NGCP

TRANSMISSION DEVELOPMENT PLAN 2025–2050

CONTENTS

NGCP AS REGULATED ENTITY

National Grid Corporation of the Philippines (NGCP) is the country's sole Transmission Network Provider (TNP) and System Operator (SO) responsible for system operations, infrastructure development, and operations and maintenance of transmission facilities nationwide. NGCP plays a critical role in the Philippines' power sector by linking power generators and Distribution Utilities (DU), including Directly Connected Customers (DCC), thus ensuring the delivery of electricity to the end-users.

The NGCP achieved a significant milestone through the energization of the Mindanao – Visayas Interconnection Project (MVIP) in January 2024, thus fulfilling its goal of having a unified Philippine Grid. This was followed by the completion of two major transmission backbones in the Visayas: Cebu-Negros-Panay 230 kV Backbone Project (CNP) Stage 3) in March 2024, and the Cebu-Bohol Interconnection Project (CBIP) in December 2024. In Luzon, the Mariveles – Hermosa – San Jose 500 kV Transmission Line was also completed in May 2024. These major transmission backbones and grid interconnection facilities improved the system reliability, strengthened the grid, and accommodated a total of 3,291 MW of generation capacity with more room for additional generation.

PURPOSE OF THE TDP

As mandated under the Electric Power Industry Reform Act of 2001 (EPIRA), NGCP submits an updated Transmission Development Plan (TDP) for approval of the Department of Energy (DOE) on a timely basis each year for integration with the Power Development Plan (PDP) and the Philippine Energy Plan (PEP). The TDP serves as a blueprint for the expansion and improvement of the Philippines' power transmission network and outlines the necessary infrastructure projects and the required investments to support the ongoing energy transition towards clean energy to ensure a reliable, efficient, sustainable and secure power supply to meet the growing demand for electricity. The TDP 2025-2050 Report is an update to the TDP 2024-2050 Report, incorporating additional and updated information, including development strategies for the evolving Philippines' power transmission system over the next 25 years. This aligns with the government's goal of achieving a 35% RE capacity mix by 2030 and 50% by 2040.

The preparation of TDP uses DOE's System Peak Demand (SPD) Forecast and generation capacity additions. It incorporates relevant energy policies and transmission regulations, such as those promoting RE and smart grid technologies. To ensure that the TDP reflects the needs of its stakeholders, NGCP conducts regular consultations with DU, generation companies, and DCC. These consultations provide valuable inputs that are used to update and refine the TDP. Once finalized, the TDP is submitted to the DOE for approval and integration into the PDP and PEP.

The TDP 2025-2050 Report was made accessible to stakeholders through the NGCP website (www.ngcp.ph) before the scheduled stakeholder consultations were conducted nationwide. It serves as the basis for discussions and feedback during the consultations, allowing stakeholders to contribute their valuable insights and recommendations for Grid's development.

This TDP 2025-2050 consists of five Chapters summarized as follows:

Chapter 1: Introduction – outlines NGCP's organizational structure and its crucial role in meeting future energy demand, enhancing grid reliability, integrating RE sources, and attracting investments.

Chapter 2: Meeting Future Demand – provides a comprehensive overview of transmission planning inputs, such as demand forecasts and generation expansion plans, and various information used in planning the transmission development.

Chapter 3: Attracting Investments – presents available transmission capacity for future generation capacity additions up to 2030 and guides prospective non-site-specific power plant developers in selecting suitable locations.

Chapter 4: Project Updates – with newly identified projects and updated project information, including revised Estimated Time of Completion (ETC) dates.

Chapter 5: Integrating Renewable Energy (RE) Sources – provides strategies and solutions for integrating Variable Renewable Energy (VRE) sources, covering emerging technologies supported by various grid integration studies and other grid connection considerations.

NGCP, as the sole Transmission Network Provider (TNP) and System Operator (SO) in the Philippines, plays a crucial role in ensuring a reliable and efficient power grid. Its integrated functions allow NGCP to seamlessly coordinate its activities within the technical group: Planning and Engineering, Operations and Maintenance, and System Operations with valuable support from other functional groups.

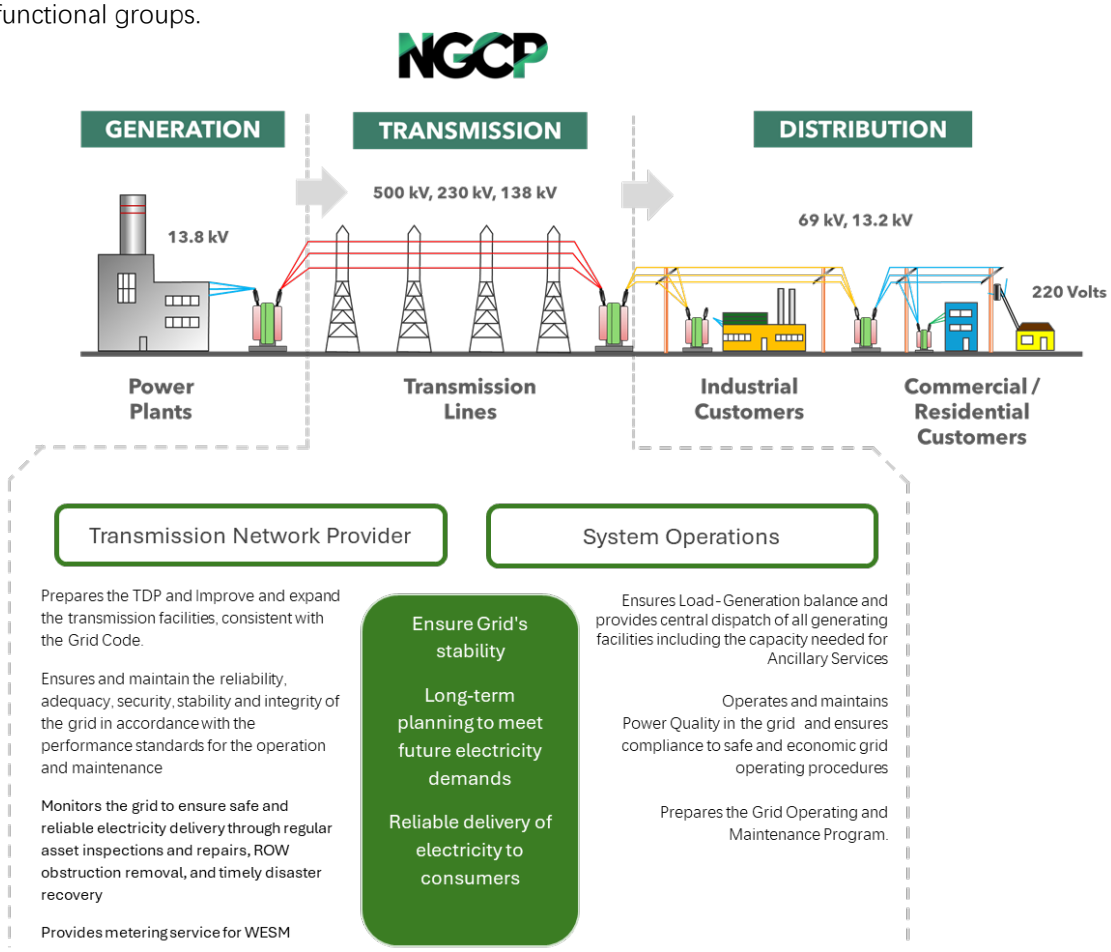

Figure 1.1: NGCP Functions

Despite the challenges posed by the geologic feature of the Philippines as an archipelago, with more than 7,600 islands with rugged and mountainous terrain, NGCP remains committed to finding innovative solutions to interconnect all the islands stage-by-stage whenever these are found to be economically viable, thus ensuring a secured and reliable power supply. A significant milestone in achieving this goal was the successful energization of the Mindanao-Visayas Interconnection Project (MVIP) in January 2024. This project consists of a 184 circuit-kilometer (ckm) High-Voltage Direct Current (HVDC) submarine cable and 806 ckm of overhead transmission lines, linking Mindanao to the Visayas Grid. The MVIP has an initial transfer capacity of 450 MW, with provision to double the maximum transmission capacity to 900 MW in the future.

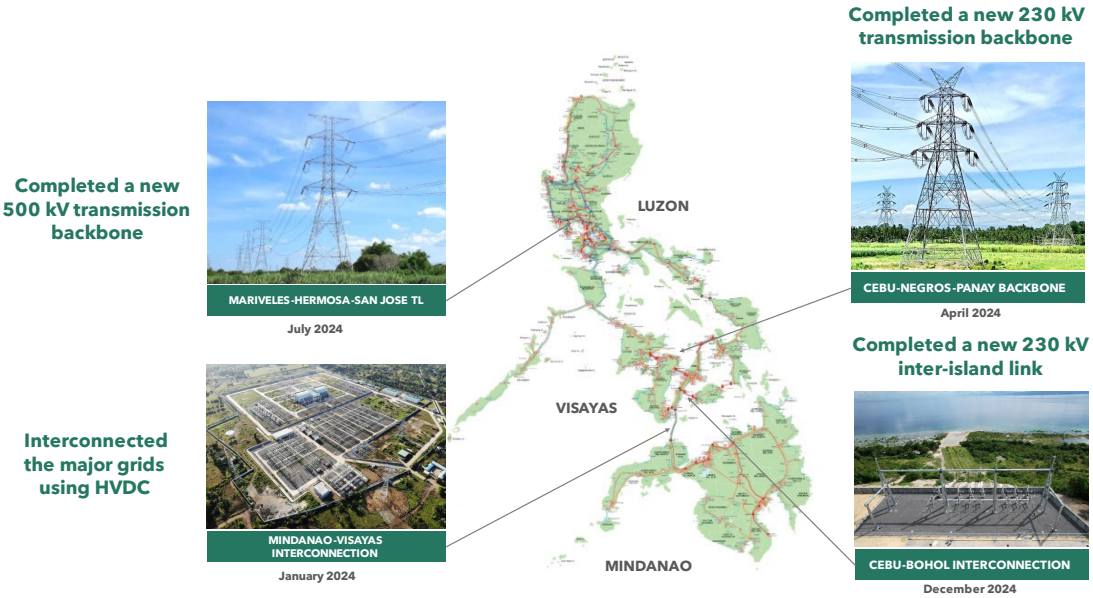

Figure 1.2: Recently Completed Projects

Other completed major projects in 2024 that could cater to the increasing demand for electricity are the Mariveles – Hermosa (Balsik) – San Jose 500 kV and the CNP 230 kV Backbone Project. These transmission backbone projects accommodate generation capacity additions and provide new connection points.

In December 2024, NGCP successfully energized 230 kV CBIP. This project addresses the growing power demand in Bohol, enhances grid resilience, and improves the operational flexibility of the Visayas grid. The completion of this 2x600 MW capacity interconnection has significantly improved power supply security in Bohol by reducing reliance on diesel generators, contributing to lower electricity prices and paving the way for the future 230 kV looped system in the Visayas grid.

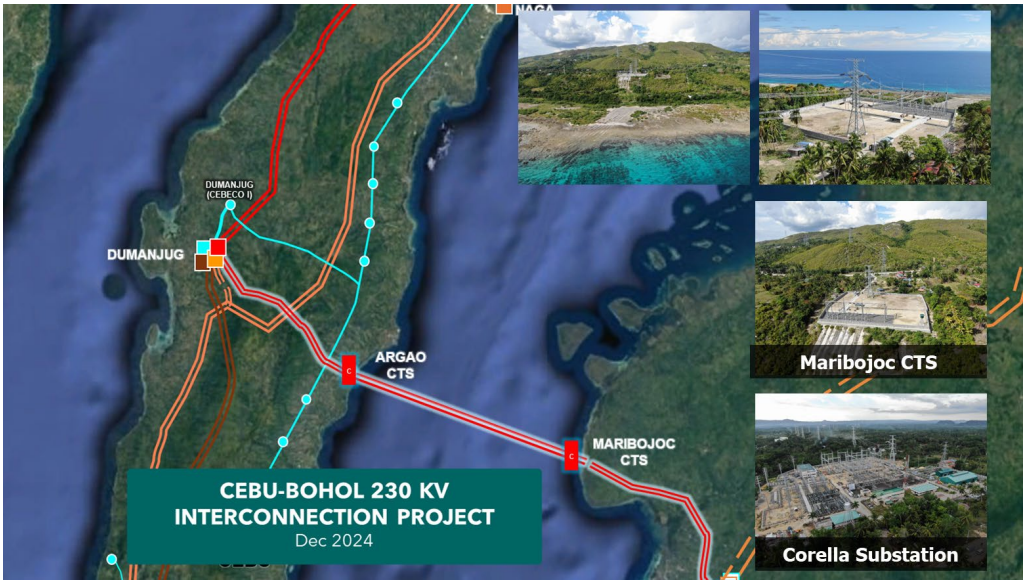

Figure 1.3: Cebu – Bohol Interconnection Project

1.1 TRANSMISSION GRID PERFORMANCE

In the past 15 years, NGCP completed various transmission projects and upgraded the existing facilities that continuously improve the overall performance of the transmission system since taking over the transmission business from the government in 2009. While there are decreases in performance indices year-on-year, overall NGCP performs over and above the targets based on the 3rd Regulatory Period (RP) approved limits. The improvements in the Performance Indicators could be attributed to NGCP's improvement in operation practices, maintenance practices, protocols and the implementation of various projects to upgrade, expand, and improve the transmission system, thus providing efficient System Operations and Power Delivery Services for the overall benefits of the electricity end-users. It is worth noting that

NGCP is a regulated entity under a Performance-Based Regulation (PBR), where it is rewarded for good performance and penalized when there is underperformance.

The 2024 performance of the transmission grid covering the period 01 October 2023 – 30 September 2024 is shown in Table 1.1 based on the (ERC)-released amendment of the Rules for the Setting of Transmission Wheeling Rates (RTWR)

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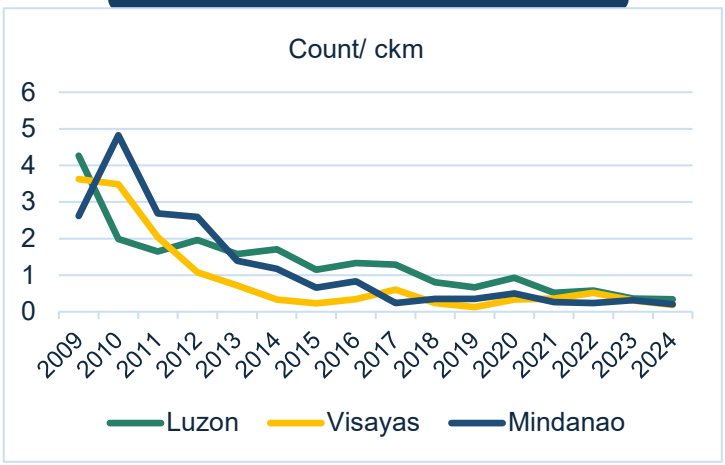
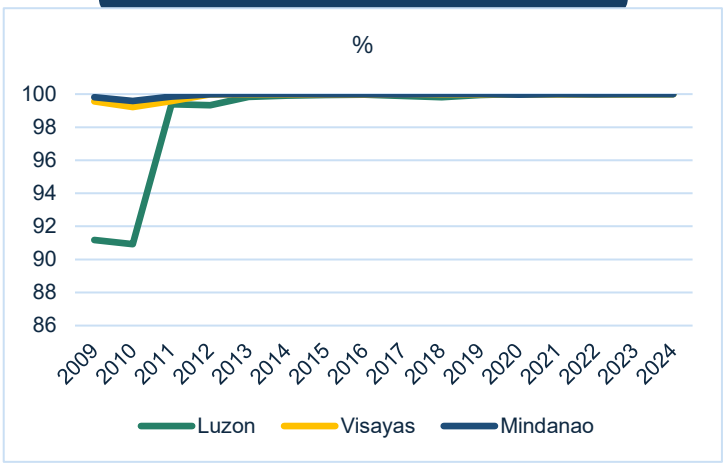
Table 1.1: 2024 Performance of Transmission Grid

Performance Indicator	System Interruption Severity Index, system-min.	Frequency of Tripping, count per 100 ckm	System Availability, %	Frequency Limit Compliance, %	Voltage Limit Compliance, %	Average Forced Outage Duration, System Min.	Ancillary Service Availability Index, %
LUZON	3.5849	0.3412	98.8192	99.8697	99.9991	750.2119	8.6009
VISAYAS	5.4553	0.1869	99.4500	99.9952	99.9977	1,263.6516	29.1581
MINDANAO	0.2575	0.2061	99.3638	99.9283	99.9996	156.0490	49.7040

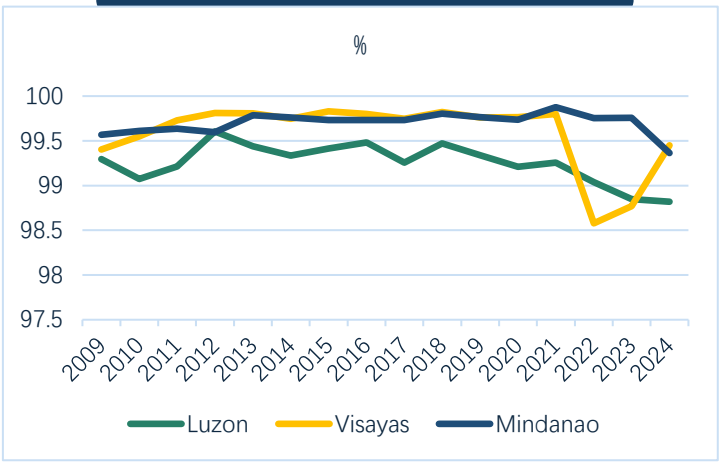
Frequency of Tripping (FOT)



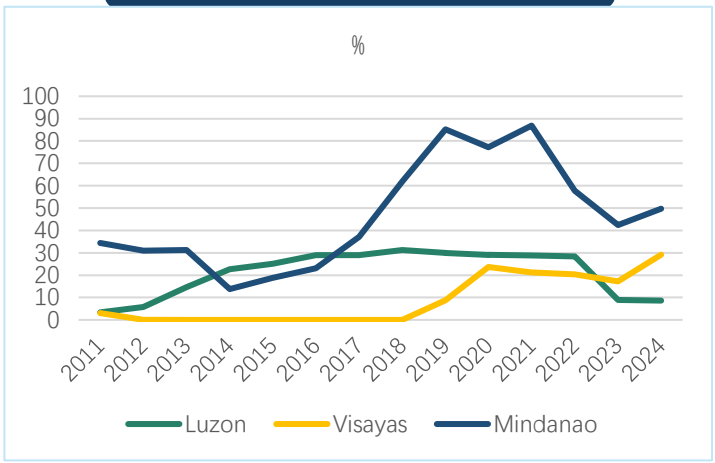
Voltage Limit Compliance (VLC)



System Availability (SA)



Ancillary Service Availability Index (ASAI)



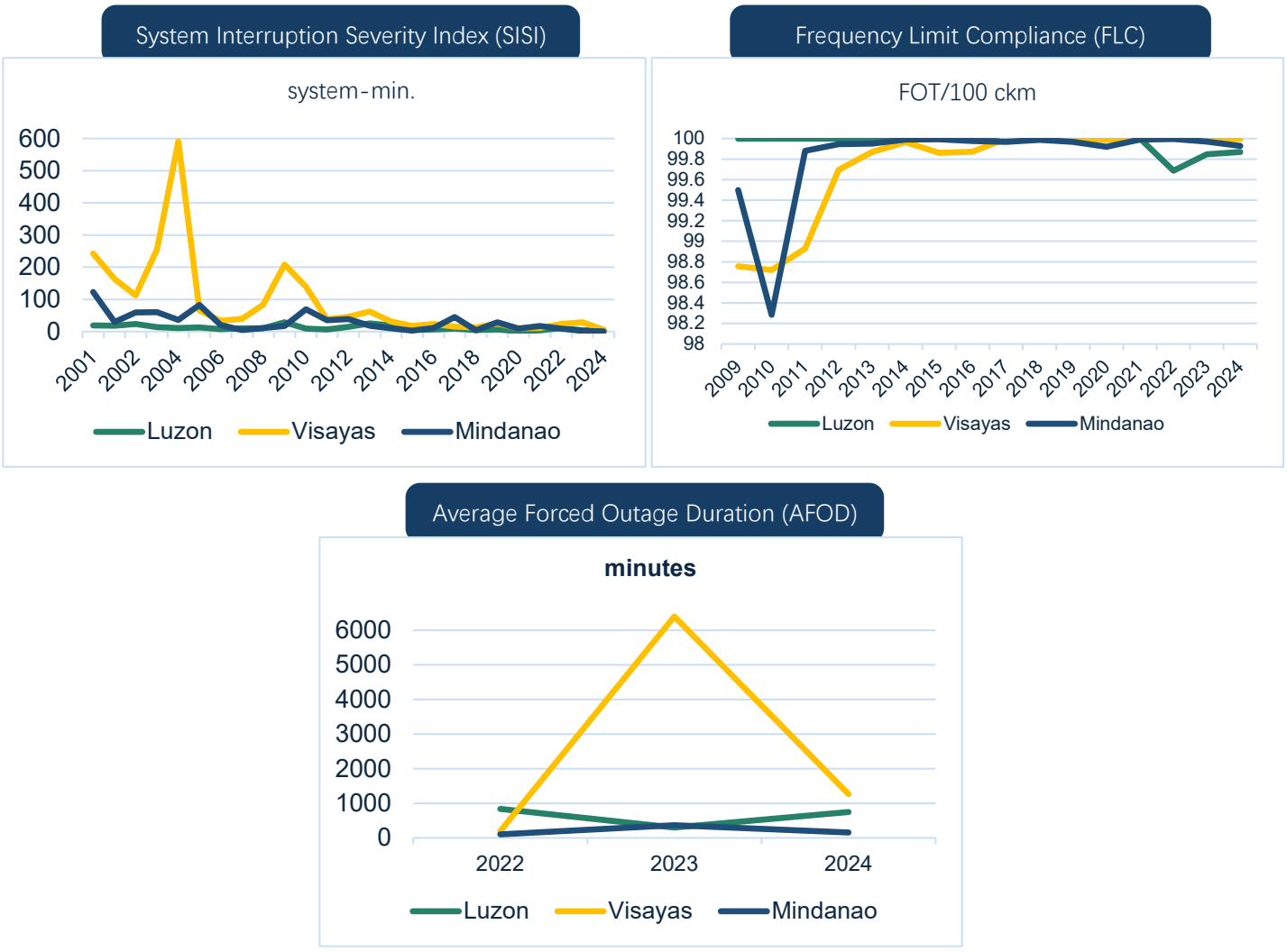


Figure 1.4: Grid Performance Graphs

1.2 NGCP TRANSMISSION ASSET GROWTH

Transmission expansion is crucial to adequately and reliably serve the increase in demand and accommodate the entry of new power plants. As of December 2024, the Philippine transmission grid comprises 23,109 ckm of transmission lines, connecting the grid with 58,653 MVA of substation capacity distributed across 219 substations nationwide. Power Quality is maintained by the 6,791 MVAR of reactors and capacitor banks. The breakdown of the existing Grid facilities and capacity additions are provided on Table 1.2 and Table 1.3, respectively.

Table 1.2: Summary of Existing Facilities as of December 2024

Grid	Transmission Line-Length (ckm)	Substation Capacity (MVA)	Number of Substations	Capacitor (in MVAR)	Reactor (MVAR)
LUZON	9,929.59	38,671.00	89	3,432.5	1,065
VISAYAS	6,710.59	10,846.20	79	388.20	1,205
MINDANAO	6,469.76	9,136.20	51	607.5	92.5
TOTAL	**23,109.94**	**58,653.40**	**219**	**4,428.20**	**2,362.50**

Table 1.3: Summary of Capacity Additions as of December 2024

Grid	Transmission Line-Length (ckm)	Substation Capacity (MVA)	Capacitor (in MVAR)	Reactor (MVAR)	ASSET REPLACEMENT (MVA)		DECOMMISSIONED ASSETS (MVA)
					Replaced Assets	New Asset Capacity	
LUZON	1,262	26,580	3,103	530	7,505	11,355	9,928
VISAYAS	1,741	6,060	118	840	580	975	942.5
MINDANAO	2,472	7,855	415	70	1,140	1,655	1,607.5
TOTAL	**5,475**	**40,495**	**3,635**	**1,440**	**9,225**	**13,995**	**12,478**

From a holistic view of the Philippine power system, the increase in SPD and increase in installed generation capacity in Luzon, Visayas, and Mindanao grids were adequately supported by the completion/energization of NGCP's **5,475 ckm** of new transmission lines and line upgrading projects and **40,495 MVA** of substation expansions including the capacity of new substations. Since NGCP took over grid operations in 2009, the Philippine power system has experienced significant SPD growth of 113% from 2009 to 2024. To accommodate this substantial growth, the total installed generation capacity has also increased by 88%. NGCP's transmission projects have been instrumental in ensuring the reliable and efficient delivery of electricity to meet ever-increasing demand.

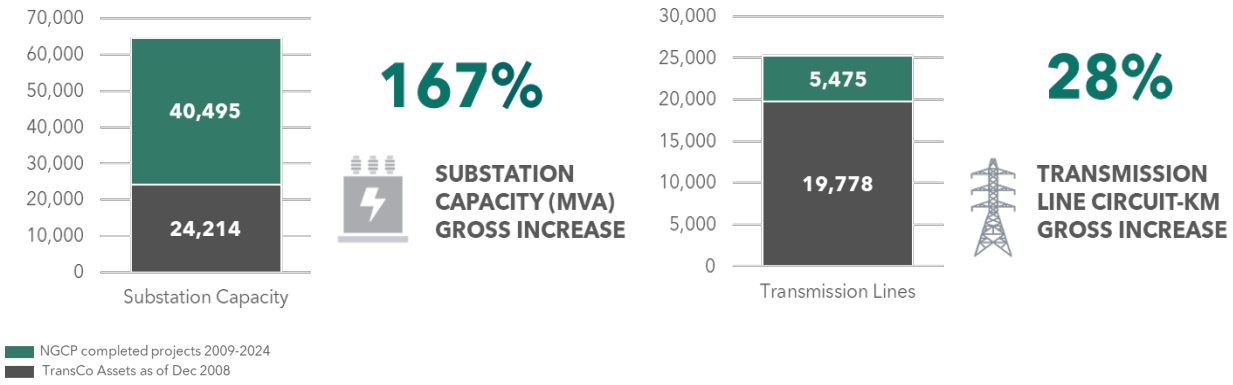
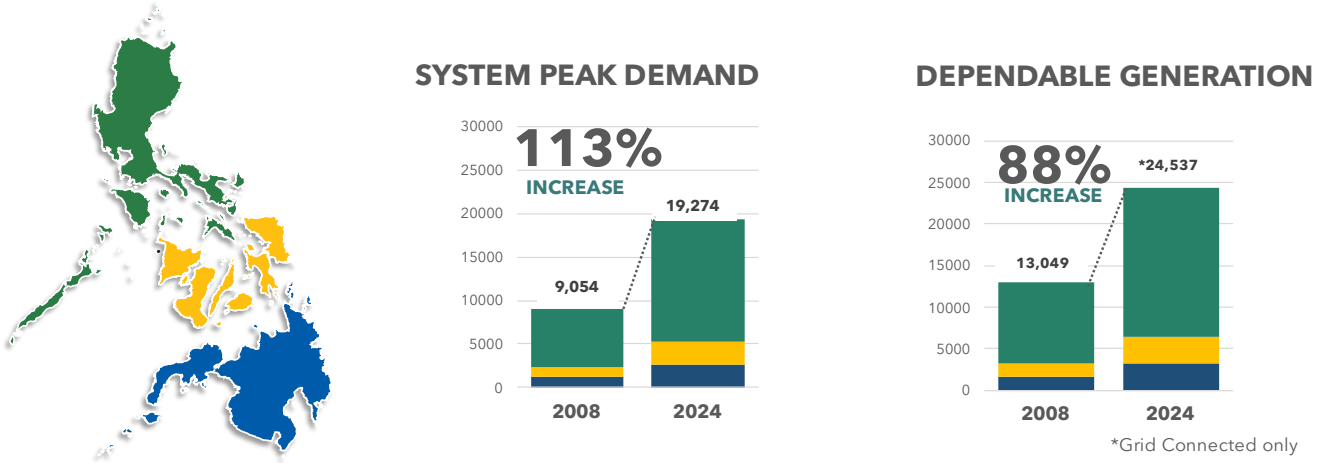


Figure 1.5: Summary of NGCP Capacity Addition from 2009 to 2024



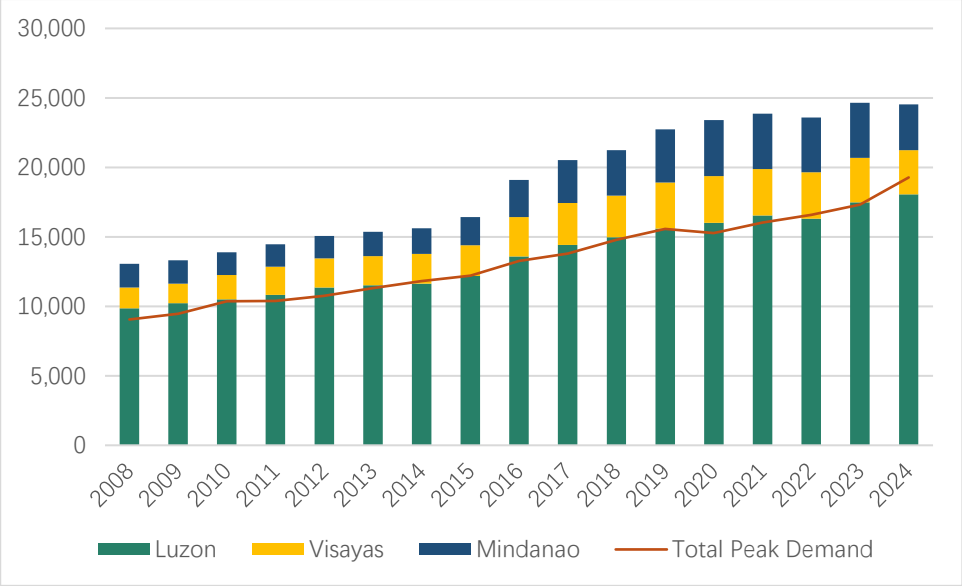


Figure 1.6: Power System Growth increase from 2009 to 2024

It is important to note that ckm, while providing information about the length of existing transmission lines, does not directly correlate with the grid's ability to handle load growth and the entry of generators. The key factors determining transmission line capacity are the voltage level and conductor size of the line. To make this concept more relatable, consider the analogy of highways. A shorter highway can handle more traffic than a longer one if it's wider and has multiple lanes. Similarly, a shorter transmission line can have a higher capacity if it's designed with larger conductors or a higher voltage. Therefore, a 28% increase in ckm does not necessarily indicate limited transmission line capacities.

The increase in total substation capacity directly correlates with load growth. This significant capacity expansion has been possible due to sufficient transmission line capacity. Therefore, to accurately represent grid expansions, both the increase in ckm of transmission lines and the increase in substation capacity must go hand in hand.

Power system expansion planning carefully considers both power generation and transmission. These two aspects are closely linked and require coordinated planning and alignment. The DOE plays a crucial role in Generation Planning, ensuring an adequate power supply by forecasting demand and determining necessary capacity expansion. Before EPIRA, when both generation and transmission functions were under the National Power Corporation, the generation-transmission planning alignment was achievable due to the centralized decision-making in power plant sitting and prioritization. This is now more challenging under the present setup.

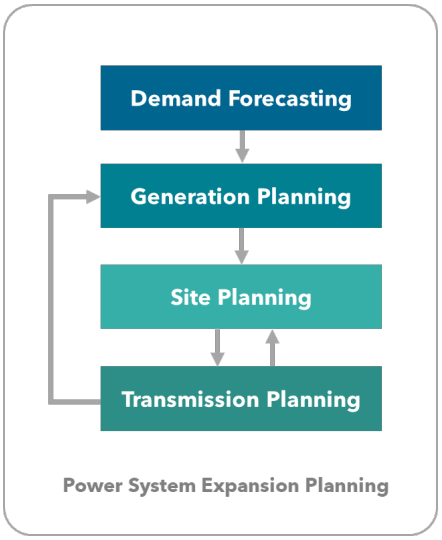


Figure 2.1: Power System Expansion Planning

In the previous years, the generation expansion plan provided to NGCP was more like a compilation of various power plant proposals – committed plants and long list of indicative power plants. However, the recent issuance of the DOE of the Clean Energy Scenario 1 and Clean Energy Scenario 2 provide the details of the required generation capacity additions year on year and with more information on the target capacity per power plant technology. This would also be the needed generation capacity addition level to meet the target level of generation reliability. Also, this would have been the guide for the Philippine power industry as it reflects the optimal mix of generation additions while at the same time achieving the RE installation targets for the country. Site planning is one area for improvement where NGCP can provide the possible sites for power plant connection given readily available transmission capacity of the grid. NGCP can recommend where best to develop the required generation additions of the grid. This way, the existing available transmission capacity can be optimized while new transmission backbone facilities are being built. While there are site-specific power plants, using the available transmission capacity in plant prioritization and having an iterative process for generation and transmission planning presents an opportunity to further improve grid development scenarios.

Furthermore, to ensure open transmission planning as mandated in the EPIRA or RA 9136, NGCP considers stakeholders' suggestions and inputs through annual consultations. DU and DCC are consulted during customer interface meetings for their respective development plans as part of the TDP preparation process.

While transmission infrastructure development is essential, it faces various challenges, such as regulatory approval delays, difficulty in right-of-way (ROW) acquisitions, and securing permits from Local Government Units (LGU), among others. To address these challenges, the DOE collaborates with NGCP and other government entities through the Ad Hoc Committee for Transmission Projects (AHCTP) and regularly discusses to resolve these implementation bottlenecks. To mitigate project timeline concerns, NGCP employs strategies like project staging for relatively big projects, interim connection schemes for incoming power plants, and the installation of System Integrity Protection Scheme (SIPS) for grid security, expedite project completion, and/or mitigate the impact of project deliverability to the electricity end-users.

The **two key inputs** for Transmission Planning are the **Demand Forecast** and **Generation Expansion Plan** provided by the DOE. These inputs are essential in developing the TDP. The demand forecast provides an estimate of future electricity needs, allowing NGCP to anticipate the required transmission facilities while the generation expansion plan outlines planned additions to ensure sufficient power generation capacity. By analyzing these inputs, grid planners determine the required transmission network facilities in the coming years to meet future electricity demand and maintain system reliability and stability, grid security, and power quality throughout the power system.

2.1 SYSTEM PEAK DEMAND (SPD)

The DOE annually provides the SPD forecast which is essential for the preparation of the TDP. In the TDP 2025-2050, the NGCP utilized the most relevant SPD forecasts that reflect the most adequate information to ensure accurate demand projections for grid planning studies. This enables the NGCP to effectively propose and prioritize transmission projects.

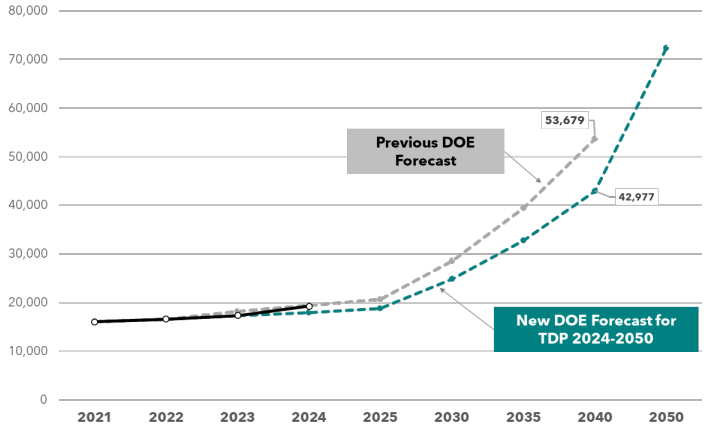


Figure 2.2. DOE Forecast comparison 2021 and 2023

Table 2.1: System Peak Demand Forecast (MW)

Area	2025	2030	2035	2040
LUZON	14,769	20,069	27,138	36,101
MERALCO	9,502	11,531	13,978	16,954
1 NCR	6,175	7,494	9,084	11,018
2 North	523	635	770	934
3 South	2,804	3,402	4,124	5,002
North Luzon	4,000	6,469	10,237	15,074
1 Ilocos	294	497	763	1,104
2 Mt. Province	169	273	409	587
3 North Central	429	710	1,165	1,692
4 Cagayan Valley	421	695	1,041	1,537
5 West Central	806	1,303	2,075	3,148
6 South Central	1,813	2,904	4,676	6,875
7 North Tagalog	68	88	108	131
South Luzon	1,267	2,069	2,924	4,073
1 Batangas/Cavite	621	1,025	1,366	1,741
2 Laguna/Quezon	167	250	350	503
3 Bicol	479	795	1,207	1,829
VISAYAS	3,111	4,423	6,280	8,827
1 Leyte-/Samar	456	649	921	1,295
2 Cebu-Bohol	1,616	2,297	3,261	4,585

	Area	2025	2030	2035	2040
	Cebu	1,483	2,108	2,993	4,208
	Bohol	133	189	268	377
3	Negros	497	706	1,003	1,410
4	Panay	542	771	1,094	1,538
	MINDANAO	2,789	4,138	6,088	8,751
1	North Western	290	475	751	1,140
2	Lanao Area	154	226	324	457
3	North Central	653	997	1,413	1,967
4	North Eastern	183	298	470	709
5	South Eastern	844	1,226	1,864	2,748
6	South Western	664	916	1,267	1,730
	PHILIPPINES	20,669	28,631	39,506	53,679

2.2 GENERATION EXPANSION PLAN

The DOE Energy Outlook has two distinct scenarios for the country's energy transition: Reference Scenario (REF) and Clean Energy Scenario (CES). The REF Scenario reflects the current energy policies while the CES explores the potential of aggressive clean energy targets within the planning horizon.

The DOE's Green Energy Auction Program (GEAP) has also contributed to this capacity expansion. Most of the projects secured through GEAP were included in the list of Committed Power Plant projects as of May 2024.

Table 2.2: DOE Reference Scenarios (*Source: Philippine Energy Plan 2023-2050 Volume 1*)

REFERENCE SCENARIO	CLEAN ENERGY SCENARIO - 1	CLEAN ENERGY SCENARIO - 2
SUPPLY	**SUPPLY: REFERENCE +**	**SUPPLY: REFERENCE +**
• Present development trends and strategies • Existing plants and committed power projects and WESM-registered capacities as of May 2023 • 35% RE share by 2030; 50% by 2050 • Indigenous production targets by 2050 • LNG imports in 2023	• More than 50% RE share by 2050 • Capacity targets under NREP • **19 GW of OSW** • 40-year technical life for coal plants • Additional nuclear capacity of 1,200 MW by 2032, 2,400 MW by 2035 and 4,800 MW by 2050	• More than 50% RE share by 2050 • Capacity targets under NREP • **50 GW of OSW** • 40-year technical life for coal plants • Additional nuclear capacity of 1,200 MW by 2032, 2,400 MW by 2035 and 4,800 MW by 2050
DEMAND	**DEMAND: REFERENCE +**	
• Reduction in economy-wide energy intensity consistent with regional targets o 10% EV penetration rate by 2040 o Current biofuels blending (B2 and E10) o EEC efforts sustained at 5%	• Higher reduction in economy-wide energy intensity • 50% EV penetration rate by 2040 • B5 and E10 biofuels blending by 2026 • EEC rate on oil products and electricity use improve by 10% in 2040-2050 through heightened EE&C activities	

2.3 COMMITTED AND INDICATIVE CAPACITIES

The DOE's monthly publication of Power Sector Initiated Power Projects (PSIPPs) on its website includes information on both committed and indicative power plants. Tables 2.3 and 2.4 below show the DOE's projected committed and indicative capacities as of December 2024, respectively. A committed capacity of 17,443.19 MW is projected to contribute to the grid, with RE sources representing a majority share. Furthermore, the DOE has identified a substantial 100.401 GW of indicative capacity that may potentially connect to the grid in the future, subject to further technical and economic assessment.

Table 2.3: Summary of Committed Power Plants

PHILIPPINES	COMMITTED POWER PLANT PROJECTS (MW)							
Plant Type	2025	2026	2027	2028	2029	2030	TBD	TOTAL
Coal	350.00	350.00	270.00	135.00	600.00	-	-	**1,705.00**
Oil-Based	170.74	-	-	-	-	-	-	**170.74**
Natural Gas	1,320.00	-	-	-	-	-	4,750.00	**6,070.00**
RE	4,956.90	3,560.14	80.57	204.10	-	600	95.74	**9,497.45**
Geothermal	*97.57*	*5.65*	-	-	-	-	*48.00*	*151.22*
Hydropower	*113.91*	*7.60*	*72.57*	*48.10*	-	*600*	*9.66*	*851.84*
Biomass	*44.28*	-	-	-	-	-	*6.00*	*50.28*
Solar	*3,928.42*	*2,090.11*	*8.00*	*156.00*	-	-	*32.08*	*6,214.62*
Wind	*772.71*	*1,456.78*	-	-	-	-	-	*2,229.49*
TOTAL	**6,797.64**	**3,910.14**	**350.57**	**339.10**	**600.00**	**600**	**4,845.74**	**17,443.19**

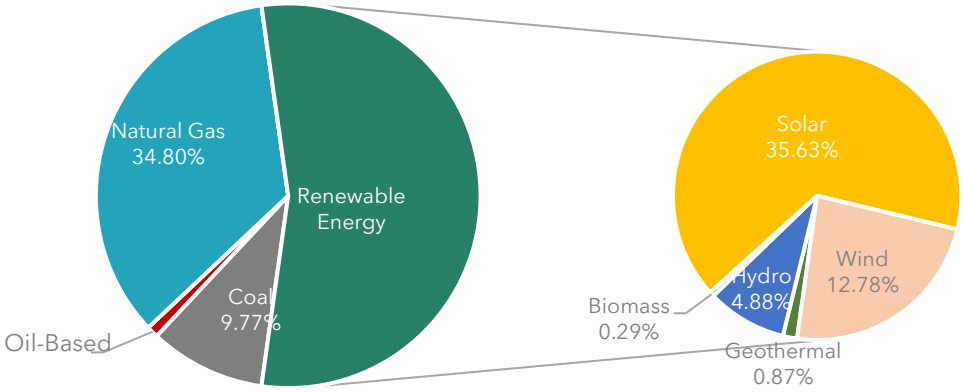


Figure 2.3: Committed Power Plants as of December 2024

Table 2.4: Summary of Indicative Power Plants

PHILIPPINES	INDICATIVE POWER PLANT PROJECTS (MW)										
Plant Type	2025	2026	2027	2028	2029	2030	2031	2032	2033	TBD	**TOTAL**
Coal	-	-	-	289.00	-	-	-	-	-	1,400.00	**1,689.00**
Oil-Based	-	-	-	-	-	-	-	-	-	60.00	**60.00**
Natural Gas	-	-	-	2,510.00	2,250.00	1,128.00	-	-	-	1,260.00	**7,148.00**
RE	**1,595.01**	**6,041.61**	**7,707.48**	**11,542.18**	**11,527.09**	**15,579.00**	**15,145.76**	**10,631.00**	**9,835.75**	**1,900.00**	**91,504.88**
Geothermal	-	-	-	*20.00*	*70.00*	*119.00*	*105.00*	*120.00*	-	*70.00*	*504.00*
Hydropower	-	-	*32.50*	*1,080.05*	*45.00*	*6,408.00*	*14.76*	*1,700.00*	-	-	*9,280.31*
Biomass	-	*62.00*	-	*15.00*	*100.00*	-	-	-	-	-	*177.00*
Solar	*791.26*	*4,837.06*	*3,546.38*	*3,741.93*	*1,277.96*	-	-	-	-	-	*14,194.59*
Wind	*803.75*	*1,142.55*	*4,128.60*	*6,685.20*	*10,034.13*	*9,052.00*	*15,026.00*	*8,811.00*	*9,835.75*	*1,830.00*	*67,348.98*
Total	**1,595.01**	**6,041.61**	**7,707.48**	**14,341.18**	**13,777.09**	**16,707.00**	**15,145.76**	**10,631.00**	**9,835.75**	**4,620.00**	**100,401.88**

Appendix 1 shows the detailed list of DOE's Committed Power Plants with associated transmission projects as of December 2024. Generation projects are tagged if these are included in the DOE's GEAP and have undergone System Impact Study (SIS). It can be noted that the list includes small capacity power plants, which may not actually connect directly to the transmission system. For relatively small capacity power plants connecting to the distribution system, the main impact is a slight reduction in the power being drawn by the DU from NGCP Substations and would not generally require reinforcement in the transmission network. Appendix 2 also shows DOE's list of Indicative Power Plants as of December 2024.

Figure 2.4 below illustrates the projected timeline for these capacity additions alongside peak demand forecasts, providing valuable insights into the country's future power generation potential[1].

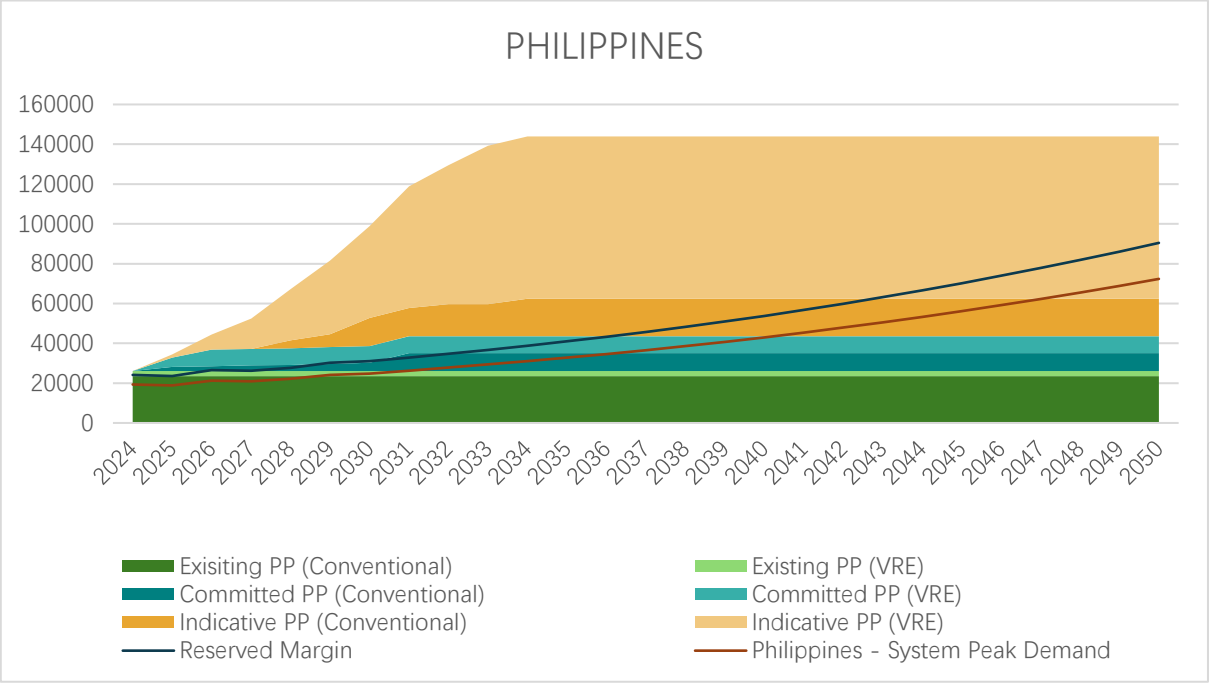


Figure 2.4: Future Power Generation Potential

Projected grid capacity appears adequate until 2035 based on committed power plants' target commissioning dates. However, one of the significant concerns in transmission planning is the low realization rate of committed and indicative power plants. Figure 2.5 shows that from the list of June 2020 PSIPP based on the DOE data, only 28% of the planned power plants have reached commercial operation.

