mindanao CFPP

## Proposed Structure:



PSALM: Power Sector Assets and Liabilities Management Corporation

## Problem Statement:

- Only remaining **GOP-owned CFPP** in the Philippines.
- Contracted under a **BOT concession until 2031**, after which the asset will transfer to PSALM. The asset will still have a remaining operational life of 15-20 years (assuming a useful life of 40-45 years)
- PSALM is also the offtaker for the power of the CFPP and has the option to pre-terminate the BOT as early as 2026, for an agreed termination pay-outs.

## Proposed Transformation:

- Under the ADB's energy transition mechanism (ETM) structure, the GOP is exploring options for:
  - **Retirement / repurposing of Mindanao CFPP**; and
  - **Potential bundling** with assets needed for the **replacement of power with clean energy** for promoting energy transition in the Philippines
- ADB financing (co-financed by CIF ACT) will provide concessional and commercial funds as "stapled" financing to potential bidders to maximize the impact



# Component 1.1 (ADB) – Early Retirement of Mindanao CFPP

## Implementation Readiness:

- Detailed discussions with PSALM management regarding the asset are ongoing
- These discussions involve analyzing different repurposing solutions and considering bundling options with assets related to the replacement of power

## Indicative Financing:

Source	Amount (USD MN)
ADB	95
CIF Debt	95
CIF Grant	1
Commercial Cofinancing	285
<b>Total</b>	<b>476</b> <b>(475 and 1 Grant)</b>

## Rationale for ACT Cofinancing:

- CIF-ACT cofinancing can help lower the weighted average cost of capital for the transaction, which can generate a net present value gain to offset the economic cost of early retirement of the Mindanao CFPP

## Indicative Timelines:

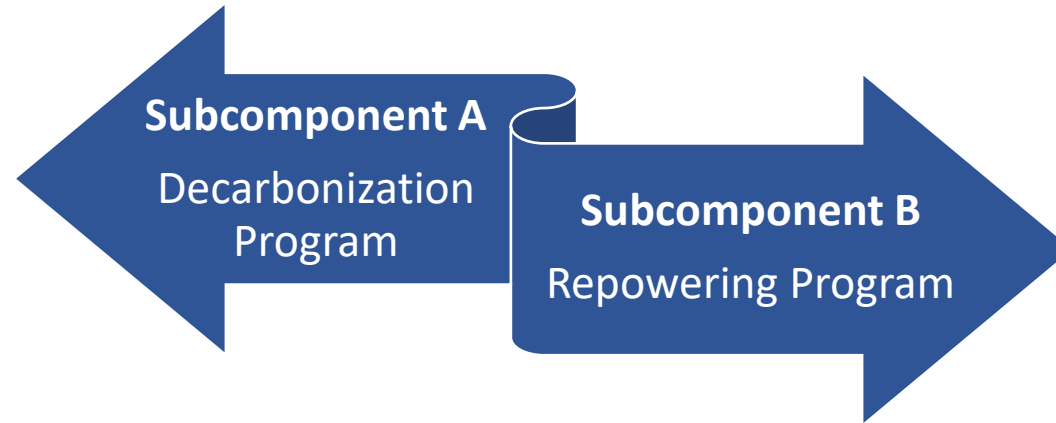
Milestone	Completion Date
Due-diligence and structuring of the Project	Q1 2024
Preparation of tender documents and launch of the tender process	Q3 2024
Commercial close	Q2 2025
Loan negotiations & final investment committee consideration	Q3 2025
ADB board approval	Q4 2025
Financial close	Q4 2025



# Component 1.2 (ADB) – Private Sector Decarbonization and Repowering Program

Sustainability-linked lending is designed to incentivize existing CFPPs operators to:

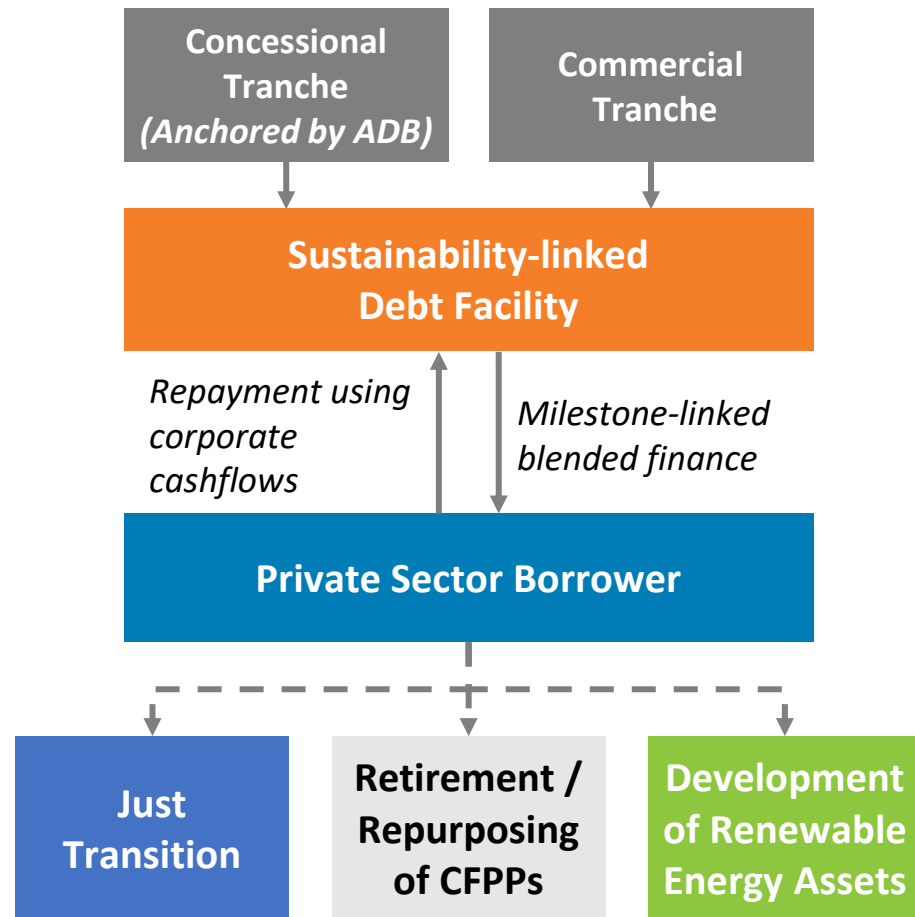
- i. Accelerate retirement and/or repurposing of CFPPs; and
- ii. Promote the development of renewable energy as an alternative source of electricity supply.



**“Stapled” financing** (including both concessional and commercial funds) to promote the development of renewable energy for replacing the power supply of the retired CFPPs in the same grid (only to the extent such replacement of power is not covered in the sub-component A).

# Component 1.2 (ADB) – Private Sector Decarbonization and Repowering Program (Subcomponent A)

## Proposed Structure:



## Problem Statement:

- All CFPPs (except for the Mindanao CFPP) are privately owned.
- DOE has issued a **moratorium on greenfield CFPPs**.
- Energy sector faces **dual pressure to develop new renewable energy sources and phase out coal assets** while ensuring **energy security is preserved**.

## Proposed Transformation:

- **Sustainability-linked lending** is designed to **incentivize private sector borrowers with a significant portfolio of operational CFPPs to accelerate retirement and/or repurposing of these plants**.
- In parallel, such lending also **aims to promote the development of renewable energy as an alternative source of electricity supply**.
- This is accomplished by **offering pricing incentives and/or triggering disbursement milestones when the borrower meets pre-agreed environmental, social, developmental, and/or governance targets**.



# Component 1.2 (ADB) – Private Sector Decarbonization and Repowering Program (Subcomponent B)

## Problem Statement:

- Accelerated retirement of operational CFPPs would leave gap in the power supply which is already struggling to meet the rapidly growing power demand of the country.
- Significant investments are still needed to deploy firm renewable energy sources for replacing outgoing CFPPs.
- **As the grid incorporates more variable renewables, additional balancing services**, such as frequency control, regulation, and spinning reserves, **must be provided**. This can be achieved through the introduction of hydropower and energy storage solutions such as battery energy storage systems (BESS) and pump storage, among others.

## Proposed Transformation:

- **ADB financing (co-financed by CIF ACT)** will provide concessional and commercial funds **to accelerate the development of renewable energy in the Philippines for replacing the power supply of the retired CFPPs in the same grid** (only to the extent such replacement of power is not covered in the subcomponent A).
- Emerging technologies that have not yet achieved grid parity (such as BESS, pump hydro, floating solar, offshore wind, etc.) would be covered under this subcomponent.
- Such funding will be provided as "stapled" financing to ensure benefits of concessional financing are considered in optimization of tariffs quoted by the bidders.