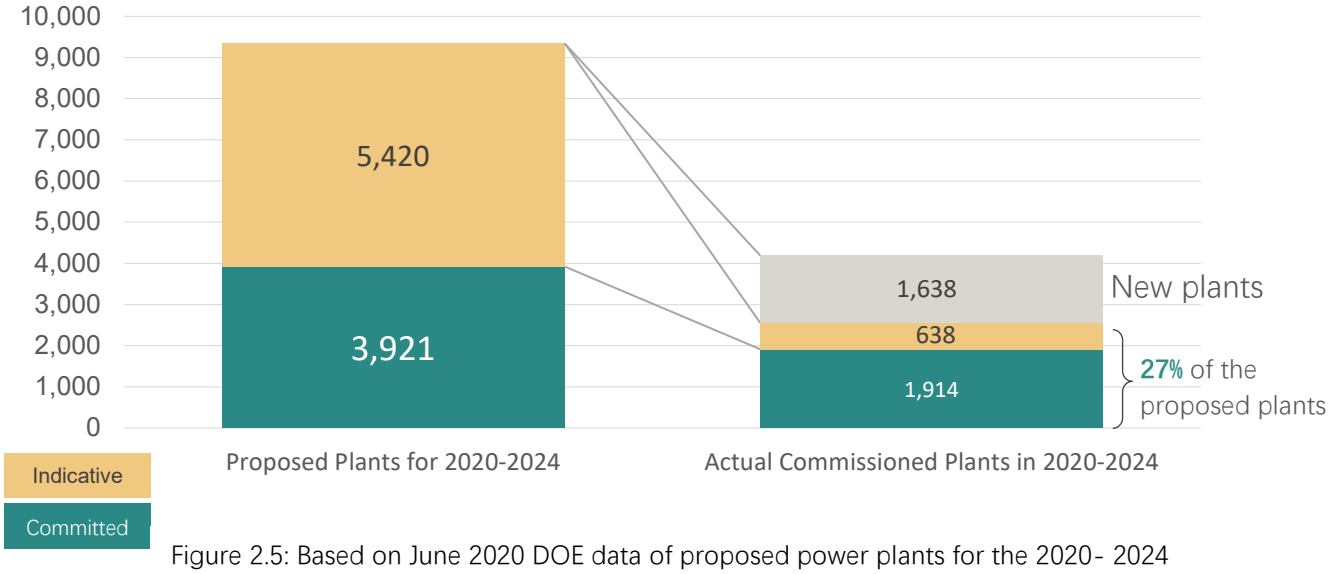


Figure 2.5: Based on June 2020 DOE data of proposed power plants for the 2020- 2024
**excluding projects with commercial operation beyond Dec 2024*

[1] Based on DOE's List of Private Sector Initiated Power Projects as of December 2024

2.4 POWER PLANT DEVELOPMENT FOR GENERATOR CAPACITY REALIZATION

The continuous improvement in NGCP's generation-transmission alignment is intended to contribute to the increase in generator capacity realization. The transmission planning strategy considered is the updating of Available Transmission Capacity (ATC), which was discussed in Chapter 3 – Attracting Investments. The ATC for each year from 2025 up to 2030 are shown each for Luzon, Visayas, and Mindanao Grids, which were affected by the development of transmission infrastructure in various locations in the country. This information is crucial to investors particularly for non-site-specific power plants, as some of the proposed generation capacity additions may possibly connect to the grid through the identified connection points with ATC and can be fully dispatched without the need for transmission reinforcements.

However, for site-specific power plants, such as hydroelectric and geothermal power plants, Offshore Wind (OSW), among others that have long gestation period require that the detailed information is made available to NGCP as early as possible. This is because the required transmission facilities for grid-connection and associated transmission facilities needed for full dispatch usually traverses rugged and mountainous terrains coupled with the difficulty in acquiring ROW and securing related permits which poses a lot of challenges and requires long implementation period.

2.5 N-1 CONTINGENCY PROVISION AND LOOP CONFIGURATION

The single-outage contingency criterion (N-1) has always been the primary basis of NGCP in planning and in preparing the TDP. Since 2009, NGCP planned and completed various projects for transmission capacity expansion and to maintain the N-1 contingency provision.

With the continuing increase in SPD and the development of new power plants in various parts of the grid, the need for more transmission projects to maintain the grid's single-outage contingency (N-1) compliance is urgent. Moreover, establishing transmission backbone loop configuration is crucial to enhance grid resilience. The projects for system reliability and grid resilience are in various stages of implementation; there are projects under preconstruction, procurement, ongoing construction or still in the regulatory approval stage. In addition, the enhanced criteria in the substation site and transmission line route selection to avoid geographic or environmental hazards and the updating of wind speed design for new transmission lines are included in the grid resilience measures already being implemented.

2.6 GRID EQUIPMENT DATA

Grid Equipment Data registration is the process of registering and maintaining data on various equipment within the power transmission network. This data is crucial for effective grid planning, particularly in conducting system studies required in the preparation of the TDP. As stated in the Philippine Grid Code (PGC) under section GCR 4.11, the data relating to the connection point and user development, submitted by the user to the TNP, must be registered according to the following data categories:

- **Forecast Data** – includes the demand and active energy, representing the user's best estimate of projected data for the succeeding years.
- **Estimated Equipment Data (EED)** – includes demand and active energy, representing the User's best estimate of parameters or information based on standard values.
- **Registered Equipment Data (RED)** – contains validated actual values of parameters and information about the equipment that is submitted by the User to the TNP at the connection data including connected project planning data which shall replace any estimated values of parameters and information about the equipment previously submitted.

Chapter 5 of the PGC states that the TNP is primarily responsible for specifying technical studies and planning procedures that will ensure the safety, security and reliability and stability of the grid. Another is to specify the data requirements for a User seeking a new connection or modification of an existing connection to the grid and to specify the data requirements to be used by the TNP in grid planning.

The TNP has the lead responsibility to:

- Analyze the impact of the connection (generating plants, loads, transmission lines and substations)
- Expansion of the grid to ensure its adequacy to meet forecasted demand and new connections
- Identify and evaluate transmission congestion problems that potentially cause restrictions on economic dispatch, increased outages, or significantly higher service costs
- Evaluation of the grid together with the sub-transmission system or distribution system facilities and identify and address possible restrictions to the economic dispatch of generating units.

The PGC also states that the SO, Market Operator and other Users must cooperate with the TNP in maintaining the grid planning data bank. This includes the submission of planning data provided by all relevant grid Users that include the Standard Planning Data and Detailed Planning Data and shall be consolidated and maintained. Users must notify the TNP of any changes to their planning data as soon as possible to update the transmission network model used in various studies. These Standard Planning Data and detailed Planning Data shall be submitted by the Users to TNP based on the abovementioned data categories.

NGCP has already developed EED and RED which are being used in the conduct of Grid Impact and System Impact Studies for new connections composed of Power Plants and other load/direct-connected customers in compliance with the PGC.

The importance of regular on time submission of Grid Equipment Data by grid Users to the TNP to be used in transmission planning are stated below:

1. Updated equipment data translates to an accurate system model that improves transmission planning efficiency; and
2. Accurate assessment of emerging challenges and risks, such as the increasing integration of Variable Renewable Energy (VRE) sources that results to low Short-Circuit Ratio (SCR), reduction of System Inertia, among others by identifying these risks to come up with mitigating measures for grid security.

2.7 PROMOTING RENEWABLE ENERGY (RE)

As set out in the Philippine Energy Plan (PEP) 2023-2050, the government is committed to achieve energy transition for the country with a 35% RE generation target by 2030 and 50% RE generation target by 2040. In 2024, the RE generation of the country reached 22% with bulk share coming from the existing geothermal and hydroelectric power plants. Based on the proposed power plant projects included in the DOE List of PSIPP and considering the huge capacity of Offshore Wind with issued Service Contracts, it is expected that solar PV and wind plants, which are VRE resources, will be the main contributors in increasing the RE generation.

To help realize these goals, in 2018 the government introduced policies and programs, including the Philippine Competitive Renewable Energy Zones (CREZ) followed in 2022 by the GEAP. These government initiatives, supported by DOE's Department Circular 2022-11-0034 that allowed 100% foreign ownership of RE plants, resulted in the increased participation of private sectors in RE development, thus the influx of RE project proposals. Detailed discussions on CREZ and GEAP were provided in Chapter 3 of the TDP 2024-2050 Report.

The GEAP is among the DOE strategies aimed at achieving the RE goals. It was issued on 03 November 2021 through Department Circular (DC) No. DC2021-11-0036. It aims to foster greater private sector participation through the transparent and competitive selection process of RE suppliers and to accelerate the development of RE projects, ensuring that projects will be awarded at reasonable costs.

The general objectives and principles behind the CREZ were adapted from the DOE's DC 2018-09-0027, entitled Establishment and Development of CREZ in the Country. The CREZ Process intends to:

- Identify abundant high-quality, economic RE resources
- Reduce RE deployment barriers
- Improve national coordination for power system planning
- Enhance opportunities for RE investment

The increasing integration of VRE in the transmission network has various impending challenges that need to be addressed. These challenges are intermittent operation, grid inertia reduction and voltage fluctuation. The increasing penetration of VRE has the potential to cause significant degradation of the power system performance due to their intermittent nature, which necessitates an increase in the required flexible generation. Concurrently, equal emphasis will be placed on the expansion and modernization of power infrastructure, particularly on transmission network upgrades, to accommodate the integration of renewables and ensure a stable and resilient energy supply.

This necessitates the recognition of ESS as one of the technologies to manage the intermittent operation of the VRE-generating plants' output to ensure stability. Moreover, ESS will be one of the key elements in the proposed Smart Grid Roadmap towards power system modernization.

3.1 AVAILABLE TRANSMISSION CAPACITY (ATC)

The ATC is a critical basis in the energy sector, representing the amount of power that can be transmitted through the transmission network without risking grid stability. This capacity is essential for prospective generator investors when planning and developing power generation projects. ATC is determined by the difference between the total transfer capability and the existing transmission network facilities, assuming no significant upgrades are needed. The identified ATC is only one form of assessment provided in the TDP that could guide Generators to the locations or connection points where their intended capacities can be maximized without the need to wait for transmission reinforcement.

This chapter identifies potential connection points through which new or incoming power plants can interconnect to the grid. These connection points do not require major upgrades to the transmission system within the 2030-time frame. The connection points and corresponding locations are listed in tables for the Luzon, Visayas, and Mindanao grids, providing valuable insights for generation investors. However, this analysis is focused on the transmission planning perspective, which considers the capabilities of the existing grid. Notably, the ATC assessment incorporates the completion of ERC-approved projects but does not account for other factors necessary in generation location, such as:

- Fuel/Resource supply and transportation arrangements
- Topographical and geographical characteristics of the site
- Accessibility to the location
- Availability of land suitable for development
- Security measures

The information on ATC aims to support generation investors in making informed decisions regarding project location, size, and technology. Which can aid in the successful development of non-site-specific power generation projects and their integration into the grid. While the conduct of SIS is required to ensure that the integration of a particular generating plant will not compromise the integrity of the grid. Information on ATC for Luzon, Visayas, and Mindanao, covering the period of 2025 to 2028, is detailed in Appendix 4.

3.2 TRANSMISSION CRITERIA FOR RECOMMENDED CONNECTION POINTS

Figures 3.1, 3.3, and 3.5 outline the recommended connection points and available capacities for generation additions in Luzon, Visayas, and Mindanao grids, respectively. The following criteria are applied in determining the recommended connection points:

1. **No Overloading of Transmission Facilities:** The facilities must not be overloaded during normal operations or under N-1 contingency scenarios (single-point outages).
2. **Voltage Compliance:** Voltages must remain within the prescribed limits defined by the PGC during both normal and N-1 contingency conditions.
3. **Available Termination Points:** There must be available termination points for incoming transmission lines or sufficient space for expansion at existing substations for generator connection.

3.2.1 LUZON GRID

NGCP's continuous expansion efforts have resulted in opportunities for new generation capacities in Luzon. Strategic investments in transmission infrastructures have created significant headroom in Luzon for new power plant takers.

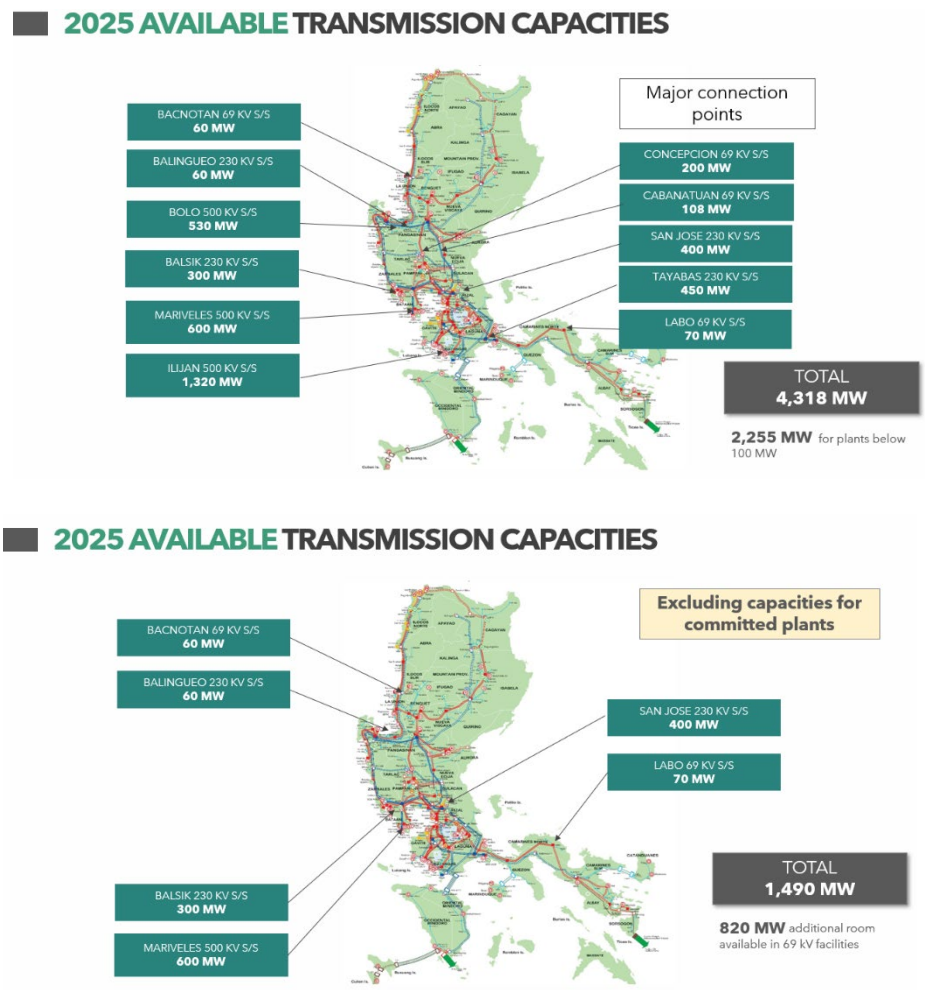


Figure 3.1 Luzon Available Transmission Capacity, 2025

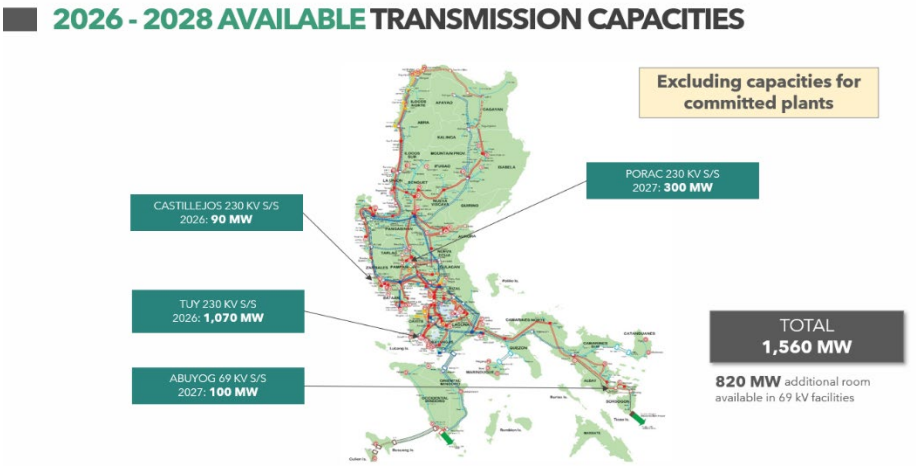


Figure 3.2 Luzon Available Transmission Capacity, 2026-2028

As shown in Figure 3.1, there is an available room amounting up to 1,490 MW in 2025 for generation capacity additions that would require a direct connection. Significantly contributing to this headroom includes the recently completed Mariveles (Alas-asin) 500 kV Substation at 600 MW, San Jose 230 kV Substation at 400 MW, and Balsik 230 kV Substation at 300 MW. These substations are ideal locations for investments in new generation projects.

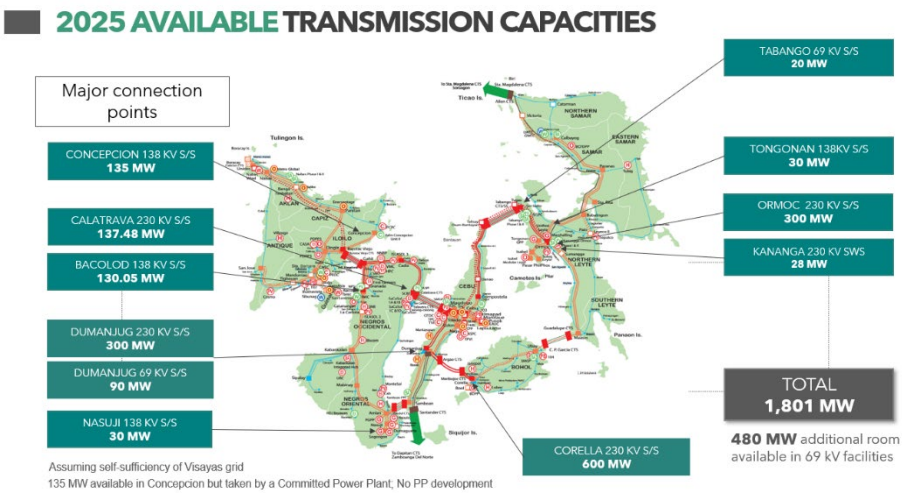
Beyond 2025, NGCP's planned infrastructure development will further increase the available capacity. Significantly contributing to this is the ongoing construction of Tuy 230 kV Substation that adds up to 1,070 MW, while Balaoan 500 kV Substation and Laoag 500/230 kV Substation add up to 2,000 MW and 1,850 MW, respectively.

NGCP encourages investors of all generation technologies, including RE sources, to explore these transmission opportunities in Luzon.

3.2.2 VISAYAS GRID

Bridging the gap between the transmission capacity and generation capacity is crucial in meeting power demand and promoting energy self-sufficiency in the Visayas. With the completion of transmission projects of the NGCP, there is available capacity to support future generation expansion.

As illustrated in Figure 3.3, the completion of Mindanao-Visayas Interconnection Project, Cebu-Bohol 230 kV Interconnection Project, and Cebu-Negros-Panay 230 kV Backbone - Stage 3 has created a total headroom of 1,125 MW in 2025, on top of the capacities allocated for committed power plants. The available transmission capacity allows for new generation capacity additions that require a direct connection. On the other hand, there is an additional 360 MW capacity available in the 69 kV tap connection to accommodate other generation projects.



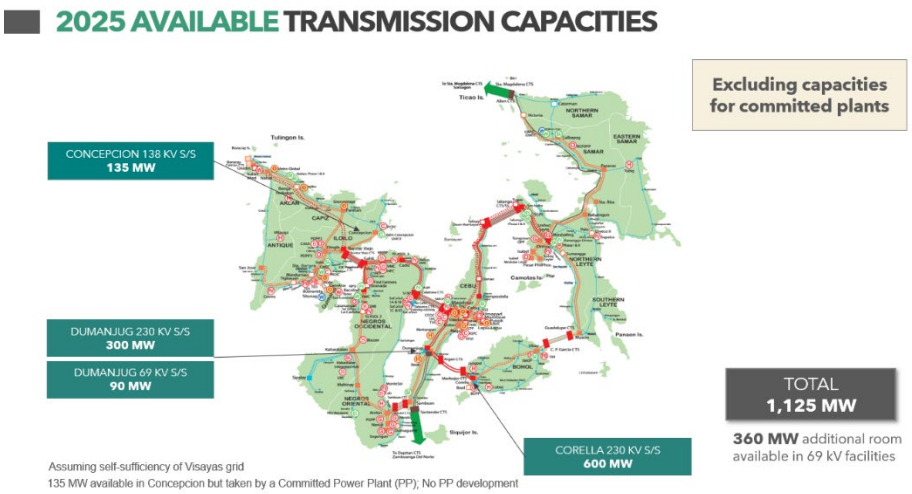


Figure 3.3: Visayas Available Transmission Capacity, 2025

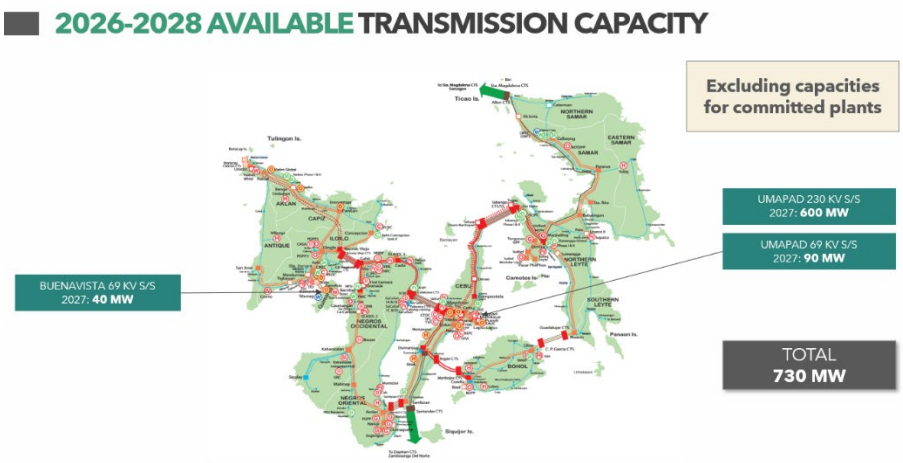


Figure 3.4: Visayas Available Transmission Capacity, 2026-2028

The development and enhancement of transmission infrastructures within the project pipeline of the NGCP are paving the way for further increases in generation capacity beyond 2025. In 2027, the completion of Cebu – Lapu-Lapu Transmission Project and Panay – Guimaras 138 kV Interconnection Project will each provide additional transmission capacities of 690 MW and 40 MW, respectively.

Promoting investment in power generation is essential to fully optimize the available transmission capacity in Visayas. To drive the said initiative forward, the NGCP recognizes the importance of fostering collaborative partnerships with stakeholders across the power industry. In line with this, the entry of diverse generation technologies and the integration of renewable energy sources are encouraged to further strengthen energy security and sustainability.

3.2.3 MINDANAO GRID

Bridging the gap between the transmission capacity and generation capacity is crucial in meeting power demand and promoting energy self-sufficiency in Mindanao Island. With the completion of transmission projects of the NGCP, there is available capacity to support future generation expansion.

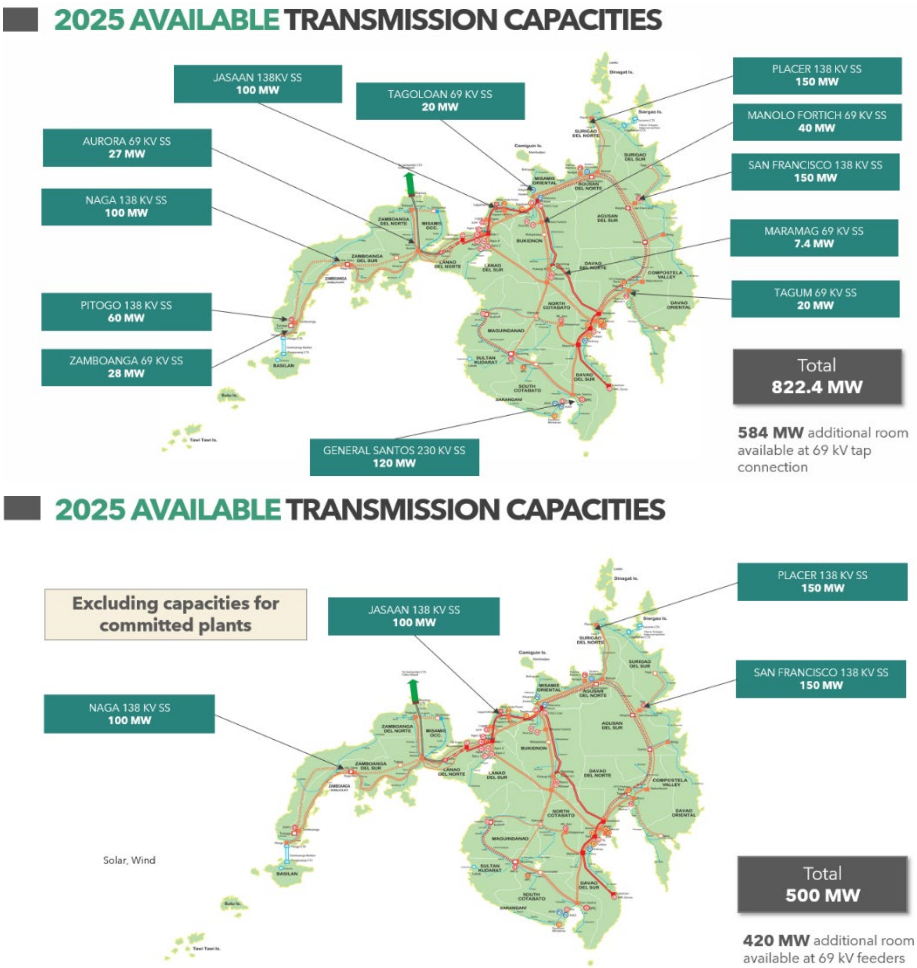


Figure 3.5: Mindanao Available Transmission Capacity, 2025

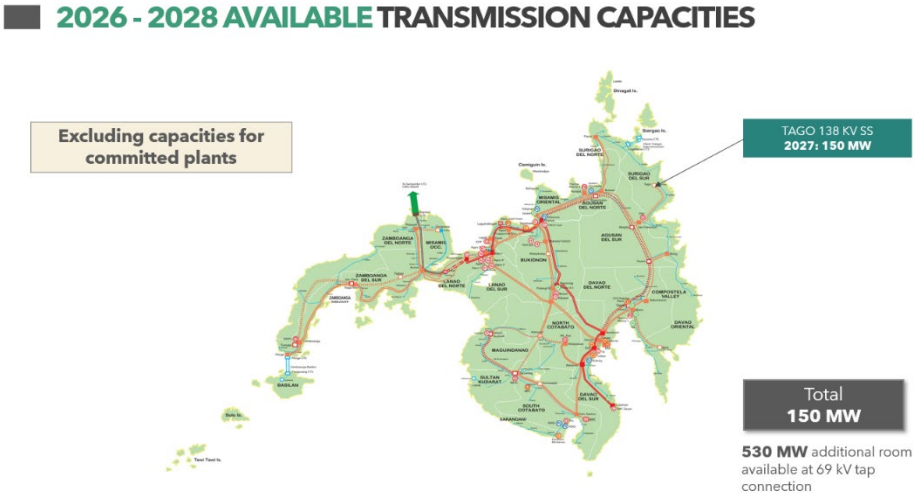


Figure 3.6: Mindanao Available Transmission Capacity, 2026-2028

As illustrated in Figure 3.5, the completion of Mindanao-Visayas Interconnection Project has created a total headroom of 500 MW in 2025, on top of the capacities allocated for committed power plants. The available transmission capacity allows for new generation capacity additions that require a direct connection. On the other hand, there is an additional 420 MW capacity available in the 69 kV tap connection to accommodate other generation projects.

The development and enhancement of transmission infrastructures within the project pipeline of the NGCP are paving the way for further increases in generation capacity beyond 2025. In 2026 and 2027, the completion of Tago 138kV Substation and Tupi 138kV Substation Project will provide additional transmission capacities of both 150 MW respectively.

Promoting investment in power generation is essential to fully optimize the available transmission capacity in Mindanao Island. To drive the said initiative forward, the NGCP recognizes the importance of fostering collaborative partnerships with stakeholders across the power industry. In line with this, the entry of diverse generation technologies and the integration of renewable energy sources are encouraged to further strengthen energy security and sustainability.

3.3 COMMITTED POWER PLANTS STATUS

Committed power plants are power projects that have secured financial backing from investors or bankers that the DOE uses in its PDP to envision the country's power supply. The DOE uses committed power plants to present the capacity that will be added to the grid over time. These projections help the NGCP in developing the TDP for the country's infrastructure development.

For committed power plants, it is essential that these power plant projects are already in the NGCP's planning horizon, and the necessary SIS are conducted. The SIS is a fundamental prerequisite for project development, determining the plant's connection point to the grid, the grid's capacity to accommodate the new generation, and identifying necessary transmission infrastructure upgrades. The absence of SIS for a significant portion of committed power plant projects raises concerns about their viability and projected commissioning dates. Specifically, 41 committed projects with target commercial operations between 2025 and 2027 remain without SIS. The fact that this deficiency exists in 30% of committed plants with commissioning years up to 2027 strongly suggests a low probability of these projects meeting their promised timelines. This lack of SIS may pose low realization of power plant integration that may affect the reliability and adequacy of future power supply.

Table 3.4: Summary of SIS and FS of Committed Power Plants from 2025-2027[2]

System Impact Study		
Luzon	No. of Projects	Installed Capacity (MW)
With SIS	67	5,617.72
No SIS	33	3,013.79
Exempted	8	378.34
Total	108	9,009.85

Facility Study		
Luzon	No. of Projects	Installed Capacity (MW)
With FS	52	6,313.15
No FS	56	2,696.70
Total	108	9,009.85

Visayas	No. of Projects	Installed Capacity (MW)
With SIS	27	1,569.47
No SIS	5	166.05
Exempted	3	8.70
Total	35	1,744.22

Visayas	No. of Projects	Installed Capacity (MW)
With FS	20	739.30
No FS	15	1,004.92
Total	35	1,744.22

Mindanao	No. of Projects	Installed Capacity (MW)
With SIS	14	644.10
No SIS	3	26.02
Exempted	3	15.45
Total	20	685.57

Mindanao	No. of Projects	Installed Capacity (MW)
With FS	9	244.60
No FS	11	440.97
Total	20	685.57

[2] Committed Power Plants as of December 2024

3.4 CATEGORIES OF GRID CONNECTION

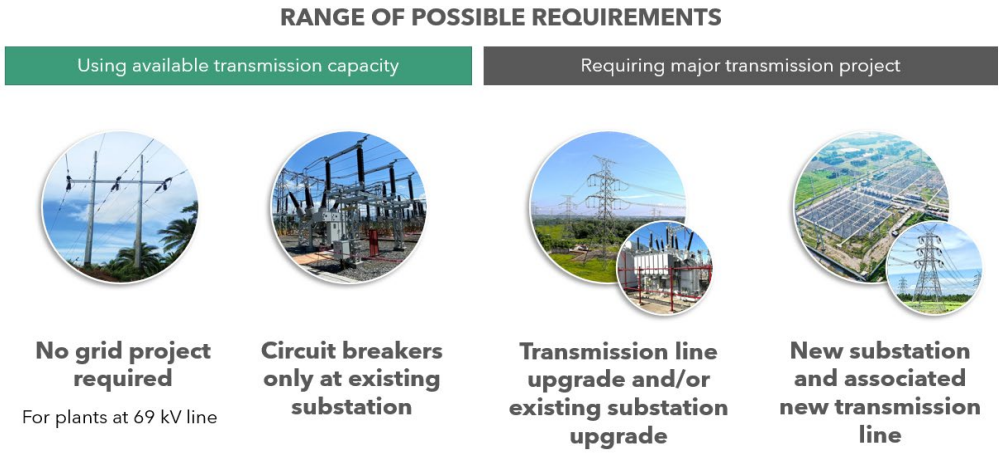


Figure 3.7: Grid Connection Categories

The connection options are categorized based on the complexity of the required infrastructure:

1. **No Grid Project Required –** Small capacity power plant projects can connect to existing 69 kV lines without the need of installing new or additional transmission infrastructure.
2. **Installation of circuit breakers and associated equipment only at existing substations –** For power plant projects requiring only the installation of a circuit breaker and associated equipment at an existing substation.
3. **Installation of circuit breakers, transformers/s and associated equipment at existing substation and/or with TL upgrades –** For power plant projects requiring both circuit breaker and transformer including associated equipment at an existing substation, along with potential upgrades to the transmission lines.
4. **Construction of a new substation and new transmission backbone –** For large power plant projects requiring construction of a new substation and/or transmission backbone may be necessary.

NGCP's conducted assessment considers the committed generation plants indicated in the DOE PSIPP as of December 2024, as well as the GEA-1 and GEA-2 generating plants, and new build capacities, assuming they are operational based on their scheduled commissioning dates until 2030. This ensures that the ATC calculations are grounded in current and future generation capacity, enabling more accurate predictions for grid integration. For Grid connection categorization, the present analysis is limited to projects planned for commercial operations until 2027. The DOE's list of committed projects in Appendix 1 contains tags specifying their categorization.

Table 3.5: Luzon Committed Power Plants Connection Category

	No Grid project required **(CPR1)** *(for small capacity that can tap to existing 69k line)*	Installation of Circuit Breaker (CB) only at existing substation **(CPR2)**	Installation of CB and Transformer at existing substation and/or with transmission Upgrade **(CPR3)**	Construction of a new substation and new transmission backbone **(CPR4)**
2025	**28 plants** **995 MW**	**18 plants** **3,809 MW**	**4 plants** **232 MW**	**6 plants** **1,533 MW**
2026	**7 plants** **151 MW**	**12 plants** **1,195 MW**	**1 plant** **80 MW**	**5 plants** **900 MW**
2027	**3 plant** **16 MW**	**1 plant** **60 MW**	None	None

Table 3.6: Visayas Committed Power Plants Connection Category

	No Grid project required **(CPR1)** *(for small capacity that can tap to existing 69k line)*	Installation of Circuit Breaker (CB) only at existing substation **(CPR2)**	Installation of CB and Transformer at existing substation and/or with transmission Upgrade **(CPR3)**	Construction of a new substation and new transmission backbone **(CPR4)**
2025	**15 plants** **196 MW**	**6 plants** **724 MW**	None	**1 plant** **224 MW**
2026	**5 plants** **101 MW**	**3 plants** **536 MW**	None	**1 plants** **150 MW**
2027	**1 plant** **5 MW**	None	None	None

Table 3.7: Mindanao Committed Power Plants Connection Category

	No Grid project required **(CPR1)** *(for small capacity that can tap to existing 69k line)*	Installation of Circuit Breaker (CB) only at existing substation **(CPR2)**	Installation of CB and Transformer at existing substation and/or with transmission Upgrade **(CPR3)**	Construction of a new substation and new transmission backbone **(CPR4)**
2025	**9 plants** **44 MW**	**13 plants** **436 MW**	None	None
2026	None	None	**1 plant** **40 MW**	None
2027	None	None	None	**1 plant** **270 MW**

The **TDP 2024-2050**, available on the NGCP website (www.ngcp.ph), outlines the planned transmission projects, including key components and implementation timelines. This publicly accessible document offers stakeholders a comprehensive overview of NGCP's long-term infrastructure development strategy.

The **TDP 2025-2050** has been updated and revised to adapt to the dynamic energy sector, incorporating valuable stakeholder comments and feedback from the TDP 2024-2050 version. The TDP 2025-2050 Report however does not list projects without major changes in components, costs, or estimated time of completion (ETC). For such projects, information from the 2024 version remains current.

The newly identified projects in this report are designed to accommodate the anticipated electricity demand from incoming power plants. These power plants are identified from two primary sources: the DOE's PSIPP, which details committed and indicative power plant projects, and consultations conducted by NGCP with relevant stakeholders. By incorporating these newly identified projects, the TDP ensures that the transmission network will have the necessary capacity to handle increased power generation, while maintaining grid stability and reliability.

4.1 TRANSMISSION PROJECTS CHALLENGES

Transmission projects face a complex web of challenges, often hindering their timely completion and affecting the overall performance of the Grid. Four primary **roadblocks** contribute to these delays: ROW acquisition, regulatory approvals, local permitting, and generation-transmission planning misalignment.

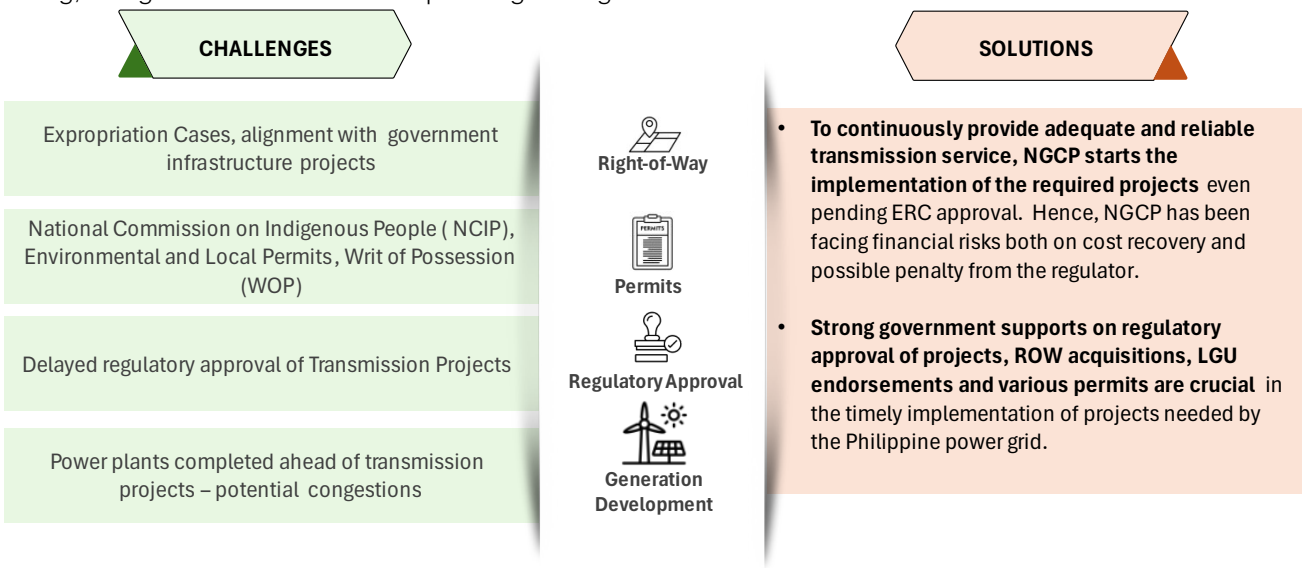


Figure 4.1: Transmission Projects Challenges

4.1.1 Right-of-Way (ROW) ACQUISITION

Transmission lines traverse diverse terrains and frequently cross privately held land. Securing the legal right to construct and maintain these lines necessitates navigating a complex process that includes -

- Negotiations with multiple landowners - This may involve numerous individuals, businesses, and governmental entities, each with distinct interests and concerns. Reaching mutually agreeable terms, including appropriate compensation, can be time-consuming and complex.
- Eminent domain proceedings-While eminent domain may be a necessary recourse in certain situations, this process can be legally challenging, financially burdensome, and may generate significant community resistance.
- Environmental and cultural resource considerations - Transmission line routes must minimize environmental impact and avoid sensitive cultural sites, including areas covered by the NCIP. This requires comprehensive studies, consultations, and often necessitates modifications to proposed routes, thereby extending project timelines and increasing costs; and
- Filing of expropriation cases -There is a ruling from the Supreme Court that filing of expropriation cases to acquire ROW for a particular project requires ERC approval.

4.1.2 REGULATORY APPROVALS

As a regulated entity, the implementation of transmission projects requires approval of the ERC. To be able continuously provide adequate and reliable transmission service on time, NGCP commenced the implementation of projects with pending ERC approval to ensure that necessary projects can be completed on its estimated timeline. Consequently, NGCP has been facing financial risks both on cost recovery and possible penalties from the regulator. The current legal process also prevents NGCP from filing expropriation cases in connection with ROW acquisition without the ERC project approval. As of January 2025, there are 105 transmission projects in the construction or pre-construction phase awaiting regulatory approval.

4.1.3 LOCAL PERMITS

Acquiring local permits is a prerequisite to commence construction of transmission projects, which also poses various challenges. To address the permitting challenges, there is an ongoing collaboration between the DOE, NGCP, and other government entities, such as National Transmission Corporation (TransCo), National Electrification Administration (NEA), ERC, etc. Further, AHCTP facilitates regular discussions to come up with solutions to resolve these implementation bottlenecks.

4.1.4 GENERATION-TRANSMISSION PLANNING MISALIGNMENT

The DOE's 2020 CREZ report highlighted a critical issue; the significant misalignment in development timelines between RE projects and the necessary transmission infrastructure, creating a circular dilemma that poses substantial challenges to the successful and timely deployment of RE projects. This discrepancy stems from the inherent differences in the development timelines of power generation facilities, particularly RE plants, and the transmission networks required to support them.

Globally, the planning and construction phases for power plants, whether conventional or renewable, typically span from 2 to 10 years. However, RE plants, often smaller in scale and utilizing more modular technologies, have the advantage of shorter development cycles, frequently ranging from just 2 to 3 years. This rapid development potential is one of the advantages of RE sources, allowing for quicker deployment compared to conventional power plants. However, this generation development can be hampered if the necessary transmission infrastructure is not yet available and necessary connection point transmission projects could not be completed on time to allow full dispatch of these RE plants.

The transmission infrastructure required to connect these new generation sources to the grid and deliver electricity to consumers faces significantly longer lead times. Transmission planning, which involves complex studies, environmental assessments, regulatory approvals, and ROW acquisition, can take anywhere from 10 to 20 years. NGCP, however, through strategic planning and a focus on collaboration, have been able to achieve an average project completion time of 5 to 10 years, demonstrating significant progress in accelerating the development of critical transmission infrastructure.

This disparity in development timelines creates a circular dilemma that hinders the growth of RE projects. Developers are often reluctant to invest in RE projects without assurance that transmission capacity will be available to transmit the full dispatch of power that they can generate. On the other hand, transmission planning requires confirmed generation projects to justify the necessary investments. This "chicken and egg" scenario can impede RE development, even in regions rich in renewable resources. The CREZ Report highlights this critical issue and stresses the need for improved coordination and planning to align the development timelines of both generation and transmission projects. Addressing this misalignment ensures a smoother and more efficient integration of RE into the grid. If left unresolved, the potential of RE and the achievement of the CES targets could be significantly compromised.

Figure 4.2: CREZ Report on Approximate Planning-Construction Timeline and Circular Dilemma

4.1.5 POTENTIAL SMALL ISLAND INTERCONNECTION PROJECTS

A considerable number of islands and remote areas across the country remain isolated from the main grid, classified as off-grid areas. Their power systems are operated and managed by NPC-SPUG. To address this, the DOE issued Department Circular No. DC2021-11-0039, titled "Mandating the National Transmission Corporation (TRANSCO) as Small Grid System Operator (SGSO) in Specific Off-grid Areas.". This aim to ensure stable operation, effective control and optimal power supply in these small grid and off-grids systems. That will be providing end-users with adequate, secure, reliable, quality and efficient electricity while reducing costs. Some of these small islands were initially considered for further assessment. Shown in Table 4.1 below, are the potential small island Interconnection indicating the length of the required facilities and the peak load in the island.

Table 4.1. Potential Small Island Interconnection

ISLAND	Interconnection Point	Length (KM)		
		Submarine	Overhead	Total
LUZON				
Ticao	Abuyog	20	35	55
Masbate	San Jacinto	16	16	32
Tablas	San Jose	61	36	97
Lubang	Calaca	54	20	74
Busuanga	San Jose	84	52	136
VISAYAS				
Bantayan	Medellin	21	24	45
Siquijor	Bacong	20	24	44

ISLAND	Interconnection Point	Length (KM)		
		Submarine	Overhead	Total
Camotes	Isabel	18	8	26
Semirara	San Jose	33	0	33
MINDANAO				
Dinagat	Canlanipa	30	15	45
Camiguin	Esperanza	30	37	67
Siasi	Parang	43	32	75
Sulu	Taberlongan	100	34	134
Tawi-Tawi	Pagatpat	84	60	144

4.1.6 PHILIPPINE NETWORK TOPOLOGY

The creation of an interconnected Philippine Grid creates a more open, progressive and competitive market. With NGCP, Luzon, Visayas and Mindanao Grids interconnected, the consumers can benefit from a more reliable, secure and cheaper power supply. While the interconnection provides open access to the electricity market, in the near future, customers can further participate in Wholesale Electricity Spot Market (WESM). Figure 4.3 shows the existing and future Philippine network topology of an interconnected grid.

The formulation of the Transmission Backbone and Major Island Interconnections is guided by NGCP's vision to build the strongest power grid in Southeast Asia, to contribute to the social and economic development of the country and to satisfy its stakeholders' needs. These are vital considerations to ensure that the country has a transmission network that can support growth and competitive electricity prices. This is done through a program that will significantly upgrade and expand the transmission backbone to meet the forecast demand, support the entry of new generating facilities and allow market competition. Figure 4.3 shows the Existing and Future Philippine Network Topology of an interconnected grid.

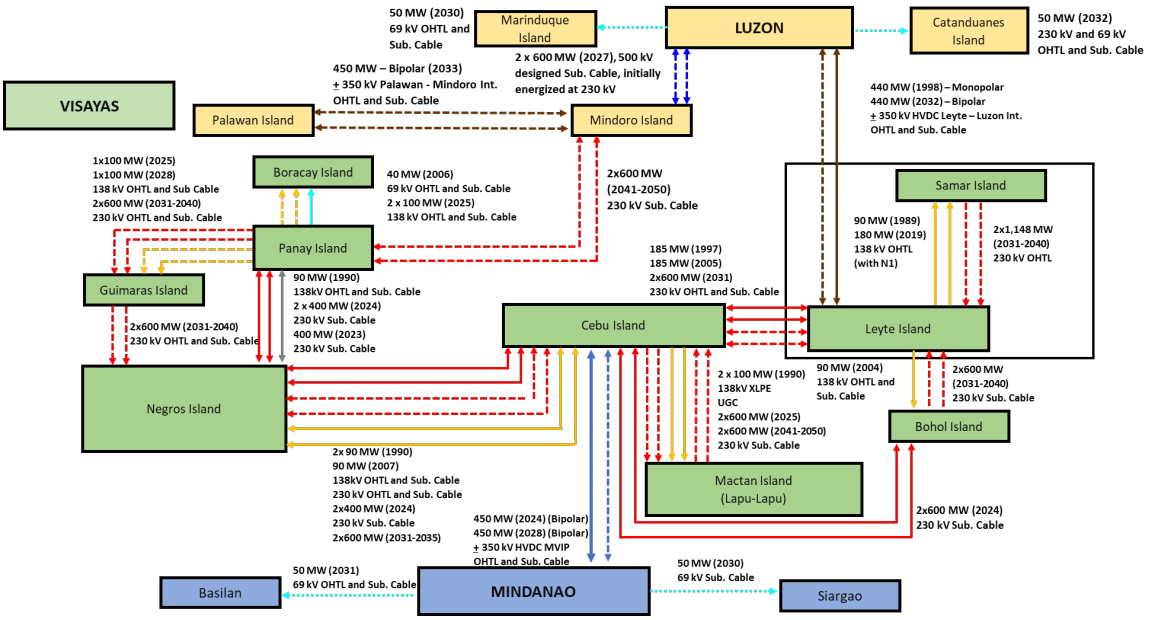


Figure 4.3: Existing and Future Philippine Network Topology

The project to connect Palawan and Mindoro is a big step toward a long-term goal, linking the Philippines' power grid with other countries in Southeast Asia. It's part of a bigger plan called the ASEAN Power Grid under the Heads of ASEAN Power Utilities/Authorities or the regional initiatives for power grid interconnection being done by the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area. Appendix 6 shows further details on ASEAN Power Grid.

4.2 ESTIMATED TIME OF COMPLETION (ETC)

There are six project driver that trigger the need to put up a transmission facility, namely, Load Growth, Generation Entry, System Reliability and Security, Power Quality and Technology, Market Operation Support and Policy Direction. The ETC indicated in the project application to the ERC is based on the criticalness of the project, and the Need Date determined through the conduct of system simulations. These simulations are based on various grid operation scenarios considering the DOE's SPD Forecast and PSIPP for the planning period, which are updated periodically.

Since 2009 when NGCP took over the power transmission business from the government, the typical project implementation cycle is within a five-year duration. For cases where there is an immediate need by customers, e.g., generation-associated projects, directly-connected customers, etc., ETC as filed with the ERC would reflect a more aggressive timeline and deviate from the typical duration of each project milestones. In the NGCP's issuance of the TDP for the period 2009-2022, the project ETCs are re-evaluated and adjusted in the succeeding issuance to account the actual progress/status of each project milestones, including status of ROW.

DOE Policy on Projects' ETC – For new transmission projects in the TDP 2023-2040, the indicated time of completion, whether indicated as estimated or otherwise, shall be "**firm dates for the completion of the projects.**" The DOE further reiterates that for new transmission projects in the TDP 2024-2050, the indicated times of completion are considered firm dates and not subject to changes in subsequent TDPs. The DOE stated also that any adjustments in subsequent TDPs to the Original ETC of a Committed Project are reported solely as a guide to stakeholders.

Consistent with the DOE's direction[3], NGCP submits a monthly Transmission Project Status Report that indicates the subsequent adjustments of ETCs due to various challenges beyond NGCP's control:

1. Regulatory Delays, i.e., delayed issuance of Provisional Authority (PA) for accelerated implementation by the ERC
2. ROW acquisition
3. Legal impediments, such as the issuance of Temporary Restraining Order (TRO) by the Courts
4. Delays in the issuance of construction permits.

The detailed implementation "bottlenecks" identified are regularly discussed in the AHCTP meetings with the guidance and active support of the DOE in identifying solutions and way forward activities to minimize possible project completion delays, thus mitigating the risk/impact to the electricity end-users.
Through the Adhoc Committee meetings, NGCP and the DOE align on the adjusted ETC, which appears in the TDP 2023-2040. The subsequent TDP update shall guide the stakeholders on the expected completion of a particular project therein.

NGCP Position on the ETC – The timeline and ETCs of projects are merely proposals based on a "best-case scenario " Therefore, since the ETCs or timelines proposed in NGCP's Capital Expenditures (CAPEX) Application reflect this best-case scenario, they should be considered hard deadlines or firm commitments. Instead, they serve as estimates of a project 's implementation timeline with the assumption that no roadblocks, difficulties, or legal impediments arise.

Accordingly, while NGCP indicated an approximate time of completion for the implementation of various CAPEX Applications, the same is conditioned on the assumption that no difficulties or impediments are encountered, and that the

[3] Excerpts from NGCP Comments to the DOE-Approved TDP 2023-2040 contained in the 11 February 2025 letter to the DOE.

project would be approved timely by the ERC. The proposed timelines are still subject to possible movements depending on the resolution of the concerns on the grounds that may affect the project's implementation.

In view of the challenges encountered in project implementation, NGCP also enhanced the process of establishing the project ETC based on the historical project data and the result of project constraint analysis. The distinct project timelines are established for each of the following set of project constraints examined:

A. Transmission Line Length
B. Substation Required Area
3. Terrain and Level of Urbanization
4. Voltage.

4.3 LUZON GRID

Shown in Table 4.2 are the transmission projects in Luzon Grid with updated information based on recent developments, existing projects with adjusted ETC and new/additional projects to address the system requirements:

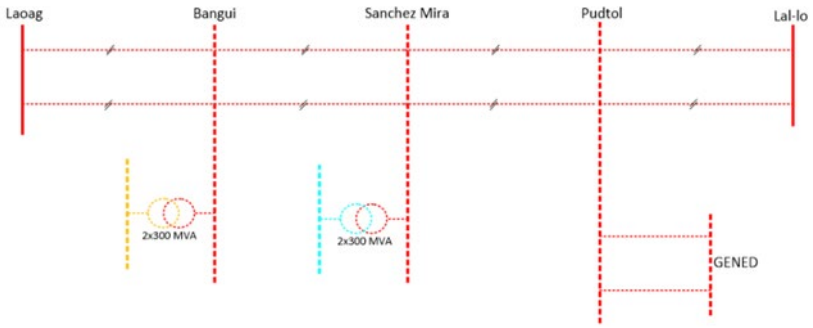
4.3.1 Luzon Grid Project Updates

Table 4.2: List of Luzon Transmission Projects

TRANSMISSION LINE					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
500 kV PROJECTS					
Balaoan – Laoag (Burgos) 500 kV Transmission Line • To accommodate the entry of wind farm and Solar PV projects in the Province of Ilocos Norte • To accommodate these incoming Renewable Energy (RE) plants	• Generation entry • ERC-Approved	• Burgos 500 kV SS: 2x1,000 MVA, 500/230 kV Power Transformer, 3x90 MVAR 500 kV Shunt Reactor, 2x90 MVAR 500 kV Line Reactor, 11-500 kV PCB and associated equipment, 2x100 MVAR 230 kV Capacitor Banks and associated equipment, 12-230 kV PCB and associated equipment • New Bantay 230 kV SS: 2x100 MVA, 230/69 kV Power Transformer, 10-230 kV PCB and Associated equipment, 7-69 kV PCB and associated equipment	• Balaoan – Burgos 500 kV TL: ST-DC, 4-410 mm^2 TACSR, 219 km (2x4,234 MW). • Burgos "Bus-in" to Laoag – Bangui 230 kV TL: ST-DC, 2-795 MCM ACSR/AS, 5 km (2x573 MW) • Bantay "Bus-in" to San Esteban – Pinili 230 kV TL: ST-DC, 1-795 MCM ACSR, 2 km (2x287 MW). `	• Ilocos Norte • Ilocos Sur • La Union	• 40,195 M • Dec 2031
230 kV PROJECTS					
Northern Luzon 230 kV Loop	• Generation Entry • ERC-Approved	• Laoag 230 kV SS: 4-230 kV PCB and associated equipment • Bangui 230 kV SS: 2x300 MVA 230/115 kV Power Transformer, 14-230 kV PCB and associated equipment, 18-115 kV PCB and associated equipment, 4x50 MVAR, 230 kV Shunt Reactor, 4x25 MVAR, 115 kV Capacitor	• Laoag – Bangui 230 kV TL: ST-DC, 2-795 MCM ACSR/AS, 50 km (2x573 MW) • Lal-lo – Pudtol 230 kV TL: ST-DC, 2-795 MCM ACSR/AS, 38 km (2x573 MW) • Bangui – Sanchez Mira 230 kV TL: ST-DC, 2-795 MCM ACSR/AS, 70 km (2x573 MW)	• Ilocos Norte • Apayao • Cagayan	• 34,069 M • May 2030

TRANSMISSION LINE

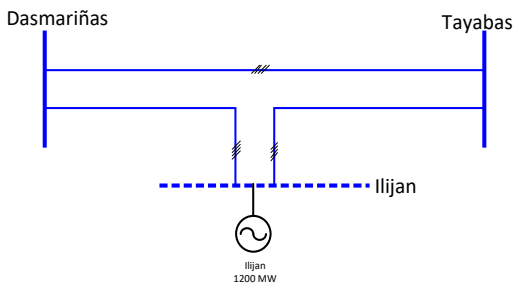
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To provide new transmission corridor to accommodate renewable energy and other power plants in the Northern part of Luzon • To ensure the system reliability and operational flexibility in the Ilocos Region and Cagayan Valley through the 230 kV looping		• Sanchez Mira 230 kV SS: 2x300 MVA 230/69 kV Power Transformer, 18-230 kV PCB and associated equipment, 8-69 kV PCB and associated equipment, 4x25 MVAR, 230 kV Shunt Reactor, 4x25 MVAR, 230 kV Capacitor • Pudtol 230 kV SS: 10-230 kV PCB and associated equipment • Lal-lo 230 kV SS: 4-230 kV PCB and associated equipment	Pudtol – Sanchez Mira 230 kV TL: ST-DC, 2-795 MCM ACSR/AS, 57 km (2x573 MW)		



** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

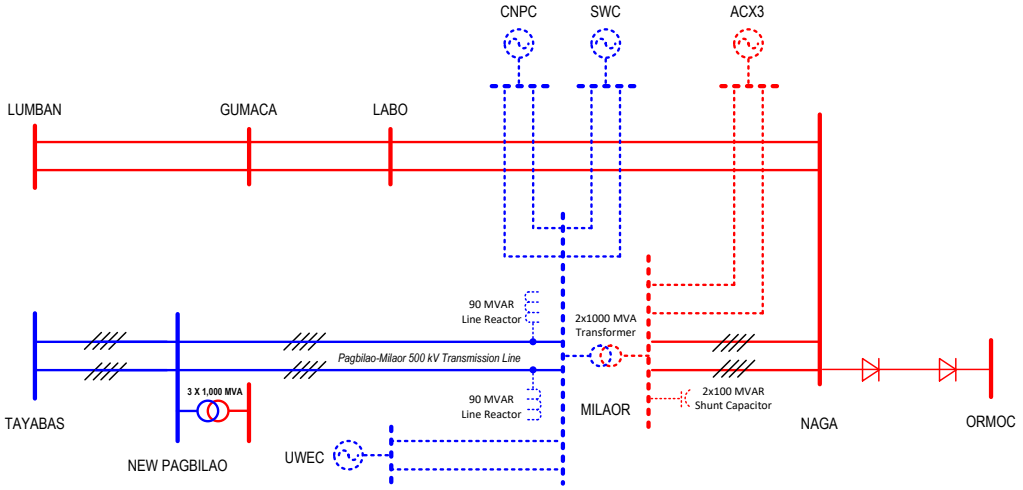
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
500 kV PROJECTS					
Ilijan 500 kV Substation Upgrading • To accommodate the connection of Excellent Energy Resources Inc.'s (EERI) 1,700 MW Combined-Cycle Gas Turbine Ilijan Expansion Power Plant Project to the switchyard	• System Reliability • ERC-Approved	• Ilijan 500 kV SS: 4-500 kV PCB and associated equipment (GIS), 6-500 kV PCB and associated equipment (AIS) • Dasmarinas 500 kV SS: 1x600 MVA 500/230 kV Power Transformer (1x600 MVA Power Transformer transferred from Tayabas SS), 1-500 kV PCB and associated equipment • Tayabas 500 kV SS: 1x600 MVA 500/230 kV Power Transformer		• Batangas • Cavite • Quezon	• 1,988.918 M • Jun 2027



SUBSTATION

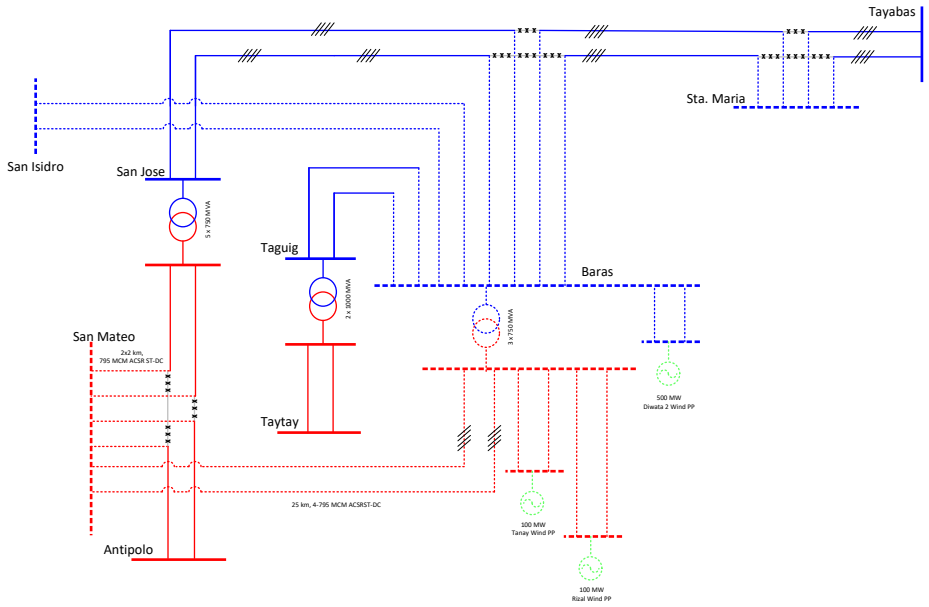
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
Milaor 500 kV Substation Project • To provide connection point to the proposed bulk Off-Shore Wind (OSW) power projects in Camarines Norte and Camarines Sur.	• Generation Entry • For Filing	• Milaor 500 kV SS: 2x1,000 MVA, 500/230-13.8 kV Power Transformers and accessories, 2x90 MVAR 500 kV Line Reactor, 2x100 MVAR 230 kV Shunt Capacitor, 12-500 kV PCBs and associated equipment, 12-230 kV PCBs and associated equipment • Pagbilao 500 kV SS (Expansion): 4-500 kV PCBs and associated equipment	• Swinging of Pagbilao–Milaor 500 kV-designed Transmission Line at Milaor Substation: ST-DC, 4-795 MCM ACSR/AS, 1.0 km • Swinging of Milaor–Naga 230 kV Transmission Line at Milaor Substation: ST-DC, 4-795 MCM ACSR/AS, 1.0 km • Swinging of Pagbilao–Milaor 500 kV Transmission Line at Pagbilao Substation: ST-DC, 4-795 MCM ACSR/AS, 1.0 km	• Camarines Norte • Camarines Sur • Quezon	• 12,270.19M • Aug 2030



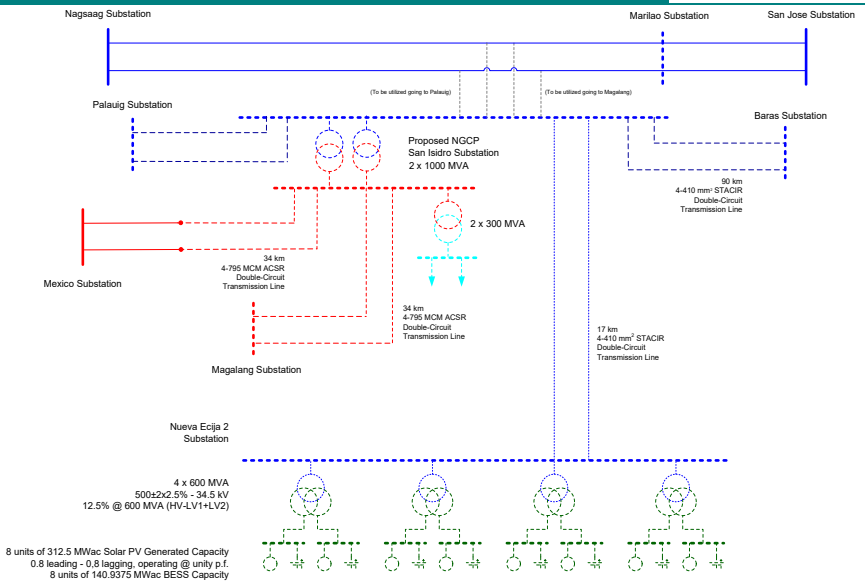
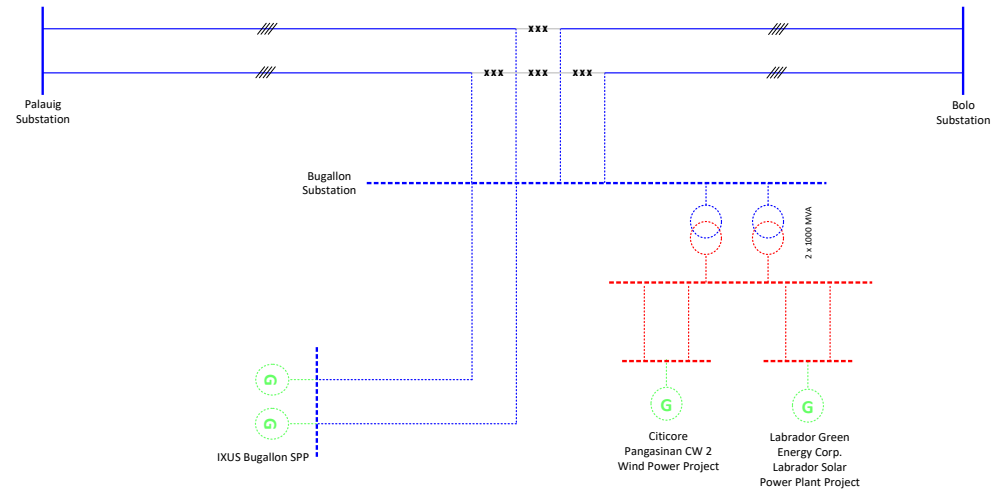
Baras 500 kV Substation Project • To accommodate the potential renewable energy plants in the province of Rizal to supply the loads of Metro Manila.	• Generation Entry • System Reliability • For Filing	• Baras 500 kV SS: 2x1000 MVA, 500/230 kV Power Transformer, 14-500 kV PCB and associated equipment, 14-230 kV PCB and associated equipment • San Mateo 230 kV SS: 2-230 kV PCB and associated equipment	• Taguig 500 kV TL Diversion to Baras SS: ST-DC, 4-795 MCM ACSR, 1.5 km (2x2494 MW) • San Jose 500 kV TL Diversion to Baras SS: ST-DC, 4-795 MCM ACSR, 1 km (2x2494 MW) • Tayabas/Sta. Maria 500 kV TL Diversion to Baras SS: ST-DC, 4-795 MCM ACSR, 5 km (2x2494 MW) • Baras – San Mateo 230 kV TL: ST- DC, 4-795 MCM ACSR, 25 km (2x1148 MW)	• Rizal	• 16,371 M • Sep 2032

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
San Isidro 500 kV Substation Project • The project involves the development of a new drawdown substation at San Isidro, Nueva Ecija to accommodate the potential generation and address the load growth in Central Luzon.	• Generation Entry • For Filing	Stage 1: • San Isidro 500 kV SS: 10-500 kV PCB and associated equipment Stage 2: • San Isidro 500 kV SS: 2x1000 MVA, 500/230 kV Power Transformer, 2x300 MVA, 230/69 kV Power Transformer, 2-500 kV PCB and associated equipment, 12-230 kV PCB and associated equipment, 6-69 kV PCB and associated equipment • Baras 500 kV SS: 2-500 kV PCB and associated equipment	Stage 1: • San Isidro "Bus-in" to Nagsaag–San Jose 500 kV TL: ST-DC, 4-795 MCM ACSR, 4.6 km (2x2494 MW) • San Isidro "Bus-in" to Nagsaag–San Jose 500 kV TL: ST-DC, 4-410 mm^2 TACSR, 4.6 km (2x4234 MW) Stage 2: • San Isidro – Baras 500 kV TL: ST-DC, 4-410 mm^2 TACSR, 90 km (2x4234 MW) • San Isidro – Magalang 230 kV TL: ST-DC, 2-410 mm^2 TACSR, 34 km (2x974 MW) • San Isidro diversion to Mexico 230 kV TL: ST-DC, 2-410 mm^2 TACSR, 34 km (2x974 MW) • San Isidro – Gapan 69 kV TL/ San Isidro – San Isidro 69 kV TL: SP/ST-DC, 1-410 mm^2 TACSR, 3 km (2x146 MW)	• Nueva Ecija	• 46,105 M • Stage 1: May 2031 • Stage 2: Jul 2034



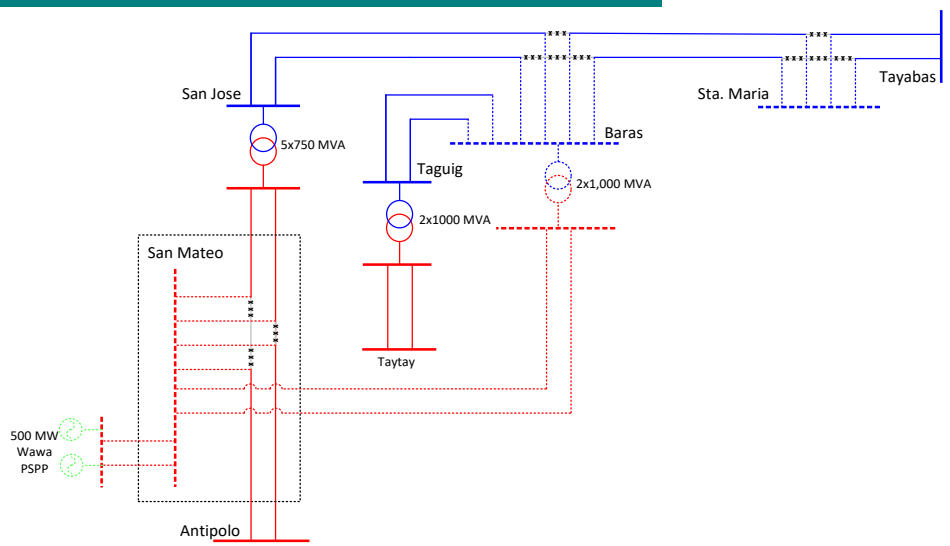
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
				
Bugallon 500 kV Substation Project • Aims to accommodate the bulk generated power from Pangasinan to the load centers in central Luzon and Metro Manila	• Generation Entry • For Filing	• Bugallon 500 kV SS: 2x1000 MVA, 500/230 kV Power Transformer, 4x200 MVAR Shunt Capacitor, 14-500 kV PCBs and associated equipment, 12-230 kV PCBs and associated equipment,	• Palauig – Bugallon 500 kV "Bus-in" TL: ST-DC, 4-410 mm² TACSR, 1.5 km (2x4234 MW) • Bolo – Bugallon 500 kV "Bus-in" TL: ST-DC, 4-410 mm² TACSR, 1.5 km (2x4234 MW)	• Pangasinan	• 10, 691 M • Jan 2033
					

230 kV PROJECTS

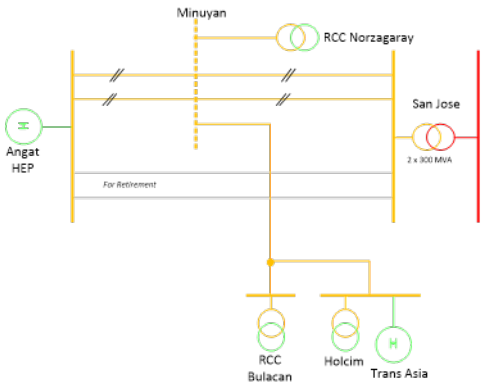
San Mateo 230 kV Substation Project	• Generation Entry • For Filing	• San Mateo 230 kV SS: 10-230 kV PCBs and associated equipment	• San Mateo "Bus-in" to San Jose - Antipolo 230 kV TL: ST-DC, 4-795 MCM ACSR 2x2 km (2x1148)	• Rizal	• 3,886 M • Jun 2032

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• The Project will accommodate the entry of 500 MW Wawa Pumped-Storage Power Plant Project. This will also serve as a future drawdown substation of MERALCO.					
Luzon Connection Requirements for Power Plant Project 1 • To accommodate several incoming generating power plants in the Luzon Grid	• Generation Entry • System Reliability • For Filing	• Binga 69 kV SS: 1-69 kV PCB and associated equipment • Botolan 230 kV SS: 4-230 kV PCB, 2-69 kV PCB and associated equipment • Castillejos 230 kV SS: 2-230 kV PCB and associated equipment • Concepcion 69 kV SS: 1-69 kV PCB and associated equipment • Gamu 230 kV SS: 2-230 kV PCB and associated equipment • Subic 230 kV SS: 3-230 kV PCB (Outdoor GIS Type) and associated equipment • Lal-lo (Magapit) 230 kV SS: 4-230 kV PCB and associated equipment • Lamao 230 kV SS: 3-230 kV PCB and associated equipment • Laoag 115 kV SS: 1-115 kV PCB and associated equipment • Mariveles 230 kV SS: 8-500 kV PCB and associated equipment		• Zambales • Tarlac • Isabela • Cagayan • Bataan	• 5,642 M • Jan 2030
Luzon Connection Requirements for Power Plant Project 2 • To accommodate several incoming power plants in the Luzon Grid	• Generation Entry • System Reliability • For Filing	• Bay 230 kV SS: 1x100 MVA, 230/69 kV Power Transformer (Works only), 1-230 kV PCB and associated equipment, 2-69 kV PCB and associated equipment • Pagbilao 230 kV SS: 8-230 kV PCB and associated equipment • Tayabas 230 kV SS: 8-230 kV PCB and associated equipment • Pinamucan 500 kV SS: 4-500 kV PCB and associated equipment • Pinili 230 kV SS: 4-230 kV PCB and associated equipment • Naga 230 kV SS: 4-230 kV PCB and associated equipment		• Laguna • Quezon • Batangas • Ilocos Norte • Pangasinan • Nueva ecija	• 8,543 M • Jan 2030

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		• Dasol kV 230 SS: 8-230 kV PCB and associated equipment • Malaya 230 kV CS: 4-230 kV PCB and associated equipment • Sampaloc 230 kV SS: 4-230 kV PCB and associated equipment			
Luzon Connection Requirements for Power Plant Project 3 • To accommodate several incoming power plants in the Luzon Grid	• Generation Entry • System Reliability • For Filing	• Bolo 500 kV SS: 5-500 kV PCB and associated equipment, 6-230 kV PCB and associated equipment • Naga 69 kV SS: 1- 69 kV PCB and associated equipment • San Manuel 69 kV SS: 6-69 kV PCB and associated equipment • Castillejos 230 kV SS: 2-230 kV PCB and associated equipment • Hermosa 69 kV SS: 1-69 kV PCB and associated equipment • San Juan 230 kV SS: 2-230 kV PCB and associated equipment • Tuy 230 kV SS: 4-230 kV and associated equipment • Tuy 69 kV SS: 6-69 kV PCB and associated equipment • Labo 69 kV SS: 1- 69 kV PCB and associated equipment • Lumban 230 kV SS: 4-230 kV PCB and associated equipment • Balingueo 69 kV SS: 2-69 kV PCB and associated equipment • Mexico 69 kV SS: 1-69 kV PCB and associated equipment • Gamu 69 kV SS: 2 - 69kV PCB and associated equipment • Laoag 230 kV SS: 2-230 kV PCB and associated equipment • Botolan 69 kV SS: 1-69 kV PCB and associated equipment		• Various provinces in Luzon	• 1,501 M • Jan 2030
115 kV PROJECTS					
• **Minuyan 115 kV Switching Station**	• System Reliability • ERC-Approved	• Minuyan SWS: 11-115 kV PCB and associated equipment	• San Jose 115 kV Line Extension: ST-DC, 2-795 MCM ACSR/AS, 0.5 km (2x286 MW). • Angat 115 kV Line Extension: ST-DC, 2-795 MCM ACSR/AS, 1 km (2x286 MW).	• Bulacan	• 1,895 M • Feb 2030

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To provide reliable connection of the industrial loads (cement plants) in the area of Bulacan • To provide flexibility and isolate the fault to prevent power interruption to the other connected customers					

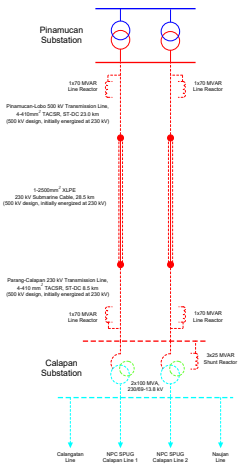
VOLTAGE IMPROVEMENTS

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
230 kV PROJECTS					
Laoag Power Quality Improvement Project • To address the Voltage fluctuations in Laoag which will worsen with the commercial operation of additional wind plants in the area. • To increase the maximum allowable VRE generation dispatch which is limited due to the voltage fluctuation problem.	• System Reliability • For Filing	• Laoag 230 kV SS: 50 MVAR Grid-Forming Static Synchronous Compensator, 2x25 MVAR Capacitor Bank, 5-230 kV PCB and associated equipment		• Laoag	• 2,160 M • Oct 2029

INTERCONNECTION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
500 kV PROJECTS					
Batangas – Mindoro 500kV Interconnection and Backbone Project CEPNS	• Island Interconnection • Generation Entry • Awaiting ERC Approval	Stage 1: • Pinamucan 230 kV SY: 4-230 kV PCB and associated equipment, 2x70 MVAR, 230 kV Line Reactor associated equipment • Calapan 230 kV SY: 2x100 MVA, 230/69-13.8 kV Transformer, 11-230 kV PCB and associated equipment, 2x70 MVAR, 230 kV Line Reactor, 3x25 MVAR, 230 kV Shunt Reactor, 10-69 kV PCB and associated equipment	Stage 1: • Pinamucan–Lobo CTS 500 kV Transmission Line (initially energized at 230 kV): ST-DC, 4-410 mm2 TACSR, 23.0 km • Lobo CTS–Parang CTS 500 kV Submarine Cable (initially energized at 230 kV): Double-circuit Submarine Cable, 1-2,500 mm2 XLPE, 28.5 km • Parang CTS–Calapan 500 kV Transmission Line (initially energized at 230 kV): ST-DC, 4-410 mm2 TACSR, 8.5 km	• Batangas • Mindoro	• 45,593.74 M • Sep 2027

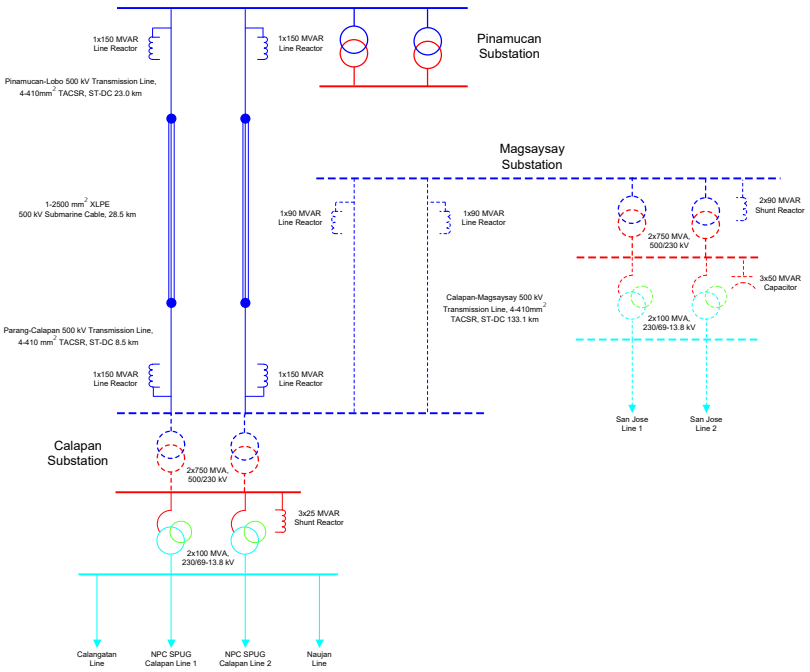
INTERCONNECTION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To link the Mindoro Island to the Luzon Grid through a 28.5 km submarine cable and a 31.5 km overhead transmission line.			• Calapan "cut-in" to NPC SPUG Calapan–Calangatan 69 kV Transmission Line: ST-DC, 1-795 MCM ACSR, 4.5 km • Calapan "cut-in" to NPC SPUG Calapan–Naujan 69 kV Transmission Line: ST-DC, 1-795 MCM ACSR, 4.0 km		
• To provide a higher transfer capacity to the Batangas-Mindoro link, supporting the connection of solar and onshore wind power projects as envisioned in the CREZ, and higher potential of offshore wind projects at the area between Mindoro and Panay as identified from the DOE and WBG roadmap		• Stage 2 • Pinamucan 500 kV SS: 6-500 kV PCB and associated equipment, 2x150 MVAR, 500 kV Line Reactor, 2x90 MVAR, 500 kV Shunt Reactor • Calapan 500 kV SS: 2x750 MVA, 500/230 kV Transformer, 15-500 kV PCB and Associated Equipment, 2x150 MVAR, 500 kV Line Reactor, 3x90 MVAR, 500 kV Shunt Reactor • Magsaysay 500 kV SS: 2x750 MVA, 500/230 kV Transformer, 10-500 kV PCB and associated equipment, 2x90 MVAR, 500 kV Line Reactor, 2x90 MVAR, 500 kV Shunt Reactor, 2x100 MVA, 230/69-13.8 kV Transformer, 9-230 kV PCB and associated equipment, 3x50 MVAR, 230 kV Shunt Capacitor, 6-69 kV PCB and Associated Equipment	Stage 2: • Calapan–Magsaysay 500 kV Transmission Line: ST-DC, 4-410 mm2 TACSR, 133.1 km • Magsaysay "cut in" to San Jose–NPC-OMCPC 69 kV Transmission Line: ST-DC, 1-795 MCM ACSR, 20.9 km	• Batangas • Mindoro	• 45,062.37M • Dec 2030

INTERCONNECTION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
Quezon – Marinduque Interconnection Project	• Island Interconnection • Filed to ERC	• Gumaca 230 kV SS: 2x300 MVA Power Transformers and 13-69 kV PCB and associated equipment • General Luna SWS: 9-69 kV PCB and associated equipment • Sta. Cruz SWS: 2x2.5 MVAR Line Reactors and 7-69 kV PCB and associated equipment • Gasan 69 kV Load End SS: 4x2.5 MVAR Shunt Capacitors and 4-69 kV PCB and associated equipment	• General Luna – General Luna CTS 69 kV TL, ST-SC, 1-795 MCM ACSR, 1.5 km (1x86 MW). • Sta. Cruz-Sta. Cruz CTS 69 kV TL, ST-SC, 1-795 MCM ACSR, 9 km (1x86 MW). • Gumaca – General Luna 69 kV TL, ST-DC, 1-795 MCM ACSR, 37.5 km (2x86 MW). • General Luna CTS – Sta. Cruz CTS 69 kV XLPE Submarine Cable, 3-Core 500 mm^2, 22 km (50 MW).	• Quezon • Marinduque	• 5,323.22 M • Dec 2030

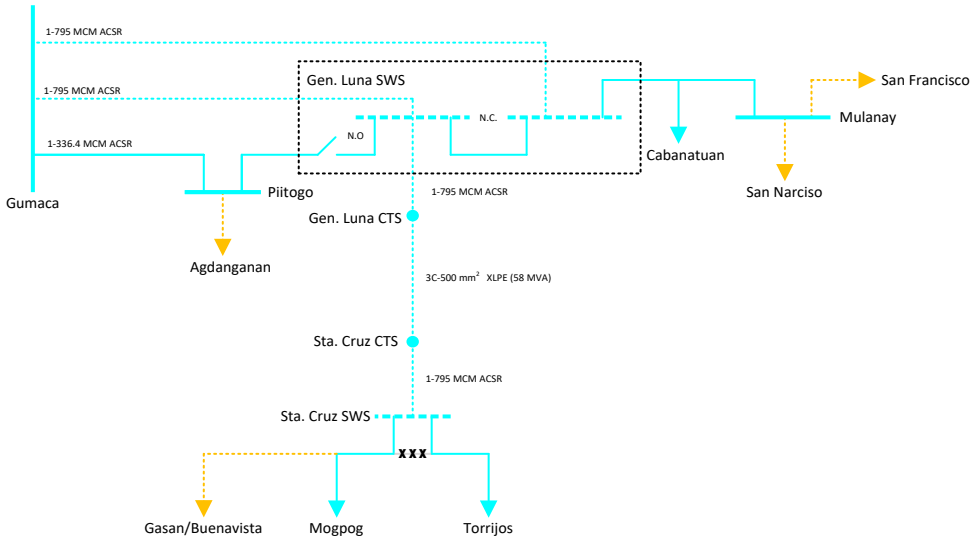
- To address the expected high electricity, demand due to the fast development in Marinduque
- To address the increase in loading of the existing Gumaca – Pitogo 69 kV TL



The updated total cost for BMIBP is inclusive of the actual cost incurred in the preconstruction activity of the 230 kV designed BMIP. In addition, the cost increase is due to the upgrade of the voltage level for a higher transmission capacity to cater for the entry of Offshore Wind Projects.

230 kV PROJECTS

INTERCONNECTION					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		



** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

Table 4.2: List of Additional Proposed Projects in Luzon for the period 2041-2050

Project Name	Description	Location
TRANSMISSION LINE		
230 kV PROJECTS		
Binga – La Trinidad 230 kV Transmission Line	• To provide Grid reliability During Maximum Dispatch of the generating plants on situated in the Northern part of Luzon	Benguet
SUBSTATION		
500 kV PROJECTS		
Nagsaag 500 kV Expansion	• To accommodate the entry of power plants through the installation of a 3rd 600 MVA 500/230 kV Transformer bank at Nagsaag 500 kV SS	San Manuel, Pangasinan
69 kV PROJECTS		
Mankayan 69 kV Switching Station	• To relieve the undervoltage issues experienced at the La Trinidad-Sagada 69 kV Transmission Line	Mankayan, Benguet

4.3.2 ETC Adjustments

A. ERC-Approved Projects

Table 4.3: ETC Updates on Luzon ERC Approved Projects

	Ongoing Projects	TDP 2024-2050	Revised ETC	Remarks
1	**Tuy 500 kV Substation – Stage 1**	Jun 2025	Jun 2026	**Overall Accomplishment: 88.77%**

	Ongoing Projects	TDP 2024-2050	Revised ETC	Remarks
	Tuy – Dasmarinas 500kV TL		Dec 2025	• ROW status: 133/135 Workable Tower Sites (TS); TS: 2 TS under expropriation case (EC)
	Tuy – Sta. Rita 230kV Line Extension		Jun 2026	• 29 TS affected by re-routing; 8/32 Workable TS • 4 TS affected properties controlled by DAR (Department of Agrarian Reform).
	Calatagan – Nasugbu 69kV Line Extension		June 2025	• Energized in June 2025
	Tuy Substation		June 2026	• Awaiting completion of the TL portion
	Dasmarinas Substation		Dec 2025	• Awaiting completion of the 500kV TL portion
	Calaca Substation		Jun 2026	• Awaiting completion of the 230kV TL portion
2	**New Antipolo 230 kV Substation**	Jun 2025	Dec 2025	**Overall Accomplishment: 93.86%** • ROW access issue from Sun Valley Homeowners
3	**Taguig 500 kV Substation**	Dec 2025	Dec 2026	**Overall Accomplishment: 49.50%**
	Taguig Bus-in to Muntinlupa – Paco Transmission Line		Dec 2025	• ROW status: 25/28 Workable PS • ROW issue on Brgy. Buli, Muntinlupa (2 PS)
	Taguig – Baras 500 kV (Land Portion) Transmission Line		Dec 2026	• Row Status: Workable TS: 29/53 TS • 4 TS under EC, 20 TS for EC • LGU Permit Issues
	Taguig – Baras 500 kV (Lake Portion) Transmission Line		Dec 2026	• ROW status: 24/48 Workable TS; TS: 22 TS under negotiation: 2 TS for filing for EC • With re-routing request from Binangonan LGU that will result to conflict with LLDA, DPWH's LLRN and DSHUD Projects
	SS: Taguig 500kV		Dec 2025	
4	**Manila (Navotas) 230 kV Substation**	Dec 2026	Jun 2028	**Overall Accomplishment: 35.75%**
	SS: Manila (Navotas)		Sep 2025	
	TL: Navotas–Marilao		Jun 2028	• ROW status:3/118 Workable TS • Awaiting adjustment in Obando area; With proposed rerouting at the fish port area in Navotas • 107 TS under negotiation, 1 TS under EC, 6 TS for EC
5	**Tuguegarao – Lal-lo (Magapit) 230 kV Transmission Line**	Sep 2025	Mar 2026	**Overall Accomplishment: 93.29%**
	Tuguegarao – Lal-Lo (Magapit) Transmission Line		Mar 2026	• ROW status: 160/178 Workable TS; 4 TS under negotiation: 14 TS under EC • ROW issue on Penablanca Portion, rerouting at Lagundaon and Villar Group portions.
	Tuguegarao SS/Lal-lo (Magapit) Substation		Mar 2026	• Ready for energization
6	**Clark – Mabiga 69 kV Transmission Line**	Dec 2025	Dec 2026	**Overall Accomplishment: 88.70%** • Proposed route is the Mc. Arthur highway alignment • Affected by CDC and DOTr Development Projects
7	**South Luzon Substation Upgrading**	Stage 1: Aug 2025 Stage 2: Aug 2025	Jul 2026	**Overall Accomplishment: 79.33%**
	San Juan Substation		Jul 2026	• Dependent on the approval of MOA between NGCP and PSALM.

	Ongoing Projects	TDP 2024-2050	Revised ETC	Remarks
8	**North Luzon Substation Upgrading**	Stage 1: Sep 2025 Stage 2: Dec 2024	Stage 2: Sep 2025	**Overall Accomplishment: 97.09%**
	Bacnotan Substation		Sep 2025	• Pre-commissioning activities ongoing
9	**Luzon Voltage Improvement Project - 3**	Jun 2025	Dec 2025	**Overall Accomplishment: 99.58%**
	Antipolo Substation		Dec 2025	• For filing of EC on Sun Valley Homeowners regarding access road going to substation site
10	**Eastern Albay 69 kV Transmission Line**	Apr 2026	Dec 2026	
	Sto. Domingo–Tabaco 69 kV Transmission Line		Dec 2026	• ROW status: 5.75 TS under negotiation: 3.5 TS under EC: 28.5 TS for filing • IBTS: 11 Lots turned-over: 1 Lot without Permit to Enter (PTE): 238 Lots under negotiation: 19 Lots for filing for EC

B. Recently Approved Projects

The ETC for the following recently approved projects have been adjusted to provide accurate and achievable project completion dates:

Table 4.4: Recently Approved Projects

	Recently Approved Projects	TDP 2024-2050	Revised ETC
1	Northern Luzon 230 kV Loop	Mar 2028	May 2030
2	Bolo – Balaoan 500 kV Transmission Line	Mar 2028	Oct 2030
3	Balaoan – Laoag (Burgos) 500 kV Transmission Line	Mar 2028	Dec 2031
4	Capas 230 kV Substation	Dec 2029	Oct 2029
5	Quezon – Marinduque Interconnection	Dec 2030	Dec 2030
6	Concepcion – Sta. Ignacia 69 kV Transmission Line	Phase 1: Jul 2026 Phase 2: Oct 2027	Jan 2027
7	Marilao 500 kV Substation	Jun 2027	May 2027
8	Porac 230 kV Substation	Nov 2026	Dec 2029
9	Nagsaag – Tumana 69 kV Transmission Line	Jul 2026	Jan 2027
10	North Luzon Substation Upgrading 2	Jul 2028	Aug 2027
11	Sampaloc 230 kV Substation	Dec 2028	Mar 2031
12	Tuy 500/230 kV Substation Project (Stage 2)	Oct 2030	-
13	Silang 500 kV Substation	Feb 2028	Sep 2029
14	South Luzon Substation Upgrading 2	Apr 2026	Jun 2027
15	San Simon 230 kV Substation	May 2027	May 2028
16	Santiago-Magat 230 kV Transmission Line Reconductoring	Dec 2025	Dec 2028
17	Pagbilao-Tayabas 500 kV Transmission Line	Mar 2028	Dec 2029
18	Tanauan 230 kV Substation	Jan 2028	Apr 2032
19	Abuyog 230 kV Substation	Nov 2026	Mar 2028
20	Minuyan 115 kV Switching Station	Feb 2030	-
21	Tower Resiliency of Bicol Transmission Facilities	Apr 2034	-
22	Ilijan 500 kV Substation Expansion	Mar 2027	Jun 2027

C. Awaiting ERC Approval

For projects that are currently pending approval from the ERC, a key adjustment has been made to the projects' ETC. Specifically, the revised ETC reflects a scenario where the Final Determination (FD) of NGCP MAR for the 5th Regulatory Period (5RP) is issued by the ERC in December 2025. This pivot in the ETC is not yet based on a confirmed approval date but rather serves as a planning assumption. By assuming a December 2025 issuance of 5RP FD which is ERC's approval, the project timelines and resource allocation are determined, allowing for more proactive planning and mitigation of potential delays. It is important to note that this is a hypothetical approval date used for planning purposes, and the actual date of 5RP FD issuance may vary.

Table 4.5: Luzon Ongoing Projects

	Name of the Project	TDP 2024-2050	Revised ETC
1	Western Luzon 500 kV Backbone – Stage 2	Jun 2027	May 2028
2	Pinamucan 500 kV Substation	Oct 2027	Feb 2029
3	Pinili 230 kV Substation	Dec 2026	Apr 2028

Table 4.6: Luzon New projects with ETC Adjustments

	Name of the Projects	TDP 2024-2050	Proposed ETC
1	Bolo 5th Bank	Jan 2029	Dec 2027
2	Magalang 230 kV Substation	Dec 2027	Dec 2029
3	Malaya 230 kV Collector Station	Mar2028	Apr 2030
4	Santiago-Kabugao 500 kV Transmission Line Project	2041-2050	Dec 2030
5	Nagsaag-Santiago 500 kV Transmission Line	Oct 2031	Dec 2030
6	Masiit 230 kV Collector Station	Dec 2030	Jun 2031
7	Sta. Maria 500 kV Substation	Dec 2030	Aug 2031
8	Taguig – Silang 500 kV Transmission Line	Feb 2031	Dec 2031
9	Baras 500 kV Substation	2031-2040	Sep 2032
10	Luzon Primary Equipment Substation Upgrading	Nov 2026	Dec 2032
11	Pasay 230 kV Substation	Dec 2029	Feb 2031
12	Baler 230 kV Substation	Apr 2030	Mar 2031
13	Plaridel 230 kV Substation	Feb 2030	Dec 2031
14	San Isidro 500 kV Substation	2031-2040	Stage 1: May 2031 Stage 2: Jul 2034
15	Bugallon 500 kV Substation	2031-2040	Jan 2033
16	San Mateo 230 kV Substation	2031-2040	Jun 2032
17	Kawit 230 kV Substation	May 2028	Dec 2032
18	San Fabian 230 kV Substation	Oct 2032	Dec 2033
19	Luzon Connection Requirements for Power Plant Project 1	Dec 2028	Jan 2030
20	Luzon Connection Requirements for Power Plant Project 2	Dec 2028	Jan 2030
21	Luzon Connection Requirements for Power Plant Project 3	Dec 2028	Jan 2030
22	Luzon Voltage Improvement 6	Mar2029	Sep 2029
23	Luzon Voltage Improvement 5	Dec 2030	Jun 2031
24	Camarines Sur-Catanduanes Interconnection	Dec 2030	Oct 2032

Table 4.7: Luzon projects without ETC Adjustments

	Name of the Projects	ETC
1	Bataan – Cavite Transmission Line Feasibility Study	To be assessed
2	Relocation of Steel Poles along Hermosa – Duhat 230 kV Transmission Line	Dec-2025

	Name of the Projects	ETC
3	Ambuklao – Binga 230 kV Transmission Line Upgrading Project	Dec-2025
4	Binga – San Manuel 230 kV Transmission Line	Dec-2025
5	Taguig – Taytay 230 kV Transmission Line	Dec-2030
6	La Trinidad – Calot 69 kV Transmission Line	Dec-2028
7	Tuguegarao – Enrile 69 kV Transmission Line	Oct 2030
8	Daraga – Bitano 69 kV Transmission Line	Dec 2030
9	Castillejos 230 kV Substation	Dec 2025
10	Dasol 230 kV Substation	Dec 2030
11	Luzon Voltage Improvement Project 4	Dec 2026
12	Pinamucan – Tuy 500 kV Transmission Line	Dec 2031
13	Marilao – Mexico 230 kV Transmission Line	Aug 2032
14	Navotas – Doña Imelda 230 kV Transmission Line	May 2033
15	Cabanatuan –Sampaloc – Nagsaag 230 kV Transmission Line	Jul 2033
16	Bauang – La Trinidad 230 kV Transmission Line Upgrading	Dec 2031
17	Tagkawayan 500 kV Substation	Feb 2033
18	Palauig 500 kV Substation	Dec 2033
19	Olongapo 230 kV Substation Upgrading	Oct 2033
20	Palawan – Mindoro Interconnection Project (Stage 1)	Feb 2033
21	Baras – Pinamucan 500 kV Transmission Line	2031-2040
22	Bataan – Cavite 500 kV Transmission Line	2031-2040
23	San Isidro – Palauig 500 kV Transmission Line	2031-2040
24	San Jose – San Rafael 230 kV Transmission Line Upgrading	2031-2040
25	Bauang – Balaoan 230 kV Transmission Line Upgrading	2031-2040
26	Cabanatuan – San Rafael – Mexico 230 kV Transmission Line Upgrading	2031-2040
27	Hermosa – Mexico 230 kV Transmission Line Upgrading	2031-2040
28	Calaca – Salong 230 kV Transmission Line 2	2031-2040
29	Taguig – Muntinlupa 230 kV Transmission Line 2	2031-2040
30	Sagada – San Esteban 230 kV Transmission Line	2031-2040
31	Dinadiawan – Santiago 230 kV Transmission Line	2031-2040
32	Baler – Dinadiawan 230 kV Transmission Line	2031-2040
33	South Luzon 69 kV Transmission Line Upgrading 1	2031-2040
34	North Luzon 69 kV Transmission Line Upgrading 1	2031-2040
35	Mexico – Clark 69 kV Transmission Line Upgrading	2031-2040
36	Marilao 500 kV Substation Expansion	2031-2040
37	Bacolor 500 kV Substation	2031-2040
38	Dasmariñas 500 kV Substation Upgrading	2031-2040
39	Kalinga 500 kV Substation	2031-2040
40	Taguig EHV Substation Expansion	2031-2040
41	Castillejos 500 kV Expansion	2031-2040
42	Santiago 500 kV Substation Expansion	2031-2040
43	Alas-Asin 500 kV Substation	2031-2040
44	Calatagan 500 kV Substation	2031-2040
45	Balsik 500 kV Substation Expansion	2031-2040
46	San Agustin 230 kV Substation	2031-2040
47	Guagua 230 kV Substation	2031-2040
48	Apalit 230 kV Substation	2031-2040
49	Iriga 230 kV Substation	2031-2040
50	Lipa 230 kV Substation	2031-2040
51	Balanga 230 kV Substation	2031-2040
52	FBGC 230 kV Substation	2031-2040

	Name of the Projects	ETC
53	Valenzuela 230 kV Substation	2031-2040
54	Nuvali 230 kV Substation	2031-2040
55	Cabatuan 230 kV Substation	2031-2040
56	North Luzon Substation Upgrading 3	2031-2040
57	South Luzon Substation Upgrading 3	2031-2040
58	Bustos 230 kV Substation	2031-2040
59	Sariaya 230 kV Substation	2031-2040
60	Presentacion 230 kV Substation	2031-2040
61	North Luzon Substation Upgrading 4	2031-2040
62	South Luzon Substation Upgrading 4	2031-2040
63	San Marcelino 230 kV Collector Station	2031-2040
64	Peninsula, Masiit, and Calamba 230 kV Collection Stations	2031-2040
65	Luzon Voltage Improvement Project 7	2031-2040
66	Luzon Voltage Improvement Project 8	2031-2040
67	Santiago – Gamu 230 kV Transmission Line Reconductoring	2031-2040
68	Milaor – Tublijon 500 kV Transmission Line Project	2041-2050
69	La Trinidad – Sagada 230 kV Transmission Line	2041-2050
70	Pasay – Limay 230 kV Transmission Line	2041-2050
71	Capas – Bolo 230 kV Transmission Line	2041-2050
72	Alaminos EHV Substation	2041-2050
73	Matnog 230 kV Substation	2041-2050
74	Nagsaag to Kabugao 500 kV Backbone Project	2041-2050
75	Metro Manila 500 kV Backbone Loop Project	2031-2040
76	Mindoro-Panay Interconnection Project	2041-2050