# Component 1.2 (ADB) – Private Sector Decarbonization and Repowering Program

## Implementation Readiness:

- ADB is actively engaging with leading power sector developers with a significant portfolio of operation CFPPs in the Philippines to develop decarbonization and sustainability strategies for accelerated coal transition and replacement with renewable energy
- ADB is also supporting DOE on various initiatives to promote deployment of renewable energy. DOE has conducted two rounds of GEAP (in June 2022 and June 2023 respectively). Further rounds are expected in the future.

## Indicative Financing:

Source	Amount (USD MN)
ADB	240
CIF Debt	120
CIF Grant	2
Commercial Cofinancing	240
<b>Total</b>	<b>602</b> <b>(600 and 2 Grant)</b>

## Rationale for ACT Cofinancing:

- By setting financing targets that emphasize the attainment of specific and measurable outcomes, developers are motivated to concentrate their efforts on delivering financial, environmental, and social benefits, rather than solely focusing on constructing additional energy infrastructure
- The concessional funds from CIF-ACT will contribute to incentivizing developers to fulfil their commitments and expedite the shift towards renewable energy

## Indicative Timelines:

Milestone	Completion Date
Project 1 structuring and preparation	Q1 2024
Project 1 loan negotiations & final investment committee consideration	Q2 2024
ADB board approval for Project 1	Q3 2024
Financial close for Project 1	Q4 2024
Processing for future projects	[TBD]



# Component 1.3 (IFC) – Accelerating Development of Renewable Energy and Transition from Coal

## Problem Statement:

Coal retirement is challenging for a number of reasons:

- The country is experiencing an energy deficit. In 2022, the country saw 10 instances when there was not enough generation to meet reserve requirements and 3 instances when supply fell so much as to lead to rotating power interruptions. RE sources would need to be built at a faster pace than demand growth to offset coal retirement.
- The country's energy sector is liberalized, and most coal assets are owned by private corporations. The DOE intends to rely on market forces to retire coal plants.
- Intermittent RE sources are not able to provide firm generation and ancillary services. Any replacement of coal assets will need either dispatchable RE or storage – both of which tend to be more expensive than coal.

To respond to these challenges, IFC will use concessional financing to ensure that greenfield renewable energy sources including storage and other technologies become more price competitive vis-a-vis coal. This is intended to accelerate contracting of RE-backed PPAs by utilities, away from dependence on coal based power generation. This will ensure just transition with competitive tariffs and support accelerating the government's energy transition plan.

## Proposed Transformation:

Distribution utilities are required to solicit their Power Purchase Agreements on a lowest-cost basis. IFC will provide concessional financing to greenfield RE projects including BESS and other technologies to allow them to be more price competitive versus coal. This will accelerate the contracting of PPAs backed by RE and displace PPAs backed by coal.

A portfolio of various types of intermittent RE and energy storage projects together as well as dispatchable RE will allow generators to put together supply that is suitable as a replacement for thermal assets with firm generation or ancillary capabilities, reducing the utilities' reliance on coal PPAs.

The proposed approach is aligned with GOP's policy initiatives in the recent years such as RPS and GEAP, among others, to accelerate large-scale deployment of RE by the private sector developers and procurement of RE based power by the utilities. The investment plan further complements the GOP's efforts to encourage development of newer technologies such as energy storage.



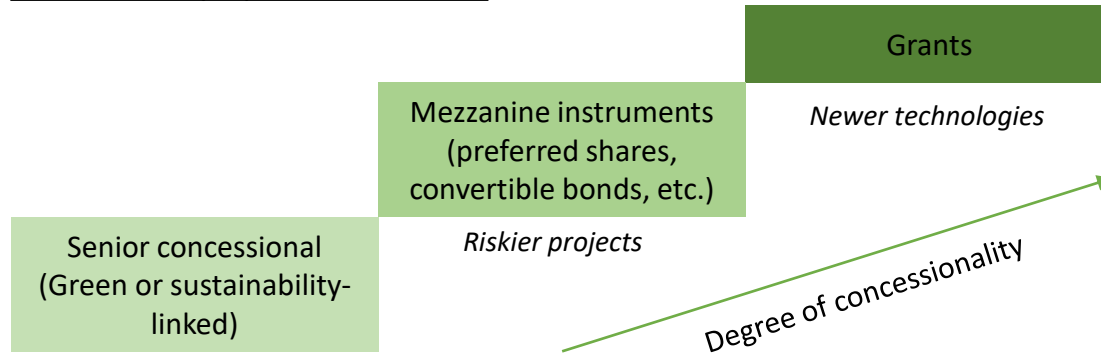


# Component 1.3 (IFC) – Accelerating Development of Renewable Energy and Transition from Coal

## Proposed Transformation & Rationale for ACT Cofinancing:

Given the different technologies that are required to meet demands of different utilities, IFC will also fund these projects through structures that best suit the project requirements (sustainability-linked, green, mezzanine, etc.). This will also allow IFC to rationalize the use of the CIF-ACT funds and ensure minimum concessionality.

Illustration only – possible structures



## Indicative Financing:

Source	Amount (USD MN)
IFC	280
CIF Debt	140
CIF Grant	5
Commercial Cofinancing	280
<b>Total</b>	<b>705</b> <b>(700 and 5 Grant)</b>

## Implementation Readiness:

IFC has ongoing discussions with a number of private sector players with plans to develop RE (including with newer technologies) and storage projects. The ACT-CIF concessional financing will accelerate the projects' implementation as their economics improves.

## Indicative Timetable:

Milestone <i>(Provided for Project 1. CIF-ACT funding will be deployed for a number of projects)</i>	Completion Date
IFC mandate signing for Project 1	Q1 2024
Project 1 diligence, structuring, and internal approvals	Q2 2024
Project 1 financial close	Q3 2024
Future projects	Rolling basis



## **Component 2:** Just Transition and Governance



# Component 2.1 (ADB) – Promoting Research and Innovation through Strengthening Transformation of Industries and Enterprises (PRISTINE) Project

## Problem Statement:

- The Philippines Development Plan (PDP) 2023-2028 and the Philippines National Innovation Agenda and Strategy Document 2023-2032 highlight development challenges due critical constraints in research, development and innovation (RDI) capacity and science and technologies (S&T) in the Philippines.
- As part of the green transition, the Philippines needs to scale up its workforces' knowledge in the renewable energy sector. The capacity to undertake RDI to generate downstream outputs in collaboration with the private sector, and skilling its workforce in renewal energy to support energy transition is essential.

## Proposed Transformation:

- ADB financing (co-financed by CIF ACT) will provide concessional and commercial funds to:
  - 1) Reskill or upskill workforce, and develop certification for renewable energy sector development.
  - 2) Conduct studies and applied research (proof of concept) on renewable energy, alternative fuels, storage, energy efficiency, and electric vehicles.
  - 3) Strengthen facilities for applied research and solutions (POC) in the field of renewable energies to accelerate the adoption of emerging technologies.
- **Project Executing Agency:** Department of Trade and Industry



# Component 2.1 (ADB) – Promoting Research and Innovation through Strengthening Transformation of Industries and Enterprises (PRISTINE) Project

## Implementation Readiness:

- The CIF-ACT funding proposal will be aligned with the processing and implementation of the PRISTINE Project which is scheduled for approval for Q1 2025.
- The Department of Trade and Investment will be the executing agency of the project and has given their support to proceeding to loan processing. The various aspects relating to implementation will be addressed during the project processing stage.

## Indicative Financing:

Source	Amount (USD MN)
ADB	260
CIF Debt	120
CIF Grant	5
GOP	20
<b>Total</b>	<b>405</b> <b>(400 and 5 Grant)</b>

## Rationale for ACT Cofinancing:

- CIF-ACT funding will assist the Philippines in the green transition by covering the cost of human capital development particularly in workforce transition. CIF-ACT grant funds will support ADB technical assistance for establishment costs of the PRISTINE 'Applied Research and Training Program' that will lead to an innovation mindset in the renewable and clean energy sector, creating a space for renewable energy technologies development and application, in the Philippines context.