4.4 VISAYAS GRID

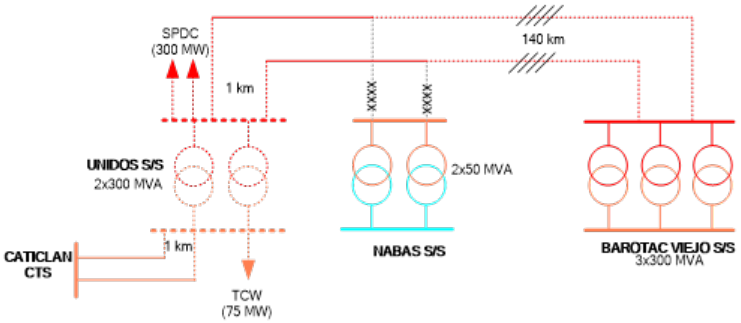
4.4.1 Visayas Grid Project Updates

Table 4.8: List of Visayas Transmission Projects

TRANSMISSION LINE					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
230 kV PROJECTS					
Barotac Viejo – Unidos 230 kV Transmission Line Project • To accommodate the incoming power plants in Northern Panay • To prevent overloading of the 138 kV Transmission corridor in Northern Panay during normal and N-1 conditions	• Generation Entry • Awaiting ERC approval	Stage 1: • Unidos GIS SS (New): 7-230 kV PCB (GIS) and associated equipment; 6- 138 kV PCB (GIS) and associated equipment Stage 2: • Unidos GIS SS (New): 2x300 MVA 230/138-13.8 kV Power Transformers and accessories. • Barotac Viejo SS (Expansion): 4-230 kV PCB and associated equipment	Stage 1: • Bus-in of Unidos SS to Nabas – Caticlan TL (Going to Caticlan): 138 kV TL, ST-DC, 1-795 MCM ACSR, 1 km (2x172 MW) • Bus-in of Unidos SS to Nabas – Caticlan TL (Going to Nabas): 230 kV TL, ST-DC, 4-795 MCM ACSR, 1 km. (2x1,148 MW) • Upgrading of Barotac Viejo – Dingle 138 kV TL, Stringing of 3rd Circuit with 1-410 mm^2 STACIR Conductor, and reconductoring of existing lines 1 and 2 with 1-410	• Panay	• 16,260 M • Stage 1: Dec 2029 • Stage 2: May 2033

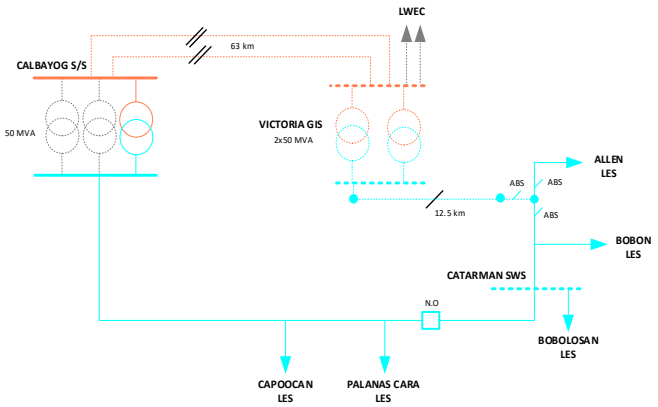
TRANSMISSION LINE

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
			mm² STACIR Conductor, DC, 37 km. (3x382 MW) Stage 2: • Barotac Viejo – Unidos 230 kV TL (Extension up to Barotac Viejo), STDC, 4-795 MCM ACSR, 140 km. (2x1,148 MW)		



138 kV PROJECTS

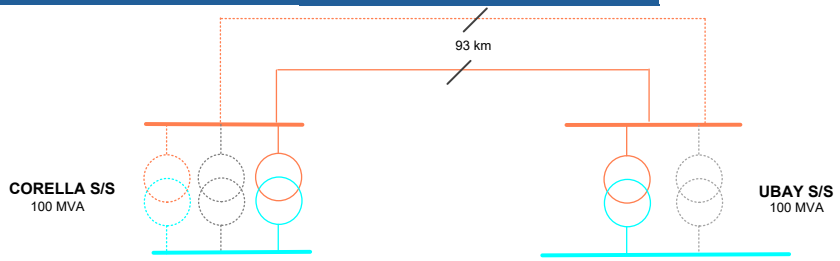
Calbayog – Allen Transmission Line Project • To accommodate and provide reliability to the existing and future power plants connected in Ubay area	• Generation Entry and System Reliability • ERC-Approved	• Calbayog SS: 3-138 kV PCB and associated equipment • Catarman SWS: 5-69 kV PCB and associated equipment Victoria GIS: 2x50 MVA Power Transformers and accessories (Redeployment of Power Transformers from Paranas SS and Panitan SS), 11-138 kV PCB and associated equipment; 4 - 69 kV PCB and associated equipment	• Calbayog – Victoria 138 kV TL, ST-DC, 2-795 MCM ACSR, 63 km (2x344 MW) • Victoria – Allen 69 kV TL, SP-SC, 1-795 MCM ACSR, 12.5 km (1x86MW) • Victoria 138 kV XLPE U/G, 1C x1000mm² XLPE U/G, 0.12 km • Rerouting of Paranas – Calbayog & Calbayog – Catarman 69 kV Lines,1x336.4 MCM ACSR, SP-SC, 0.5 km	• Samar	• 8,897 M • Dec 2027



Corella – Ubay 138 kV Line 2 Stringing Project	• Generation Entry and System Reliability • Awaiting ERC approval	• Corella SS (Expansion): 1-138kV PCB and associated equipment • Ubay SS (Expansion): 3-138kV PCB and associated equipment, 2- 69kV PCB and associated equipment, transfer of 2x5 MVAR Capacitor Bank from Trinidad LES to Ubay	• Corella – Ubay 138 kV TL 2 138 kV TL, ST-DC2, 1-795 MCM ACSR, 93 km (1x 172 MW)	• Bohol	• 2,121 M • Sep 2030

TRANSMISSION LINE

Project Name and Justification	Project Driver and Status	Project Components	Location	Project Cost (Million Pesos) ETC
• To accommodate and provide reliability to the existing and future power plants connected in Ubay area		Substation: Transmission Line		



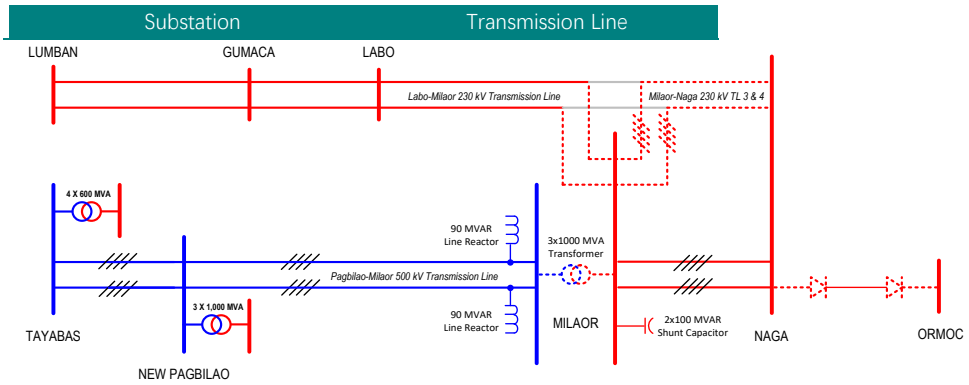
** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

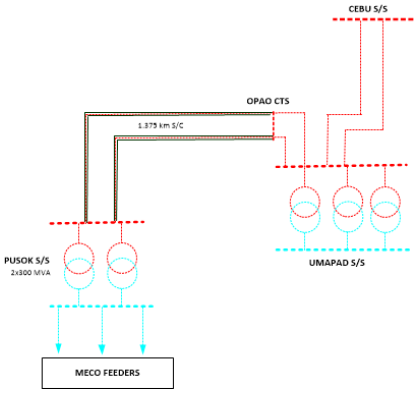
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components: Substation	Project Components: Transmission Line	Location	Project Cost (Million Pesos) ETC*
500 kV PROJECTS					
Luzon – Visayas HVDC Bipolar Operation Project • To provide an additional transfer capacity of 440 MW between Luzon and Visayas Island upon completion of the project • To accommodate additional excess generation, and to maximize the power interchange between Luzon, Visayas, and Mindanao	• Generation Entry • Awaiting ERC approval	Luzon • Milaor 500 kV SS (Expansion): 1x1,000 MVA 500/230-13.8 kV Power Transformer and accessories, 1-500 kV PCB and associated equipment, 7-230 kV PCBs and associated equipment • Naga (Luzon) SS (Expansion): 6-230 kV PCBs and associated equipment • Naga Converter/Inverter Station (Upgrading): 6 sets of 333 MVA, 1-phase, 60Hz, 230/350-13.8kV, ONAN-ODAF-ODAF, Modular multi-level voltage source converter (MMC-VSC) valve, High Voltage DC Filters and Shunt Capacitors, ±350kV DC, Electrode DC Filters and Shunt Capacitors, 4-350 kV PCB and associated Equipment Visayas • Ormoc Converter/Inverter Station (Upgrading): 6 sets of 333 MVA, 1-phase, 60Hz, 230/350-13.8kV, ONAN-ODAF-ODAF, Modular multi-level voltage source converter (MMC-VSC) valve, High Voltage DC Filters and Shunt Capacitors, ±350kV DC, Electrode DC Filters and Shunt Capacitors, 4-350 kV PCB and associated Equipment • Ormoc 230 kV SS: 2-230 kV PCB and associated Equipment	Luzon • Naga–New HVDC 230 kV Transmission Line: 3-772 mm2 ACSR/AS, SP-DC, 0.2 km • Swinging and Upgrading of Labo–Milaor 230 kV Transmission Line at Milaor Substation: 1-410 mm2 STACIR, ST-DC, 1.5 km • Swinging and Upgrading of Milaor–Naga 230 kV Transmission Line 3 & 4 at Milaor Substation: 4-795 MCM ACSR/AS, ST-DC, 3.0 km	• Quezon • Camarines Sur • Leyte	• 22,463 M • Stage 1: Mar 2028 • Stage 2: Dec 2030

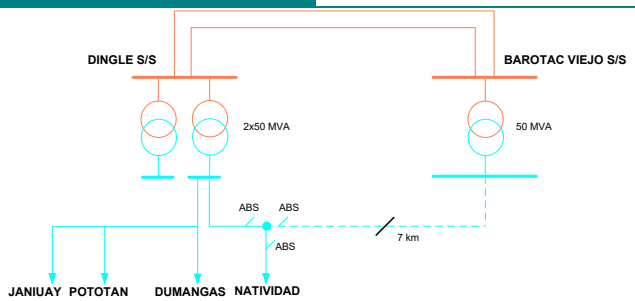
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components			Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line			
230 kV PROJECTS						
Lapu-lapu 230 kV Substation Project • To unload the Cebu – Mandaue – Lapu-lapu 138 kV Transmission Corridor and Lapu-lapu GIS Substation. • To provide alternative substation capacity to power consumers in Lapu-lapu and Cordova	• Load Growth and System Reliability • Awaiting ERC approval	• Pusok 230 kV GIS SS (New), 2x300MVA 230/69-13.8 kV Power Transformers, 8-230 kV PCB (GIS), 10-69 kV PCB (GIS). • Opao CTS	• Umapad GIS – Opao CTS 230 kV TL, SP-DC, 2-410 mm^2 STACIR, 1.591 km (2x1,219 MVA) • Umapad GIS Underground Cable, 1C-1600 mm^2 XLPE, Double Circuit, 0.250 km (2x600 MW)	• Opao – Pusok 230 kV SC, 600 MW per circuit, DC, 1.375 km (2x600 MW)	• Cebu	• 3,935 M • Nov 2027
Visayas Substation Upgrading Project	• System Reliability • ERC-Approved	Cebu: • Daanbantayan SS: 150 MVA 230/69 - 13.8 kV Power Transformer, 1-230 kV PCB, 4-69 kV PCB. Leyte • Tabango SS: 1x50 MVA 230/69-13.8 kV Power Transformer, 1-230 kV PCB, 3-69 kV PCB.			• Southern Leyte • Leyte • Samar • Cebu	• 1,317 M • Jun 2026





SUBSTATION

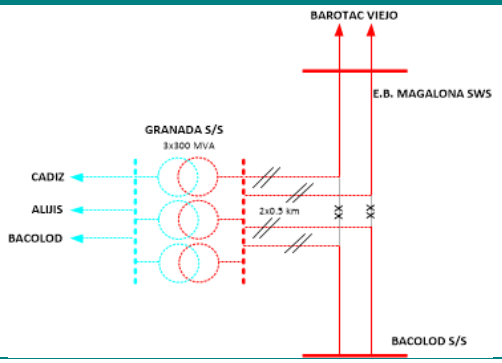
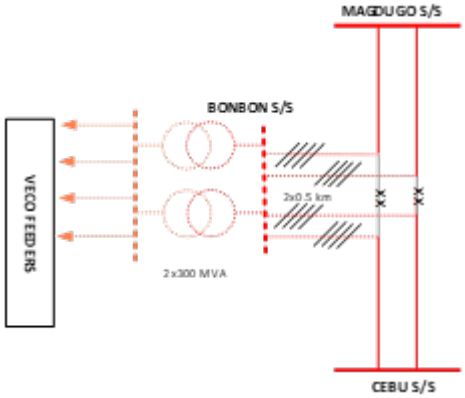
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To accommodate the projected demand and avoid overloading of the transformer during N-1		• Maasin SS: 1x50 MVA 138/69-13.8 kV Power Transformer and accessories Samar: • Calbayog SS: 50 MVA 138/69-13.8 kV Power Transformer, 1-138 kV PCB, 2-69 kV PCB			
Visayas Substation Upgrading Project 2 • To cater to the load growth in the area and to provide N-1 contingency to the Substations. Replaced transformers will either be redeployed to other Substations or refurbished • To cater the growth in demand in each area and to provide reliability to the customers being served by the substations	• System Reliability • ERC approved	Stage 1: Leyte: • Isabel SS: 1x50 MVA 138/69-13.8 kV Power Transformer (1x50 MVA transformer transferred from Calong-calong SS), 3-138 kV PCB, 2-69 kV PCB. (Additional), 9-138 kV PCB, 2-69 kV PCB. (Replacement), Centralized Control Building (CCB), Full upgrading of secondary devices • Tabango SS: 1x50 MVA 230/69-13.8 kV Power Transformer, 2-230 kV PCB, 2-69 kV PCB, CCB, Full upgrading of secondary devices. • Maasin SS: 1x50 MVA 138/69-13.8 kV Power Transformer, 3-138 kV PCB, 9-69 kV PCB, Expansion of Control Room. Samar: • Paranas SS: 2x100 MVA 138/69-13.8 kV Power Transformer (Replacement of 30 MVA and 50 MVA transformers), 9-69 kV PCB, CCB, Full upgrading of secondary devices • Calbayog SS, 1x50 MVA 138/69-13.8 kV Power Transformer, 5-138 kV PCB, 7-69 kV PCB, Full upgrading of secondary devices, CCB. Cebu: • Compostela SS: 2x100 MVA 138/69- 13.8 kV Power Transformer (Replacement of 2x50 MVA transformers), 2-230 kV PCB, 3-69 kV PCB, and Relocation of Warehouse • Samboan SS: 4-138 kV PCB, 2-69 kV PCB, CCB and Full upgrading of secondary devices • Toledo SS: 3x100 MVA 138/34.5-13.8 kV Power Transformer (Replacement of 3x40 MVA		• Visayas Island	• 14,420 M • Stage 1: Aug 2027 • Stage 2: Oct 2028

SUBSTATION					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		transformers), Transfer of termination of various TL, and CCB • Daanbantayan SS: 1x150 MVA 230/69-13.8 kV Power Transformer, 2-69 kV PCB, CCB. Bohol: • Ubay SS: 1x100 MVA 138/69-13.8 kV Power Transformer, 10-138 kV PCB, 11-69 kV PCB, CCB, and 69 kV line extensions • Corella SS: 1x100 MVA 138/69-13.8 kV Power Transformer, 2-138 kV PCB, 8-69 kV PCB and 69 kV line extensions. Negros: • Kabankalan SS: 2x100 MVA 138/69-13.8 kV Power Transformer (Replacement of 30 and 50 MVA Transformers), 3-138 kV PCB, 4-69 kV PCB, CCB and Telecom Shelter, and Full upgrading of secondary devices • Mabinay SS: 1x50 MVA 138/69-13.8 kV Power Transformer, 4-138 kV PCB, 5-69 kV PCB, CCB and Telecom Shelter, and Full upgrading of secondary devices. Panay: • San Jose SS: 2x50 MVA 138/69-13.8 kV Power Transformer, 6-138 kV PCB, 5-69 kV PCB, Expansion of Control Building • Dingle SS: 2x100 MVA 138/69-13.8 kV Power Transformer (Replacement of 2x50 MVA Transformers), 3-138 kV PCB, 9-69 kV PCB, CCB and Telecom Shelter, and Full upgrading of secondary devices • Barotac Viejo SS: 50 MVA 138/69-13.8 kV Power Transformer (50 MVA Transformer transferred from Iloilo SS), 2-138 kV PCB, 2-69 kV PCB, • Sta. Barbara SS: 1x75 MVA 138/69-13.8 kV Power Transformer (Spare), Upgrading of Secondary Equipment. Cable Stage 2: • Panitan SS: 3x100 MVA 138/69-13.8 kV Power Transformer and accessories (Replacement of 2x30 and 50 MVA transformers), 1x7.5 MVAR Power Shunt Capacitor; 8-138 kV PCB (GIS) and associated			

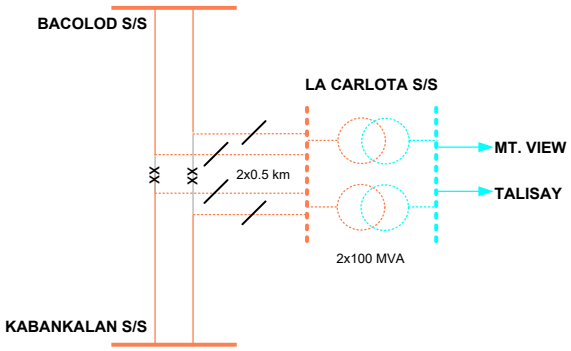
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		equipment, CCB and Container Van and Dismantling of existing 69 kV Switchyard; Decommissioning of 8-69 kV PCB • Concepcion SS: 1x100 MVA 138/69- 13.8 kV Power Transformer, 1-138 kV PCB • Calong-calong SS, 3x100 MVA 138/69-13.8 kV Power Transformer (Replacement of 2x50 MVA transformers), 2-138 kV PCB, 13-69 kV PCB, Full upgrading of secondary devices, CCB, Dismantling of existing 69 kV Switchyard, and Calong-calong 69 kV feeder line extensions			
Visayas Substation Upgrading Project 3 • To accommodate the projected demand and avoid overloading of the transformer in Cadiz and Colon Substation • To increase the substation capacity and provide reliability during N-1 condition or outage of one transformer • To accommodate the incoming generation in each area	• Load Growth, • Generation Entry, • System Reliability • Awaiting ERC approval	• Cadiz SS (expansion) 1x150 230/138 kV Power Transformers, 2x100 MVA 138/69-13.8 kV Power Transformers, 1-230 kV, 1-138 kV, 10-69 kV PCB and associated equipment. • Gahit 230 kV SS (expansion) 2-230 kV PCB and associated equipment • Sta. Barbara 138 kV SS (expansion): 2- 138 kV PCB, and associated equipment • Naga 138 kV SS (expansion) 3-138 kV PCB and associated equipment • Colon 138 kV SS (expansion): 2x100 MVA 138/69-13.8 kV Power Transformers and accessories 1-138 kV PCB and associated equipment 2- 69 kV PCB and associated equipment. • Calbayog 69 kV SS (expansion): 1-69 kV PCB and associated equipment PCB, 8-69 kV PCB and 69 kV line extensions.		• Negros Occidental • Iloilo • Cebu • Samar	• 4,517 M • Jun 2033
Granada 230 kV Substation Project	• Load Growth • ERC-Approved	• Granada SS: 3x300 MVA, 230/69-13.8 kV Power Transformers, 12-230 kV PCB and associated equipment, 10-69 kV PCB and associated equipment	• Granada 230 kV "Bus-in" Lines, ST-DC, 2-795 MCM ACSR, 2x0.50 km (2x573 MW)	• Negros Occidental	• 4,032 M • Oct 2030

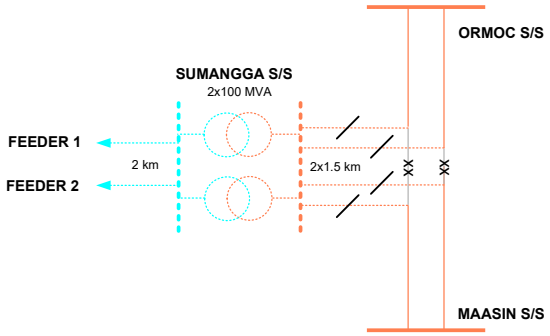
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To address overloading of power transformers in Bacolod Substation • To provide new connection point for power customers in Negros Occidental					
Bonbon (Nivel Hills) 230 kV Substation Project • To prevent overloading of Cebu and Quiot Substation • To cater the growing demand and to provide operational flexibility and reliability to the customers in Metro Cebu	• Load Growth • System Reliability • Awaiting ERC Approval	• Bonbon SS (expansion): 2x300 MVA, 230/138-13.8 kV Power Transformer and accessories; 2-230 kV PCB (GIS) and associated equipment; 8-138 kV PCBs (GIS) and associated equipment. 		• Cebu	• 6,867M • Dec 2033

138 kV PROJECTS

La Carlota 138 kV Substation Project • To unload the existing Bacolod-San Enrique 69 kV Transmission Line and Bacolod Substation • To cater to the growing demand and to provide operational flexibility and reliability to the customers in Negros Occidental The project will serve as connection points to accommodate new power plants.	• Load Growth • ERC-Approved	• La Carlota SS: 2x100 MVA, 138/69-13.8 kV Power Transformers; 12-138 kV PCB and associated equipment; 4-69 kV PCB and associated equipment. 	• La Carlota 138 kV "Bus-in" Lines, ST-DC, 1-795 MCM ACSR, 2x0.50 km (2x172 MW) • La Carlota 69 kV "Cut-in" Lines, SPDC, 1-795 MCM ACSR, 1.5 km (1x86 MW)	• Negros Occidental	• 4,022 M • Jul 2031
Sumangga 138 kV Substation Project	• Load Growth • ERC-Approved	• Sumangga SS: 2x100 MVA, 138/69- 13.8 kV Power Transformers; 10-138 kV PCB and	• Bus-in to the Ormoc – Maasin 138 kV Transmission Line, ST-DC, 1x795 MCM ACSR, 2x1.5 km	• Negros Occidental	• 4,022 M • May 2031

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		associated eqpt; 5-69 kV PCB and associated eqpt. • Ormoc 138 kV SS: 6-69 kV PCB and associated equipment	• Sumangga 69 kV "Cut-in" Lines, SP-DC, 1-795 MCM ACSR, 1 km		
• To unload the existing Ormoc-Simangan 69 kV Transmission Line and Ormoc Substation • To cater to the growing demand and to provide operational flexibility and reliability to the customers in Western Leyte • To improve the voltage quality in the area					

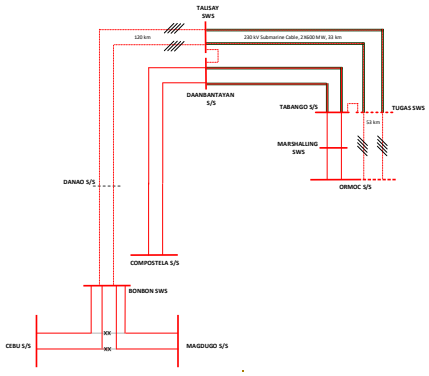
** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

INTERCONNECTION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
230 kV PROJECTS					
Cebu – Leyte 230 kV Interconnection Lines 3 &4 Project	• Generation Entry • System Reliability • Awaiting ERC approval	Stage 1: • Bonbon 230 kV SWS (GIS): 10-230 kV PCB and associated equipment • Tabango 230 kV SS (Expansion): 1-230 kV PCB and associated equipment • Daanbantayan 230 kV SS (Expansion): 7-230 kV PCB and associated equipment • Villaba SWS (New): 16-230 kV PCBs and associated equipment; 2x70 MVAR Line ReactorsTominjao SWS (New): 20-230 kV PCBs and associated equipment; 2x70 MVAR Line Reactors • Compostela 230 kV SS (Expansion): 4-230 kV PCB and Associated Equipment • Transfer of termination of 230 kV 30 MVAR reactor to Bus Stage 2: • Ormoc 230 kV SS (Expansion): 4-230 kV PCB and Associated Equipment	Stage 1: • Bus-in of Bonbon SS to Cebu-Magdugo OHTL, ST-DC, 4-795 MCM ACSR, 230 kV, 2x0.5 km. • Bonbon–Compostela TL 230 kV TL, ST-DC, 4-795 MCM ACSR, 20 km • Villaba Bus-in Lines: 230 kV, ST-DC, 4-795 MCM ACSR, 2x3 km • Daanbantayan–Tominjao TL 230 kV TL, ST-DC, 4-795 MCM ACSR, 5 km Stage 2: • Villaba–Ormoc TL 230 kV TL, ST-DC, 4-795 MCM ACSR, 53 km • Bonbon-Tominjao 230 kV TL (Extension from Compostela to Tominjao SS), ST-DC, 4-795 MCM ACSR, 100 km	• Cebu • Leyte	• 44,406M • Stage 1: Dec 2028 • Stage 2: Dec 2031
		Submarine Cable			
• To accommodate the overloading of Daanbantayan – Tabango 230 kV submarine cables		Stage 1: • Tominjao–Villaba SC: 230 kV Submarine Cable, 600-MW per			

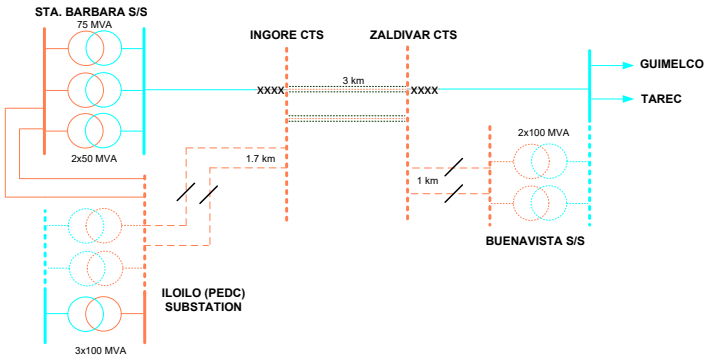
INTERCONNECTION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To maximize power interchange between Luzon, Visayas and Mindanao • To increase reliability of the 230 kV backbone between Cebu and Leyte Islands • To accommodate the entry of new power plants in Leyte and Samar Island			circuit submarine cables, Double Circuit 37.491 km		



138 kV PROJECTS

Panay – Guimaras 138 kV Interconnection Line 2 Project • To provide reliability to the existing and future power plants and load customers in Guimaras Island	• System Reliability • Awaiting ERC approval	• Iloilo SS: 1-138 kV PCB and associated equipment	• Ingore – Sawang 138 kV SC: 3-400 mm^2 XLPE, Submarine Cable, Single Circuit, 3 km (1x100 MW)	• Guimaras • Iloilo	• 3,828 M • Dec 2029



** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

Table 4.9: List of Additional Proposed Projects in Visayas for the period 2025-2030

Project Name	Description	Location
SUBSTATION		
230 kV PROJECTS		
Visayas Connection Requirements for Power Plants Project 1	• The project involves the expansion of various NGCP Substations in the Visayas region that is intended for the termination of proposed power plants and load customer.	Leyte, Samar, Bohol, Negros and Panay

Project Name	Description	Location
	This project will enable the generation facilities to be connected to the grid and to be energized	

Table 4.10: List of Additional Proposed Projects in Visayas for the period 2031-2040

Project Name	Description	Location
TRANSMISSION LINE		
138 kV PROJECTS		
Babatngon – Paranas 138 kV Transmission Line Upgrading Project	The project involves the upgrading of a portion of the existing Babatngon – Paranas 138 kV line along San Juanico Strait. The project will increase the transfer capacity between Samar and Leyte Island. Thus, it will accommodate the entry of the wind power plants in Samar Island.	Leyte and Samar

Project Name	Description	Location
SUBSTATION		
230 kV PROJECTS		
Visayas Connection Requirements for Power Plants Project 2	• The project involves the expansion of various NGCP Substations in the Visayas region that is intended for the termination of proposed power plants and load customer. This project will enable the generation facilities to be connected to the grid and to be energized	Leyte, Samar, Bohol, Negros and Panay
Gahit 230 kV Substation Project	• The proposed project involves the upgrading of the Gahit SWS to a drawdown substation. 69 kV Cut-in lines will be constructed along the Bacolod – Cadiz 69 kV transmission line. The project aims to accommodate the entry of new powerplants and load customers along the Bacolod-Cadiz 69 kV transmission line. Furthermore, it will provide operational flexibility and reliability to the customers in Negros Occidental.	Negros

4.4.2 ETC Adjustments

A. ERC-Approved Projects

Table 4.11: ETC Updates on Visayas ERC Approved Projects

	Ongoing Projects	TDP 2024-2050	Revised ETC	Remarks
1	**Cebu – Lapu-Lapu 230 kV Transmission Project**	Dec 2025	Dec 2026	**Overall Accomplishment: 65.36%**
	Cebu-Umapad 230kV Transmission Line		Dec 2026	• ROW status: 45/49 PS/TS Workable ;1 TS under negotiation: 2 TS under EC: 1 TS for filing for EC • For the additional 9 PS overhead lines (special towers) from New Umapad CTS to Umapad SS. • With ROW issue on Mandaue Green Corridor • 5 TS for DPWH clearance (4 TS requested to be relocated due to DPWH Flood Control Project)
2	**Visayas Substation Reliability Project 2**	Dec 2024	Oct 2025	**Overall Accomplishment: 99.17%** Ongoing testing and assessment of high voltage equipment
3	**La Carlota 138 kV Substation**	Dec 2032	Jul 2031	Ongoing Pre-construction activities

	Ongoing Projects	TDP 2024-2050	Revised ETC	Remarks
	Project			
4	**Granada 230 kV Substation Project**	Jun 2030	Oct 2030	Ongoing Pre-construction activities
5	**Sumangga 138 kV Substation Project**	Dec 2033	May 2031	Ongoing Pre-construction activities

B. Recently Approved Projects

The ETC for the following recently approved projects have been adjusted to provide accurate and achievable project completion dates:

Table 4.12: Recently Approved Projects

	Recently Approved Projects	TDP 2024-2050	Revised ETC
1	Babatngon – Palo 230 kV Transmission Line Project	Dec 2030	Jun 2029
2	Barotac Viejo – Natividad 69 kV Transmission Line Project	Feb 2028	Oct 2027
3	Visayas Substation Upgrading Project 2	Stage 1: Dec 2025 Stage 2: Jun 2027	Stage 1: Aug 2027 Stage 2: Oct 2028
4	Visayas Voltage Improvement Project 2	Stage 1: Dec 2025 Stage 2: Aug 2029	Stage 1: Feb 2028 Stage 2: Dec 2030
5	Visayas Substation Upgrading Project	Feb 2025	Jun 2026
6	Tigbauan 138 kV Substation Project	Stage 1: Energized at 69 kV Stage 2: Aug 2029	Dec 2030
7	Laray 230 kV Substation Project	Nov 2028	Feb 2031

C. Awaiting ERC Approval

Table 4.13: Visayas Ongoing Projects

	Name of the Project	TDP 2024-2050	Revised ETC
1	Lapu-Lapu 230 kV Substation Project	Jul 2026	Nov 2027
2	Visayas Mobile Capacitor Bank Project	May 2026	Sep 2027

Table 4.14: Visayas New projects with ETC Adjustments

	Name of the Projects	TDP 2024-2050	Proposed ETC
1	Visayas Connection Requirements for Power Plants Project 1	2024-2030	2025-2030
2	Cebu – Leyte 230 kV Interconnection lines 3 and 4 Project	Stage 1: Dec 2029 Stage 2: Dec 2031	Stage 1: Dec 2028 Stage 2: Dec 2031
3	Visayas Substation Upgrading Project 3	Oct 2027	Jun 2033
4	Bool 138 kV Substation Project	Dec 2030	Jan 2031
5	Bonbon (Nivel Hills) 230 kV Substation Project	Dec 2030	Dec 2033
6	Visayas 69 kV TL Upgrading Project	Dec 2025	Jul 2028

7	Panay – Guimaras 138 kV Interconnection Line 2 Project	Jul 2028	Dec 2029
8	Visayas Regional PCB Replacement 1 Project	Dec 2026	Dec 2031
9	Tabango – Biliran 69 kV Transmission Line Project	Sep 2034	Jul 2032
10	Luzon – Visayas HVDC Bipolar Operation Project	Dec 2032	Stage 1: Mar 2028 Stage 2: Dec 2030

Table 4.15: Visayas projects without ETC Adjustments

	Name of the Projects	ETC
1	Panay – Guimaras 138 kV Interconnection Project	Apr-2026
2	Nabas – Caticlan – Boracay Transmission Line Project	Aug-2026
3	Amlan – Dumaguete 138 kV Transmission Line Project	Jan-2026
4	Calbayog – Allen Transmission Line Project	Dec-2027
5	Barotac Viejo – Unidos 230 kV Transmission Line Project	Stage 1: Dec 2029 Stage 2: May 2033
6	Corella – Ubay 138 kV Line 2 Stringing Project	Sep 2030
7	Taft – Oras 138 kV Transmission Line Project	2025-2030
8	Bobolosan – Mapanas 138 kV Transmission Line Project	2025-2030
9	Relocation of Transmission Towers in Leyte Project	2025-2030
10	Visayas Substation Upgrading Project 4	2025-2030
11	Danao 230 kV Substation Project	Aug-2032
12	Banga 138 kV Substation Project	Sep-2032
13	Mandurriao 138 kV Substation Project	Oct-2034
14	Babatngon – Calbayog 230 kV Transmission Line Project	2031-2040
15	Babatngon – Paranas 138 kV Transmission Line Upgrading Project	2031-2040
16	Bacolod - Kabankalan 230 kV Transmission Line Project	2031-2040
17	Barotac Viejo - Sta. Barbara 230 kV Transmission Line Project	2031-2040
18	Bohol - Leyte 230 kV Interconnection Project	2031-2040
19	Calatrava- - Granada 230 kV Transmission Line Project	2031-2040
20	Cebu - Negros 230 kV Interconnection Line 3 and 4 Project	2031-2040
21	Corella -Ubay 230 kV Transmission Line Project	2031-2040
22	Laray - San Fernando 230 kV Energization Project	2031-2040
23	Maasin - Sogod 230 kV Transmission Line Project	2031-2040
24	Negros - Guimaras 230 kV Backbone Project	2031-2040
25	Panay - Guimaras 230 kV Backbone Project	2031-2040
26	Ormoc - Babatngon 230 kV Transmission Line Project	2031-2040
27	Sta. Rita - Borongan 138 kV Transmission Line Project	2031-2040
28	Bayawan - Sipalay 138 kV Transmission Line Project	2031-2040
29	Siaton - Bayawan 138 kV Transmission Line Project	2031-2040
30	Victoria - Catarman 138 kV Transmission Line Project	2031-2040
31	Gahit 230 kV Substation Project	2031-2040
32	San Fernando 230 kV Substation Project	2031-2040
33	Visayas Substation Upgrading Project 5	2031-2040
34	Visayas Regional PCB Replacement Project 2	2031-2040
35	Sta. Rita 138 kV Substation Upgrading Project	2031-2040
36	Visayas Voltage Improvement Project 3	2031-2040
37	Palo – Sogod 230 kV Transmission Line Project	2041-2050
38	Laray – Cordova 230 kV Interconnection Project	2041-2050
39	Pusok – Cordova 230 kV Interconnection Project	2041-2050
40	Catarman – Mapanas - Oras 138 kV Transmission Line Project	2041-2050
41	Borongan – Taft 138 kV Transmission Line Project	2041-2050

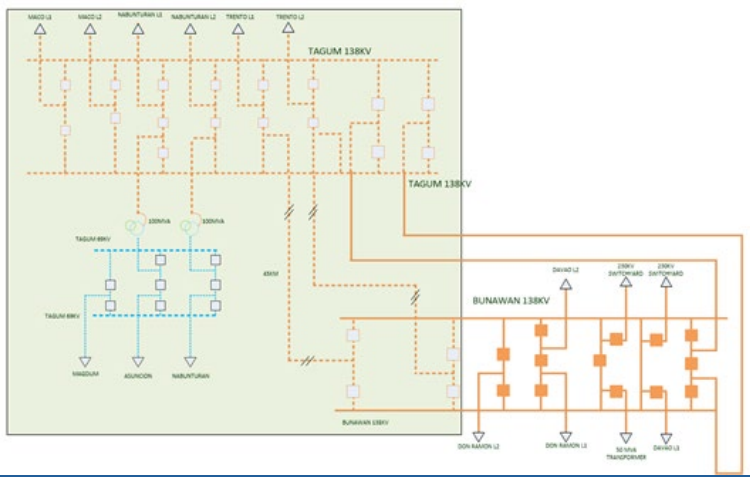
	Name of the Projects	ETC
42	Siaton – Dumaguete 138 kV Transmission Line Project	2041-2050
43	San Jose – Nabas 138 kV Transmission Line Project	2041-2050
44	Visayas Regional PCB Replacement Project 3	2041-2050
45	Sipalay 138 kV Substation Project	2041-2050
46	Visayas Voltage Improvement Project 4	2041-2050

4.5 MINDANAO GRID

4.5.1 Mindanao Grid Project Updates

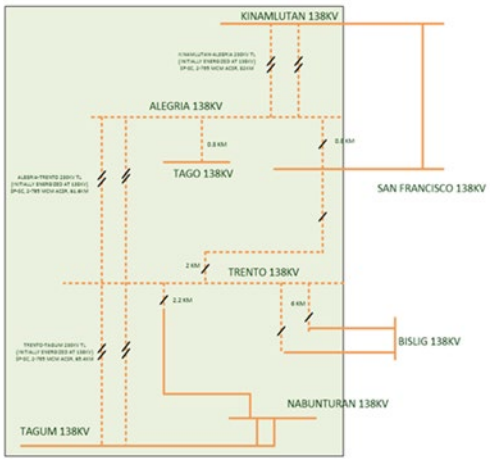
Table 4.16: List of Mindanao Transmission Projects

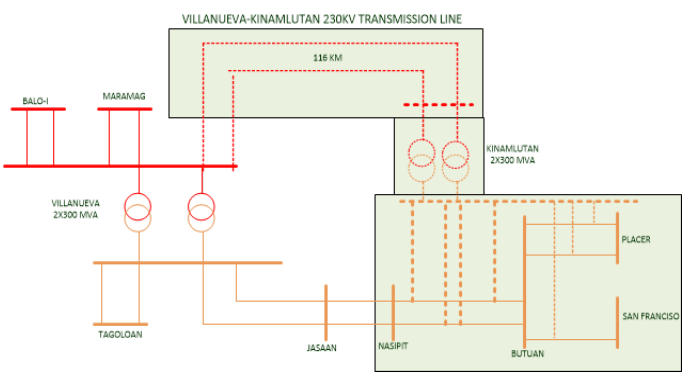
TRANSMISSION LINE					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
230 kV PROJECTS					
Bunawan–Tagum 230 kV Transmission Line Project • To provide a new transmission corridor that mitigates the anticipated thermal overloading of the Bunawan – Nabunturan and Bunawan – Maco – Nabunturan 138 kV TL during an outage of one of the circuits • To strengthen the transmission corridor from Davao City going to the province of Davao de Oro • To accommodate the Asuncion LES of Northern Davao Electric Cooperative (NORDECO) which is currently connected to Nabunturan 138 kV Substation • To reinforce the Maco – Tagum 69 kV Line during N-1 condition • To be initially energized at 138 kV	• Generation Entry • Load Growth • Awaiting ERC approval	• Tagum 230 kV SS: 2 x 100 MVA Power Transformer, 20-138 kV PCB, 8-69 kV PCB and associated equipment. • Bunawan 138 kV SS: 4-138 kV PCB and associated equipment.	• Bunawan – Tagum 230 kV TL, ST-DC, 2-795 MCM ACSR, 45 km (2 x 17 MW) • Tagum – Bunawan 138 kV Line Extension, ST-DC, 1-795 MCM ACSR, 1.5 km (2 x 172 MW) • Tagum – Nabunturan 138 kV Line Extension, ST-DC, 1-795 MCM ACSR 1.5 km (2 x 172 MW • Tagum – Magdum 69 kV TL, SP-DC, 1-795 MCM ACSR, 3 km (2 x 86 MW) • Tagum – Maco 138 kV Line Extension, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW) • Magdum – Asuncion 69 kV TL, SP-SC, 1-795 MCM ACSR, 17 km (1 x 86 MW) • Tagum Cut-in Line to Nabunturan –Asuncion 69 kV TL, SP-SC, 1-795 MCM ACSR, 0.5 km (1 x 86 MW)	• Davao del Sur • Davao Del Norte • Davao de Oro	• 10,624.87M • Mar 2031



TRANSMISSION LINE

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
Eastern Mindanao 230 kV Transmission Line Project • To extend the 230 kV backbone from Agusan del Norte to Agusan del Sur and from Davao del Sur to Davao de Oro • To strengthen the transmission corridor in Eastern Mindanao that is currently in a single-circuit 138 kV configuration • To support the booming economy of Eastern Mindanao which can be attributed to the mining/quarrying industry and manufacturing establishments • To anticipate the Competitive RE Zone in Agusan del Sur • To be initially energized at 138 kV	• Generation Entry • System Reliability and Security • Awaiting ERC approval	• Alegria 230 kV SS: 12-138 kV PCB and associated equipment • Trento 230 kV SS: 12-138 kV PCB and associated equipment	• Kinamlutan – Alegria – Trento – Tagum 230 kV TL, ST-DC, 2-795 MCM ACSR, 209 km (2 x 573 MW) • Bislig – Trento 138 kV Line Extension, ST-DC, 1-795 MCM ACSR, 6 km (2 x 172 MW) • Alegria – San Francisco 138 kV Line Extension, SP-SC, 1-795 MCM ACSR, 0.8 km (1 x 172 MW • Tago – Alegria 138 kV Line Extension, SP-SC, 1-795 MCM ACSR, 0.8 km (1 x 172 MW) • San Francisco – Bislig 138 kV Line Bus-in to Trento SS, ST-SC, 1-795 MCM ACSR, 2 km (1 x 172 MW) • Bislig – Nabunturan 138 kV Line Bus-in to Trento 138 kV SS, ST-SC, 1-795 MCM ACSR, 2.2 km (1 x 172 MW)	• Agusan del Sur • Agusan del Norte • Davao del Sur • Davao de Oro	• 41,839 M • Oct 2032
Villanueva – Kinamlutan 230kV Transmission Line Project • To increase the power transfer capacity to the existing transmission line • To provide a reliable transmission corridor serving customers of eastern Mindanao.	• System Reliability • Load Growth • ERC-Approved	• Kinamlutan 230 kV SS, 2x300 MVA, 230/138 kV Power Transformers and accessories, 8-230 kV PCB, 7-138 kV PCB and associated equipment • Butuan 138 kV SS, 2-138 kV PCB and associated equipment • Villanueva 230 kV SS, 4-230 kV PCB, 2-100 MVAR Series Reactors and associated equipment	• Villanueva – Kinamlutan, 230 kV TL, ST-DC, 2-795 MCM ACSR, 157.5 km (2 x 573 MW) • Butuan – Kinamlutan, 138 kV TL, ST-DC, 2-795 MCM ACSR, 0.85 km (2 x 573 MW)	• Misamis Oriental • Agusan Del Norte	• 23,512 M • Dec 2032

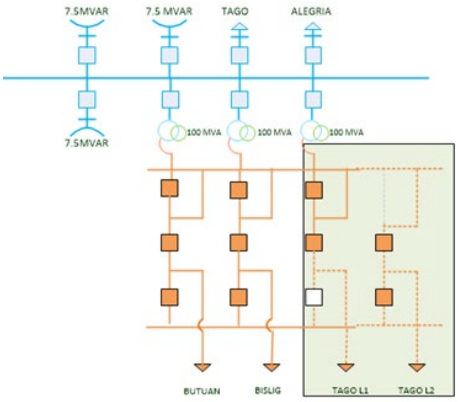
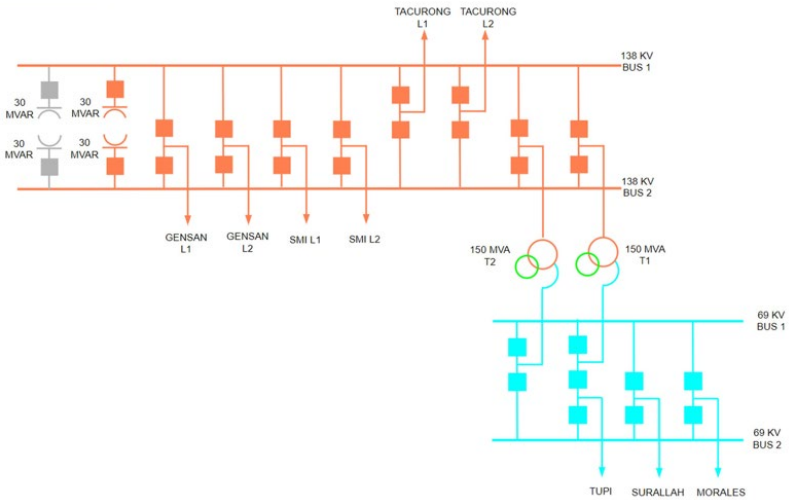




TRANSMISSION LINE

Project Name and Justification	Project Driver and Status	Project Components: Substation	Project Components: Transmission Line	Location	Project Cost (Million Pesos) ETC
• To accommodate the anticipated load demand due to the progressive development triggered by the mining industries in Caraga Region • To be initially energized at 138 kV					

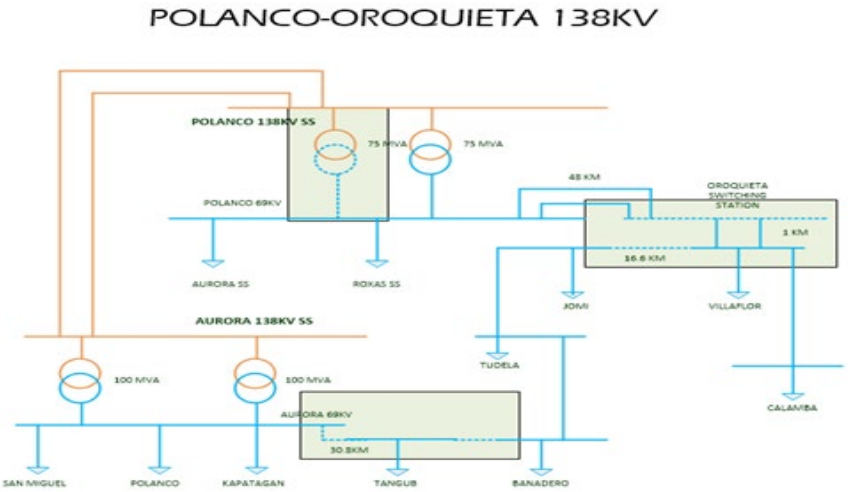
138 kV PROJECTS

San Francisco – Tago 138 kV Transmission Line Project • To allow the switching of loads during line outages and to solve the power quality and reliability problems in the area • To address the growing demand in Surigao del Sur as well as to provide a more stable and reliable supply to the area including the island of Siargao • To provide additional transformer for the N-1 criterion of the PGC which will be sourced from O&M spare or refurbished transformer • Formerly San Francisco – Tandag 138 kV Transmission Line Project	• Load Growth, System Reliability • Awaiting ERC approval	• San Francisco 138 kV SS: 2-138 kV PCB and associated equipment • Tago 138 kV SS: 2x50 MVA 138/69 kV Power Transformer, 6- 138 kV PCB, 8-69 kV PCB and associated equipment	• San Francisco – Tago 138 kV TL, ST- DC, 1-795 MCM ACSR/AS, 90 km (2 x 172 MW) • Madrid – Tago 69 kV TL, SP-SC, 1- 336.4 MCM ACSR, 60 km (1 x 56 MW) 	• Agusan del Sur • Surigao del Sur	• 5,596 M • Dec 2027
Tupi 138 kV Substation Project • To accommodate the power demand requirements of SOCOTECO 1 and Sagittarius Mines Inc. (SMI) • Formerly Koronadal 138 kV Substation Project • To serve as another connection point of SOCOTECO 2	• Load Growth • ERC-Approved	• Tupi 138 kV SS, 2x150 MVA 138/69 kV Power Transformers, 14-138 kV PCB, 6-69 kV PCB and associated equipment	• •Tacurong – General Santos 138 kV Lines Bus-in to Tupi 138 kV SS, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW) 	• South Cotabato	• 2,539 M • Oct 2030
Polanco – Oroquieta 138 kV Transmission Line Project	• Load Growth • ERC-Approved	• Polanco 138 kV SS: 4-10 MVAR Shunt Capacitors 4-138 kV PCB and associated equipment	• Polanco – Oroquieta 138 kV Line (New), ST-DC, 1-795 MCM ACSR/AS, 48 km (2 x 172 MW)	• Misamis Occidental	• 8,742 M • Apr 2030

TRANSMISSION LINE

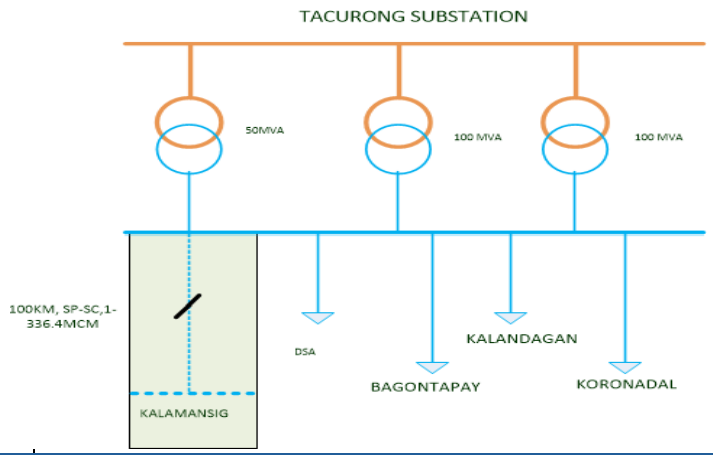
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
		• Oroquieta 69 kV SWS (New) 2-7.5 MVAR Shunt Capacitors 8 -69 kV PCB and associated equipment • Aurora 69 kV SS: 2-69 kV PCB and associated equipment • Bañadero 69 kV SS: 2-7.5 MVAR Shunt Capacitor 2-69 kV PCB and associated equipment • Villaflor 69 kV SS: 2-7.5 MVAR, Shunt Capacitors 2-69 kV PCB, and associated equipment	• Oroquieta – Villaflor 69 kV Line (New), ST-DC, 1-795 MCM ACSR/AS, 1 km (2 x 86 MW) • Aurora – Villaflor 69 kV Line (Upgrading), SP-SC, 1-795 MCM ACSR/AS, 84 km (1 x 86 MW)		

- The project covers the construction of 48 km 138 kV transmission line from Polanco 138 kV Substation to Oroquieta Switching Station and upgrading of the existing 84 km 69 kV transmission line from Aurora Substation to MOELCI I's Villaflor Substation.
- The project aims to provide reliable and uninterrupted power supply for the province of Misamis Occidental by looping the transmission line serving MOELCI I and MOELCI II to Polanco Substation and by increasing the capacity of the existing Aurora–Calamba 69 kV Transmission Line. The project will also address the low voltage problem in the area.
- To be initially energized at 69 kV.