## Indicative Timelines:

Milestone	Completion Date
CIF-ACT Trust Fund Committee consideration of grant and concession loan application	Q4 2023
PRISTINE Concept Note Approval	Q1 2024
Fact Finding Mission	Q4 2024
PRISTINE Project Approval	Q1 2025



# Component 2.2 (ADB) – National Just Transition Approach Development Program

## Problem Statement:

- The Philippines' NDC highlights the country's priority on "social and climate justice", aiming to "accelerate the just transition of its sectors into a green economy" and to "deliver green jobs and other benefits of a climate and disaster-resilient and low-carbon development to its people".
- Achieving a just energy transition requires a whole of government approach that considers the geopolitical context, enabling environment, direct, indirect, and induced impacts along the coal value chain, and from the national level up to the asset level.

## Proposed Transformation:

Under this program, ADB will support the identified focal ministry in:

- identifying further analytical work required;
- conducting stocktaking of relevant policies, regulations, programs and activities;
- designing a participatory consultation process;
- developing the National Just Transition Approach (NJTA) such as a framework, plan, or guidance document;
- establishing an institutional mechanism for implementation and monitoring and reporting; and
- undertaking training and capacity building to support implementation.



# Component 2.2 (ADB) – National Just Transition Approach Development Program

## Implementation Readiness:

- Will leverage on existing interdepartmental coordination mechanisms under the Green Jobs Act (i.e., with CCC, DOLE, DOF, DENR, etc.) with the addition of other relevant agencies (e.g., DOE, DSWD, DILG, NCIP, PCW)
- Will involve participation of the private sector (IPPs, utilities, etc.), civil society, nongovernment and labor organizations
- Will collaborate with partners actively working on Just Transition in the country such as ILO, UNDP, and UNOPS.

## Indicative Financing:

Source	Amount (USD MN)
ADB and other fund sources	1
CIF Grant	2
<b>Total</b>	<b>3 (Grant)</b>

## Rationale for ACT Cofinancing:

- The ACT grant would be instrumental in designing a framework to achieve the Philippines' just energy transition ambition, and would help GOP in crowding in financing for Just Transition activities across all levels—from national all the way to asset level.

## Indicative Timeline:

Milestone	Completion Date
CIF-ACT Trust Fund Committee grant approval and addition of grant to the ADB Just Transition Support Platform	Q1 2024

Note: GOP contribution to be confirmed.



# Component 2.3 (World Bank) – Energy Transition Technical Assistance Program

## Problem Statement:

- The Philippines is embarking on an ambitious program to scale up renewable energy and phase out investments in new coal-fired power plants.
- There is need to **strengthen the legal, institutional, and regulatory environment** in the energy sector to enable the energy transition.
- The knowledge and capacity of electricity sector institutions needs to be strengthened to facilitate the shift away from coal and towards a low-carbon energy system and to manage a **just transition** away from coal that puts people, communities, and vulnerable groups at the center of the process.

## Proposed Transformation:

- The proposed **Energy Transition Technical Assistance Project (ETTAP)** will strengthen institutional and regulatory capacity for undertaking the energy transition in the Philippines. The ETTAP will be implemented alongside a series of World Bank development policy financings (DPFs) which will support the adoption of key policies and reforms to support the energy transition in the Philippines.
- The ETTAP will support (i) analysis of decarbonization scenarios and pathways; (ii) project pipeline development and preparation (iii) development of new policies and instruments needed to support the transition and investments in network infrastructure; (iv) training and knowledge exchange and (v) establishment of an enabling framework for just transition for people and communities likely to be impacted by coal phaseout. ETTAP will support key electricity sector institutions such as the **Department of Energy, the Energy Regulatory Commission, the Independent Electricity Market Operator, and the National Transmission Corporation**, as well as other concerned agencies beyond the electricity sector.

# Component 2.3 (World Bank) – Energy Transition Technical Assistance Program

## Implementation Readiness:

- The World Bank has initiated discussions on the DPFs and ETTAP with DOF, DOE, ERC, and other stakeholders.
- The World Bank plans to carry out a scoping study to help determine the technical assistance and capacity building needs of electricity sector institutions in the Philippines.

## Indicative Financing:

Source	Amount (USD MN)
IBRD	600
CIF Grant	10
GOP	5
Total	<b>615 (605 and 10 Grant)</b>

## Rationale for ACT Cofinancing:

- The ETTAP will address the “Governance” and “People” aspects of the CIF-ACT program by focusing on supporting government capacity to prepare for the energy transition.
- It will help ensure that the institutions and people affected by the transition have the tools, policy instruments, and skills and training needed to implement the transition.