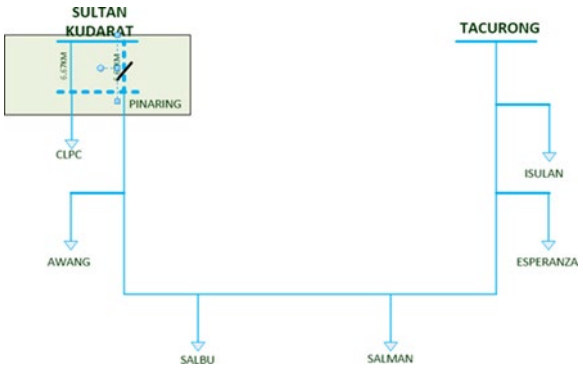
69 kV PROJECTS

Tacurong – Kalamansig 69 kV Transmission Line Project • To allow the towns of Lebak, Kalamansig, Bagumbayan, and Senator Ninoy Aquino in the province of Sultan Kudarat to enjoy cheaper and reliable electricity from the grid. • To end the dependency of consumers from the power generated by diesel power plant of SPUG.	• Load Growth • ERC-Approved	• Tacurong 138 kV SS: 1-69 kV PCB and associated equipment • Kalamansig 69 kV SWS: 1x7.5 MVAR 69 kV Capacitor, 3-69 kV PCB and associated equipment	• Tacurong – Kalamansig 69 kV TL, ST/SP-SC, 1-336.4 MCM ACSR, 85 km (1 x 56 MW)	• Sultan Kudarat	• 2,349 M • Dec 2025



TRANSMISSION LINE

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC
		Substation	Transmission Line		
Sultan Kudarat – Pinaring 69 kV Transmission Line • To construct new transmission line from Sultan Kudarat SS to Cotabato City that will effectively serve customers of Cotabato Light even during N-1 contingency • To upgrade the existing 6.67 km Sultan Kudarat–Pinaring 69 kV line segment of Sultan Kudarat – DSA – Tacurong 69 kV Line to 1-795 MCM ACSR	• Load Growth, System Reliability and Security • Awaiting ERC approval	• Sultan Kudarat 69 kV SS: 3-69 kV PCB and associated equipment • Pinaring 69 kV SWS: 6-69 kV PCB and associated equipment	• Sultan Kudarat – Pinaring 69 kV TL, SP-SC (Upgrading), 1-795 MCM ACSR, 6.67 km (1 x 86 MW) • Sultan Kudarat – Pinaring 69 kV TL, SP-SC (New), 1-795 MCM ACSR, 6.67 km (1 x 86 MW)	• Sultan Kudarat	• 2,249 M • Jun 2030



** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

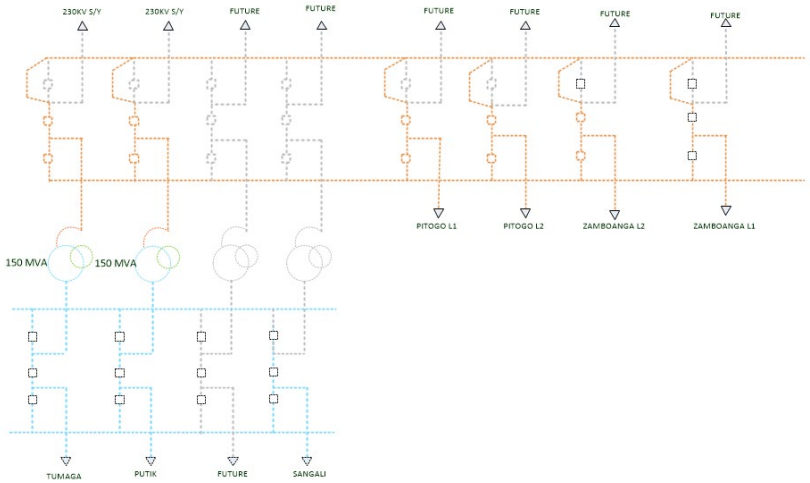
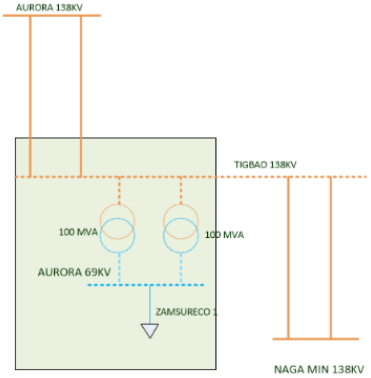
SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
230 kV PROJECTS					
Mindanao Substation Upgrading 2 Project (MSU2P) • To install additional substation capacity to address the growing demand in various substations in the Mindanao grid. • To install PCB for the connection of BESS projects in Jasaan, Maramag SS and Toril SS and for the entry of Power Plant projects such as South Pulangi 255 MW HEPP at Kibawe SS, 3.6 MW Mt. Apo Geothermal Power Plant at Kidapawan SS and 28 MW Sangali Diesel Power Plant at Zamboanga SS.	• System Reliability and Security • ERC-Approved	• Balo-i 138 kV SS: 1-100 MVA, 138/69 kV Power Transformer, 3-138 kV PCB, 6-69 kV PCB and associated equipment • Tagoloan 138 kV SS: 1-100 MVA, 138/69 kV Power Transformer, 4-138 kV PCB, 8-69 kV PCB and associated equipment • Jasaan 138 kV SS: 1-100 MVA, 138/69 kV Power Transformer, 2-138 kV PCB, 6-69 kV PCB and associated equipment • Kibawe 138 kV SS: 1-50 MVA, 138/69 kV Power Transformer, 2-138 kV PCB, 2-69 kV PCB and associated equipment • Butuan 138 kV SS: 1-100 MVA, 138/69 kV Power Transformer, 1-138 kV PCB, 1-69 kV PCB and associated equipment • Davao 138 kV SS: 2-150 MVA, 138/69 kV Power Transformer, 3-138 kV PCB, 4-69 kV PCB and associated equipment • Toril 138 kV SS: 2-100 MVA, 138/69 kV Power Transformer,		• Lanao Del Norte • Bukidnon • Agusan Del Norte • Misamis Oriental • Davao del Sur • Sultan Kudarat • Zamboanga del Sur • Surigao del Sur	• 7,264.54 M • Feb 2028

SUBSTATION					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		2-138 kV PCB, 1-69 kV PCB and associated equipment • Bunawan 138 kV SS: 1-300 MVA 230/138 kV Power Transformer, 2-100 MVA, 138/69 kV Power Transformer, 2-230 kV PCB, 4-138 kV PCB, 4-69 kV PCB and associated equipment • Kidapawan 138 kV SS: 1-100 MVA, 138/69 kV Power Transformer, 1-69 kV PCB and associated equipment • General Santos 138 kV SS: 2-100 MVA, 138/69 kV Power Transformer, 4-138 kV PCB, 4-69 kV PCB and associated equipment • Maramag 138 kV SS: 1-69 kV PCB and associated equipment • Zamboanga 138 kV SS: 1-69 kV PCB and associated equipment • Aurora 138 kV SS: 1-100 MVA 138/69 Power Transformer, 3-138 kV PCB, 8-69 kV PCB and associated equipment			
Mindanao Substation Expansion 3 Project (MSE3P) • To maintain the normal thermal capacity of the substation and secure their continuous operation even during N-1 conditions to comply with the criteria of the PGC	• Load Growth • ERC-Approved	• Pitogo 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, 1-138 kV PCB, 1-69 kV PCB and associated equipment • Placer 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, • 2-138 kV PCB, 2-69 kV PCB and associated equipment • San Francisco 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, 2-138 kV PCB, 2-69 kV PCB and associated equipment • Matanao 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, 2-138 kV PCB, 1-69 kV PCB and associated equipment • Lala 230 kV SS: 1x50 MVA 230/138 kV Power Transformer, 1-230 kV PCB, 2-138 kV PCB and associated equipment. • Culaman 69 kV SS:1-230kV PCB and associated equipment, 4-69 kV PCB and associated equipment • Placer SS, 1-69 kV PCB and associated equipment • Lala SS, 1x150 MVA, 230/138 kV Power Transformer and accessories		• Zamboanga del Sur • Surigao del Norte • Agusan del Sur • Davao del Sur	• 1,465 M • Oct 2028

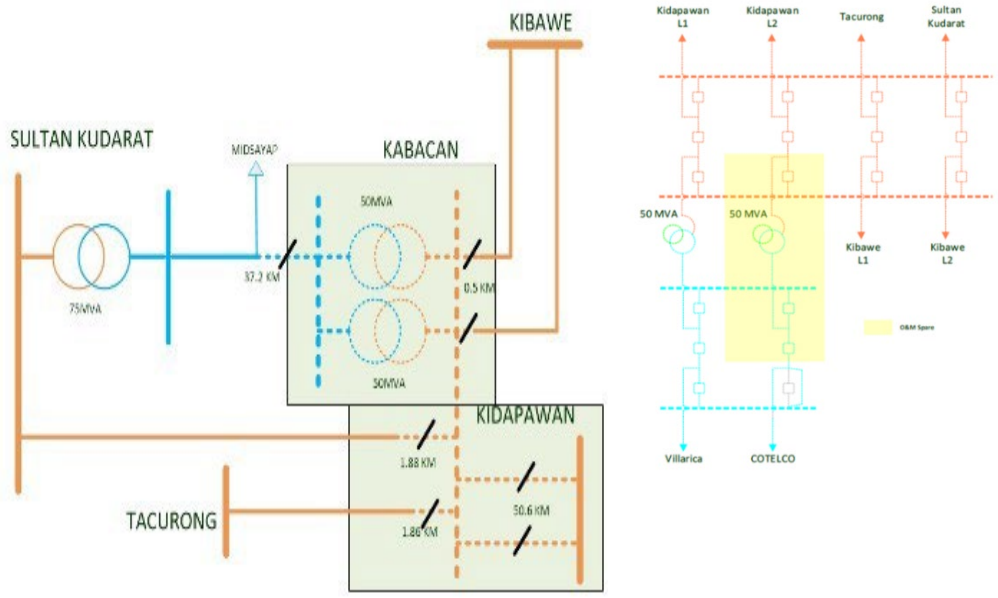
SUBSTATION					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		• Lala SS, 2-230 kV PCB and associated equipment • Lala SS, 2-138 kV PCB and associated equipment			
Mindanao Substation Rehabilitation Project (MSRP) • To replace the defective, deteriorated, obsolete, and low fault level PCB in various substations will provide system reliability and power quality to the grid. • To install two definite-purpose circuit breakers for the connection of capacitor bank in Sultan Kudarat SS	• Power Quality and System Reliability • ERC-Approved	• Aurora 138 kV SS: 1-138 kV PCB, 3-69 kV PCB and associated equipment • Zamboanga 138 kV SS: 3-138 kV PCB, 3-69 kV PCB and associated equipment • Agus 5 138 kV SS: 6-138 kV PCB and associated equipment • Balo-I 138 kV SS: 13-138 kV PCB and associated equipment • Lugait 138 kV SS: 5-138 kV PCB, 2-69 kV PCB and associated equipment • Tagoloan 138 kV SS: 3-138 kV PCB, 2-69 kV PCB and associated equipment • Maramag (Pulangi 4) 138 kV SS: 11-138 kV PCB, 1-69 kV PCB and associated equipment • Nasipit 138 kV SS: 2-138 kV PCB and associated equipment • Davao 138 kV SS: 4-138 kV PCB, 2-69 kV PCB and associated equipment • Bunawan 138 kV SS: 5-138 kV PCB and associated equipment • Sultan Kudarat 138 kV SS: 6-69 kV PCB • Maco 138 kV SS: 1-7.5 MVAR, 69 kV, 2-69 kV PCB and associated equipment • General Santos 138 kV SS: 8-69 kV PCB and associated equipment • Tacurong 138 kV SS: 9-69 kV PCB and associated equipment • Nabunturan 138 kV SS: 1x7.5 MVAR Shunt Capacitors, 69 kV, 3-138 kV PCB, 4-69 kV PCB and associated equipment		• Lanao Del Norte • Misamis Oriental • Bukidnon • Agusan Del Norte • Davao Del Sur • Davao Del Norte • Davao de Oro • Agusan Del Sur	• 3,047.13 M • Sep 2025
Tumaga 230 kV Substation Project	• System Reliability and Security • Awaiting ERC Approval	• Tumaga 230 kV SS: 2x150 MVA Power Transformer, 12-138 kV PCB, 8-69 kV PCB and associated equipment.	• Tumaga Bus-in Line to Zamboanga 138 kV, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW) • Tumaga Bus-in Line to Pitogo 138 kV, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW) Tumaga – Putik/ Tumaga LES 69 kV, SP-DC, 1-410 mm2 TACSR, 5 km (2 x 146 MW)	Zamboanga del Sur	• 3,665M Jul 2032

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• To upgrade 69 kV TL from the Tumaga 138 kV SS to Zamboanga City Electric Cooperative, Inc. (ZAMCELCO's) Tumaga and Putik LES • To accommodate the growing demand of Zamboanga City, attributed to the industrial facilities such as canning factories, shipyards, ports, warehouses, manufacturing plants, and airports • To address the imminent thermal overloading of the Zamboanga–Tumaga – Pitogo 69 kV network in Zamboanga City by upgrading the Tumaga – Pitogo 69 kV TL • To complement the implementation of the Lala – Sta Clara – Tumaga 230 kV TL that offers operation stability by having another transmission corridor with a higher power transfer capacity			• Pitogo – Tumaga 69 kV Line, SP-SC, 1-410 mm2 TACSR, 13 km (1 x 146 MW) • Tumaga – Zamboanga Cut-in 69 kV Line, SP-DC, 1-795 MCM ACSR, 0.5 km (2 x 86 MW) 		
Tigbao 138 kV Substation Project • To address the thermal overloading of the Aurora 138 kV SS by providing Zamboanga del Sur Electric I Cooperative (ZAMSURECO I) another connection facility from the grid • To accommodate the increasing demand in the area which will inherently overload the existing Aurora 138 kV SS during N-1 condition. However, development inside the said SS is infeasible due to space restrictions.	• Load Growth • Awaiting ERC Approval	• Tigbao 138 kV SS: 2 x 100 MVA Power Transformer, 10-138 kV PCB, 6-69 kV PCB and associated equipment.	Aurora – Naga Min 138 kV Line Bus-in to Tigbao SS, ST-DC, 1-795 MCM ACSR, 2-1.7 km. (2 x 172 MW) 	Zamboanga del Sur	• 2,164M • Sep 2032

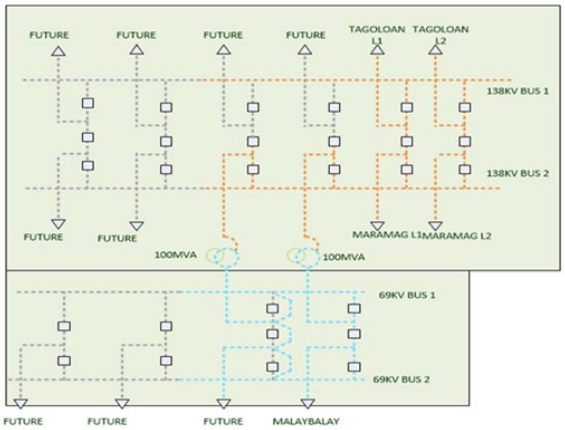
138 kV PROJECTS

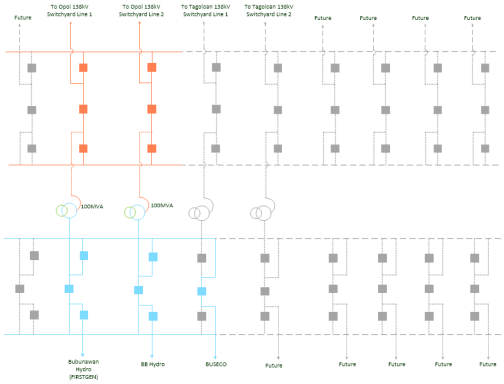
Kabacan 138 kV Substation Project • **Phase 1 – Substation** • **Phase 2 – Transmission Line**	• System Reliability • ERC Approved	Phase 1 • Kabacan 138 kV SS: 2x50 MVA 138/69 kV Power Transformer, 12-138 kV PCB, 7-69 kV PCB and associated equipment • Kidapawan 138 kV SS: 2-138 kV PCB and associated equipment • Toril 138 kV SS: 5-138 kV PCB and associated equipment	Phase 2 • Kabacan – Kidapawan 138 kV TL, ST-DC, 1-795 MCM ACSR/AS, 50.6 km (2 x 172 MW) • Kabacan – Villarica 69 kV TL, SP- SC, 1-336.4 MCM ACSR/AS, 37.2 km (1 x 56 MW)	• Cotabato	• 4,978 M • Phase 1: Aug 2028 • Phase 2: Aug 2028

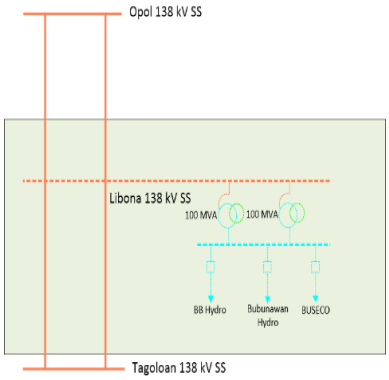
SUBSTATION					
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
			• Kibawe 138 kV Line Extension, ST-DC, 1-795 MCM ACSR/AS, 0.5 km (2 x 172 MW) • Tacurong 138 kV Line Extension, ST-SC, 1-795 MCM ACSR/AS, 1.86 km (1 x 172 MW) • Sultan Kudarat 138 kV Line Extension, ST-SC, 1-795 MCM ACSR/AS, 1.88 km (1 x 172 MW)		
• To provide power supply security to the provinces of Sultan Kudarat, North Maguindanao, South Maguindanao, North Cotabato, and South Cotabato during contingency conditions • To provide flexibility and additional reliability to the transmission system, ensuring the continuity of power supply in the concerned areas					
Mindanao Substation Expansion 4 Project (MSE4P) • To install additional substation capacity to address the growing demand in various locations in the Mindanao grid • To comply with the N-1 criterion of the PGC	• Load Growth • ERC-Approved	• Pitogo SS: 1x100 MVA 138/69 kV Power Transformer, 1-138 kV PCB ,1-69 kV PCB and associated equipment • Naga Min SS: 1x100 MVA 138/69 kV Power Transformer, 2-138 kV PCB, 2-69 kV PCB and associated equipment • Polanco 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, 2-138 kV PCB, 2-69 kV PCB and associated equipment • Agus 6 138 kV SS: 1x100 MVA 138/69 kV Power Transformer, 1-138 kV PCB, 3-69 kV PCB and associated equipment • Maramag 138 kV SS: 1x100 MVA, 138/69 kV Power Transformer, 2- 138 kV PCB, 2-69 kV PCB and associated equipment • Maco 138 kV SS: 1x100 MVA 138/69 kV Power Transformer,2-138 kV PCB, 2-69 kV PCB and associated equipment • Culaman 230 kV SS: 1x50 MVA, 230/69 kV Power Transformer, 2-230 kV PCB, 2-69 kV PCB and associated equipment		• Zamboanga Del Sur • Zamboanga Del Norte • Lanao Del Norte • Bukidnon • Davao Del Norte • Davao Occidental • Maguindanao Del Norte • Agusan del Norte	• 2,968 M • Apr 2027

SUBSTATION

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
		• Sultan Kudarat 138 kV SS: 2-100 MVA, 138/69 kV Power Transformer, 4- 138 kV PCB, 4-69 kV PCB and associated equipment • Nasipit 138 kV SS: 1-100 MVA 138/69 kV Power Transformer, 2-138 kV PCB, 2-69 kV PCB and associated equipment			
Malaybalay 138 kV Substation Project • To mitigate imminent thermal overloading of the local distribution utility's existing 69 kV line and the voltage issues it has been experiencing	• Load Growth • Awaiting ERC Approval	• Malaybalay 138 kV SS: 2x100 MVA Power Transformer, 10-138 kV PCB, 5-69 kV PCB and associated equipment.	• Malaybalay Bus-in Line to Manolo Fortich, 138 kV TL, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW) • Malaybalay Bus-in Line to Maramag, 138 kV TL, ST-DC, 1-795 MCM ACSR, 0.5 km (2 x 172 MW)	• Bukidnon	• 2,473M • Dec 2032
Libona 138 kV Substation • To cater the load of BUSECO currently connected at Carmen 69 kV Substation and to accommodate the increasing demand in Misamis Oriental and Bukidnon. • Formerly Gango 138 kV Substation Project	• Load Growth • Generation entry • For filing	• Libona 138 kV SS: 2 x 100 MVA Power Transformer, 10-138 kV PCB, 8-69 kV PCB and associated equipment.	Balo-i–Tagoloan 138 kV Line Bus-in to Libona SS, ST-DC, 1-795 MCM ACSR, 2-0.5 km. (2 x 172 MW)	• Bukidnon • Misamis Oriental	• 2,539 M • Sep 2031





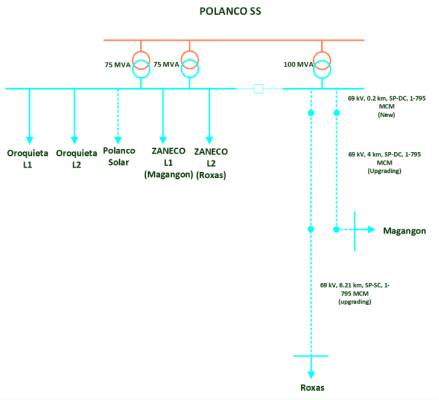


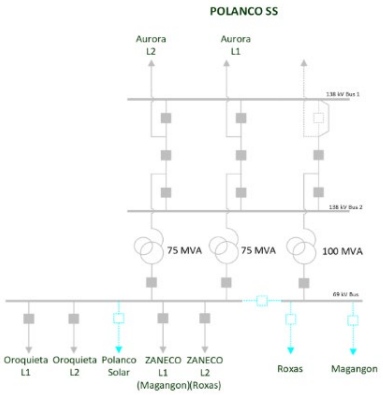
69 kV PROJECTS

Polanco – Roxas 69 kV Transmission Line Project	• Load Growth • System Reliability • Awaiting ERC approval	• Polanco 138 kV SS: 1-138 kV PCB and associated equipment.	• Polanco-Magangon Tap, 69 kV TL (Upgrading), SP-DC, 1-795 MCM, 4.0 km (1x86MW)	• Zamboanga Del Norte • Misamis Occidental	• Dec 2032

SUBSTATION

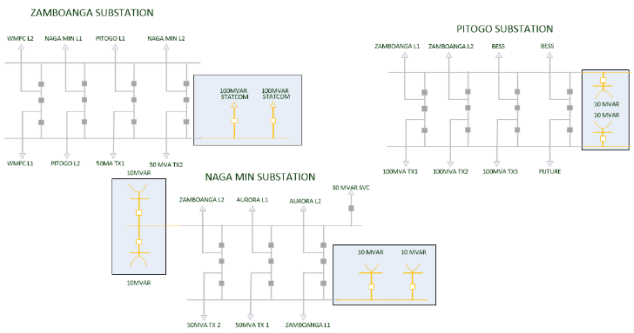
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
• This single-circuit line enhances power supply reliability, ensuring availability during faults or preventive maintenance of the Polanco – Roxas 69 kV Line.			• Magangon Tap-Roxas 69 kV TL (Upgrading), SP-S-SC, 1-795 MCM, 6.21 km (1x86MW) • Polanco-Roxas/Magangon 69 kV Line Extension, SP-DC, 1-795 MCM, 0.2 km (1x86MW)		



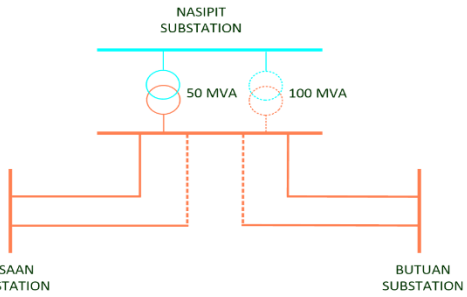
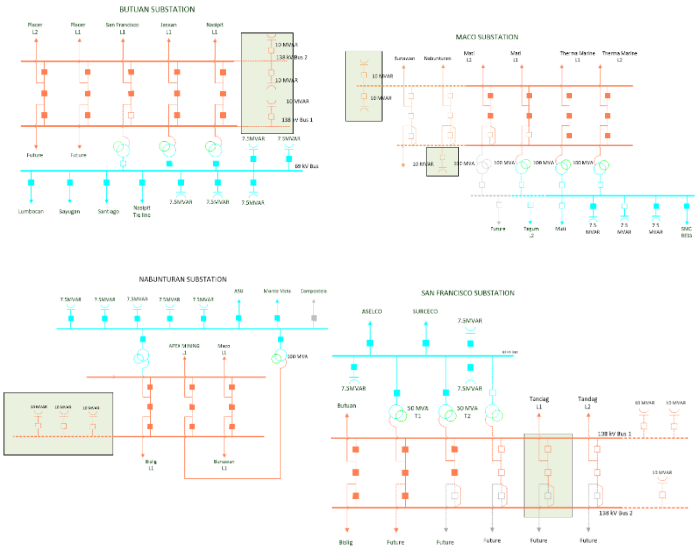


VOLTAGE IMPROVEMENTS

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
138 kV PROJECTS					
Zamboanga Peninsula Voltage Improvement Project (ZPVIP) • To ensure that the voltage level is within the prescribed limits of PGC despite the absence of a local baseload generator in Zamboanga Peninsula • To install voltage compensating devices in the area of Tacurong and Gen. Santos. These will alleviate the imminent voltage problem brought about by the growing demand in the area • To install power circuit breakers intended for the entry of Battery-Energy Storage System	• Power Quality • Awaiting ERC Approval	• Zamboanga 138 kV SS: 1x200 MVAR STATCOM, 3-138 kV PCB, 2-38 kV PCB and associated equipment • General Santos 138 kV SS: 3x30 MVAR Capacitors, 3-138 kV PCB and associated equipment • Tacurong SS: 2x30 MVAR Capacitors, 2-138 kV PCB and associated equipment • Naga Min SS: 4x10 MVAR Capacitors, 4-138 kV PCB and associated equipment • Pitogo SS: 2x10 MVAR Capacitors, 2-138 kV PCB and associated equipment		• Sultan Kudarat • South Cotabato	• 1,925 M • Apr 2027



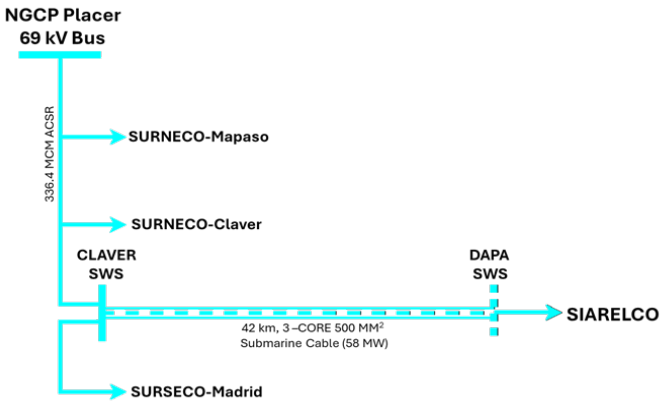
VOLTAGE IMPROVEMENTS

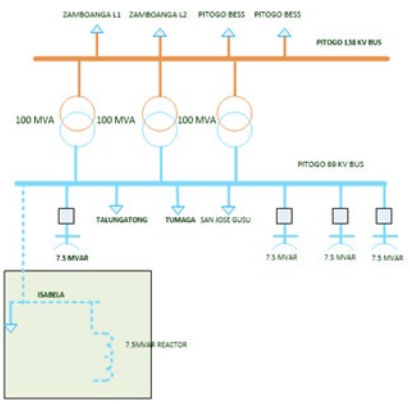
Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
Nasipit Substation Bus-in Project • To maintain the normal voltage in Northeastern Mindanao following an outage of the Nasipit – Butuan 138 kV Single Circuit line segment • To ensure the continuous supply of electricity to CARAGA Region even during N-1 condition to comply with the PGC requirement	• Power Quality • ERC-Approved	• Nasipit SS: 1-100 MVA Power Transformer, 2-138 kV PCB, 3-69 kV PCB and associated equipment	• Jasaan – Butuan Bus-in Line to Nasipit 138 kV Substation, ST-DC, 1-795 MCM ACSR, 4.3 km (2 x 172 MW) • Swinging of TM2 Lines, ST-DC, 2- 795 MCM ACSR, 0.5 km (2 x 172 MW) 	• Agusan del Norte	• 816 M • Apr 2027
Eastern Mindanao Voltage Improvement Project (EMVIP)	• Power Quality • ERC-Approved	• Butuan SS: 3x10 MVAR Shunt Capacitor, 3-138 kV PCB and associated equipment • San Francisco SS: 3x10 MVAR Shunt Capacitor, 3-138 kV PCB and associated equipment • Nabunturan SS: 3x10 MVAR Shunt Capacitor, 3-138 kV PCB and associated equipment • Maco SS: 3x10 MVAR Shunt Capacitor, 3-138 kV PCB and associated equipment • Tandag SS: 1x7.5 MVAR Shunt Capacitors, 1-69 kV PCB and associated equipment • Claver SS: 1x7.5 MVAR Shunt Capacitor, 1-69 kV PCB and associated equipment • Apokon SS: 2x10 MVAR Shunt Capacitor, 2-69 kV PCB and associated equipment • Mati SS: 2x7.5 MVAR Shunt Capacitor, 2-69 kV PCB and associated equipment		• Agusan del Norte • Agusan del Sur • Davao de Oro • Davao del Norte	• 868 M • Nov 2029

** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (SRP FD) will be issued by December 2025.*

Table 4.17: List of Additional Proposed Projects in Mindanao for the period 2025-2030

Project Name and Justification	Project Driver and Status	Project Components		Location	Project Cost (Million Pesos) ETC*
		Substation	Transmission Line		
INTERCONNECTION					
69 kV PROJECTS					
Claver – Siargao 69 kV Interconnection Project (CSIP) • To provide a 69 kV interconnection facility that increases the power transfer towards Siargao Island • To improve the voltage within the franchise area of SIARELCO	• Island Interconnection • Awaiting ERC approval	• Claver 69 kV Switching Station (new): 5-69 kV PCB and associated equipment • Dapa 69 kV Switching Station (new): 7-69 kV PCB and associated equipment 4x2.5 MVAR Shunt Capacitor and associated equipment	• Claver – Dapa 69 kV Submarine Cable: 3-Core, 500 mm² XLPE, 42 km (1 x 50 MW)	• Siargao • Surigao Del Sur	• 22,934 M • Jun 2030
Zamboanga – Basilan 69kV Interconnection Project • To connect the island of Basilan to the Mindanao Grid cheaper source of electricity • To give the province a reliable and efficient power service	▪ Island Interconnection ▪ Awaiting ERC approval	• Pitogo 69 kV SS: 1-69 kV PCB and associated equipment. • Isabela 69 kV SWS, 4-69 kV PCB and associated equipment., 1x7.5 MVAR Shunt Reactor	• Pitogo SS – Pitogo CTS, SP-SC, 336.4 MCM ACSR, 2 km (1 x 57 MW) • Pitogo CTS – Pangasang CTS, 3-Core 500 mm2 XLPE, 27 km (1 x 50 MW) Pangasang CTS – Isabela Switching Station, SP-SC, 336.4 MCM ACSR, 9.5 km (1 x 57 MW)	• Zamboanga • Basilan Island	• 6,672M Dec 2031





** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

Project Name	Description	Location
INTERCONNECTION		
350 kV PROJECTS		
Mindanao-Visayas Interconnection Project (MVIP) Stage 2	• To increase the transfer capacity of the existing line from 450 MW to 900 MW	Zamboanga del Norte

Table 4.18: List of Additional Proposed Projects in Mindanao for the period 2031-2040

Project Name	Description	Location
TRANSMISSION LINE		
230 kV PROJECTS		
Lala – Malabang – Sultan Kudarat 230 kV Transmission Line Project	• To provide a new transmission corridor that will complete the 230 kV loop in the western part of Maguindanao Island. To ensure system reliability and operational flexibility in the province of Lanao del Sur and Maguindanao.	Lanao del Norte, Lanao del Sur, Maguindanao
Culaman – General Santos 230 kV Transmission Line Project	• To increase the power transfer capacity to the existing transmission line • To provide a reliable transmission corridor serving customers of southern Mindanao. • To provide new connection points to the generating plants and large loads.	South Cotabato, Davao Del Sur
138 kV PROJECTS		
Polanco – Oroquieta 138 kV Transmission Line Project	• To energize to a higher voltage to accommodate the growing demand	Zamboanga del Norte, Misamis Occidental

Project Name	Description	Location
SUBSTATION		
230 kV PROJECTS		
Mindanao Substation Expansion 8 Project (MSE8P)	• To cater to the load growth and provide N-1 to various SS in Mindanao. Without the project, load dropping and power interruptions can happen during outage and failure of the existing transformers and PCB.	Various Substations in Mindanao

4.5.2 ETC ADJUSTMENTS

A. ERC-Approved Projects

Table 4.19: ETC Updates on Mindanao ERC Approved Projects

	Ongoing Projects – LUZON	TDP 2024-2050	Revised ETC	Remarks
1	**Tacurong – Kalamansig 69 kV Transmission Line Project**	Jun 2025	Dec 2025	**Overall Accomplishment: 91.27%**
	Tacurong SS		Dec 2025	• Ready for energization dependent on the completion of TL portion
	Kalamansig SWS		Dec 2025	• Ready for energization dependent on the completion of TL portion
	Tacurong-Kalamansig 69kV TL		Dec 2025	• ROW status: 727/740 PS/TS Workable • TS: 11 TS under EC: 1 TS for EC
2	**Laguindingan 230 kV Substation**	Feb 2026	May 2026	**Overall Accomplishment: 91.27%**
	Laguindingan Bus-in to Balo-i – Villanueva (230kV TL)		May 2026	• ROW status: 44/44 TS Workable • Issue on Tower No. 15: No bldg permit yet due to re-classification not yet approved • Interim Scheme to energize Laguindingan SS

	Ongoing Projects – LUZON	TDP 2024-2050	Revised ETC	Remarks
3	**Mindanao Substation Rehabilitation Project** *Tagoloan SS*	Dec 2024	Sep 2025	**Overall Accomplishment: 98.17%** Remaining works: 1-69 KV PCB including Gantry and migration works

B. Recently Approved Projects

The ETC for the following recently approved projects have been adjusted to provide accurate and achievable project completion dates:

Table 4.20: Recently Approved Projects

	Recently Approved Projects	TDP 2024-2050	Revised ETC
1	Kabacan 138 kV Substation Project	Jan 2029	Aug 2028
2	Polanco – Oroquieta 138 kV Transmission Line Project	Feb 2028	Apr 2030
3	Villanueva – Kinamlutan 230 kV Transmission Line Project	Jan 2033	Dec 2032
4	Maco – Mati 138 kV Transmission Line Project	Dec 2028	Jun 2029
5	Tupi 138 kV Substation Project	Jun 2026	Oct 2030
6	Mindanao Substation Expansion 3 Project (MSE3P)	Jun 2027	Oct 2028
7	Nasipit Substation Bus-in Project	Oct 2026	Apr 2027
8	Mindanao Substation Upgrading 2 Project (MSU2P)	Jul 2028	Feb 2028
9	Mindanao Substation Expansion 4 Project (MSE4P)	Apr 2026	Apr 2027
10	Eastern Mindanao Voltage Improvement Project	Jul 2028	Nov 2029

C. Awaiting ERC Approval

Table 4.21: Mindanao Ongoing Project

	Name of the Project	TDP 2024-2050	Revised ETC
1	San Francisco – Tago 138 kV Transmission Line Project	Mar 2027	Dec 2027

Other Projects requiring ETC adjustments due to ROW acquisition, permit processing and awaiting regulatory approvals are as follows:

Table 4.22: Mindanao New Projects with ETC Adjustments

	Name of the Projects	TDP 2024-2050	Proposed ETC
1	Sultan Kudarat – Pinaring 69 kV Transmission Line Project	Jun 2028	Jun 2030
2	Libona 138 kV Substation Project	Dec 2027	Sep 2031
3	Polanco – Roxas 69 kV Transmsission Line Project	Dec 2026	Dec 2032
4	Opol Bus-in Substation Project	Sep 2027	May 2028
5	Claver – Siargao Interconnection Project	Dec 2028	Jun 2030
6	Tumaga 230 kV Substation Project	Jan 2032	Jul 2032

Table 4.23: Mindanao Projects without ETC Adjustments

	Name of the Projects	ETC
1	Zamboanga Peninsula Voltage Improvement Project	Apr 2027
2	Bunawan – Tagum 230 kV Transmission Line Project	Mar 2031

	Name of the Projects	ETC
3	Zamboanga – Basilan 69 kV Interconnection Project	Dec 2031
3	Tigbao 138 kV Substation Project	Sep 2032
4	Maco – Tagum 69 kV Substation Project	Dec 2032
5	Malaybalay 138 kV Substation Project	Dec 2032
6	Sultan Kudarat – Tacurong 230 kV Transmission Line Project	Oct 2033
7	Lala – Sta. Clara – Tumaga 230 kV Transmission Line Project (formerly Lala – Naga – Zamboanga 230 kV Transmission Line Project)	Jul 2034
8	Lala – Malabang – Sultan Kudarat 230 kV Transmission Line Project	2031-2040
9	Culaman – General Santos 230 kV Transmission Line Project	2031-2040
10	Naga Min – Salug 138 kV Transmission Line Project	2031-2040
11	Bislig – Baganga 138 kV Transmission Line Project	2031-2040
12	Baganga – Mati 138 kV Transmission Line Project	2031-2040
13	Placer – Luna 69 kV Transmission Line Project	2031-2040
14	Opol – Carmen 69 kV Transmission Line Project	2031-2040
15	Davao – Toril 69 kV Transmission Line Project	2031-2040
16	Maco – Mati 69 kV Transmission Line Project	2031-2040
17	Agus 6 – Kiwalan – Lugait 69 kV Transmission Line Project	2031-2040
18	Naga Min – Ipil 69 kV Transmission Line Project	2031-2040
19	Marawi – Malabang 69 kV Transmission Line Project	2031-2040
20	Nabunturan – Monkayo 69 kV Transmission Line Project	2031-2040
21	Placer – Madrid 69 kV Transmission Line Project	2031-2040
22	SIOM – Sindangan – Salug 69 kV Transmission Line Project	2031-2040
23	San Francisco – Barobo 69 kV Transmission Line 2 Project	2031-2040
24	San Francisco – Tandag 69 kV Transmission Line Project	2031-2040
25	Naga Min – Malangas 69 kV Transmission Line Project	2031-2040
26	Aurora – Kapatagan 69 kV Transmission Line Project	2031-2040
27	Bislig – Barobo 69 kV Transmission Line Project	2031-2040
28	Tumaga – Pitogo 69 kV Transmission Line Project	2031-2040
29	Matanao 230/138 kV Transformer Project	2031-2040
30	Mindanao Substation Expansion 5 Project (MSE5P)	2031-2040
31	Mindanao Substation Expansion 6 Project (MSE6P)	2031-2040
32	Mindanao Substation Expansion 7 Project (MSE7P)	2031-2040
33	Midsayap 138 kV Substation Project	2031-2040
34	Lala – Malabang – Sultan Kudarat 230 kV Transmission Line Project	2041-2050
35	Sultan Kudarat – Tacurong 230 kV Transmission Line Project	2041-2050
36	Matanao – Tacurong 230 kV Transmission Line Project	2041-2050
37	Bunawan – Tagum 230 KV Transmission Line Project	2041-2050
38	Eastern Mindanao 230 KV Transmission Line Project	2041-2050
39	Aurora – Oroquieta 138 kV Transmission Line Project	2041-2050
40	Placer – Tago 138 kV Transmission Line Project	2041-2050
41	General Santos – Maasim 138 kV Transmission Line Project	2041-2050
42	Mindanao Substation Expansion 8 Project (MSE8P)	2041-2050
43	Mindanao Substation Expansion 9 Project (MSE9P)	2041-2050
44	Maasim 138 kV Substation Project	2041-2050
45	Western Mindanao 230 kV Backbone Project	2041-2050

4.6 CERTIFICATE OF ENERGY PROJECTS OF NATIONAL SIGNIFICANCE

NGCP has a consistent practice of utilizing the CEPNS framework as prescribed under the DOE Department Order No. DO2024-04-003 titled "Prescribing the Framework and Guidelines for the Processing of Applications for Certificate of Energy Projects of National Significance (CEPNS)".

The DOE's CEPNS designation accelerates approvals for key energy projects, driving investments and strengthening the nation's power supply. This streamlined approach supports energy security, fuels economic growth, and promotes sustainable development. Ultimately, CEPNS accelerates the development of essential energy infrastructure.

The DOE recently granted CEPNS to the following transmission projects:

Table 4.24: Transmission Projects with CEPNS (as of 20 February 2025)

Name of the Project	CEPNS No. 2024	Name of the Project	CEPNS No. 2025
1. Luzon- Visayas HVDC Bipolar Operation Project	11-0068	43. South Luzon Substation Upgrading Project	01-0169
2. Bolo- Balaoan 500 kV Transmission Line Project	11-0076	44. Silang 500 kV Substation Project	01-0170
3. Visayas Substation Upgrading Project 3	11-0077	45. Sampaloc 230 kV Substation Project	01-0171
4. Sta. Maria 500 kV Substation Project	11-0078	46. Pinamucan – Tuy 500 kV Transmission Line Project	01-0172
5. Balaoan-Laoag (Burgos) 500 kV Transmission Line Project	11-0079	47. Luzon Voltage Improvement – 6 Project	01-0173
6. Northern Luzon 230 kV Loop Project	11-0087	48. Eastern Albay 69 kV Transmission Line Project	01-0174
7. Panay – Guimaras 138 kV Interconnection Line 2 Project	11-0088	49. Camarines Sur – Catanduanes Interconnection Project	01-0175
8. Cebu – Leyte 230 kV Interconnection Line 3 and 4 Project	11-0089	50. Visayas Voltage Improvement 2 Project	01-0176
9. Batangas – Mindoro 500 kV Interconnection and Backbone Project	12-0096	51. Maco – Mati 138 kV Transmission Line Project	01-0177
10. Kawit 230 kV Substation Project	12-0097	52. Polanco – Oroquieta 138 kV Transmission Line Project	01-0178
11. Magalang 230 kV Substation Project	12-0098	53. Abuyog 230 kV Substation Project	01-0181
12. Palauig 500 kV Substation Project	12-0099	54. Luzon Voltage Improvement 5 Project	01-0182
13. Malaya 230 kV Collector Station Project	12-0104	55. North Luzon Substation Upgrading Project 2	01-0183
14. Barotac Viejo – Unidos 230 kV Transmission Line Project	12-0105	56. Plaridel 230 kV Substation Project	01-0184
15. Calbayog – Allen Transmission Line Project	12-0106	57. San Fabian 230 kV Substation Project	01-0185
16. Panay – Guimaras 138 kV Interconnection Project	12-0107	58. South Luzon Substation Upgrading Project 2	01-0186
17. Koronadal 138 kV Substation Project	12-0108	59. Tower Resiliency of Bicol Transmission Facilities Project	01-0187
18. Laguindingan 230 kV Substation Project	12-0109	60. Tuy 500/230 kV Substation (Stage 2) Project	01-0188
		61. Danao 230 kV Substation Project	01-0189
19. Visayas Substation Upgrading Project 2	12-0110	62. Tabango – Biliran 69 kV Transmission Line Project	01-0190
20. Granada 230 kV Substation	12-0111	63. Western Luzon 500 kV Backbone (Stage 2) Project	01-0191
21. La Carlota 138 kV Substation	12-0112	64. Bugallon 500 kV Substation Project	01-0192
22. Lapu-lapu 230 kV Substation	12-0113	65. Minuyan 115 kV Switching Station Project	01-0193
23. Bonbon (Nivel Hills) 230 kV Substation	12-0114	66. Olongapo 230 kV Substation Project	01-0194
24. Bolo 5th Bank Project	12-0118	67. Barotac Viejo-Natividad 69 kV Transmission Line Project	01-0195
25. Bauang – La Trinidad 230 kV Transmission Line Upgrading Project	12-0119	68. Tacurong-Kalamansig 69kV Transmission Line Project	01-0197
26. Castillejos 230 kV Substation Project	12-0120	69. Nasipit Substation Bus In Project	01-0198

Name of the Project	CEPNS No. 2024	Name of the Project	CEPNS No. 2025
27. North Luzon Substation Upgrading Project	12-0121	70. Villanueva–Kinamlutan 230 kV Transmission Line Project	01-0199
28. Nagsaag – Santiago 500 kV Transmission Line Project	12-0122	71.. Antipolo 230 kV Substation Project	02-0202
29. Luzon Primary Equipment Substation Upgrading Project	12-0123	72. Baler 230 kV Substation Project	02-0203
30. Mexico – Marilao 230 kV Transmission Line Project	12-0124	73. Capas 230 kV Substation Project	02-0204
31. Taguig – Silang 500 kV Transmission Line Project	12-0125	74. Eastern Mindanao Voltage Improvement Project	02-0205
32. Tuguegarao – Enrile 69 kV Transmission Line Project	12-0126	75.Luzon Connection Requirements for Power Plant Project 1 Luzon Connection Requirements for Power Plant Project 2 Luzon Connection Requirements for Power Plant Project 3	02-0206
33. Cabanatuan – Sampaloc – Nagsaag 230 kV Transmission Line Upgrading Project	12-0127	76. Pinamucan 500 kV Substation Project	02-0207
34. Quezon – Marinduque Interconnection Project	01-0159	77. Relocation of Steel Poles along Hermosa-Duhat 230 kV Transmission Line Project	02-0208
		78. Tagkawayan 500 kV Substation Project	02-0209
35. Dasol 230 kV Substation Project	01-0161	79. Visayas Mobile Capacitor Bank Project	02-0210
36. Daraga – Bitano 69 kV Transmission Line Project	01-0162	80. Porac 230 kV Substation Project	02-0211
37. Tigbauan 138 kV Substation Project	01-0163	81. Palawan-Mindoro Interconnection (Stage 1) Project	02-0212
38. Sumangga 138 kV Substation Project	01-0164	82. Santiago-Magat 230 kV Transmission Line Reconductoring Project	02-0213
49. Corella – Ubay 138 kV Line 2 Stringing Project	01-0165	83. San Isidro 500 kV Substation Project	02-0214
40. Bool 238 kV Substation Project	01-0166	84. Mandurriao 138 kV Substation Project	02-0215
41. Banga 138 kV Substation Project	01-0167	85. Mindanao Substation Upgrading Project 2	02-0216
42. Visayas 69 kV Transmission Line Upgrading Project	01-0168	86. Mindanao Substation Expansion Project 3	02-0217

4.7 OPERATION AND MAINTENANCE PROJECTS

O&M Transmission Development Plan (TDP) Programs

O&M intends to implement the following projects:

- To address the deteriorating and ageing condition of installed assets.
- To comply with existing laws, regulations, policies and standards.
- Aligning with management's vision of a Smart Grid that entails the use and application of new technologies; and
- To ensure the reliable condition of substations and their installed assets by providing appropriate tools and equipment to operation and maintenance personnel.