## Indicative Timelines:

Milestone	Completion Date
Identification mission	Q4 2023
WB Concept Review	Q1 2024
Project scope and implementation arrangements agreed with GOP	Q3 2024
WB Decision Meeting	Q4 2024
WB Board Approval	Q1 2025

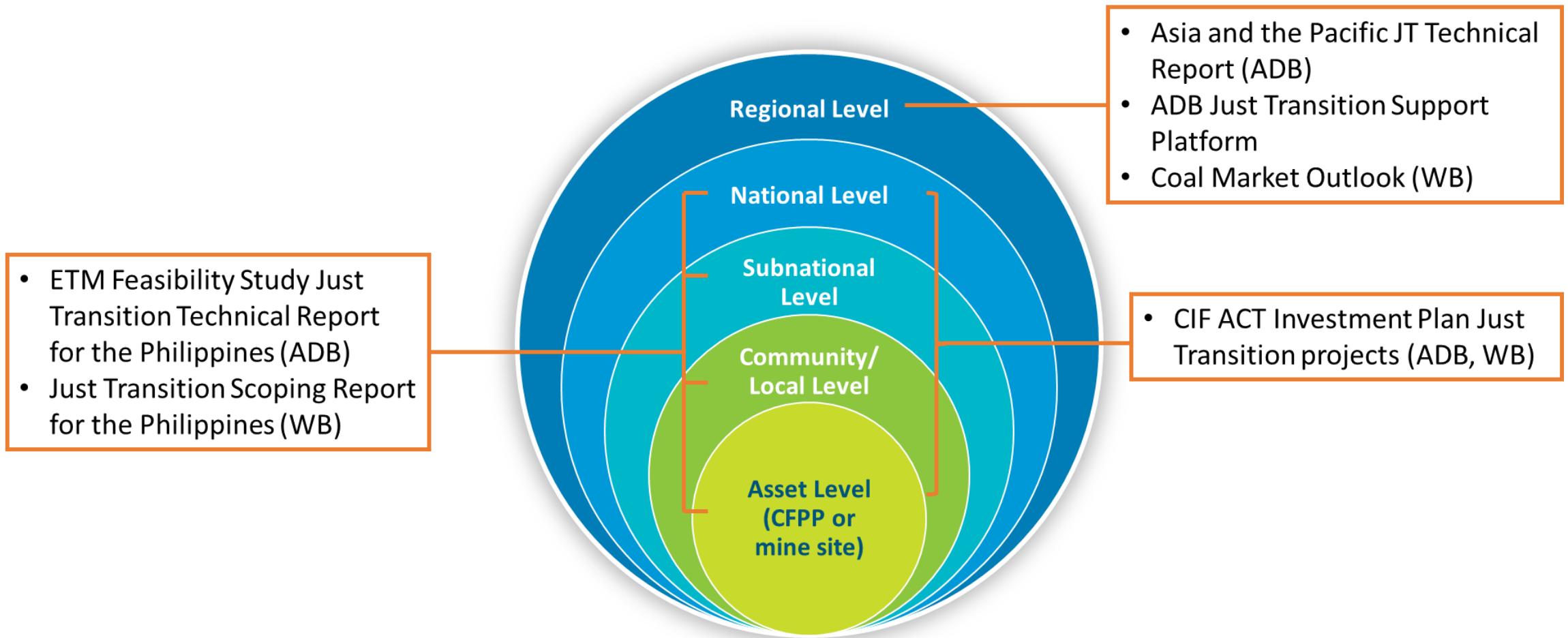




# Update on Just Transition Support



# ADB and World Bank Just Transition Support



# ADB and World Bank Just Transition Support

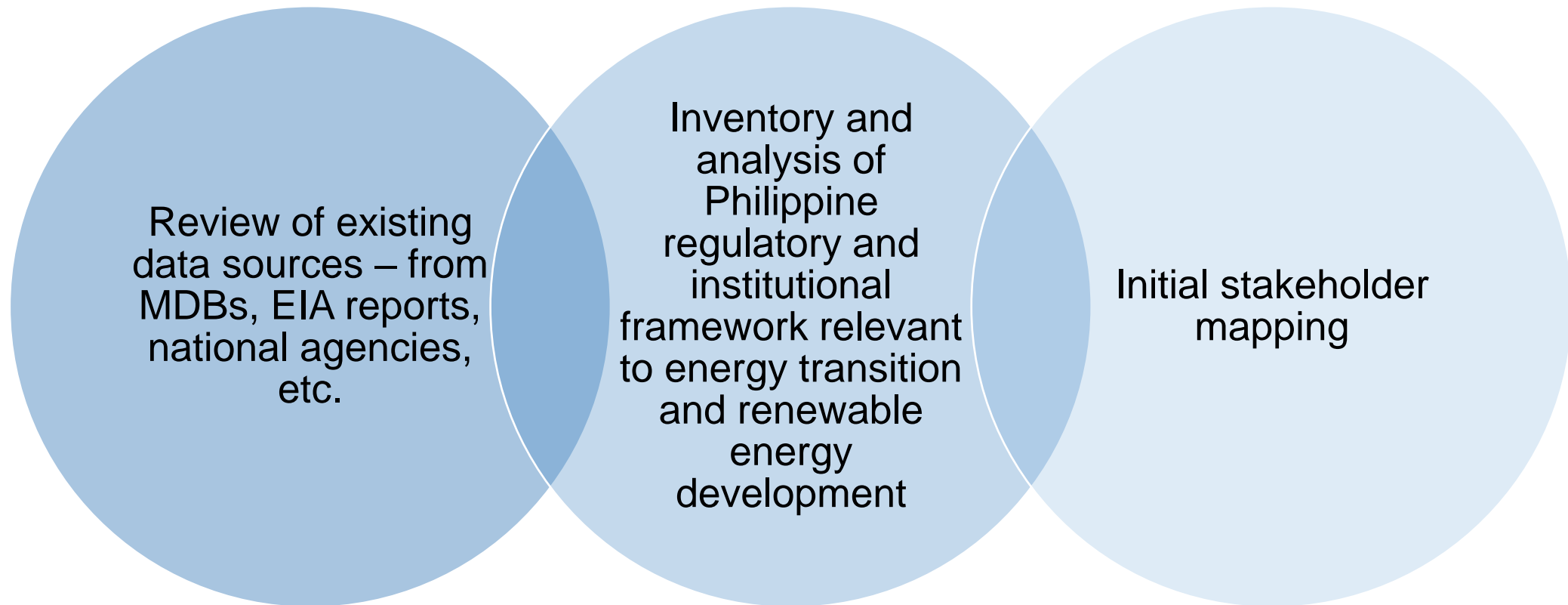
- **World Bank:**
  - JT scoping study, finalized June 2023
- **Key findings include:**
  - Direct negative impact on jobs and livelihoods, in PHI, higher for coal mining, which has a high labor content in contrast to CFPPs. Can be managed, especially as closings will happen continuously over several years.
  - More of an indirect impact on livelihoods in host communities.
  - Positive environmental and health effects for communities from removal of vibrations, ashfall, noise, and smell
  - Negative impacts on community from lack of funding benefits (ER1-94 and CSR) provided by energy producers to local communities and local governments for basic services
  - Need to protect and expand carbon sinks established as a requirement for each CFPP constructed.
  - RE projects risk producing sources of vulnerability to conflict, i.e. farmland turned into solar farms resulting in displacement of communities.
- **NEXT STEPS:** Need to develop JT framework or approach to address negative impacts of transition to RE.



# National Strategic Environment and Social Assessment (SESA)



# Phase 1: SESA Baseline Study: Jan – Sept 2023



# Proposed Next Steps on SESA Activities – next 12 months

## ADB will commission Phase 2 of SESA

- Establish Stakeholder forum and undertake consultations
- Establish scenarios for energy transition with DOE

## Scope of SESA

- Assess impacts on areas likely to be affected by coal-fired power plant retirement, e.g. Mindanao CFPP
- Assess impacts on areas where there is likely to be considerable renewable energy development
- Assess impacts on areas where there is likely to be development of associated infrastructures, e.g. ports, transmission lines, access roads, battery storage facilities and supply chains