Substation Reliability Program – includes the replacement and installation of High Voltage Equipment and Secondary Devices, acquisition and replenishment of spares, establishment of Centralized Control and Monitoring System (CCMS) and installation/replacement/upgrading of Substation Automation System (SAS).

Transmission and Sub-Transmission Line Reliability Programs – includes the replacement of ageing structures, high voltage equipment and secondary devices to maintain the desired reliability of various transmission and sub-transmission assets.

Improvement of Substation Facility and Non-Network Asset Program – is designed to improve, upgrade and construct facilities in transmission networks to provide quality service to the customers, strengthen the promotion of safety in the workplace and to adhere to the existing standards for environmental protection and occupational safety.

Tools and Equipment Acquisition Program – includes augmentation and replacement of test and measuring equipment, substation tools and equipment, and transmission line tools, equipment and maintenance vehicles that are necessary in the maintenance of substation equipment and transmission lines.

Below are the timelines for the implementation of the above programs:

Table 4.25: O&M Projects Timeline

O&M Projects	Estimated Time of Completion					
	5th Reg	6th Reg	7th Reg	8th Reg	9th Reg	10th Reg
	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050
Substation Reliability Program						
Transmission Line Reliability Program						
Sub-Transmission Line Reliability Program						
Improvement of Substation Facility and Non-Network Asset Program						
Tools and Equipment Acquisition Program						

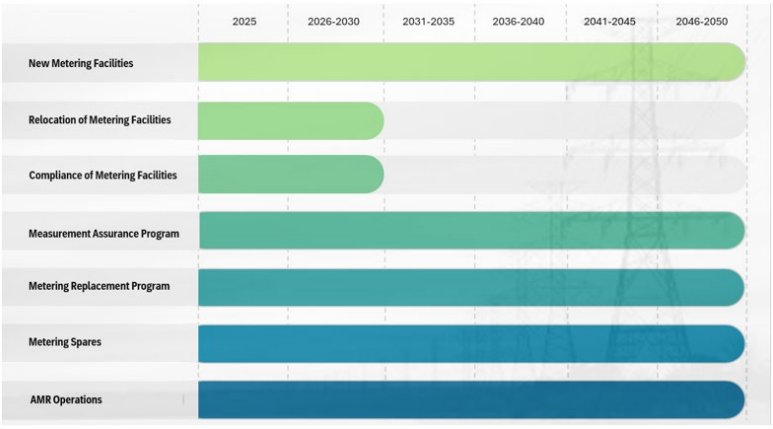
The O&M Program also includes the Grid Protection Relay Replacement Project or GPRRP with an ETC of Jun 2027. The project involves the replacement of protection relays in Luzon, the Visayas and Mindanao Grids to ensure safe, secure, reliable system operations. The protection relay replacements also include other protection associated equipment, such as control system, auxiliary system, tele-protection system, construction of control buildings, which are necessary to operate the protection relays efficiently and properly.

4.8 REVENUE METERING PROJECTS

NGCP, as a WESM Metering Service Provider (WMSP), is tasked with ensuring that Grid-connected Facilities adhere to the metering requirements outlined in the OATS Rules, WESM Rules and Metering Manual, PGC, PEC, and other relevant guidelines issued by the ERC and DOE. Specifically, this includes ensuring the provision of WESM-compliant metering facilities for loads and generators at the prescribed connection points, as well as the timely delivery of accurate metered data to be used for the billing and settlement systems of NGCP and IEMOP.

To fulfill these obligations, NGCP must consistently carry out metering capital projects, which are divided into the following categories:

Table 4.26: Metering Projects Timeline



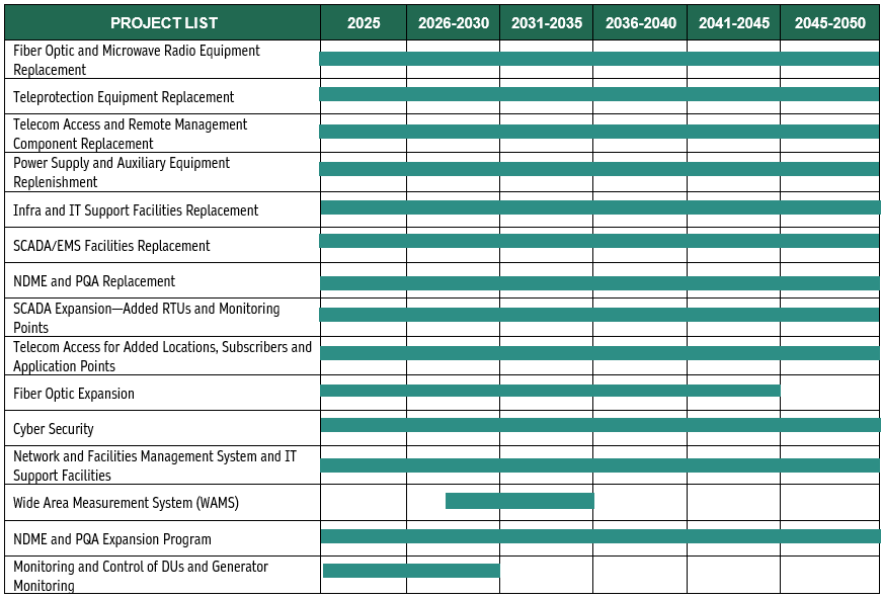
Except for the Relocation of Metering Facilities and Compliance of Metering Facilities, which are expected to be fully completed within the 6th Regulatory Period, all other project groups will be implemented continuously until 2050.

4.9 SYSTEM OPERATIONS PROJECTS

The SO CAPEX for the SCADA, telecommunication and protection components of the Power Grid is characterized by the need to cope with the market-driven demand for consolidation of enterprise and operations applications in the Energy Management Systems (EMS), subsequent necessity for bandwidth and interoperability in the communications network and indispensability of redundancy, i.e., N-1 in the protection systems. The importance of integrating embedded variable renewable sources of energy into the Grid has also made it a point to provision readiness in both the SCADA-EMS and telecommunication systems for addressing connectivity and data organization and for the protection system to be able to handle the peculiar power quality management issues.

Another major CAPEX issues of interest are the cyber security and real-time monitoring and control of customer's connection points to comply with the provisions of Grid Code and Regulatory Directions.

Table 4.27: System Operations Projects Timeline



4.10 BATTERY ENERGY STORAGE SYSTEM (BESS) FOR CONGESTION RELIEF

Previous TDP determined optimal BESS sites and capacities through load flow analysis ensuring no transmission overloads and maintaining voltage limits withing PGC recommended values during normal and single-outage contingency conditions. NGCP initially identified BESS for AS particularly focusing on the primary reserves due to its rapid response capabilities. Future studies will explore BESS for transmission congestion relief and upgrade deferment.

NGCP has recommended 450 MW of BESS capacity across Luzon, Visayas, and Mindanao grid with current existing capacity of 598.5 MW and proposed capacities of over 4,000 MW. Table 4.28 shows the breakdown of existing and proposed BESS capacity per grid.

Table 4.28: Summary of Recommended, Existing and Proposed BESS

Grid	Site Capacity		Existing BESS (MW)	Proposed BESS (MW) Committed	Proposed BESS (MW) Indicative	With SIS Application (MW)
LUZON	NGCP Recommended	290 MW	150.8	370	150.00	140.00
	Other Sites		189.90	970.00	1,346.60	410.6
VISAYAS	NGCP Recommended	70 MW	74.7	40	77.5	70
	Other Sites		47.00	270	819.40	559.9
MINDANAO	NGCP Recommended	90 MW	44.3	0	50.00	20.00
	Other Sites		91.80	248	20	-
Total		**450 MW**	**598.5**	**1898.0**	**2,463.5**	**1,200.5**

Addressing transmission congestion commenced in response to DOE Circular 2023-04-0008 that mandates integrating ESS into TDP for congestion relief and upgrade deferral. The NGCP commenced the technical study to identify ESS solutions for congested lines aiming to augment supply especially during peak demand.

WAY FORWARD (ESS AS CONGESTION RELIEF)

For newly identified projects aimed at addressing transmission congestion, NGCP will establish a standardized methodology for determining the appropriate size of ESS for areas experiencing overloading or congestion, particularly within the 69 kV transmission network.

In pursuit of energy security and a sustainable future, the Philippines' National Renewable Energy Program (NREP) targets a 35% share of RE in the power generation mix by 2030 and 50% by 2040. To achieve these goals, the government has introduced key policies and programs, including the Philippine CREZ and the GEAP.

These initiatives have encouraged private sector participation, leading to a surge of RE project proposals.

In 2023, RE accounts for 22% of the country's total power generation, primarily from geothermal and hydropower plants. To meet the 2030 and 2040 targets, substantial expansion in RE capacity is required. Based on the DOE's List of PSIPP and the growing number of OSW projects with issued Service Contracts, solar and wind power plants are expected to be the main contributors to the RE share.

5.1 CHALLENGES IN INTEGRATING HIGH RE PENETRATION

While the projected increase in the penetration of RE resources is encouraging, integrating high levels of VRE presents several challenges that must be addressed to maintain grid stability and reliability, to wit:

- **Variability and Intermittency -** Solar and wind generation fluctuate with weather conditions, requiring advanced forecasting and real-time balancing mechanisms.
- **Transmission Constraints -** The current grid infrastructure may not be adequate to handle abrupt increase of RE capacity, leading to congestion and curtailment.
- **Reduced System Inertia -** High penetration of inverter-based resources (IBRs), especially those employing Grid-Following (GFL) technology, weakens system inertia, increasing the risk of frequency and voltage instability.
- **Grid Protection Challenges -** Traditional grid protection systems must be adapted to accommodate higher levels of VRE; and
- **Economic and Regulatory Barriers -** Investments in infrastructure, energy storage, and regulatory reforms are essential to support RE integration.

5.2 SOLUTIONS TO ADDRESS RE INTEGRATION CHALLENGES

To ensure a stable and reliable grid, the following solutions must be implemented:

- **Grid Infrastructure Enhancement -** To support higher RE penetration, expanding and upgrading the transmission network is essential. Strengthening interconnections between major grids—Luzon, Visayas, and Mindanao—will enable more efficient power sharing. Additionally, developing high-voltage submarine and overhead transmission lines will facilitate the integration of remote RE generation zones into the main grid;
- **Energy Storage Systems -** Energy storage plays a crucial role in mitigating the variability of VRE. The deployment of BESS will help regulate frequency and smooth out power fluctuations. In parallel, exploring pumped hydro storage and other long-duration storage technologies will ensure a reliable power supply during low-RE generation periods.
- **Advanced Grid Technologies -** Modernizing the grid with smart technologies will enhance system flexibility and reliability. Real-time monitoring and adaptive control systems will improve grid responsiveness, while Grid-Forming

(GFM) inverters, Synchronous Condensers and Static Synchronous Compensators (STATCOM) will help maintain voltage and frequency stability; and

- **Flexible Power Generation -** To complement VRE generation, the grid must incorporate fast-ramping and hybrid power plants. Encouraging hybrid RE projects, such as solar + storage or wind + storage, will help provide a more consistent and dispatchable power output.

These strategies collectively support a stable, flexible, and resilient power system capable of accommodating the growing share of RE.

5.3 KEY STUDIES AND PROJECTS SUPPORTING RE INTEGRATION

NGCP is actively considering RE developments in grid planning and operations. Several studies and projects are underway to address the challenges of high RE penetration and develop practical solutions, such as:

1. **Laoag Power Quality Improvement Project** – The increasing integration of VRE sources such as solar and wind power plants in the Laoag Area poses challenges to power quality and grid stability. NGCP's assessment has identified key issues, including voltage fluctuations and low Short Circuit Ratio, indicating a weak grid. These issues are expected to worsen with the commercial operation of the additional VRE capacity in the area.

   To address these challenges, NGCP conducted a study aimed to mitigate voltage fluctuations caused by wind and solar power, while increasing the VRE dispatch capacity in the area. The study evaluated several options, including conventional STATCOM, GFM-STATCOM, synchronous condenser and GFM-BESS. Among these options, NGCP selected GFM-STATCOM for its ability to provide dynamic reactive power support and strengthen system stability in weak grid conditions. The project is expected to be completed in October 2029.

2. **Batangas-Mindoro 500 kV Interconnection and Backbone Project (BMIBP) –** Is another key project which seeks to connect Mindoro Island to the Luzon Grid. This interconnection will provide access to more reliable and competitive generation sources while also supporting the proposed OSW projects in the southern part of Mindoro. The project is expected to be completed by December 2030.

These initiatives highlight NGCP's commitment to integrating RE while ensuring a stable and resilient power system.

5.4 GREEN ENERGY AUCTION PROGRAM (GEAP) UPDATES

The GEAP program, which aims to promote the growth of private sector participation and accelerate the development of RE resources, was launched on November 3, 2021, through Department Circular No. DC2021-11-0036. This program ensures that RE projects are awarded through a transparent and competitive bidding process, which encourages cost-effective RE development.

Since 2022, there have been 3 GEAPs (2 completed and 1 ongoing).

- **GEA-1** - The first round, held on June 17, 2022, generated 1,866.13 MW of RE capacity from various sources, including hydro, biomass, solar, and wind. The winning bidders are set to deliver energy from 2023 to 2025, with prices set at or below the Green Energy Auction Reserve (GEAR) prices established by the ERC.
- **GEA-2** - The second round, conducted on July 3, 2023, resulted in a total of 3,442.756 MW of RE capacity from solar (ground-mounted, roof-mounted, and floating) and onshore wind projects. The winning bidders are expected to deliver energy from 2024 to 2026 at competitive prices.
- **GEA-3** - The third round of GEAP (GEA-3) will involve the development of specific auction policies and guidelines for geothermal and impounding hydroelectric generators, including run-of-river (ROR) and pumped-hydro systems. In addition, the DOE will establish payment settlement policies through the Wholesale Electricity Spot Market (WESM) for non-Feed-in-Tariff (FIT) projects, such as geothermal and hydro.

On November 14, 2024, the DOE released the Notice of Auction and Terms of Reference for GEA-3, inviting qualified energy developers to participate in this initiative. GEA-3 aims to target a total of 4,475 MW of new renewable energy capacity, covering both non-FIT-eligible and FIT-eligible technologies. This initiative will play a crucial role in meeting the country's growing electricity demand while ensuring that future power generation is increasingly sustainable.

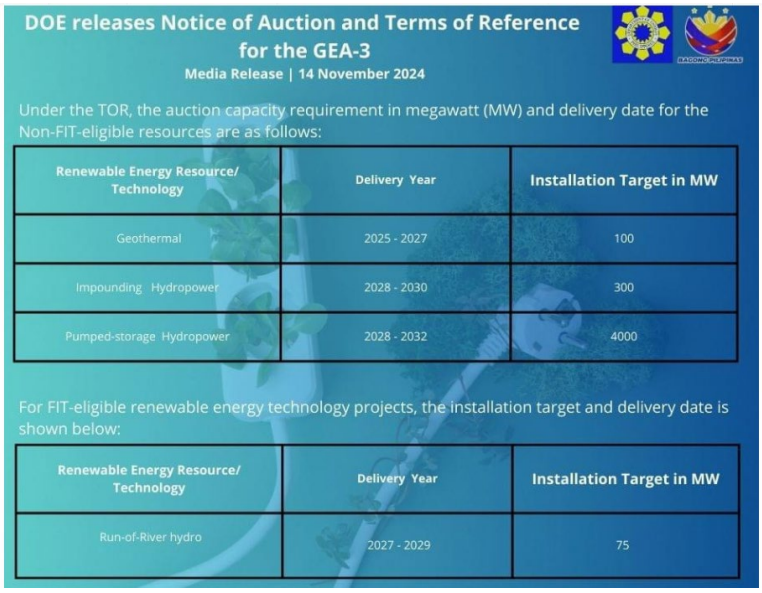


Figure 5.1: Notice of Auction for GEA – 3 Targets

The auction proper for GEA-3 was held on February 11, 2025. Following legal and technical evaluations, the Green Energy Auction Bids Evaluation and Awards Committee (GEA-BEAC) endorsed price offers to the ERC on February 20, 2025 , with the ERC transmitting its financial evaluation report to the DOE on April 15, 2025. The Notice of Award was officially signed by the Secretary on June 9, 2025. providing official lists of potential winning bidders advancing an overall total of **more than 6,000 MW** for various Renewable Energy projects, including Impounding Hydropower, Pumped-Storage Hydropower (across three lots), and Geothermal technologies. Winning bidders are required to submit a written confirmation of their acceptance and post-auction documents, including an Affidavit of Undertaking and Performance Bond, within fifteen calendar days. Failure to submit these documents by an accepted winning bidder will result in the forfeiture of their Bid Bond. The awarded Non-FIT Green Energy Tariff (GET) will be as approved by the ERC, and specific conditions apply to Pumped-Storage Hydropower (PSH Hydro) regarding offered capacity.

In accordance with the Department of Energy (DOE) Department Circular (DC) Nos. DC2021-11-0036 and DC2023-10-0029 as amended, the DOE has issued a Notice of Award for the Third Auction Round of the Green Energy Auction Program (GEA-3),

Potential Winning Bidders:

- **Impounding Hydropower – a total of 300 MW Capacity** in the period 2028-2030 to be developed by Pan Pacific Renewable Power Phils. Corp. with Gened 1 and Gened 2 Hydroelectric Power Projects.
- **Pumped-Storage Hydropower – a total of 6,350 MW Capacity** in the period 2028 – 2035

- **Lot 1 – 2,500 MW** *for the period 2028-2030 to be developed by Coheco Badeo Corporation, Olympia Violago Water and Power, Inc., and Ahunan Power, Inc.*
- **Lot 2 – 3,600 MW** *for the period 2031-2032 to be developed by San Roque Hydropower Inc. and Pan Pacific Renewable Power Phils. Corp.*
- **Lot 3 – 250 MW** *for the period 2031-2035 to be developed by San Roque Hydropower Inc.*

- **Geothermal Power – a total of about 30 MW** in the period 2025-2027 to be developed by Energy Development Corporation and Bac-Man Geothermal Inc.

Below is the detail of potential winning bidders for GEA-3.

No.	RE Developer	RE Facility Name	Capacity Offered (MW)	ERC Recommended Rate (Php/kWh)
IMPOUNDING HYDROPOWER (2028 – 2030)				
1	Pan Pacific Renewable Power Phils. Corp.	Gened 1 Hydroelectric Power Project	150.00	4.5000
2		Gened 1 Hydroelectric Power Project	150.00	4.7500
PUMPED -STORAGE HYDROPOWER LOT 1 (2028-2030)				
1	Coheco Badeo Corporation	Kibungan Pumped Storage HEP Project	500.00	2.5787
2	Olympia Violago Water and Power, Inc.	Wawa Pumped Storage 1 HEP	600.00	5.3561
3	Ahunan Power, Inc.	Pakil Pumped Storage HEP Project	1400.00	5.4597
PUMPED -STORAGE HYDROPOWER LOT 2 (2031-2032)				
1	San Roque Hydropower Inc.	San Roque East Pumped Storage HEP Project	800.00	3.2500
2		San Roque West Pumped Storage HEP Project	800.00	3.3500
3	Pan Pacific Renewable Power Phils. Corp.	Maton Pumped Storage HEP Project	2000.00	3.5000
PUMPED -STORAGE HYDROPOWER LOT 3 (2031-2035)				
1	San Roque Hydropower Inc.	Aklan Pumped Storage HEP Project	250.00	3.7319
GEOTHERMAL (2025-2027)				
1	Energy Development Corporation	Mindanao 3 Binary Geothermal Power Plant Expansion Project Phase 3 – Unit 1	3.669	5.1092
2	Bac – Man Geothermal Inc.	Tanawon Geothermal Power Plant Unit 1	21.573	7.6441
3	Bago Binary Geothermal Power Plant – Unit 1	Bago Binary Geothermal Power Plant – Unit 1	5.645	7.6441

The ongoing success of the GEAP underscores the government's commitment to accelerating the Philippines' transition to renewable energy. Through transparent and competitive bidding processes, the DOE is facilitating the development of a more sustainable energy future. However, to support the high penetration of renewable energy sources and ensure grid stability, significant efforts are required to expand and modernize transmission infrastructure, improve system flexibility, and address the integration challenges posed by intermittent power sources. By continuing to prioritize these efforts, the Philippines can successfully meet its renewable energy targets and strengthen its energy security.

5.5 WAY FORWARD (RE INTEGRATION)

The increasing penetration of VRE has the potential to cause significant degradation of power system performance due to their intermittent nature, which necessitates an increase in the required flexible generation. With a focus on large-scale wind and solar power generation connected to the grid, the rapidly varying power output-dependent on many factors leads to significant challenges for the system operations. BESS is now being widely used to mitigate the effects of integrating RE resources.

While the projected increase in the penetration of RE resources is encouraging, the intermittent nature of RE resources, particularly VRE, poses new challenges to grid planning and operation. This necessitates strengthening the transmission network through expansion and upgrades. The development of strong transmission backbones in the Luzon, Visayas, and Mindanao Grids, as well as significant stretches of interconnection lines through submarine cables, is a critical requirement to ensure efficient energy transmission from various potential RE development zones to the load centers throughout the Philippines.

In 2023, the “Variable Renewable Energy Integration Study” (VREIS) was conducted to determine the available generation capacity for VRE plant connections per grid/sub-grid of Luzon, Visayas, and Mindanao, based on thermal assessment alone. The study also aimed to recommend the best locations, identify possible bottlenecks in the transmission corridor, and propose the necessary transmission upgrades.

Operational flexibility is also crucial in addressing the additional net-load variability and reduced system inertia caused by VRE. Advanced forecasting to reduce the uncertainty of VRE, the deployment of more flexible and fast-acting ESS, and the application of STATCOM and GFM technologies are among the key options to improve operational flexibility.

The NGCP is already considering RE developments in grid planning and operations. Further studies are being conducted to understand the potential impacts of high penetration levels of RE and to identify solutions that will address RE integration challenges, in line with meeting the target RE generation mix set by the government.

APPENDICES

Table A1.1 Luzon Committed Power Projects

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
COAL-FIRED POWER PLANT (CFPP)						
Masinloc Power Plant - Unit 4 w/ SIS w/ FS CPR4	350.000	Aug 2025	Castillejos 500 kV SS (interim) Palauig 500 kV SS	Western 500 kV Backbone Stage-2 (Masinloc-Castillejos TL as Ph. 1 in 2024)	May 2028 *	2021
Masinloc Power Plant - Unit 5 w/ SIS w/ FS CPR4	350.000	Apr 2026	Castillejos 500 kV SS (interim) Palauig 500 kV SS	Western 500 kV Backbone Stage-2 (Masinloc-Castillejos TL as Ph. 1 in 2024)		
Mariveles CFPP Phase II - Unit 5 w/ SIS	300.000	May 2029	Mariveles (Alas-asin) 500 kV SS	Mariveles–Hermosa 500 kV TL Hermosa–San Jose 500 kV TL	Completed	2021
Mariveles CFPP Phase II - Unit 6	300.000	Nov 2029	Mariveles (Alas-asin) 500 kV SS	Mariveles–Hermosa 500 kV TL Hermosa–San Jose 500 kV TL		
Total	**1,300.00**					
OIL-BASED/ DIESEL POWER PLANT (DPP)						
SPC – Capas Bunker C-Fired DPP w/ SIS CPR1	11.04	Apr 2025	TARELCO II Facility		N/A	
Total	**11.04**					
NATURAL GAS-FIRED COMBINED CYCLE POWER PLANT (NGCC) GAS TURBINE COMBINED CYCLE POWER PLANTS (GTCC) COMBINED CYCLE POWER PLANTS (CCPP)						
Batangas CCPP - Phase 1, Unit 1 w/ FS CPR2	440.000	Feb 2025	Ilijan 500 kV Switchyard	Ilijan 500 kV Upgrading	Jun 2027	2021
Batangas CCPP - Phase 1, Unit 2 w/ FS CPR2	440.000	Feb 2025	Pinamucan 500 kV SS	Pinamucan 500 kV SS	Feb 2029 *	
Batangas CCPP - Phase 1, Unit 3 CPR2	440.000	Mar 2025	Pinamucan 500 kV SS	Pinamucan 500 kV SS	Feb 2029 *	
Natural Gas-Fired Power Plant	1100.000	TBD	Pinamucan 500 kV SS	Pinamucan-Tuy 500 kV TL	Dec 2031 *	
Energy World Corporation 650 MW Gas Fired CCPP w/ SIS	650.000	TBD	Pagbilao 230 kV SS	Pagbilao 500 kV SS	Completed	
Batangas CCPP - Phase 2	440.000	TBD	Pinamucan 500 kV SS	Pinamucan 500 kV SS	Feb 2029 *	
NGCC-Gas Turbine Power Plant Phase 1 - Unit 1 (formerly AOE CFPP Unit 1)	640.000	TBD	Pagbilao 500 kV SS	Pagbilao-Tayabas 500 kV TL	Dec 2029	
NGCC-Gas Turbine Power Plant Phase 1 - Unit 2 (formerly AOE CFPP Unit 2)	640.000	TBD	Pagbilao 500 kV SS	Pagbilao-Tayabas 500 kV TL	Dec 2029	
NGCC Gas Turbine Power Plant Phase 2 - Unit 1	640.000	TBD	Pagbilao 500 kV SS	Pagbilao-Tayabas 500 kV TL	Dec 2029	
NGCC Gas Turbine Power Plant Phase 2 - Unit 2	640.000	TBD	Pagbilao 500 kV SS	Pagbilao-Tayabas 500 kV TL	Dec 2029	
Total	**6,070.00**					
GEOTHERMAL POWER PLANT (GPP)						

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Palayan Binary GPP w/ SIS CPR1	29.000	Mar 2025	Bacman 230 kV SS		N/A	
Tiwi Geothermal Binary GPP w/ SIS w/ FS CPR2	17.000	May 2025	Tiwi-C 69 kV SS	LPESUP	Dec 2032*	2022
Tanawon GPP w/ SIS CPR1	21.573	Aug 2025	Bacman 230 kV SS (through Palayan 230 kV Switchyard)		N/A	
Total	**67.573**					
HYDROELECTRIC POWER PLANT (HEPP)						
Laguio (Laginbayan) Malaki 1 HEPP CPR1	1.600	Feb 2025	MERALCO Facility		N/A	
Dupinga HEPP CPR1	4.800	Jun 2025	NEECO II A2 Facility		N/A	
Dipalo HEPP SIS Exempted w/ FS CPR1	4.150	Oct 2025	Nagsaag-Umingan 69 kV TL		N/A	
Sablan 1 HEPP	20.000	Nov 2025	La Trinidad–Calot 69 kV TL		N/A	
Tumauini HEPP	11.300	2025	ISELCO II Facility			
Ibulao 1 HEPP w/ SIS CPR1	7.600	2026	Bayombong SS 69 kV Network		N/A	
Kennon HEPP	5.000	2027	Bauang 69 kV Network		N/A	
Panicuan HEPP	3.000	2027			N/A	
Kapangan HEPP GEA-1 w/ SIS w/ FS CPR2	60.000	Jun 2027	Bacnotan 69 kV SS		N/A	2024
Asin-Hungduan HEPP w/ SIS w/ FS CPR1	9.800	2028	Bayombong SS 69 kV Network		N/A	
Tublay 3 HEPP SIS Exempted CPR1	1.000	2028	La Trinidad 69 kV Network		N/A	
Colasi HEPP CPR1	4.000	TBD	CANORECO Facility		N/A	
Mariveles HEPP SIS Exempted w/ FS CPR1	0.600	TBD	PENELCO Facility		N/A	
Ibulao HEPP w/ SIS	4.500	TBD	Bayombong–Lagawe 69 kV TL		N/A	
Likud 2 HEPP	0.560	TBD	IFELCO Facility		N/A	
Wawa Pumped Storage 1 HEPP w/ SIS	600.000	2030	San Mateo 230 kV SS	San Mateo 230 kV SS	Jun 2032	
Total	**737.910**					
BIOMASS POWER PLANT (BPP)						
Trustpower BPP (Phase 2)	3.402	Mar 2027			N/A	
Trustpower BPP (Phase 1) w/ SIS CPR1	1.68	2025	Mexico-Clark 69 kV TL		N/A	
FQBC Biogas CPR1	1.200	Aug 2025	MERALCO Facility		N/A	
Total	**6.282**					
SOLAR POWER PROJECT (SPP) **SOLAR PHOTOVOLTAIC POWER PLANT (SOLAR PV PP)**						
Gamu SPP w/ SIS w/ FS CPR1	41.244	Feb 2025	Gamu – Roxas		N/A	

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
			69 kV TL			
Maragondon SPP	48.118	Feb 2025				
RASLAG IV SPP w/ SIS w/ FS CPR1	26.400	Feb 2025	Mexico – Clark 69 kV TL			
Armenia SPP w/ SIS w/ FS CPR3	37.800	Mar 2025	Single Circuit Tap Connection to Concepcion-Sta.	Concepcion – Sta. Ignacia 69 kV TL	Jan 2027	2023
			Ignacia Line 2 Interim connection to Concepcion-Camiling 69 kV Line	North Luzon 230 kV SS Upgrading 2	Aug 2027 *	
Palauig SPP w/ SIS w/ FS CPR1	49.500	Mar 2025	Botolon – Candelaria 69 kV TL			
Tanauan SPP	48.118	Mar 2025	MERALCO Facility			
Naic Rooftop SPP w/ FS CPR1	4.950	Apr 2025	MERALCO Facility		N/A	
San Jose SPP (Phase 1)	8.1	Apr 2025	Cabanatuan – Fatima 69 kV TL			
San Jose SPP (Phase 2)	7.200	Apr 2025	Cabanatuan – Fatima 69 kV TL			2024
Subic New PV SPP w/ SIS w/ FS CPR1	86.199	May 2025	SBMA 230 kV SS		N/A	
Ilocos Norte SPP w/ SIS w/ FS CPR2	87.594	Jun 2025	Laoag 115 kV SS		N/A	2023
Santo Domingo SPP w/ SIS w/ FS	46.2	Jun 2025	San Manuel 69 kV SS	NLSUP 2 (San Manuel SS)	Aug 2027 *	2023
Bongabon SPP GEA-2 w/ SIS CPR1	18.750	Jul 2025	Cabanatuan – Baler 69 kV TL		N/A	
Cordon SPP GEA-2 w/ SIS CPR1	49	Jul 2025	Santiago – Aglipay 69 kV TL		N/A	
Santa Rosa Nueva Ecija 2 SSP Phase 1A w/ SIS w/ FS CPR2	33.348	Aug 2025	San Isidro 500 kV SS		N/A	2022
Labrador SPP ** GEA-2 w/ SIS w/ FS CPR4	200.000	Oct 2025	Bugallon 230 kV SS	Bugallon 500 kV SS	Jan 2033*	2023
Lumbangan SPP ** w/ SIS w/ FS w/ SIS	90	Oct 2025	Tuy 69 kV SS	Tuy 500/230 kV SS (Stage 1)	Jun 2026	2023
Luntal SPP** w/ SIS w/ FS CPR4	50.100	Oct 2025	Tuy 69 kV SS	Tuy 500/230 kV SS (Stage 1)	Jun 2026	2024
Olongapo SPP w/ SIS w/ FS CPR4	172.200	Oct 2025	Castillejos 230 kV SS	Castillejos 230 kV SS	Dec 2025	2023
				Western Luzon 500 kV Backbone (Stage 2)	May 2028 *	
Samal SPP	48.118	Oct 2025	Hermosa – Calaguiman 69 kV TL			
Talugtug SPP GEA-1 w/ SIS w/ FS CPR3	99.980	Nov 2025	Nagsaag 230 kV SS	Nagsaag – Tumana 69 kV TL	Jan 2027	2022
Bugallon SPP w/ SIS w/ FS w/ SIS	530.400	Dec 2025	Bugallon 500 kV SS	Bugallon 500 kV SS	Jan 2033 *	2022

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Bugallon SPP GEA-2 w/ SIS w/ FS CPR1	18.560	Dec 2025	Bolo 500 kV SS	San Fabian 230 kV SS Bauang – La Trinidad 230 kV TL Upgrading	Dec 2033 * Dec 2031 *	
Concepcion Tarlac 2 SPP w/ SIS CPR2	200.000	Dec 2025	Concepcion 230 kV SS			2022
Development of 50MW Ground Mounted SPP GEA-2 CPR1	50.000	Dec 2025	Tuy 69 kV SS			
Limbauan SPP GEA-2 w/ SIS CPR1	28.000	Dec 2025	Tuguegarao – Cabagan 69 kV TL			
PAVI Green Naga SPP w/ SIS w/ FS CPR2	40.400	Dec 2025	Naga-Lagonoy 69kV TL	South Luzon SS Upgrading 2	Jun 2027*	2022
San Pablo SPP Phase 1 GEA-2 w/ SIS CPR2	49.400	Dec 2025	Tuguegarao 69 kV SS	Tuguegarao – Enrile 69 kV TL	Oct 2030 *	2020
Santa Rosa Nueva Ecija 2 SPP Phase 1B CPR1 w/ SIS w/ FS	108.400	Dec 2025	Nagsaag 230 kV SS	Cabanatuan - Sampaloc - Nagsaag 230 kV TL Upgrading	Jul 2033 *	2023
Santa Rosa Nueva Ecija 2 SPP Phase 2 w/ SIS w/ FS CPR2	171.600	Dec 2025	Nagsaag 230 kV SS	Cabanatuan – Sampaloc - Nagsaag 230 kV TL Upgrading	Jul 2033 *	
Sapang Balen Solar 1 PP (Phase 1) ** w/ SIS w/ FS w/ SIS	79.200	Dec 2025	Magalang 230 kV SS	Magalang 230 kV SS	Dec 2029 *	2022
Sapang Balen Solar 1 PP (Phase 2) w/ SIS w/ FS w/ SIS	79.200	Dec 2025	Magalang 230 kV SS	Magalang 230 kV SS	Dec 2029 *	
Tayabas SPP w/ SIS w/ FS CPR2	450.000	Dec 2025	Tayabas 230 kV SS	Taguig – Silang 500 kV TL	Dec 2031 *	2023
				LPCBGC 2	Jan 2030 *	
Bolbok 2 SPP GEA-2 w/ SIS w/ FS w/ SIS	75	Feb 2026	Tuy 69 kV SS	Tuy 500/230 kV SS (Stage 1)	Jun 2026	2023
				South Luzon 230 kV SS Upgrading 2	Jun 2027*	
Pagbilao 1 SPP GEA-2 w/ SIS w/ FS CPR2	70.000	Feb 2026	Pagbilao 230 kV SS	LPCBGC 2	N/A	2022
Pagbilao 2 SPP GEA-2 w/ SIS w/ FS CPR2	27.000	Feb 2026	Pagbilao 230 kV SS		N/A	-
Binalonan SPP (San Manuel 1 SPP) GEA-2 w/ SIS w/ FS CPR3	80.100	Mar 2026	San Manuel 69 kV SS	NLSUP 2 (San Manuel SS)	Aug 2027 *	2023
Bolbok 1 SPP (Tuy Batangas 4 SPP) GEA-2 w/ SIS w/ FS w/ SIS	50	Mar 2026	Tuy 69 kV SS	Tuy 500 kV SS (Stage 1)	Jun 2026	2023
GIGA ACE 8 SPP	237.600	Mar 2026	Botolan 230 kV SS			2024
Sta. Barbara 1 SPP GEA-2 w/ SIS w/ FS CPR2	90.000	Apr 2026	Balingueo 69 kV SS	North Luzon SS Upgrading 2	Aug 2027 *	2023
Arayat 3A SPP GEA-2 w/ SIS w/ FS CPR1	30.000	May 2026	Mexico – Clark 69 kV TL			
Greener Solar Power and Electric Motor, Inc. - Balanok 3 Solar Farm	2.8	May 2026				

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Agrosolis SPP CPR1	3.652	Jun 2026	Concepcion 69 kV SS			
Pasuquin-Burgos 100MW SPP GEA-2 w/ SIS CPR2	49.000	Jun 2026	Laoag 115 kV SS	Luzon Primary Equipment SS Upgrading	Dec 2032 *	2021
				LPCBGC 1	Jan 2030 *	
Ixus Bugallon SPP ** GEA-2 w/ SIS	274.735	Dec 2026	Bolo 500 kV SS	Bugallon 500 kV SS Project	Jan 2033	2023
Linglingay SPP GEA-2 w/ SIS CPR2	82.082	Dec 2026	Gamu 69 kV SS			2021
NKS One Floating SPP (Phase 1) GEA-2 w/ SIS w/ FS CPR2	90.00	Dec 2026	Lumban 230 kV SS	South Luzon SS Upgrading 2	Jun 2027 *	2022
NKS One Floating SPP (Phase 2)	100.00	Dec 2026				
Opus SPP w/ SIS w/ FS CPR1	149.950	Dec 2026	Pinili 230 kV SS	Pinili 230 kV SS	Apr 2028 *	2023
PAVI Green CamNorte REI w/ SIS w/ FS CPR2	28.600	Dec 2026	Labo 69 kV SS	LPCBGC 3	Jan 2030 *	2020
San Pablo SPP Phase 2 GEA-2 CPR2	79.040	Dec 2026				
Santa Rosa Nueva Ecija 3 SPP GEA-2 w/ SIS w/ FS CPR2	20.000	Dec 2026	Nagsaag 230 kV SS			
Sapang Balen Solar 2 PP ** w/ SIS w/ FS w/ SIS	246.604	Dec 2026	Magalang 230 kV SS	Magalang 230 kV SS	Dec 2029 *	2022
YH Pangasinan Norte SPP CPR1	6.900	Dec 2026	PANELCO III Facility			
YH Camarines Norte SPP CPR1	8.000	Dec 2027	CANORECO Facility			
Nueva Era SPP	87.500	Jan 2028				
Pasuquin-Burgos 100MW Solar Power Plant (Non-GEA) w/ SIS	51.000	Jun 2028	Laoag 115 kV SS			
Bongabon SPP GEA-2 w/ SIS	30.933	TBD	Cabanatuan – Baler 69 kV TL		N/A	
Warehouse #1 C Teknik Compound Solar PV System GEA-2 CPR1	0.060	TBD				
Warehouse #18 C Teknik Compound Solar PV System GEA-2 CPR1	0.150	TBD				
Warehouse #19 C Teknik Compound Solar PV System GEA-2 CPR1	0.150	TBD				
Warehouse #2 C Teknik Compound Solar PV System GEA-2 CPR1	0.090	TBD				
Warehouse #3 C TEKNIK Compound Solar PV System GEA-2 CPR1	0.130	TBD				
Warehouse #4 C Teknik Compound Solar PV System GEA-2 CPR1	0.130	TBD				
Warehouse #5 C Teknik Compound Solar PV System GEA-2 CPR1	0.130	TBD				

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Warehouse #6 C Teknik Compound Solar PV System GEA-2 CPR1	0.130	TBD				
Warehouse No. B4 Geomax Compound Solar PV System GEA-2 CPR1	0.180	TBD				
Total	5,029.725					
WIND POWER PLANT (WPP)						
Talim WPP CPR1	218.750	Jun 2025	Option 1: Binangonan 115 kV SS Option 2: Taguig 230 kV SS	Option 1: None Option 2: Taguig 500 kV SS Taguig-Taytay 230 kV	Option 1: N/A Option 2: Dec 2026 Dec 2030 *	
Tanay WPP* w/ SIS w/ FS w/ SIS	128.000	Nov 2025	Baras 230 kV SS	Baras 500 kV SS	Sep 2032 *	2023
Alabat WPP GEA-2	62.400	Nov 2025	Gumaca-Lopez-Tagkawayan 69 kV TL		N/A	
Rizal WPP	90	Dec 2025				
Balaoi and Caunayan WPP GEA-1 CPR1	160.000	Dec 2025	Laoag 115 kV SS	Luzon Primary Equipment SS Upgrading	Dec 2032 *	
Calatagan WPP GEA-1 w/ SIS CPR1	30.000	Dec 2025	Tuy 230 kV SS	Tuy 500/230 kV SS Stage 1	Jun 2026	
Caparispisan II WPP GEA-1 CPR1	70.000	Dec 2025	Laoag 115 kV SS	Luzon Primary Equipment SS Upgrading	Dec 2032 *	
Kalayaan 2 WPP w/ SIS w/ FS CPR2	100.800	Dec 2026	San Juan 230 kV SS	LPCBGC 3	Jan 2030 *	2023
Quezon WPP w/ SIS w/ FS CPR4	239.985	Dec 2026	Sta. Maria 500 kV SS	Sta. Maria 500 kV SS	Aug 2031	2023
Camarines Sur WPP CPR1	49.999	Dec 2026	Naga-Libmanan 69 kV TL			
Isla WPP (Giga Ace 6)	230.000	Dec 2026				
Bataan-Zambales CW WP CPR2	100.000	Dec 2026	Balsik 230 kV SS		N/A	2024
Camarines Sur CW WPP CPR1	50.000	Dec 2026	Naga 69 kV SS		N/A	
Pangasinan CW 2 WPP GEA-2	80.000	Dec 2026	Bugallon 500/230 kV SS	Bugallon 500kV SS	Jan 2033	2023
Total	1,609.934					
BATTERY ENERGY STORAGE (BESS) POWER PLANT						
Gamu BESS w/ SIS CPR2	20.000	Feb 2025	Gamu 69 kV SS			2020
Gamu BESS Phase 2 w/ SIS CPR2	20.000	Feb 2025	Gamu 69 kV SS			
Lumban BESS w/ SIS CPR2	40.000	Feb 2025	Lumban 69 kV SS			2021
Lumban BESS Phase 2 w/ SIS CPR2	20.000	Feb 2025	Lumban 69 kV SS			
Magapit BESS w/ SIS CPR2	20.000	Mar 2025	Lal-lo (Magapit) 69 kV SS			2020
Magapit BESS Phase 2 w/ SIS CPR2	20.000	Mar 2025	Lal-lo (Magapit) 69 kV SS			
Mexico SJM B BESS w/ SIS w/ FS CPR2	20.000	Aug 2025	Mexico 69 kV SS			2022

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Mexico BESS w/ SIS CPR2	50.000	Aug 2025	Mexico 69 kV SS			2021
Mexico BESS Phase 2 w/ SIS CPR2	20.000	Aug 2025	Mexico 69 kV SS			
Bay ESS w/ SIS CPR2	20.000	Nov 2025	Bay 69 kV SS			2024
Bac-Man ESS w/ SIS w/ FS CPR2	30.000	Dec 2025	Bacman 230 kV SS			2023
Angat BESS	20.000	TBD				
Bacnotan BESS	40.000	TBD				
Bauang BESS	40.000	TBD				
Bayombong BESS	40.000	TBD				
BCCP Limay BESS Project Phase 2	20.000	TBD				
Bolo BESS	40.000	TBD				
Cabanatuan BESS	40.000	TBD				
Calamba BESS	40.000	TBD				
Daraga BESS	40.000	TBD				
Dasmarinas BESS	40.000	TBD				
Gumaca BESS	40.000	TBD				
Hermosa BESS	40.000	TBD				
Ilijan BESS	40.000	TBD				
La Trinidad BESS	40.000	TBD				
Labo BESS	40.000	TBD				
Labrador BESS	40.000	TBD				
Laoag BESS	40.000	TBD				
Mahabang Parang BESS	40.000	TBD				
Naga BESS	40.000	TBD				
Navotas BESS	40.000	TBD				
Pagbilao BESS	40.000	TBD				
San Jose del Monte BESS	40.000	TBD				
San Rafael BESS Phase 2	20.000	TBD				
San Rafael BESS	20.000	TBD				
Sual BESS	60.000	TBD				
Subic BESS	40.000	TBD				
Tuguegarao BESS	40.000	TBD				
Urdaneta BESS	40.000	TBD				
Total	**1,340**					
TOTAL COMMITTED	**16,172.46**					
TOTAL COMMITTED W/O BESS	**14,832.46**					

** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

Table A1.2: Visayas Committed Power Projects

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
COAL-FIRED POWER PLANT (CFPP)						
Palm Concepcion CFPP Unit II w/ SIS	135	Jun 2028	Direct connection to Concepcion 138 kV SS	N/A	N/A	2013
Total	**135**					
OIL-BASED/ DIESEL POWER PLANT (DPP)						

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Bohol In-Island DPP w/ SIS CPR1	95.200	May 2025	Direct connection to Ubay 138 kV SS	Visayas Connection Requirements for Power Plants Project 1	2025-2030	2023
Sulzer DPP w/ SIS CPR1	5.500	Jun 2025	Lapu-lapu 69 kV Lines	N/A	N/A	2022
Caterpillar DPP w/ SIS CPR1	2.000	Jun 2025	Lapu-lapu 69 kV Lines	N/A	N/A	2022
Cummins DPP w/ SIS CPR1	1.000	Jun 2025	Lapu-lapu 69 kV Lines	N/A	N/A	2022
Total	**103.70**					
GEOTHERMAL POWER PLANT (GPP)						
Biliran GPP (Phase 1) CPR1	2.000	Feb 2025	Tap connection along Ormoc – Biliran 69 kV line	N/A	N/A	2016
Mahanagdong Geothermal Brine Optimization PP w/ SIS w/ FS CPR1	28.000	Sep 2025	Direct connect to Kananga SWS	N/A	N/A	2024
Bago Binary GPP (formerly Northern Negros GPP) CPR1	5.645	Mar 2026	Direct connection to NNGP 138 kV SS	N/A	N/A	2022
Biliran GPP (Phase 2) w/ SIS CPR1	6.000	TBD	Tap connection along Ormoc – Biliran 69 kV line	N/A	N/A	2023
Biliran GPP (Phase 3) w/ SIS CPR1	42.000	TBD	Tap connection along Ormoc – Biliran 69 kV line	N/A	N/A	2023
Total	**83.645**					
HYDROELECTRIC POWER PLANT (HEPP)						
Upper Taft HEPP w/ SIS w/ FS CPR1	14.160	Feb 2025	Tap connection along Paranas – Nato 69 kV TL	N/A	N/A	2024
Igbulo (Bais) HEPP w/ SIS CPR1	8.100	Jun 2025	Tap connection along Sta. Barbara-San Jose 69 kV TL	N/A	N/A	2016
Bao HEPP	2.000	Jul 2025	Embedded to LEYECO V	N/A	N/A	2023
Binahaan HEPP	4.57	2027				2024
Binalbagan 1 HEPP	5.300	2028	-	N/A	N/A	2024
Total	**34.130**					
BIOMASS COGENRATION POWER PLANT (BCPP)						
70-MW BPP (30-MW Expansion) w/ SIS w/ FS CPR1	30.000	May 2025	Tap connection along Bacolod – Cadiz 69 kV TL	N/A	N/A	2018
8 MW BPP (Expansion) w/ SIS CPR1	8.000	2025	Tap connection along Dingle – Passi 69 kV TL	N/A	N/A	2022
3 MW BPP (3 MW Phase 1) w/ SIS CPR1	3.000	TBD	Tap connection along Mabinay – Bayawan 69 kV TL	N/A	N/A	2020

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
3 MW BPP (Phase 2: 3MW)	3.000	TBD	Tap connection along Mabinay – Bayawan 69 kV TL	N/A	N/A	2020
Total	**44.000**					
SOLAR POWER PROJECT (SPP) **SOLAR PHOTOVOLTAIC POWER PLANT (SOLAR PV PP)**						
Calatrava SPP w/ SIS w/ FS CPR2	137.48	Mar 2025	Direct connection to Calatrava 230 kV SS	N/A	N/A	2024
Dagohoy SPP w/ SIS w/ FS CPR1	20.160	Mar 2025	Tap connection to Ubay – Trinidad 69 kV TL	N/A	N/A	2024
1MW SAMELCO II - Paranas SPP SIS Exempted w/ FS CPR1	1.05	Jun 2025	Embedded to SAMELCO II	N/A	N/A	2024
Bacolod SPP w/ SIS w/ FS CPR2	130.05	Aug 2025	Direct connection to Bacolod 138 kV SS	Visayas Connection Requirements for Power Plants Project 2	2025-2030	2024
Vista Alegre SPP w/ SIS	41.60	Oct 2025	Direct connection to NGCP's Bacolod 69 kV Substation	N/A	N/A	2024
Kananga-Ormoc SPP GEA-1 w/ SIS w/ FS CPR2	300.000	Dec 2025	Direct connection to Ormoc 230 kV SS	Visayas Connection Requirements for Power Plants Project 1	2025-2030	2022
San Isidro SPP (Phase 1) w/ SIS w/ FS CPR4	112	Dec 2025	Direct connection to Tugas 230 kV SS	Cebu-Leyte 230 kV Interconnection Lines 3 and 4	Stage 1: Dec 2028 * Stage 2: Dec 2031 *	2024
San Isidro SPP (Phase 2)	112	Mar 2026				
Ajuy 1 SPP w/ FS - w/ SIS CPR1	14.000	Nov 2026	Tap connection along Concepcion-Sara 69 kV TL	N/A	N/A	2023
1MW SAMELCO - Calbayog SPP SIS Exempted CPR1	1.05	Dec 2026	Embedded to SAMELCO	N/A	N/A	2024
Luca SPP SIS Exempted	80.000	Dec 2026	Direct connection to Barotac Viejo 138 kV SS	Visayas Connection Requirements for Power Plants Project 2	2025-2030	2023
Silay 2a SPP w/ FS - w/ SIS CPR1	30.000	Dec 2026	Tap connection to CENECO Bacolod-Silay 69 kV TL	N/A	N/A	2023
Silay 2b SPP w/ FS - w/ SIS CPR1	20.000	Dec 2026	Tap connection to CENECO Bacolod-Silay 69 kV TL	N/A	N/A	2023

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Taft SPP	17.5	Oct 2028	Tap connection to NGCP's Paranas-Nato 69 kV TL	Visayas Substation Upgrading Project 2	Stage 1: Aug 2027 Stage 2: Oct 2028	2024
Total	**1016.89**					
WIND POWER PLANT (WPP)						
Nabas WPP GEA-1 w/ SIS w/ FS CPR1	13.560	Oct 2025	Tap connection along Nabas – Caticlan 69 kV TL	N/A	N/A	2014
Gemini WPP w/ FS - w/ SIS CPR4	304.000	Dec 2026	Direct connection to Calbayog 138 kV SS	Visayas Connection Requirements for Power Plants Project 2	2025-2030	2024
Bago City WPP w/ FS - w/ SIS CPR4	150.000	Dec 2026	Direct connection to NGCP's proposed La - Carlota 138 kV SS	La Carlota 138 kV SS	Jul 2031	2024
Iloilo CW 1 WPP w/ FS - w/ SIS CPR2	152.000	Dec 2026	Direct connection to Sta. Barbara 138 kV SS	Visayas Connection Requirements for Power Plants Project 1	2025-2030	2024
Total	**619.56**					
BATTERY ENERGY STORAGE (BESS) POWER PLANT						
Tabango BESS w/ SIS w/ FS CPR2	20.000	Mar 2025	Direct connect to Tabango 69 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2020
Tongonan ESS GEA-1	30.000	Dec 2025	Direct connection to Tongonan 138 kV SWS	N/A	N/A	2023
Southern Negros ESS w/ SIS w/ FS CPR1	30.000	Dec 2025	Direct connection to Nasuji 138 kV SS	N/A	N/A	2023
Northern Negros ESS w/ SIS w/ FS CPR1	30.000	Feb 2026	Direct connection to NNGP 138 kV SWS	N/A	N/A	2023
Dingle BESS	20.000	TBD	Direct connection to Dingle 138 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2021
Samboan BESS	20.000	TBD	Direct connection to Samboan 69 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2020
Compostela BESS	20.000	TBD	Direct connection to Compostela 230 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2021

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Nabas BESS	20.000	TBD	Direct connection to Nabas 69 kV SS	Visayas Connection Requirements for Power Plants Project 1	2025- 2030	2021
Calbayog BESS	20.000	TBD	Direct connection to Calbayog 69 kV SS	Visayas SS Upgrading Project 3	Jun 2033 *	2021
Tabango BESS Phase 2	20.000	TBD	Direct connection to Tabango 69 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2020
Toledo BESS Phase 2	20.000	TBD	Direct connection to Calong-calong 69 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2020
San Carlos BESS	20.000	TBD	Direct connection to San Carlos 69 kV SWS	Visayas Connection Requirements for Power Plants Project 1	2025- 2030	2021
Mactan BESS	20.000	TBD	Direct connection to Pusok 69 kV SS	Lapu-lapu 230 kV SS Project	Nov 2027 *	2020
Ubay BESS Phase 2	20.000	TBD	Direct connection to Ubay 69 kV SS	Visayas SS Upgrading Project 2	Stage 1: Aug 2027 * Stage 2: Oct 2028 *	2021
Total	**310**					
TOTAL COMMITTED	**2,346.925**					
TOTAL COMMITTED W/O BESS	**2,036.925**					

** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval was issued in December 2025.*

Table A1.3: Mindanao Committed Power Projects

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
COAL-FIRED POWER PLANT (CFPP)						
Misamis Oriental 2 x 135 MW Circulating Fluidized Bed Coal Fired Thermal PP CPR4	270.000	Dec 2027	Villanueva 138 kV SS	Villanueva-Kinamlutan 230kV Transmission Line Project	N/A	2019
Total	**270.000**					
OIL-BASED/DIESEL POWER PLANT (DPP)						
Sangali DPP Phase 1 w/ SIS CPR2	28.000	Oct 2025	Zamboanga 69 kV SS	Mindanao Substation Upgrading 2 Project	Feb 2028	2023
Sangali DPP Phase 2 CPR2	28.000	Dec 2025	Zamboanga 69 kV SS	Mindanao Substation Upgrading 2 Project	Feb 2028	2023
Total	**56.000**					
HYDROELECTRIC POWER PLANT (HEPP)						

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Apo Agua HEPP GEA-1	2.424	Mar 2025				2024
Titunod HEPP GEA-1	3.600	May 2025			N/A	2021
Maladugao River (Upper Cascade) HEPP w/ SIS CPR1	8.400	Jun 2025	FIBECO owned Maramag-Malaybalay-Barandias 69 kV Line	N/A	N/A	2020
Mangima HEPP w/ SIS CPR2	12.000	Sep 2025	Manolo Fortich 69 kV SS	Mindanao Substation Upgrading 2 Project	Feb 2028	2023
Malitbog HEPP GEA-1 CPR1	3.700	Nov 2025	Villanueva 69 kV SS	N/A	N/A	2022
Clarin HEPP GEA-1 CPR1	6.900	Nov 2025	Tap connection along the Aurora-Ozamiz 69 kV TL	N/A Mindanao Substation Upgrading 2 Project	Feb 2028	2022
Mat-i 1 HEPP GEA-1 CPR1	4.850	Nov 2025	Jasaan – Balingasag 69 kV Line	N/A	N/A	2022
Silo-o HEPP GEA-1 CPR1	3.700	Nov 2025	Villanueva 69 kV SS	N/A	N/A	2022
Gakaon HEPP	2.230	Dec 2025			N/A	2021
Bubunawan HEPP w/ SIS	32.000	2028	Libona 138 kV SS	Libona 138kV SSP	N/A	2024
Total	**79.304**					
SOLAR POWER PROJECT (SPP)						
SOLAR PHOTOVOLTAIC POWER PLANT (SOLAR PV PP)						
General Santos SPP GEA-1 w/ SIS CPR2	120.000	Dec 2025	General Santos 138 kV SS	Culaman–General Santos 230 kV TL Tupi 138 kV SS	Jul 2032 Oct 2030	
Butuan City 1 SPP w/ FS CPR1	8.000	Dec 2025	Nasipit-Butuan 69 kV TL		N/A	2023
Tantangan SPP w/ FS CPR3	40.000	Dec 2026	Tacurong 69 kV SS		N/A	2023
Total	**168.000**					
BATTERY ENERGY STORAGE (BESS) POWER PLANT						
Pitogo BESS CPR2	60.000	Apr 2025		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
Sangali BESS CPR2	20.000	Mar 2025		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
Aurora BESS CPR2	20.000	Apr 2025				2021
Tagum BESS CPR2	20.000	Jun 2025		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
Nasipit Hybrid BESS w/ SIS	48.000	Jun 2026	Nasipit 138 kV SS			

Name of the Project	Rated Capacity (MW)	Target Commercial Operation	Connection Point	Associated Transmission Project	ETC/ Completion Date	Declared Committed by the DOE
Tagoloan BESS Phase 2	20.000	TBD		Villanueva-Kinamlutan 230kV TLP		2021
Placer BESS	20.000	TBD		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
Maramag BESS	20.000	TBD		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
General Santos BESS	20.000	TBD		Mindanao Substation Upgrading 2 Project	Feb 2028	2021
Total	**248**					
TOTAL COMMITTED	**821.804**					
TOTAL COMMITTED W/O BESS	**573.804**					

** Regulatory approval is one crucial requirement for meeting the projects' ETC (Estimated Time of Completion) in the TDP. For projects awaiting regulatory approval, it should be noted that the indicated ETC (month-year) assumes that ERC approval (5RP FD) will be issued by December 2025.*

Legend:

GEA-1 - Green Energy Auction-1
GEA-2 - Green Energy Auction-2
w/ SIS - System Impact Study
SIS Exempted - SIS Exempted
w/ FS - Facility Study

Connection Point Requirements (CPR)

CPR1 - No Grid Projects required (for small capacity plants that can tap to existing 69 kV Lin es
CPR2 - Projects require Installation of Circuit Breaker only at existing SS
CPR3 - Projects for installation of Circuit Breaker (CB) and transformer at existing SS and/or with TL Upgrade
CPR4 - Projects requiring Construction of a new SS and new transmission backbone
* - Awaiting ERC approval
** - With interim connection scheme

Table A2.1: Luzon Indicative Power Projects

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
COAL-FIRED POWER PLANT (CFPP)			
H & WB PCB Supercritical CFPP- Unit 1 w/ SIS	350.000	Jose Panganiban, Camarines Norte	TBD
H & WB PCB Supercritical CFPP- Unit 2 w/ SIS	350.000	Jose Panganiban, Camarines Norte	TBD
SRPGC CFPP w/ SIS	350.000	Barangay (Brgy.) San Rafael, Calaca, Batangas	TBD
SRPGC CFPP	350.000	Brgy. San Rafael, Calaca, Batangas	TBD
Total	**1,400.00**		
OIL-BASED/DIESEL POWER PLANT (DPP)			
Malaya 2 x 30 DPP w/ SIS	60	Malaya, Pililla, Rizal	TBD
Total	**60**		
NATURAL GAS-FIRED COMBINED CYCLE POWER PLANT (NGCC) GAS TURBINE COMBINED CYCLE POWER PLANTS (GTCC) COMBINED CYCLE POWER PLANTS (CCPP)			
Pagbilao 4 & 5 GTCC Power Plant w/ SIS	1,310	Brgy. Ibabang Polo, Pagbilao Quezon	Feb 2028
GTCC San Francisco Power Plant w/ SIS	1,200	Brgy. Cagsiay 1 & Cagsiay 2, Mauban, Quezon Province	2028
VIRES Natural Gas Floating Power Plant	450	Brgy. Simlong, Batangas City, Batangas	Dec 2029
GNPower Sisiman LNG CCPP	1,200	Brgy. Alas-asin & Brgy. Sisiman, Mariveles, Bataan	Dec 2029
GLEDC Luna LNG-Fired CCPP	1,128	Brgy. Nalvo Sur & Brgy.Carisquis, Luna, La Union	2030
Santa Maria NGCC w/ SIS	1,260	Brgy. Santa Rita, Batangas City	TBD
Total	**6,548**		
GEOTHERMAL POWER PLANT (GPP)			
Labo GPP	105	Tagkawayan, Labo, San Vincente, San Lorenzo Ruiz, Del Gallego (Quezon/ Camarines Norte & Sur)	2031
Bacman 4 Botong - Rangas GPP	20	Bacon District, Sorsogon, Sorsogon City	2028
Mt. Malinao GPP w/ SIS	50	Tiwi, Malinao, Malilipot, Polangui, Tabaco City and Buhi (Albay/Camarines Sur)	2029
Maibarara 3 GPP	20	Laguna/Batangas	2029
Kalinga GPP w/ SIS	120	Lubuagan, Pasil & Tinglayan, Kalinga	2032
Kayabon GPP	30	Manito, Albay	TBD
Total	**345**		
HYDROELECTRIC POWER PLANT (HEPP)			
ARIIS 1 (NIA Station 4+283) HEPP	0.900	San Manuel, Pangasinan	2028
ARIIS 2 (NIA Stn 5+437.50) HEPP	0.750	San Manuel, Pangasinan	2028
ARIIS 3 (NIA Stn 5+898.50) HEPP	0.500	San Manuel, Pangasinan	2028
ARIIS 4 (Stn 4+808) HEPP	0.670	San Manuel, Pangasinan	2028
ARIS 3 + 611 HEPP	1.000	San Manuel, Pangasinan	2028
Besao 2 HEPP w/ SIS	7.000	Besao, Mt. Province	2028
Boga HEPP	1.000	Bauko, Mt. Province	2028
Calanan HEPP w/ SIS	60.000	Tabuk City, Kalinga	2028
Calanasan 1 HEPP w/ SIS	30.000	Calanasan, Apayao	2028
Camiling 2 HEPP	4.000	Mayantoc, Tarlac	2028
Chico River HEPP w/ SIS	52.000	Tabuk, Kalinga	2028
Coto 1 HEPP w/ SIS	9.000	Masinloc, Zambales	2028
Coto 2 HEPP w/ SIS	3.500	Masinloc, Zambales	2028
Dalimuno HEPP w/ SIS	58.000	Tabuk City, Kalinga	2028
Ilaguen HEPP w/ SIS	19.000	San Mariano & San Guillermo, Isabela	2028
Ilaguen 2 HEPP w/ SIS	14.000	Echague, Isabela	2028

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Kabayan 2 HEPP w/ SIS	52.000	Kabayan, Benguet	2028
Kibungan 2 HEPP	40.000	Sugpon, Ilocos Sur	2028
Lamut HEPP w/ SIS	6.800	Asipulo, Ifugao	2028
Lingod River HEPP	3.000	Gabaldon, Nueva Ecija & San Luis, Aurora	2028
Lower Chico HEPP	2.100	Bauko, Mt. Province	2028
Lower Siffu HEPP	3.000	Natonin, Mt. Province	2028
Masiway 2 HEPP	9.000	Pantabangan, Nueva Ecjia	2028
Matuno 1 HEPP w/ SIS	7.400	Ambaguio, Nueva Vizcaya	2028
Matuno 2 HEPP w/ SIS	15.000	Ambaguio, Nueva Vizcaya	2028
Matuno 2 HEPP w/ SIS	7.900	Bambang, Nueva Vizcaya	2028
Nabuangan River HEPP	10.000	Conner, Apayao	2028
Olilicon HEPP w/ SIS	20.000	Ilagan, Ifugao	2028
Pampang HEPP w/ SIS	26.000	Santa Fe, Nueva Vizcaya	2028
Pasil B HEPP w/ SIS	15.680	Pasil, Kalinga	2028
Pasil C HEPP w/ SIS	9.750	Pasil, Kalinga	2028
Piapi River HEPP	4.500	Real, Quezon	2028
Tamdagan 2 HEPP	5.150	Vintar, Ilocos Norte	2028
Tamdagan HEPP	7.400	Vintar, Ilocos Norte	2028
Tignoan (Lower) HEPP w/ SIS	8.000	Real, Quezon	2028
Tinglayan HEPP	22.500	Tinglayan, Kalinga	2028
Tinoc 1 HEPP	3.000	Tinoc, Ifugao	2028
Tinoc 2 HEPP	6.500	Tinoc, Ifugao	2028
Tinoc 3 HEPP	5.000	Tinoc, Ifugao	2028
Tublay 1 HEPP	1.900	Tublay & La Trinidad, Benguet	2028
Tublay 2 HEPP	6.000	Tublay, Benguet	2028
Upper Chico	2.000	Bauko, Mt. Province	2028
Upper Siffu HEPP	2.750	Natonin, Mt. Province	2028
Upper Tabuk HEPP	15.000	Tabuk City, Kalinga	2028
Saltan River Site E HEPP	45.000	Balbalan and Pinukpuk,, Kalinga	2029
Alimit HEPP w/ SIS	120.000	Lagawe, Ifugao	2030
Alimit-Pumped Storage HEPP	250.000	Lagawe & Mayoyao, Ifugao	2030
Chico HEPP	150.000	Tabuk, Kalinga	2030
Dingalan Pumped-Storage HEPP	500.000	Dingalan, Aurora	2030
Gened - 1 HEPP	150.000	Pudtol, Apayaw	2030
Gened 2 HEPP w/ SIS	250.000	Kabugao, Apayao	2030
Kibungan Pumped-Storage HEPP	500.000	Kibungan, Benguet	2030
Maton Pumped Storage (formerly Maton HEPP)	2000.000	Pudtol and Kabugao, Apayao	2030
Pakil Pumped Storage HEPP w/ SIS	1400.000	Pakil, Laguna	2030
Pantabangan (Pump Storage) HEPP w/ SIS	600.000	Pantabangan, Nueva Ecija	2030
Saltan D River HEPP	49.000	Balbalan & Pinukpuk, Kalinga	2030
Wawa Pumped Storage 2 HEPP	100.000	Rodriguez, Rizal	2030
Wawa Pumped Storage 3 HEPP	50.000	Rodriguez, Rizal	2030
San Roque Lower East Pumped-Storage HEPP w/ SIS	400.000	Itogon, Benguet	2032
San Roque Upper East Pumped Storage HEPP w/ SIS	600.000	Itogon, Benguet	2032
San Roque West Pumped Storage HEPP w/ SIS	400.000	Itogon, Benguet	2032
Total	**8,142.650**		
BIOMASS POWER PLANTS			
12-MW Waste-to-Energy Power Plant Project	12	Pampanga	Dec 2026
100.000-MW Manila Waste-to-Energy Facility Project	100	Metro Manila	Apr 2029
Total	**112**		
SOLAR POWER PROJECT (SPP)			
Infanta 2 SPP w/ SIS	147.791	Infanta, Pangasinan	Jun 2025
Cabangan SPP w/ SIS	43.750	Brgy. Mabanglit, Cabangan, Zambales	Sep 2025
San Marcelino SPP (Phase 3) w/ SIS	96.900	San Marcelino, Zambales	Oct 2025

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Capas SPP w/ SIS	22.048	Clark Green City, Capas, Tarlac	Dec 2025
Cawag SPP w/ SIS	120.600	Subic, Zambales	Dec 2025
Astra SPP w/ SIS	56.250	Curimao, Ilocos Norte	Mar 2026
San Manuel SPP w/ SIS	67.070	San Manuel, Pangasinan	Mar 2026
Magat Floating SPP	54.080	Magat Reservoir, Alfonso Lista and Aguinaldo in Ifugao; and Santiago City and Ramon in Isabela	May 2026
Atimonan SPP	53.12	Atimonan, Quezon	Jun 2026
Ultra SPP	71.68	Padre Burgos and Atimonan, Quezon	Jun 2026
SolarAce3 SPP	200.000	Buguey, Cagayan	Jul 2026
Terra SPP (Phase 1)	1785.714	Gapan City, General Tinio & Peneranda, Nueva Ecija and San Miguel & Dona Remedios Trinidad, Bulacan	Jul 2026
CSFirst Green Infanta SPP (Note: With Integrated BESS of 107.320 MW) w/ SIS	180.540	Infanta and Mabini, Pangasinan	Aug 2026
Inara SPP Phase 2 w/ SIS	39.375	Tanauan, Batangas	Aug 2026
Inara SPP Phase 3 w/ SIS	48.825	Tanauan City, Batangas	Aug 2026
Sual SPP w/ SIS	49.500	Sual, Pangasinan	Aug 2026
Isabela Ground Mounted Solar PV PP w/ SIS	336.826	City of Ilagan, Isabela	Sep 2026
TITAN I SSP - Phase 1 w/ SIS	240.000	Cambitala & San Juan, Pantabangan, Nueva Ecija	Sep 2026
Bay 1 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Bay 2 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Cabuyao 1 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Cabuyao 2 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Cabuyao 3 Floating Solar PV PP w/ SIS	105.600	Laguna De Bay	Dec 2026
Cabuyao 4 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Cabuyao 5 Floating Solar PV PP w/ SIS	105.600	Laguna De Bay	Dec 2026
Calamba Floating SPP w/ SIS	82.50	Laguna de Bay	Dec 2026
Gamu SPP	59.840	Gamu & Naguilian, Isabela	Dec 2026
Pagbilao Floating SPP w/ SIS	98.700	Offshore of Pagbilao, Quezon	Dec 2026
Sta. Rosa Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Victoria 1 Floating Solar PV PP w/ SIS	105.600	Laguna de Bay	Dec 2026
Botolan Solar PV PP w/ SIS	57.200	Botolan, Zambales	Feb 2027
Inara SPP Phase 1	7.65	Tanauan City, Batangas	Feb 2027
San Ildefonso SPP w/ SIS	44.000	San Ildefonso, Bulacan	Mar 2027
TITAN I SPP - Phase 2 w/ SIS	240.000	Cambitala & San Juan, Pantabangan, Nueva Ecija	Mar 2027
AC Laguna Floating SPP w/ SIS	210.000	Laguna de Bay	Apr 2027
SolarAce4 Floating SPP w/ SIS	104.850	Laguna de Bay	Apr 2027
AC Subic Floating SPP w/ SIS	210.000	Laguna de Bay	May 2027
Cabiao SPP w/ SIS	261.043	Cabiao, Nueva Ecija	Jul 2027
Terra Solar Project (Phase 2)	714.286	Gapan City, General Tinio & Peneranda, Nueva Ecija and San Miguel & Dona Remedios Trinidad, Bulacan	Jul 2027
Laguna Lake-Los Baños SPP w/ SIS	125.000	Laguna De Bay	Sep 2027
Radius SPP w/ SIS	125.000	Laguna de Bay	Sep 2027
Burgos Pangasinan SSP w/ SIS	50.100	Burgos, Pangasinan	Oct 2027
Caronsi SPP w/ SIS	50.000	Iguig & Penablanca	Oct 2027
Burgos 1 SPP	156.354	Burgos, Pangasinan	Dec 2027
Burgos 2 SPP	231.132	Burgos, Pangasinan	Dec 2027
GIGASOL1 SPP w/ SIS	185.898	Botolan, Zambales	Dec 2027
Hermosa SPP	22.398	Hermosa, Bataan	Dec 2027
Ingrid2 Floating SPP w/ SIS	104.850	Laguna De Bay	Dec 2027
Minalabac 1 SPP	268.086	Minalabac, Camarines Sur	Dec 2027

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
San Roque SPP	152.000	San Manuel & San Nicolas, Pangasinan and Itogon, Benguet	Dec 2027
Villaverde Ground-Mounted Solar PV PP w/ SIS	13.360	Villaverde, Nueva Viscaya	Dec 2027
Lal-lo SPP w/ SIS	95.000	Brgy. Maxingal, Lal-lo, Cagayan	Jan 2028
Fuego SPP w/ SIS	75.173	Pagbilao, Quezon	Feb 2028
GigaWind1 Floating SPP	209.700	Laguna De Bay	Feb 2028
Villasis-Malasiqui 1 SPP	443.373	Villasis and Malasiqui, Pangasinan	Mar 2028
Capantolan SPP	47.347	Sual, Pangasinan	Apr 2028
Nazareno SPP	41.400	Hermosa, Bataan	Apr 2028
Mabini SPP	49.900	Mabini, Pangasinan	May 2028
Currimao SPP	244.200	Currimao and Paoay, Ilocos Norte	Jun 2028
Paoay Floating SPP	112.500	Paoay Lake, Paoay, Ilocos Norte	Jun 2028
Sison SPP	215.950	Sison, Pangasinan	Jun 2028
Talingaan-Laoag SPP	114.400	Laoag City, Ilocos Norte	Jun 2028
Tuy SPP	96.000	Tuy and Nasugbu, Batangas	Jun 2028
Cabcaben SPP	51.000	Mariveles, Bataan	Aug 2028
San Marcelino Floating SPP w/ SIS	120.295	San Marcelino, Zambales	Sep 2028
Capital1 Mabini SPP	59.650	Mabini, Pangasinan	Oct 2028
Pantabangan Floating SPP w/ SIS	463.995	Pantabangan, Nueva Ecija	Dec 2028
Suncastle Baao Solar Farm Project	495.000	Baao and Bula, Camarines Sur	Dec 2028
Aringay Solar PV Project	41.280	Aringay and Caba, La Union	Jan 2029
Dasol 1 SPP	179.20	Dasol, Pangasinan	Jan 2029
La Union SPP w/ SIS	38.850	Municipality of Bacnotan, Province of La Union	Jan 2029
Tinang Tarlac SPP w/ SIS	217.184	Brgy. Tinang, Concepcion, Tarlac	Jan 2029
Iguig SPP	121.00	Iguig, Cagayan	Feb 2029
San Luis SPP	191.25	San Luis, Aurora	Feb 2029
Cambitala SPP	185.60	Pantabangan, Nueva Ecija	Jun 2029
Total	**12,047.963**		
WIND POWER PLANT (WPP)			
Koala WPP w/ SIS	150.000	Pakil; Jala-Jala, Laguna and Rizal	Mar 2025
Panda WPP w/ SIS	150.000	Pililla and Jala-Jala; Mabitac and Pangil , Rizal and Laguna	Mar 2025
Sanchez Mira WPP	50.000	Sanchez Mira, Cagayan	Mar 2025
Tayabas North Wind Energy Project w/ SIS	144.000	Tayabas City and Lucban, Quezon	Sep 2025
Tayabas South Wind Energy Project w/ SIS	187.200	Tayabas, Pagbilao, Quezon	May 2026
Sembrano WPP w/ SIS	93.750	Pililla, Rizal; Mabitac and Pakil, Laguna	Jun 2026
Sorsogon WPP w/ SIS	400.000	Matnog, Bulan, Irosin and Magdalena, Sorsogon	Dec 2026
Ilocos Sur WPP	100.000	Narvacan, Santa, and Bantay; San Quintin and Langiden, Ilocos Sur and Abra	Dec 2026
Botolan WPP w/ SIS	300.000	Botolan and Cabangan, Zambales	Jan 2027
San Miguel Bay WPP w/ SIS	600.000	Provinces of Camarines Sur and Camarines Norte	Jan 2027
Camarines Sur WPP w/ SIS	500.000	Province of Camarines Sur	Mar 2027
Mulanay Wind Farm Project	50.000	Mulanay and Catanauan, Quezon	Mar 2027
Camarines Norte WPP w/ SIS	250.000	Capalonga and Jose Panganiban, Camarines Norte	Jun 2027
Albay WPP	99.000	Guinobatan and Ligao City, Albay	Sep 2027
Dalupiri Island WPP	300.000	Onshore and Offshore of Dalupiri Island, Calayan, Cagayan	Oct 2027
Diwata 2 WPP w/ SIS	500.000	General Nakar and Real, Quezon	Oct 2027

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Aurora Offshore WPP w/ SIS	600.000	Province of Aurora	Oct 2027
Pasacao-San Fernando Wind Farm Project	300.000	Pasacao, San Fernando, Minalabac, Pamplona and Bula, Camarines Sur	Dec 2027
Presentacion 2 WPP w/ SIS	54.000	Presentacion, Camarines Sur	Dec 2027
Pangasinan CW 1 WPP	50.000	San Manuel, Sison, and Binalonan, Pangasinan	Dec 2027
Prieto Diaz Wind Farm Project w/ SIS	150.000	Prieto Diaz, Sorsogon City, and Gubat, Sorsogon	Dec 2027
Tinambac Wind Farm Project	50.000	Tinambac, Camarines Sur	Dec 2027
Quezon II Plaridel WPP	50.000	Plaridel and Atimonan, Quezon	Mar 2028
Aguilar WPP	99.000	Bugallon and Aguilar, Pangasinan	May 2028
Kalayaan 4 Wind Energy Project	303.800	Famy, Siniloan, Pakil, and Pangil, Laguna; and Real, Quezon	Jun 2028
San Miguel Bay WPP	500.000	Offshore of Camarines Sur	Jun 2028
Bangui Phase IV WPP	80.000	Burgos and Bangui, Ilocos Norte	Jun 2028
Dagupan Offshore WPP w/ SIS	350.000	Provinces of Pangasinan and La Union	Jun 2028
San Miguel Bay Offshore WPP w/ SIS	1000.000	Provinces of Camarines Norte and Camarines Sur	Jun 2028
Romblon WPP	0.900	Romblon, Romblon	Aug 2028
Viento Power Wind Project	100.000	Mauban, Quezon	Sep 2028
Ilocos Norte Offshore WPP	900.000	Province of Ilocos Norte	Oct 2028
Maragondon WPP w/ SIS	200.000	Maragondon, Cavite	Dec 2028
Bongabon WPP w/ SIS	84.500	Rizal and Bongabon, Nueva Ecija	Dec 2028
Taysan Wind Farm Project	50.000	Taysan, Rosario, and Lobo, Batangas	Dec 2028
Baao Wind Energy Project w/ SIS	210.800	Baao, Iriga City, Ocampo, and Bula, Camarines Sur	Jan 2029
Lucena WPP w/ SIS	475.000	Offshore and Onshore of Quezon	Jun 2029
Maragondon Wind Energy Project	86.400	Maragondon, Cavite	Jun 2029
Bulacan 1 WPP	187.200	Doña Remedios Trinidad, Bulacan	Jul 2029
Bulacan 2 WPP	237.600	Dona Remedios Trinidad, Bulacan	Aug 2029
Ilocos Onshore WPP	400.000	Provinces of Abra, Ilocos Norte, and Ilocos Sur	Aug 2029
Bicol WPP w/ SIS	500.000	Provinces of Quezon, Camarines Sur and Camarines Norte	Sep 2029
Frontera Bay WPP w/ SIS	450.000	Offshore of Bataan and Cavite	Oct 2029
San Vicente WPP	8.000	San Vicente, Palawan	Oct 2029
Bangui 2 WPP w/ SIS	132.000	Bangui and Dumalneg, Ilocos Norte	Oct 2029
Bugallon WPP	86.630	Bugallon, Pangasinan	Nov 2029
Baao Two Wind Energy Project	62.000	Bula, Baao, Pili and Ocampo, Camarines Sur	Dec 2029
Bulalacao Two WPP	112.000	Bulalacao, Oriental Mindoro	Dec 2029
Burgos 4 WPP w/ SIS	100.000	Burgos, Ilocos Norte	Dec 2029
Calatagan Offshore WPP	1024.000	Offshore and Onshore of Batangas	Dec 2029
Ilocos WPP	144.000	Burgos, Pasuquin, Ilocos Norte	Dec 2029
Manila Bay WPP w/ SIS	1248.000	Provinces of Bataan, Cavite, and Batangas	Dec 2029
Pasuquin WPP w/ SIS	90.000	Pasuquin, Ilocos Norte	Dec 2029
Real Ace WPP	387.500	Mauban and Real, Quezon	Dec 2029
Tayabas Bay WPP w/ SIS	275.000	Province of Quezon	Dec 2029
Real WPP w/ SIS	250.000	Real, Quezon	Dec 2029
Calatagan Offshore Wind Farm w/ SIS	1830.000	Provinces of Batangas and Occidental Mindoro	Jan 2030
Quezon WPP w/ SIS	100.000	Pagbilao and Atimonan, Quezon	Jan 2030
Sual WPP w/ SIS	100.000	Sual, Mabini, and Labrador, Pangasinan	Feb 2030
Bustos WPP w/ SIS	100.000	Bustos, Angat, and San Rafael, Bulacan	Feb 2030
Balayan Bay WPP w/ SIS	100.000	Lemery, Batangas	Feb 2030

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Laguna-Quezon WPP w/ SIS	100.000	Lumban and Cavinti, Laguna; Sampaloc and Mauban, Quezon	Feb 2030
Zambales WPP w/ SIS	100.000	San Antonio and Castillejos, Zambales	Mar 2030
Lobo WPP	112.000	Lobo, San Juan, and Rosario, Batangas	Apr 2030
Mariveles Offshore Wind Farm w/ SIS	1500.000	Provinces of Bataan, Cavite, and Batangas	Jun 2030
Doña Remedios Trinidad Bulacan Wind Farm Project	200.000	Doña Remedios, Trinidad, Bulacan	Jun 2030
Lian Wind Farm Project	50.000	Lian, Tuy, and Balayan, Batangas	Jun 2030
Labrador WPP w/ SIS	100.000	Labrador, Pangasinan	Aug 2030
Nasugbu Bay WPP w/ SIS	100.000	Offshore of Batangas	Aug 2030
Cavite Offshore Wind	540.000	Offshore and Onshore of Cavite and Batangas	Aug 2030
Laguna WPP w/ SIS	100.000	Kalayaan and Lumban, Laguna; Mauban, Quezon	Aug 2030
Nueva Ecija WPP w/ SIS	100.000	San Jose City, Carranglan, and Pantabangan, Nueva	Aug 2030
Bondoc WPP	2000.000	Onshore and Offshore of Quezon; and Offshore of Masbate	Dec 2030
Northern Luzon Offshore WPP w/ SIS	2000.000	Offshore of Ilocos Norte	Dec 2030
Zambales South WPP	200.000	San Felipe, San Narciso and San Marcelino, Zambales	Jan 2031
San Nicolas 1 WPP w/ SIS	100.000	San Nicolas, Pangasinan	Feb 2031
Real WPP w/ SIS	250.000	Real, Quezon	Mar 2031
Mabini WPP w/ SIS	50.000	Mabini, Batangas	Mar 2031
Palayan-Laur WPP w/ SIS	100.000	Laur and Palayan City, Nueva Ecija	Jun 2031
Quezon WPP	100.000	Macalelon and Lopez, Quezon	Jun 2031
Gumaca-Pitogo WPP	100.000	Gumaca and Pitogo, Quezon	Jun 2031
Northern Mindoro Offshore WPP	2000.000	Provinces of Occidental Mindoro and Batangas	Jul 2031
San Juan WPP w/ SIS	100.000	San Juan, La Union	Aug 2031
Limay WPP	100.000	Limay and Mariveles, Bataan	Aug 2031
Bagac Bay Onshore Wind Project	500.000	Bagac, Pilar, Orion and Mariveles, Bataan	Sep 2031
Cavite Offshore Wind Project w/ SIS	994.000	Province of Cavite	Oct 2031
Bulalacao Bay Offshore Wind Energy Project w/ SIS	1200.000	Offshore and Onshore of Oriental Mindoro and Antique	Oct 2031
NOM FL1 Offshore Wind Project	3038.000	Provinces of Batangas and Occidental Mindoro	Oct 2031
Lubang and Looc Island WPP	800.000	Province of Occidental Mindoro	Oct 2031
Bulalacao One Onshore Wind Energy Project w/ SIS	330.000	Towns of Bulalacao and Magsaysay, Occidental Mindoro	Feb 2032
San Jose WPP w/ SIS	300.000	San Jose City, Lupao and Carranglan, Nueva Ecija	Mar 2032
Claveria Offshore Wind Farm	1600.000	Provinces of Ilocos Norte and Cagayan	Apr 2032
Infanta-Dasol WPP	380.000	Infanta-Dasol, Pangasinan	Apr 2032
Banahaw WPP w/ SIS	247.000	Sariaya and Tayabas City, Quezon	Aug 2032
Mindoro Offshore WPP	1000.000	Onshore and Offshore of Occidental Mindoro and Offshore of Antique and Oriental Mindoro	Sep 2032
Tagkawayan Wind Farm Project	300.000	Tagkawayan, Quezon	Sep 2032
Nueva Ecija 1 WPP w/ SIS	100.000	Carranglan, Pantabangan, and San Jose City, Nueva Ecija	Oct 2032

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
East Ecija WPP	420.000	Laur, Gabaldon, and General Tinio, Nueva Ecija	Nov 2032
Aparri Bay WPP	600.000	Aparri, Cagayan	Dec 2032
Cagayan West Offshore WPP	1024.000	Province of Cagayan	Dec 2032
132 MW WPP	132.500	Vintar, Bangui, Pasuquin, Ilocos Norte	Jan 2033
Bulalacao WPP w/ SIS	85.500	Bulalacao, Oriental Mindoro	Feb 2033
Balayan Bay Offshore Wind Energy Project	750.000	Province of Batangas	Feb 2033
Pangasinan-Zambales WPP w/ SIS	100.000	Aguilar, Bugallon, and Infanta, Pangasinan; Santa Cruz, Zambales	Feb 2033
Basiad Bay Offshore WPP w/ SIS	600.000	Province of Camarines Norte	Mar 2033
Calatagan Onshore WPP	130.000	Calatagan and Balayan, Batangas	Mar 2033
Pasacao WPP	300.000	Pasacao, Libmanan, and Pamplona, Camarines Sur	Mar 2033
Quezon-Camarines Norte WPP w/ SIS	400.000	Guinayangan and Tagkawayan, Quezon; Santa Elena and Labo, Camarines Norte	May 2033
Offshore Wind Luzon E-1 WPP w/ SIS	555.000	Offshore of Sorsogon	May 2033
Pagbilao Offshore Wind Power	300.000	Offshore of Quezon	Jun 2033
Tayabas Bay WPP	500.000	Province of Quezon	Jun 2033
Bulalacao Offshore Wind Farm Project	3100.000	Offshore of Oriental Mindoro and Antique	Aug 2033
Haraya Zambales Onshore Wind Project	370.000	Cabangan, Botolan and San Felipe, Zambales	Aug 2033
Ilocos Norte CW WPP	120.000	Vintar, Piddig, Sarrat, Dingras, Marcos, Laoag City, and Batac City, Ilocos Norte	Sep 2033
Ombra WPP w/ SIS	312.500	Dingalan, Aurora; Doña Remedios Trinidad, Bulacan; and Palayan City, Laur, General Tinio, and Gabaldon, Nueva Ecija	Sep 2033
Pantabangan WPP w/ SIS	156.250	Pantabangan, Nueva Ecija	Nov 2033
Calabanga Wind Project w/ SIS	200.000	Calabanga and Tinambac, Camarines Sur	Dec 2033
Gubat Wind Project w/ SIS	190.000	Casiguran and Gubat. Sorsogon	Dec 2033
Pagsanjan Wind Project w/ SIS	200.000	Pagsanjan, Lumban, Kalayaan, Cavinti and Luisiana, Laguna	Dec 2033
Mindoro WPP w/ SIS	500.000	Rizal and San Jose, Occidental Mindoro and Bulalacao, Mansalay and Bongabong, Oriental Mindoro	Dec 2033
Total	**49,513.030**		
BATTERY ENERGY STORAGE (BESS) POWER PLANT			
Nagsaag BESS	20.000	Nagsaag, Pangasinan	2025
Lumban BESS	20.000	Lumban, Laguna	2025
Laoag BESS w/ SIS	20.000	Laoag, Ilocos Norte	2025
Concepcion BESS w/ SIS	20.000	Concepcion, Tarlac	2026
Labrador BESS	20.000	Labrador, Pangasinan	2026
Enerhiya Central BESS Project w/ SIS	40.000	Concepcion, Tarlac	Dec 2025
Enerhiya Sur II BESS Project w/ SIS	40.000	Lumban, Laguna	Dec 2025
Enerhiya Sur I BESS Project w/ SIS	40.000	Lemery and Tuy, Calaca, Batangas	Dec 2025
Malaya BESS	20.000	Malaya, Pililla, Rizal	Dec-25
Enerhiya Sur 3 Energy Storage Project	40.000	Sta. Rosa, Laguna	Mar 2026
Enerhiya Sur 4 Energy Storage Project	40.000	Cabuyao, Laguna	Mar 2026
Enerhiya Sur 5 Energy Storage Project	40.000	Calamba, Laguna	Mar 2026
Binga BESS	40.000	Itogon, Benguet	Jun 2026
Magat BESS Phase 2	16.000	Ramon, Isabela	Jun 2026

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
TMO Energy Storage System Project	100.000	Navotas Fishport Complex, Baradero St., North Bay Boulevard, Navotas City	Jun 2026
Cruz na Daan (CND) BESS w/ SIS	40.600	Balagtas Bypass Road, Mabalasbalas, San Rafael Bulacan	Sep 2026
Ambuklao BESS	40.000	Brgy. Ambuklao, Bokod, Benguet	Mar 2027
Pililla Energy Storage Project	50.000	Pililia, Rizal	Mar 2027
Bay Energy Storage Project	50.000	Calauan, Laguna	Jun 2027
Panda Energy Storage Project w/ SIS	150.000	Pililla, Rizal	Jul 2027
Currimao Energy Storage Project w/ SIS	50.000	Currimao, Ilocos Norte	Dec 2027
Angat Optimization Project	160.000	Brgy. San Lorenzo, Norzagaray, Bulacan	Mar 2028
San Roque Optimization Project	400.000	Brgy. Narra, Municipality of San Manuel and Brgy. San Felipe West, Municipality of San Nicolas, Province of Pangasinan	Jul 2028
Labo Energy Storage Project w/ SIS	20.000	Labo, Camarines Norte	TBD
Lumban BESS w/ SIS	20.000	Lumban, Laguna	TBD
Total	**1,496.600**		
TOTAL INDICATIVE	**79,665.2**		
TOTAL INDICATIVE W/O BESS	**78,168.643**		

Table A2.2: Visayas Indicative Power Projects

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
COAL-FIRED POWER PLANT (CFPP)			
Therma Visayas, Inc. CFPP Expansion w/ SIS	169.000	Sitio Looc, Brgy. Bato, Toledo City, Cebu	Jun 2028
Total	**169.000**		
GEOTHERMAL POWER PLANT (GPP)			
Dauin GPP	40.000	Dauin, Negros Oriental	TBD
Total	**40.000**		
HYDROELECTRIC POWER PROJECT (HEPP)			
Malugo HEPP	6.000	Silay City, Negros Occidental	2028
Lower Himogaan HEPP	4.000	Sagay City, Negros Occidental	2028
Bago 1 HEPP	9.600	San Carlos City, Negros Occidental	2028
Bago 2 HEPP	10.000	San Carlos City, Negros Occidental	2028
Maslog HEPP w/ SIS	40.000	Maslog, Eastern Samar	2028
Ilog HEPP w/ SIS	21.600	Mabinay, Negros Oriental	2028
Bago 3 HEPP	15.000	Murcia and Salvador Benedicto, Negros Occidental	2028
Casapa River HEPP w/ SIS	10.000	Maslog, Eastern Samar	2029
Lower Buhid HEPP w/ SIS	20.000	Maydolong, Eastern Samar	2028
Aklan Pumped-Storage HEPP w/ SIS	300.000	Malay, Aklan	2032
Total	**436.200**		
BIOMASS POWER PLANT (BPP)			
15.000-MW Panay BPP	15.000	Barotac Viejo, iloilo	Aug 2028
Total	**15.000**		
SOLAR POWER PLANT (SPP)			
Cadiz City SPP	96.000	Cadiz City, Negros Occidental	May 2025
San Miguel SPP w/ SIS	80.000	San Miguel, Leyte	Oct 2025
Biliran SPP	20.000	Biliran, Biliran	Dec 2025
Sagay Solar on Water PV Power Plant w/ SIS	101.20	Sagay City, Negros Occidental	Sep 2026
Bohol SPP w/ SIS	17.5	Ubay, Bohol	Oct 2026
Manapla SPP w/ SIS	120.295	Manapla, Negros Occidental	Nov 2026

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Victorias SPP w/ SIS	85.925	Victorias City, Negros Occidental	Nov 2026
All Home All Builders Bacolod SPP	0.24	Negros Occidental, Bacolod, Mandalagan	Dec 2026
Ubay SPP w/ SIS	137.480	Ubay, Bohol	Dec 2026
Barotac Viejo SPP w/ SIS	175.29	Barotac Viejo, Iloilo	Mar 2027
Sikatuna SPP w/ SIS	37.88	Sikatuna and Balilihan, Bohol	Dec 2027
TPC I –San Carlos 2 SPP w/ SIS	49.350	City of San Carlos, Province of Negros Occidental	Feb 2028
Luna SPP w/ SIS	171.11	Cadiz City, Negros Occidental	Mar 2028
Daga SPP w/ SIS	297.26	Cadiz City, Negros Occidental	Jun 2028
Ubay SPP w/ SIS	138.60	Ubay, Bohol	Dec 2028
Medellin SPP w/ SIS	303.60	Medellin and Daanbantayan, Cebu	Jun 2029
Total	**1,831.735**		
WIND POWER PLANT (WPP)			
Sibunag WPP w/ SIS	103.500	Sibunag, Guimaras	Apr 2025
San Isidro WPP w/ SIS	206.250	San Isidro, Northern Samar	Sep 2025
Pulupandan WPP w/ SIS	50.000	Pulupandan, Negros Occidental	Feb 2026
Aklan WPP w/ SIS	75.600	Nabas, Malay, Aklan	Jun 2026
Leyte Wind Project	200.000	Leyte and Capoocan, Leyte	Dec 2026
Tanjay WPP w/ SIS	45.000	Bais, Bayawan, Tanjay, Pamplona, Negros Oriental	Jan 2027
Ajuy Wind Farm Project	200.000	Ajuy, Barotac Viejo, and Lemery, Iloilo	Dec 2027
Ibajay Wind Energy Project w/ SIS	80.600	Nabas and Ibajay, Province of Aklan; and Pandan, Province of Antique	Dec 2027
Lavezares Wind Project w/ SIS	200.000	Lavezares, Rosario, Victoria and Allen, Northern Samar	Mar 2028
Negros Occidental Wind Farm Project w/ SIS	300.000	Manapla, Victorias City, E.B. Magalona, and Cadiz City, Negros Occidental	Mar 2028
Kandungaw WPP	100.000	Badian, and Dalaguete, Cebu	Oct 2028
Malay WPP	500.000	Malay and Buruanga, Aklan	Oct 2028
Caluya WPP	967.000	Offshore and Onshore of Caluya, Antique	Dec 2028
Sibonga Wind Farm Project	50.000	Sibonga, Barili, and Dumanjug, Cebu	Dec 2028
Valencia WPP	200.000	Garcia Hernandez and Valencia, Bohol	Dec 2028
Samar Norte Offshore WPP w/ SIS	650.000	Provinces of Northern Samar	Dec 2028
Ginatilan WPP	100.000	Ginatilan, Samboan, Malabuyoc, and Oslob, Cebu	Sep 2029
Bohol WPP w/ SIS	100.000	Ubay and San Miguel, Bohol	Nov 2029
Malabuyoc WPP	100.000	Malabuyoc, Alegria, Ginatilan, Oslob, and Boljoon, Cebu	Nov 2029
Bohol 2 Anda WPP	50.000	Anda, Candijay and Guildulman, Bohol	Dec 2029
Guimaras 1 Offshore WPP	582.000	Province of Guimaras	Dec 2029
Guimaras Onshore WPP	100.000	Buenavista, San Lorenzo, Sibunag, and Nueva Valencia, Guimaras	Dec 2029
Guimaras-Negros Occidental Offshore WPP	600.000	Provinces of Guimaras and Negros Occidental	Dec 2029
Iloilo-Guimaras Offshore WPP	1000.000	Provinces of Iloilo, Guimaras and Negros Occidental	Dec 2029
Guimaras Strait WPP	600.000	Province of Negros Occidental	Dec 2029
Buenavista WPP w/ SIS	100.000	Buenavista, Guimaras	Jan 2030
Concepcion WPP	100.000	Concepcion, Iloilo	Feb 2030
Iloilo Strait WPP w/ SIS	100.000	Provinces of Iloilo and Guimaras	Feb 2030
Kabankalan WPP w/ SIS	100.000	Kabankalan City, Negros Occidental; Ayungon, Negros Oriental	Feb 2030
Negros WPP w/ SIS	100.000	City of Himamaylan and Binalbagan, Negros Occidental; La Libertad, Jimalalud, Tayasan, and Ayungon, Negros Oriental	Mar 2030

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Bais WPP w/ SIS	100.000	Bais and Tanjay, Negros Occidental	Aug 2030
Antique Onshore WPP	150.000	Provinces of Antique and Aklan	Aug 2030
Aklan WPP w/ SIS	100.000	Ibajay, Tangalan, Makato, and Malinao, Aklan	Aug 2030
Guimaras Strait WPP	100.000	Offshore of Ajuy and Concepcion, Iloilo	Sep 2030
Guimaras Strait II WPP w/ SIS	600.000	Offshore of Negros Occidental and Iloilo Provinces	Dec 2030
Haraya IV - Negros Occidental Offshore Wind Project	1215.000	Province of Negros Occidental	Mar 2031
Oton Bank Offshore WPP	510.000	Provinces of Iloilo and Guimaras	Jun 2031
Bohol 1 WPP	100.000	San Isidro, Catigbian, and Balilihan, Bohol	Aug 2031
San Dionisio WPP	100.000	San Dionisio, Iloilo	Aug 2031
Lemery WPP	100.000	Lemery, Iloilo	Aug 2031
San Lorenzo Bank Offshore Wind Project	593.000	Provinces of Iloilo, Guimaras, and Negros Occidental	Sep 2031
San Enrique Bank Offshore Wind Project	500.000	Provinces of Guimaras and Negros Occidental	Sep 2031
GS4 Offshore WPP w/ SIS	910.000	Province of Iloilo	Oct 2031
Pandan Wind Energy Project w/ SIS	62.000	Pandan, Antique	Oct 2031
GS1 Offshore Wind Project w/ SIS	574.000	Province of Guimaras	Oct 2031
East Panay Offshore WPP	990.000	Provinces of Iloilo and Guimaras	Jan 2032
GS2 Offshore WPP w/ SIS	728.000	Province of Guimaras	Jun 2032
Alegria WPP	100.000	Alegria, Badian, Alcoy, and Dalaguete, Cebu	Jul 2032
Tambobo Bay Wind Energy Project	922.000	Offshore and Onshore of Negros Oriental	Nov 2032
Iloilo Onshore WPP	200.000	Alimodan, Leon, Tubungan, Igbaras and Miagao; Sibalom and San Remigio, Iloilo and Antique	Mar 2033
Guimbal WPP w/ SIS	200.000	Guimbal, Miagao, Igbaras, Tubungan and Tigbauan, Iloilo	May 2033
Highlands Guimaras Wind Project	100.000	Sibunag, San Lorenzo and Jordan, Guimaras	Jul 2033
Bais Wind Project w/ SIS	150.000	Bais City, Mabinay and Manjuyod, Negros Oriental	Nov 2033
Total	**16,763.950**		
BATTERY ENERGY STORAGE (BESS) POWER PROJECT			
Panay BESS Power Plant w/ SIS	49.900	Brgy. Tabugon, Dingle, Iloilo City	Nov 2025
Enerhiya Delas Islas I BESS Project w/ SIS	40.000	Amlan, Negros Oriental	Dec 2025
Enerhiya Delas Islas II BESS Project w/ SIS	40.000	Ormoc, Leyte	Dec 2025
Enerhiya Delas Islas III BESS Project w/ SIS	40.000	Compostela, Cebu	Dec 2025
Bohol BESS Power Plant w/ SIS	30.000	Brgy. Dampas, Tagbilaran City, Bohol	Mar 2026
EAUC Energy Storage System Project	30.000	Brgy. Ibo, Mactan Export Processing Zone I (MEPZ I), Lapu-lapu City, Cebu	May 2026
San Isidro Energy Storage Project w/ SIS	200.000	Brgy. Palanit, San Isidro, Northern Samar	Dec 2026
Cadiz Energy Storage Project w/ SIS	50.000	Cadiz City, Negros Occidental	Jan 2027
Ormoc Energy Storage Project w/ SIS	50.000	Ormoc, Leyte	Apr 2027
Tinampa-an Energy Storage	50.000	Brgy. Tinampa-an, Cadiz City, Negros Occidental	Jun 2027
Compostela BESS	7.500	Compostela, Cebu	2025
Toledo BESS	20.000	Toledo City, Cebu	2026
Tabango BESS	7.500	Tabango City, Leyte	2027
Dingle BESS	20.000	Dingle City, Iloilo	2027
Ubay BESS	20.000	Ubay City, Bohol	2027
Sta. Barbara BESS Project	20.000	Sta. Barbara, Iloilo	TBD
Calbayog Energy Storage Power Plant	30.000	Calbayog, Samar	TBD
Daanbantayan Energy Storage Power Project	20.000	Daanbantayan, Cebu	TBD
Padayon (CPPC) Energy Storage Project w/ SIS	20.000	Brgy. Ermita, Cebu City, Cebu	TBD
Naga (Pandora) BESS w/ SIS	20.000	Naga City, Cebu	TBD