## Draft and Final SESA and SESMP reports

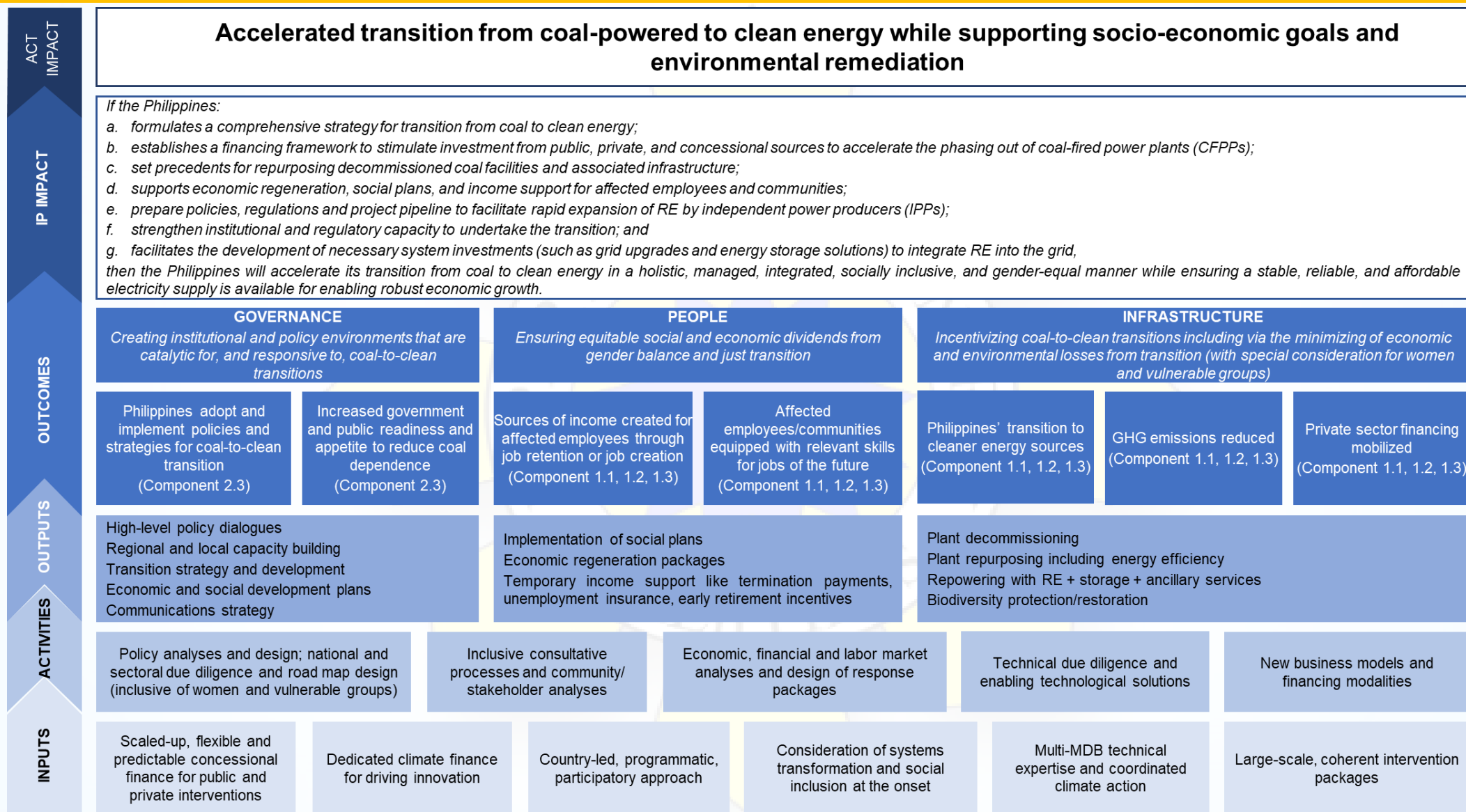
- SESA assesses and compares energy transition scenarios and their alternatives and provides platform for dialogue with stakeholders
- Strategic environmental and social management plan (SESMP) identifies how risks and impacts will be mitigated, monitored and managed and opportunities optimized through future targeted interventions



# Theory of Change



# ACT Philippines: Theory of Change





# Accelerating Coal Transition Investment Plan Preparation Timeline



# Accelerating Coal Transition Investment Plan Preparation Timeline