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Pandora 2 Integrated Energy Storage Project w/ SIS	42.000	Barangay Colon, Naga City, Cebu	TBD
Santander Energy Storage Project	30.000	Santander Cebu	TBD
Santa Rita Energy Storage Project	30.000	Santa Rita, Samar	TBD
Tabango Energy Storage Project	30.000	Tabango, Leyte	TBD
Total	**896.900**		
TOTAL INDICATIVE	**20,152.785**		
TOTAL INDICATIVE W/O BESS	**19,255.885**		

Table A2:3: Mindanao Indicative Power Projects

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
COAL-FIRED POWER PLANT (CFPP)			
San Ramon Power, Inc. CFP Station	120.000	ZamboEcozone, Brgy. Talisayan, Zambanga City	Mar 2028
Total	**120.000**		
NATURAL GAS			
GNPower Kauswagan LNG CCPP	600.000	Brgy. Tacub, Kauswagan, Lanao del Norte	Dec 2029
Total	**600.000**		
GEOTHERMAL POWER PLANT (GPP)			
Amacan GPP	119.000	Nabunturan, New Bataan, Maco, Mabini, Maragusan (San Mariano), Mawab and Pantukan, Compostella Valley	2030
Total	**119.000**		
HYDROELECTRIC POWER PLANT (HEPP)			
Bulanog-Batang HEPP	32.500	Iligan City, Lanao del Norte	2027
Agus III HEPP	225.000	Pantar, Lanao del Norte & Baloi/Saguiara, Lanao del Sur	2028
Casauman HEPP w/ SIS	34.000	Manay, Davao Oriental	2028
Cateel HEPP	29.000	Baganga, Davao Oriental	2028
Culaman HEPP w/ SIS	10.000	Manolo Fortich, Bukidnon	2028
Limbatangon HEPP	9.000	Cagayan de Oro City, Misamis Occidental	2028
Magpet 1 HEPP	18.000	Magpet, North Cotabato	2028
Magpet 2 HEPP	9.500	Magpet, North Cotabato	2028
Maladugao River (Lower Cascade) HEPP	15.700	Kalilangan & Wao, Bukidnon	2028
Pulanai River HEPP w/ SIS	15.000	Valencia, Bukidnon	2028
San Isidro HEPP	39.000	Talakag, Bukidnon and Cagayan de Oro City	2030
South Pulangi HEPP w/ SIS	250.000	Damulog, Bukidnon	2030
Bacolod HEPP	8.620	Bacolod, Lanao del Norte	2031
Dimarao HEPP	6.140	Bacolod, Lanao del Norte	2031
Total	**701.460**		
BIOMASS POWER PLANT (BPP)			
50 MW BPP w/ SIS	50.000	Surigao del Sur	Jun 2026
Total	**50.000**		
SOLAR POWER PLANT (SPP)			
The Ark SPP w/ SIS	99.000	Claveria, Misamis Oriental	Nov 2025
Zamboanga del Norte SPP	5.100	La Libertad and Dapitan, Zamboanga del Norte	Dec 2025
Banaybanay Davao Oriental Solar Farm w/ SIS	49.700	Municipality of Banaybanay, Province of Davao Oriental	Sep 2025
Misamis SPP	9.375	Tagoloan, Misamis Oriental	Dec 2025
1.212-MWp SUKELCO SPP	1.000	Tacurong Clty, Sultan Kudarat	Dec 2025

Name of the Project	Rated Capacity (MW)	Location	Target Commercial Operation
Sinawal SPP w/ SIS	150.72	General Santos City	Sep 2028
Total	**314.895**		
WIND POWER PLANT (WPP)			
Caraga WPP Phase 1 w/ SIS	36.000	Surigao City, San Francisco, Malimono, Sison, Placer and Mainit, Surigao del Norte	Sep 2026
Caraga WPP Phase 2 w/ SIS	36.000	Jabonga, Agusan del Norte	Jun 2029
Mainit WPP w/ SIS	100.000	Mainit, Surigao del Norte	Dec 2029
Lake Mainit WPP w/ SIS	200.000	Malimono and Mainit; Jabonga, Agusan del Norte and Surigao del Norte	Dec 2029
Lanao del Norte WPP	100.000	Matungao and Balaoi, Lanao del Norte	Feb 2030
Kauswagan WPP	100.000	Kauswagan, Poona Piagapo, and Munai, Lanao del Norte	Aug 2031
Magsaysay-Carmen WPP	100.000	Magsaysay, Misamis Oriental and Carmen, Agusan del Norte	Aug 2031
Siay WPP	100.000	Siay, Zamboanga Sibugay	Aug 2031
Katipunan WPP w/ SIS	100.000	Katipunan and Pres. Manuel A. Roxas, Zamboanga Del Norte	Aug 2031
Butuan 1 WPP	100.000	Butuan City, Agusan del Norte	Jul 2032
Camiguin Onshore WPP	100.000	Guinsiliban, Sagay, and Mahinog Camiguin	Jul 2033
Total	**1,072.000**		
BATTERY ENERY STORAGE (BESS) POWER PLANT			
Kibawe BESS	50.000	Kibawe, Bukidnon	Jul 2027
Toril BESS w/ SIS	20.000	Toril, Davao	TBD
Total	**70.000**		
TOTAL INDICATIVE	**3,047.355**		
TOTAL INDICATIVE W/O BESS	**2,977.355**		

Legend:
w/ SIS – With System Impact Study

Table A3.1: Luzon Prospective Power Projects

Proponent	Name of the Project	Type of Generating Plant	Capacity (MW)	Year of Entry
Manila Electric Company (MERALCO)	Various MERALCO Projects From 2022-2023 (Batch 1)	Load		2022, 2023
MERALCO	Various MERALCO Projects From 2022 to 2023 (Batch 2)	Load		2022-2023
MERALCO	MERALCO Delivery Point SS and Subtransmission Line Projects (Plaridel 230/69 kV Delivery Point SS)	Load		2024
MERALCO	MERALCO Delivery Point SS and Subtransmission Line Projects (Reliability Improvement of Batangas City 69 kV System)	Load		2023
MERALCO	Development of Santo Niño 115 kV–34.5 kV GIS	Load		2024
MERALCO	Development of San Jose–Regalado 115 kV Line	Load		2024
Liansheng SIS	PENELCO's Spot Load (Liansheng Manufacturing Corp.)	Steel Plant	70 MW	2022
Realsteel Corporation (RSC)	210 MW Steel Plant	Steel Plant	Phase 1: 131 MW Phase 2: 210 MW	Phase 1: 2025 Phase 2: 2027
Pan Pacific Renewable Power Phils. Corp. (PPRPPC)	220 MW Calanasan 2 HEPP	Hydro	220 MW	2029
Pan Pacific Renewable Power Phils. Corp. (PPRPPC)	2,000 MW Maton Pumped Storage HEPP	Hydro	2000 MW	2032
San Miguel Electric Corporation (SMELC)	850 MW Navotas LNG Power Plant	Natural Gas	850 MW	2025
Millennium Energy Inc. (MEI)	342 MW (6x57 MW) Multi-Fuel Gas Turbine Units at Millennium Gas Turbine Power Plant	Natural Gas	342 MW	2024
Solar Philippines Commercial Rooftop Project, Inc. (SPCRPI)	300 MW Botolan Hybrid Power Plant Project	Solar	300 MW	2023
Solar Power Utilities Generator Corporation (SPUGC)	45 MWac Bato SPP	Solar	45 MW	2023
GRM Cagayan Valley, Inc. (GRM)	48 MW Cagayan Valley SPP	Solar	48 MW	2023
2 Barracuda Energy Corporation (2BEC)	150 MW Bay Floating SPP	Solar	150 MW	2024
Pristine Green Fuel Solutions Corp. (PGFSC)	10 MW Sunshine SPP	Solar	10 MW	2023
Energence Renewable Energy Corporation (EREC)	35 MW Clark SPP	Solar	35 MW	2024
Nortesol Incorporated (NORTESOL)	250 MWp (202.8 MWac) San Pedro Floating SPP	Solar	202.8 MW	2023
SolarAce2 Energy Corp. (S2EC)	150.119 MWp (120.295 MWac) SolarAce2 SPP	Solar	120.295 MW	2025
Infineum 4 Energy, Inc. (Infineum)	317.883 MWdc (250.894 MWac) Mapanuepe Floating SSPP	Solar	250.894 MW	2024
Tera Renewables 3 Corporation (TR3C)	169.585 MWp (140.917 MWac) Infanta 1 SPP	Solar	140.917 MW	2024
Metro Solar Power Solutions, Inc. (MSPSI)	65.003 MWdc (53.760 MWac) Metro Pililla SPP	Solar	53.76 MW	2025

Proponent	Name of the Project	Type of Generating Plant	Capacity (MW)	Year of Entry
Xyris Energy Corporation (XEC)	89.226 MWp (75.768 MWac) Linglingay SPP	Solar	75.768 MW	2026
Tera Renewables 7 Corporation (TR7C)	451.384 MWp (333.389 MWac) Labrador 1 SPP	Solar	333.389 MW	2026
Ixus Solar Energy Corporation (ISEC)	302.392 MWp (225 MWac) Aguilar SPP	Solar	225 MW	2027
CSFirst Green Agri-Industrial Development, Inc. (CGAIDI)	196.001 MWp (140.420 MWac) Dasol SPP with Integrated 82.56 MW (82.56 MWh) BESS	Solar	140.420 MW	2026
Casilagan Solar Power Corporation (CSPC)	45.001 MWP / 35.200 MWAC San Juan SPP	Solar	35.2 MW	2025
Telos Energy Development Corporation (TEDC)	45.619 MWP (38.400 MWAC) Telos Iba 1 SPP	Solar	38.4 MW	2025
Northern Palawan Power Generation Corporation (NPPGC)	50.003 MWp / 41.400 MWac Nazareno SPP	Solar	41.40 MW	2025
Suncastle Energy Resources Inc. (SERI)	516.100 MWP / 495.000 MWAC Suncastle Baao Solar Farm Project	Solar	495 MW	2027
Iligansolar Inc. (ISI)	71.999 MWP / 57.2 MWAC Botolan Solar PV PP	Solar	57.2 MW	2027
Solar Philippines Commercial Rooftop Project, Inc. (SPCRPI)	600 MW Calamba Hybrid Power Plant	Solar/BESS	300 MW	2025
Solar Philippines Commercial Rooftop Projects, Inc. (SPCRPI)	1200 MW Iba-Palauig Hybrid Power Plant Project	Solar/BESS	1200 MW	2025
SMC Global Light and Power Corp. (SGLPC)	178.724 MWac Solar and 116.45 MW BESS Lucanin Hybrid	Solar/BESS	178.724 MW	2024
Earth Sol Power Corp. (ESPC)	500 MW Bagac Bay Offshore Wind Energy Facility	Offshore Wind	500 MW	2027
Cleantech Global Renewables Inc. (CTGRI)	125 MW Kalayaan 4 North WPP	Wind	125 MW	2026
Cleantech Global Renewables Inc. (CTGRI)	125 MW Kalayaan 4 South WPP	Wind	125 MW	2027
EDC Bayog Burgos Wind Power Corporation (EBBWPC)	60 MW Burgos 1 WPP	Wind	60 MW	2026
EDC Pagali Burgos Wind Power Corporation (EPBWPC)	120 MW Burgos 2 WPP	Wind	120 MW	2026
Energy Development Corporation (EDC)	100 MW Burgos 3 WPP	Wind	100 MW	2026
Energy Logics Philippines, Inc. (ELPI)	130.50 MW Pasuquin WPP	Wind	130.5 MW	2024
3 Barracuda Energy Corporation (3BEC)	200 MW (500 MWh) Bugallon ESS	BESS	200 MW	2027
SMGP BESS Power Inc. (SBPI)	80.000 MW / 340.000 MWH Mariveles BESS	BESS	80 MW	2025

Table A3.2: Visayas Prospective Power Projects

Proponent	Name of the Project	Type of Generating Plant	Capacity (MW)	Year of Entry
Reliance Energy Development Inc. (REDI)	300 MW San Carlos (CCGT) PP	Natural Gas	300 MW	2024
Solar Philippines Visayas Corporation (SPVisC)	300 MW Medellin Hybrid	Solar	300 MW	2023
Total Power, Inc. (TPI)	280 MWp (224 MWac) San Isidro SPP	Solar	224 MW	2023

Proponent	Name of the Project	Type of Generating Plant	Capacity (MW)	Year of Entry
Freya Renewables Inc. (FRI)	196.700 MWP / 150.000 MWAC Daanbantayan SPP	Solar	150 MW	2027

Table A3.3: Mindanao Prospective Power Projects

Proponent	Name of the Project	Type of Generating Plant	Capacity (MW)	Year of Entry
Cagayan Electric Power and Light Company, Inc. (CEPALCO)	160 MW Additional Load at CEPALCO's Connection Point in NGCP Tagoloan 138 kV SS	Load	160 MW	2022
Davao Light and Power Company (DLPC)	121 MW Gatungan Steel Plant	Steel Plant	121 MW	2023
Malita Power Inc. (MPI)	Additional 28 MW Sangali DPP	Diesel	28 MW	2024
Silangan Mindanao Mining Co., Inc. (SMMCI)	Direct Connection of SMMCI to NGCP's Placer SS	Load	19.4 MW	2024
Sagittarius Mines, Inc. (SMI)	Direct Connection of Tampakan Copper-Gold Project to NGCP's SS	Load	87 MW	2025
CapitalONE Davao Solar, Inc. (CODSI)	40.090 MWp / 35.200 MWac Capital1 Davao SPP	Solar	35.2 MW	2025
Pilipinas Crosthwait Energy Corporation (PCEC)	40 MWp (34.37 MWac) Manolo Fortich SPP	Solar	34.37 MW	2025
TPI Azimuth Corp. (TAC)	180.004 MWP/ 150.000 MWAC Bluefin SPP	Solar	150 MW	2026
Alabel Solar Energy Corporation (ASEC)	98.010 MWp / 74.800 MWac Bawing SPP	Solar	74.8 MW	2026

APPENDIX 4: AVAILABLE TRANS

Table A4.1: Luzon Grid Available Transmission Capacity

Connection Point/Voltage Level	Available Transmission Capacity, Cumulative MW (Excluding Committed, GEA-1 and GEA-2 Plants)			
	2025	2026	2027	2028
LUZON	**2,310**	**3,470**	**3,870**	**3,870**
I. Existing	**2,310**	**2,310**	**2,310**	**2,310**
Tap to Bauang-San Fabian 69 kV Line	40	40	40	40
Bacnotan 69 kV SS	60	60	60	60
Tap to La Trinidad-Sagada 69 kV Line	60	60	60	60
Tap to San Manuel-Calasiao 69 kV Line	80	80	80	80
Tap to Nagsaag-Umingan 69 kV Line	40	40	40	40
Tap to Labrador-San Carlos 69 kV Line	40	40	40	40
Tap to Labrador-Bani 69 kV Line	40	40	40	40
Balingueo 230 kV SS	60	60	60	60
Balsik 230 kV SS	300	300	300	300
Mariveles (Alas-asin) 500 kV SS	600	600	600	600
Tap to Mexico-Calumpit 69 kV Line	40	40	40	40
Tap to Mexico-Apalit 69 kV Line	90	90	90	90
Tap to Cabanatuan-San Luis 69 kV Line	40	40	40	40
San Jose 230 kV SS	400	400	400	400
Tap to Batangas-Rosario 69 kV Line	40	40	40	40
Tap to Batangas-Mabini-Cuenca 69 kV Line	40	40	40	40
Tap to Bay-Calamba 69 kV Line	40	40	40	40
Tap to Gumaca-Pitogo-Mulanay 69 kV Line	40	40	40	40
Labo 69 kV SS	70	70	70	70
Tap to Tiwi C-Malinao 69 kV Line	30	30	30	30
Tap to Daraga-Irosin 69 kV Line	40	40	40	40
Tap to Daraga-Ligao 69 kV Line	40	40	40	40
Tap to Naga-Iriga 69 kV Line	40	40	40	40
Tap to Daraga-Sto. Domingo 69 kV Line	40	40	40	40
II. Proposed	**0**	**1,160**	**1,560**	**1,560**
Castillejos 230 kV SS	0	90	90	90
Porac 230 kV SS	0	0	300	300
Tuy 230 kV SS	0	1,070	1,070	1,070
Abuyog 230 kV SS	0	0	100	100

Table A4.2: Visayas Grid Available Transmission Capacity

Connection Point/Voltage Level	Available Transmission Capacity, Cumulative MW (Excluding Committed, GEA-1 and GEA-2 Plants)			
	2025	2026	2027	2028
VISAYAS	**1,485**	**1,485**	**2,215**	**2,215**
I. Existing	**1,485**	**1,485**	**1,525**	**1,525**
Concepcion 138 kV SS	135	135	135	135
Corella 230 kV SS	600	600	600	600
Tap to Corella-Tagbilaran 69 kV TL	40	40	40	40
Tap to Corella-Maribojoc 69 kV TL	40	40	40	40
Dumanjug 230 kV SS	300	300	300	300
Dumanjug 69 kV SS	90	90	90	90

Connection Point/Voltage Level	Available Transmission Capacity, Cumulative MW (Excluding Committed, GEA-1 and GEA-2 Plants)			
	2025	2026	2027	2028
VISAYAS	**1,485**	**1,485**	**2,215**	**2,215**
Tap to Amlan-Siaton 69 kV TL	40	40	40	40
Tap to Mabinay-Bayawan 69 kV TL	30	30	30	30
Tap to Kabankalan-Sipalay 69 kV TL	40	40	40	40
Tap connect to Sta. Barbara-San Jose 69 kV TL	30	30	30	30
Tap to Concepcion-Estancia 69 kV TL	20	20	20	20
Tap to Panitan-Roxas 69 kV TL	40	40	40	40
Tap to Panitan-Nabas 69 kV TL	40	40	40	40
Tap to Nabas-Culasi 69 kV TL	40	40	40	40
Buenavista 69 kV SS	0	0	40	40
II. Proposed	**0**	**0**	**690**	**690**
Umapad 230 kV SS	0	0	600	600
Umapad 69 kV SS	0	0	90	90

Table A4.3: Mindanao Grid Available Transmission Capacity

Connection Point/Voltage Level	Available Transmission Capacity, Cumulative MW (Excluding Committed, GEA-1 and GEA-2 Plants)			
	2025	2026	2027	2028
MINDANAO	**920**	**920**	**1,070**	**1,180**
I. Existing	**920**	**920**	**920**	**1,030**
Tap to Aurora-Calamba 69 kV Line	40	40	40	40
Tap to Aurora-San Miguel 69 kV Line	40	40	40	40
Tap to Zamboanga-Tumaga 69 kV Line	40	40	40	40
Tap to Agus 6-Kauswagan 69 kV Line	20	20	20	20
Tap to Jasaan-Balingasag 69 kV Line	40	40	40	40
Jasaan 138 kV SS	100	100	100	100
Placer 138 kV SS	150	150	150	150
San Francisco 138 kV SS	150	150	150	150
Tap to Nabunturan-Asuncion 69 kV Line	40	40	40	40
Tap to Nabunturan-Compostela 69 kV Line	40	40	40	40
Tap to Maco-Banaybanay 69 kV Line	40	40	40	40
Tap to Maco-Tagum 69 kV Line	40	40	40	40
Naga 138kV SS	100	100	100	100
Tap to Sultan Kudarat-Datu Saudi Ampatuan 69 kV Line	40	40	40	40
Tap to Tacurong-Salbu 69 kV Line	40	40	40	40
Tap to Tacurong-Kalamansig 69kV line	0	0	0	40
Tap to Polanco-Roxas 69kV line	0	0	0	40
Tap to San Francisco-Alegria 69kV	0	0	0	30
II. Proposed	**0**	**0**	**150**	**150**
Tago 138 kV SS	0	0	150	150

Ancillary Service Agreement Procurement Plan

a. Background: State of Ancillary Services in the Grid

As System Operator, NGCP determines the levels of Ancillary Services (AS) required for each grid based on the results of assessment and simulation studies. These AS levels which are variable according to network dynamics are meant to meet PGC-prescribed grid reliability and security requirements.

To qualify as provider of AS the prospective provider should undergo the certification process defined by the PGC and technical criteria. Subsequently, a certified AS provider would be subject to verification testing no more than once (1) every two (2) years except when there are reasonable grounds to surmise that the prevailing characteristics of the generating unit departs from the as-tested-and-certified values.

Table A5.1 lists the plants with existing Ancillary Service Procurement Agreement (ASPA); Table A5.2 lists all AS-certified power plants that have no Firm ASPA and may offer their capacities in the Reserve Market.

Table A5.1: List of Existing ASPAs as of July 29, 2025

Company	Plant Name	AS Type	ERC Case No.
Luzon			
BACMAN GEOTHERMAL, INC.	110 MW BAC-MAN I GEOTHERMAL POWER PLANT	BSS	2023-059 RC
BULACAN POWER GENERATION CORP	54.62 MW BULACAN DIESEL-FIRED POWER PLANT	DR	2023-062 RC
CIP II POWER CORPORATION	20MW BUNKER-FIRED POWER PLANT	DR	2023-071 RC
FIRST GEN HYDRO POWER CORP	PANTABANGAN HYDROELECTRIC POWER PLANT	RPS, BSS	2023-060 RC
GIGA ACE 4, INC.	ALAMINOS BATTERY ENERGY STORAGE SYSTEM UNIT 2	RR, CR	2023-063 RC
INGRID POWER HOLDINGS INC	INGRID PILILLA DISEL POWER PLANT (UNITS 1, 2, 4 & 6)	CR	2023-051 RC
MASINLOC POWER PARTNERS CO, LTD.	MASINLOC ADVANCION ENERGY STORAGE ARRAY (PHASE 1)	CR	2023-064 RC
ONE SUBIC POWER GENERATION CORPORATION	ONE SUBIC BUNKER-FIRED POWER PLANT	DR	2023-066 RC
PAGBILAO ENERGY CORP	420MW PAGBILAO 3 COAL FIRED THERMAL PLANT	RPS	2020-037 RC
PSALM/NATIONAL POWER CORP./1	KALAYAAN PUMP STORAGE POWER PLANT	RR, CR, DR, RPS, BSS	2009-029 RC
SNAP-BENGUET, INC.	AMBUKLAO HYDROELECTRIC POWER PLANT	CR, DR	2023-089 RC
		RPS	2019-014RC
SNAP-BENGUET, INC.	BINGA HYDROELECTRIC POWER PLANT	CR, DR	2023-090 RC
		RPS	2019-015 RC
SNAP-MAGAT, INC.	MAGAT HYDROELECTRIC POWER PLANT	CR, DR	2023-054 RC

Company	Plant Name	AS Type	ERC Case No.
		RPS	2019-016RC
THERMA LUZON, INC.	PAGBILAO COAL-FIRED PLANT 1 & 2	CR	2023-049 RC
		RPS	2020-033 RC
THERMA MOBILE, INC.	239.20 MW BUNKER C-FIRED DIESEL PLANT	DR, RPS	2023-065 RC
SMGP BESS POWER INC. (formerly UNIVERSAL POWER SOLUTIONS, INC.)	LAMAO BATTERY ENERGY STORAGE SYSTEM	RR, CR	2023-070 RC
	BATAAN BATTERY ENERGY STORAGE SYSTEM	RR	2023-086 RC
	CONCEPCION BATTERY ENERGY STORAGE SYSTEM	CR	2023-091 RC
	SAN MANUEL BATTERY ENERGY STORAGE SYSTEM	RR, CR	2023-067 RC
Visayas			
MORE POWER BARGE INC.	POWER BARGE 101	BSS	2023-061 RC
SPC ISLAND POWER CORP.	PANAY DIESEL POWER PLANT 3	DR, BSS	2023-078 RC
SMCGP PHILS. ENERGY STORAGE, CO. LTD	KABANKALAN BATTERY ENERGY STORAGE SYSTEM	RR	2021-056RC
MERIDIAN POWER, INC. (formerly Cebu Private Power Corporation.)*	70.59 MW BUNKER C-FIRED DIESEL PLANT	DR, RPS BSS	2023-057 RC
EAST ASIA UTILITIES CORP.	49.6MW BUNKER C-FIRED DIESEL PLANT	RPS, BSS	2023-075 RC
THERMA VISAYAS, INC.	353.94 MW CFB COAL-FIRED POWER PLANT	CR, RPS	2023-050 RC
SMGP BESS POWER INC. (formerly UNIVERSAL POWER SOLUTIONS, INC.)	20MW TOLEDO BATTERY ENERGY STORAGE SYSTEM	CR	2023-074 RC
	20MW UBAY (BOHOL) BATTERY ENERGY STORAGE SYSTEM	CR	2023-068 RC
	40MW ORMOC BATTERY ENERGY STORAGE SYSTEM	CR	2023-069 RC
Mindanao			
THERMA MARINE, INC.	100MW MOBILE 1 BUNKER-FIRED PB	CR, RPS, BSS	2023-052 RC
THERMA MARINE, INC.	100MW MOBILE 2 BUNKER-FIRED PB	DR, RPS, BSS	2023-085 RC
WESTERN MINDANAO POWER CORPORATION	100MW BUNKER C FIRED THERMAL PLANT	DR, RPS BSS	2023-088 RC
PSALM/NATIONAL POWER CORPORATION	AGUS 1 HYDROELECTRIC POWER PLANT (UNITS 1 & 2)	CR, RPS	2009-029RC
	AGUS 2 HYDROELECTRIC POWER PLANT (UNITS 1, 2 & 3)	CR, RPS	
	AGUS 4 HYDROELECTRIC POWER PLANT (UNITS 1, 2 & 3)	RR, CR, RPS	
	AGUS 5 HYDROELECTRIC POWER PLANT (UNITS 1 & 2)	CR, RPS	
	AGUS 7 HYDROELECTRIC POWER PLANT (UNITS 1 & 2)	CR, RPS	
	PULANGI 4 HYDROELECTRIC POWER PLANT	RR, CR, RPS, BSS	

Company	Plant Name	AS Type	ERC Case No.
	AGUS 6 HYDROELECTRIC POWER PLANT (UNITS 3 & 5)	CR, RPS	
GN POWER KAUSWAGAN LTD. CO.	KAUSWAGAN COAL FIRED POWER PLANT	CR	2023-048 RC
KING ENERGY, INC.	MISAMIS OCCIDENTAL POWER PLANT 2	DR, RPS	2023-083 RC
KING ENERGY, INC.	MISAMIS OCCIDENTAL POWER PLANT 3	DR, RPS	2023-084 RC
KING ENERGY, INC.	SURIGAO SUR POWER PLANT	DR	2021-058RC
MAPALAD POWER CORPORATION*	DIESEL/BUNKER-C FIRED POWER PLANT	DR	2023-087 RC
UNIVERSAL POWER SOLUTIONS, INC.	20MW MALITA BATTERY ENERGY STORAGE SYSTEM	RR	2023-073 RC
	20MW MACO BATTERY ENERGY STORAGE SYSTEM	RR	2023-079 RC
	20MW JASAAN BATTERY ENERGY STORAGE SYSTEM	CR	2023-072 RC

Table A5.2: List of AS-Certified Power Plants without ASPA as of July 29, 2025

Company	Plant Name	AS Type
LUZON		
1590 ENERGY CORPORATION	BAUANG DIESEL POWER PLANT	DR
FIRST GEN HYDRO POWER CORPORATION (FGHPC)	PANTABANGAN HEPP	RR, CR, DR
FIRST NATGAS POWER CORPORATION (FNPC)	SAN GABRIEL COMBINED CYCLE POWER PLANT	RR, CR
FRESH RIVER LAKES CORPORATION	CASECNAN HYDROELECTRIC POWER PLANT	RR, DR, RPS
GIGA ACE 4 INC.	ALAMINOS BATTERY ENERGY STORAGE SYSTEM (UNIT 1)	RR, CR
GNPOWER DINGININ LTD. CO. (GNPD)	GNPOWER DINGININ COAL FIRED THERMAL POWER PLANT	CR
GNPOWER MARIVELES CO. LTD.	MARIVELES COAL-FIRED POWER PLANT	CR
INGRID POWER HOLDINGS, INC. (IPHI)	INGRID PILILLA DIESEL POWER PLANT (UNITS 3 AND 5)	RR, CR, DR, RPS
ONE SUBIC POWER GENERATION CORPORATION (OSPGC)	120.000 MW OSPGC BUNKER C-FIRED DPP (BCFDPP)	RPS
PAGBILAO ENERGY CORPORATION (PEC)	PAGBILAO COAL FIRED THERMAL POWER PLANT (UNIT 3)	CR
PANASIA ENERGY INC.	BATAAN COMBINED-CYCLE THERMAL POWER PLANT	RR, CR, DR, RPS
PRIME MERIDIAN POWERGEN CORPORATION (PMPC)	SAN GABRIEL AVION NATURAL GAS FIRED POWER PLANT	RR, CR, DR
SMGP BESS POWER INC.	GAMU BATTERY ENERGY STORAGE SYSTEM	RR, CR
	LUMBAN BATTERY ENERGY STORAGE SYSTEM	RR, CR
SNAP-BENGUET, INC.	AMBUKLAO HYDROELECTRIC POWER PLANT	RR, BSS
SNAP-BENGUET, INC.	BINGA HYDROELECTRIC POWER PLANT	RR
SNAP-MAGAT, INC.	MAGAT HYDROELECTRIC POWER PLANT	RR, BSS
SN ABOITIZ POWER-MAGAT, INC.	MAGAT BATTERY ENERGY STORAGE SYSTEM	RR, CR, RPS
THERMA MOBILE, INC.	239.20 MW BUNKER C-FIRED DIESEL PLANT (MOBILE 3 AND 5)	CR
VISAYAS		
CEBU ENERGY DEVELOPMENT CORPORATION (CEDC)	COAL FIRED THERMAL POWER PLANT	CR, RPS

Company	Plant Name	AS Type
CENTRAL NEGROS POWER RELIABILITY INC. (CENPRI)	CALUMANGAN DIESEL POWER PLANT	DR, BSS
EAST ASIA UTILITIES CORP.	49.6MW BUNKER C-FIRED DIESEL PLANT (UNITS 2,3,4)	RR, CR, DR
GREEN CORE GEOTHERMAL INC.	PALINPINON I GEOTHERMAL POWER PLANT (UNIT 1 AND 3)	RR
GT-ENERGY CORP.	CALBAYOG BUNKER DIESEL POWER PLANT	DR, RPS
ISABEL ANCILLARY SERVICES CO. LTD. (IASCO)	70 MW MODULAR DIESEL POWER PLANT	RR, CR, RPS
KEPCO SPC POWER CORPORATION (KSPC)	COAL FIRED THERMAL POWER PLANT	RPS
MORE POWER BARGE INC.	POWER BARGE 101	DR, RPS
PANAY ENERGY DEVELOPMENT CORPORATION (PEDC)	COAL FIRED THERMAL POWER PLANT	RR, CR, RPS
PANAY POWER CORPORATION (PPC)	PPC3 NABAS BUNKER C-FIRED DIESEL POWER PLANT	DR, RPS
SMGP BESS POWER INC. (FORMERLY UNIVERSAL POWER SOLUTIONS, INC.)	20MW TOLEDO BATTERY ENERGY STORAGE SYSTEM	RR
SMCGP PHILS. ENERGY STORAGE, CO. LTD	KABANKALAN BATTERY ENERGY STORAGE SYSTEM	CR
SPC ISLAND POWER CORPORATION	BOHOL DIESEL POWER PLANT	DR, BSS
SPC ISLAND POWER CORP.	PANAY DIESEL POWER PLANT 1 (UNITS 2,3,5)	DR
THERMA POWER VISAYAS, INC. (TPVI)	NAGA OIL-FIRED POWER PLANT	DR, RPS, BSS
TOLEDO POWER COMPANY (TPC)	CARMEN DIESEL POWER PLANT	DR, RPS, BSS
MINDANAO		
GN POWER KAUSWAGAN LTD. CO.	KAUSWAGAN COAL FIRED POWER PLANT	RPS
MAPALAD POWER CORPORATION	DIESEL/BUNKER-C FIRED POWER PLANT	RPS
PEAKPOWER BUKIDNON INC. (PBI)	BUNKER C-FIRED THERMAL POWER PLANT	DR
PEAKPOWER SAN FRANCISCO INC. (PSFI)	BUNKER C-FIRED THERMAL POWER PLANT	DR
PEAKPOWER SOCCSARGEN INC. (PSI)	BUNKER C-FIRED THERMAL POWER PLANT	DR
PSALM/NATIONAL POWER CORPORATION	AGUS 1 HYDROELECTRIC POWER PLANT (UNITS 1 & 2)	RR
	AGUS 2 HYDROELECTRIC POWER PLANT (UNITS 1, 2 & 3)	RR DR
ENERGY DEVELOPMENT CORPORATION (EDC)	MT. APO MINDANAO 1 GEOTHERMAL POWER PLANT	CR, RPS
MALITA POWER INC. (MPI)	MALITA CIRCULATING FLUIDIZED BED COAL FIRED THERMAL POWER PLANT	CR
SARANGANI ENERGY CORP.	SEC COAL-FIRED THERMAL POWER PLANT	CR
SMGP BESS POWER INC. (SBPI)	VILLANUEVA BATTERY ENERGY STORAGE SYSTEM	RR, CR
STRATEGIC ENERGY DEVELOPMENT INC.	BUNKER-C FIRED DIESEL POWER PLANT	DR

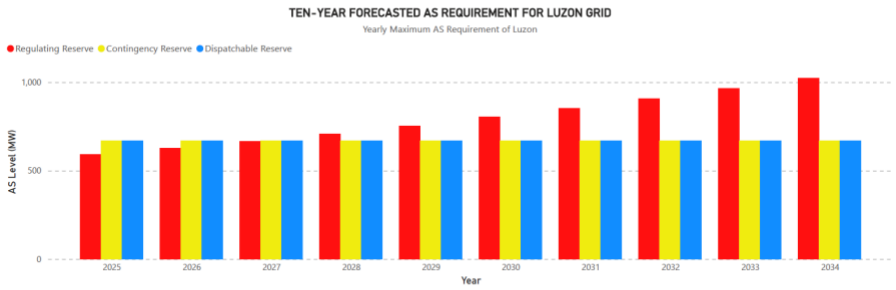
b. Plans for the Procurement of Ancillary Services

Because of the limited number of AS-certified power plants, as well as restrictions from available generator capacities and response times of these providers, Grid's AS level requirements to sustain reliability objectives are not yet being met.

In 2023, the first Competitive Selection Process for the procurement of AS(AS-CSP) was conducted consistent with the Department of Energy (DOE) Circular No. 2021-10-0031, and resulted to thirty-six (36) new ASPAs with Firm arrangements. Further, with the recent commercial operations of the Reserve Market on 26 January 2024, AS-certified plants without ASPAs were able to provide its AS capacity at market prices. The new ASPAs, along with the Reserve Market scheduled capacities, have improved the AS availability in the grid.

Figures below presents the ten-year simulated projection acquisition plan of AS requirement by the Grid as outlined in the 2025- 2034 ASAPP based on the DOE demand projection and committed generating plants coming in within the next ten years.

TEN-YEAR FORECASTED AS REQUIREMENT FOR LUZON GRID



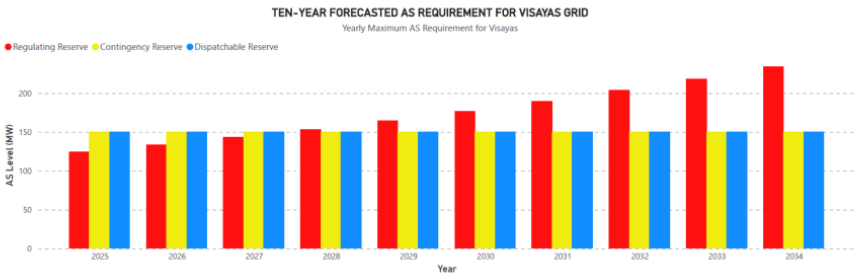
Reserve Type	Maximum AS Requirement of Luzon									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Regulating Reserve	591	627	667	709	754	803	854	908	964	1023
Contingency Reserve	668	668	668	668	668	668	668	668	668	668
Dispatchable Reserve	668	668	668	668	668	668	668	668	668	668

Note: RR Requirement is equivalent to 4% of Plexos Demand projection based on DOE's 2020-2040 Annual Peak Demand Projections for Luzon, Visayas and Mindanao Grids, dated 24 August 2020. While CR and DR are based on Gross Capacity of highest generating unit for the succeeding years, taking into consideration the DOE list of private sector initiated power projects (committed) and the capacity limits for prospective power generating plants per ERC Resolution No. 18 Series of 2017.

Figure 5.1 - Ten-Year Forecasted as Requirement for Luzon Grid[1]

[1] Based on DOE approved ASAPP as of June 28, 2025

TEN-YEAR FORECASTED AS REQUIREMENT FOR VISAYAS GRID

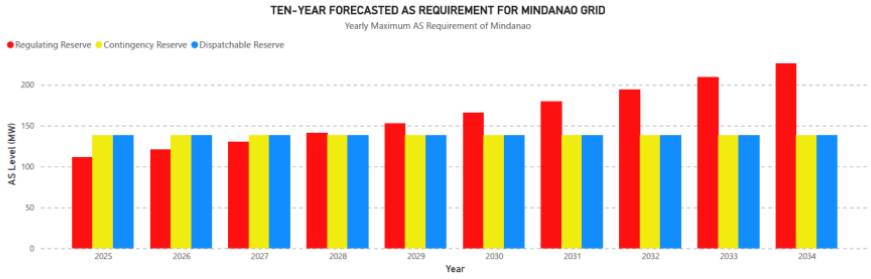


Reserve Type	Maximum AS Requirement of Visayas									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Regulating Reserve	124	134	143	154	165	177	190	204	219	234
Contingency Reserve	150	150	150	150	150	150	150	150	150	150
Dispatchable Reserve	150	150	150	150	150	150	150	150	150	150

Note: RR Requirement is equivalent to 4% of Plexos Demand projection based on DOE's 2020-2040 Annual Peak Demand Projections for Luzon, Visayas and Mindanao Grids, dated 24 August 2020. While CR and DR are based on Gross Capacity of highest generating unit for the succeeding years, taking into consideration the DOE list of private sector initiated power projects (committed) and the capacity limits for prospective power generating plants per ERC Resolution No. 18 Series of 2017.

Figure 5.2 Ten-Year Forecasted as Requirement for Visayas Grid[1]

TEN-YEAR FORECASTED AS REQUIREMENT FOR MINDANAO GRID



Reserve Type	Maximum AS Requirement of Mindanao									
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Regulating Reserve	112	121	130	141	153	166	179	194	209	226
Contingency Reserve	138	138	138	138	138	138	138	138	138	138
Dispatchable Reserve	138	138	138	138	138	138	138	138	138	138

Note: RR Requirement is equivalent to 4% of Plexos Demand projection based on DOE's 2020-2040 Annual Peak Demand Projections for Luzon, Visayas and Mindanao Grids, dated 24 August 2020. While CR and DR are based on Gross Capacity of highest generating unit for the succeeding years, taking into consideration the DOE list of private sector initiated power projects (committed) and the capacity limits for prospective power generating plants per ERC Resolution No. 18 Series of 2017.

Figure 5.3 Ten-Year Forecasted as Requirement for Mindanao Grid[1]

[1] Based on DOE approved ASAPP as of June 28, 2025

Also, NGCP as the System Operator, conscious of its mandate, ensures that procurement of Ancillary Service is conducted in the least-cost manner. While co-optimization of offered reserves in the energy market would make for efficient energy dispatch, a secondary price cap for reserves—approved by the ERC—would be a welcome cost-control measure.

For the contracting of Reactive Power Support (RPS) and Black Start Service (BSS), NGCP has been proposing to the DOE to allow direct contracting for such AS types as these are non-competitive and not available in the Reserve Market. The nature of RPS and BSS are locational, and utilization is only when needed by the grid. Further, the ERC-approved cost recovery for RPS and BSS is on a per-occurrence basis only, without a fixed monthly charge. Nonetheless, with the plans to conduct a second

AS-CSP this 2025, these AS types will be included while awaiting the approval of the DOE for direct contracting.

c. The AS Rules

The ERC issued the OATS Rules 2022 and replaced the requirement of the submission of NGCP to the ERC of the annual AS Procurement Plan with the AS Rules. The AS Rules shall among others; describe the AS in sufficient details so that the prospective providers of the service can determine whether they have the capability to provide the service, describe the test that NGCP as the System Operator shall use to verify that the plant and Equipment meet the technical requirement and **specify the manner of NGCP's procurement of AS**. However, the ERC has yet to issue the AS Rules to date.

ASEAN POWER GRID UPDATE

The Association of Southeast Asian Nations (ASEAN) is working to create a regional power grid, known as **ASEAN Power Grid** (APG), to enable the sharing of energy sources among member countries. The NGCP, in pursuit of its goal of building One Grid continues to embark on major island/grid interconnection projects to realize this vision. The long-term transmission development gradually prepares the entire Philippine grid for integration with the APG. The **Heads of ASEAN Power Utilities/Authorities** (HAPUA) initiated the ASEAN Interconnection Master Plan (AIMS) to make this vision a reality. The APG is expected to allow power sharing, optimize generation capacity, and foster cooperation among member nations.

The ASEAN Power Grid Advancement known as APG-AP is a project conducted in partnership with Energy Transition Partnership (ETP) and Clean, Affordable, and Secure Energy (CASE) for Southeast Asia, and UN-ESCAP. The main purpose of the project is to foster a considerable increase in the share of RE through Multilateral Power Trading (MPT).

The ASEAN Interconnection Masterplan Study (AIMS III) has identified 18 potential cross-border interconnection lines. The proposed Philippine – Kalimantan Interconnection Project as illustrated in Figure 6.1 is under the Eastern System and an ETC still to be determined. The project would interconnect the Philippines to the ASEAN grid via a cross-border link to Sabah, Malaysia. For the proposed route, the plan has the following basic information:

- Kudat (Sabah, Malysia) to Palawan (Philippines): 275 kV HVDC
- Total length: **203 km (190 km subsea)**
- Capacity: **200 MW** (under AMIS III)

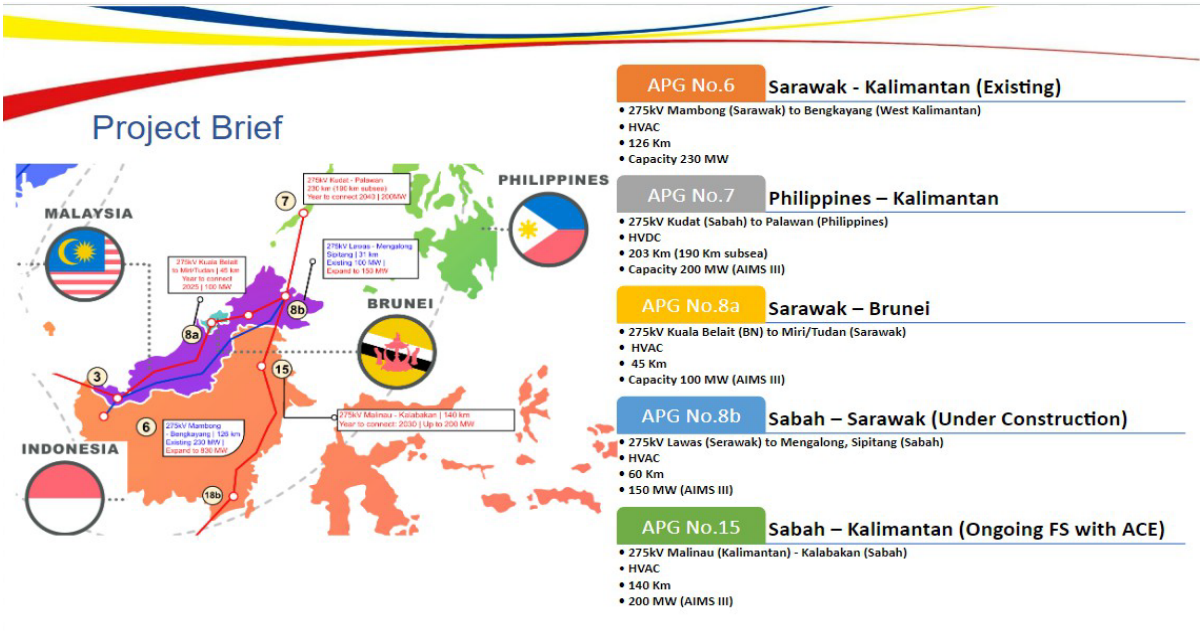


Figure 6.1: APG Project Brief

The line would traverse the islands of Palawan and Mindoro Islands, with the interconnection point in the Luzon Grid. NGCP's **Palawan – Mindoro Interconnection Project Stage 1,** with an ETC of February 2033, prepares the Philippines for integration with the proposed APG. The 800 km project which requires a feasibility study is a challenge as there are significant hurdles which include harmonizing operational and regulatory frameworks, tariff structures and different rules among member countries. An ongoing study is being conducted to establish multilateral and bilateral agreements and contracts. This includes an examination of taxation laws, obstacles to cross border trade, trade agreements and presence of a market.

The strengthening of the Palawan Power System is necessary if the proposed Sabah- Palawan Interconnection is found to be techno-economically viable.

A final challenge in the APG is the difference in the electric power industry structures of the ASEAN member countries. The Philippines has a restricted, deregulated power industry, while the neighboring countries still have integrated, state-owned power utilities. This difference in industry structure could pose additional challenges to the government-to-government cooperation needed for the smooth implementation of the project.

ACRONYMS

AHCTP	Ad Hoc Committee for Transmission Projects
AS	Ancillary Services
ATC	Available Transmission Capacity
BESS	Battery Energy Storage System
BMIBP	Batangas-Mindoro 500 kV Interconnection and Backbone Project
BPP	Biomass Power Plant/Project
Brgy	Barangay
CANORECO	Camarines Norte Electric Cooperaive, Inc.
CAES	Cost of Alternative Energy Source
CAPEX	Capital Expenditures
CB	Circuit Breaker
CBIP	Central Negros Electric Cooperative, Inc.
CENECO	Cebu-Bohol Interconnection Project
CES	Clean Energy Scenario
CCPP	Combined Cycle Power Plant
CHP	Combined Cogeneration Power Plant
CFPP	Coal-Fired Power Plant
CII	Critical Information Infrastructure
CNP	Cebu-Negros-Panay
CREZ	Competitive Renewable Energy Zones
CPR	Connection Point Requirements
CPR1	No Grid Project Required (for 69kV line)
CPR2	Circuit breakers only at Existing Substation
CPR3	Transmission Line upgrade and/or Existing Substation Upgrade
CPR4	New Substation and Associated New Transmission Line
CTs	Current Transformers
CVTs	Capacitive Voltage Transformers
DAR	Department of Agrarian Reform
DCC	Directly Connected Customers
DICT	Department of Information and Communications Technology
DOE	Department of Energy
DOTR	Department of Transportation
DPP	Diesel Power Plant
DPWH	Department of Public Works and Highways
DSHUD	Department of Human Settlements and Urban Development
DU	Distribution Utilities
EC	Expropriation Case
EED	Estimated Equipment Data
EMS	Energy Management Systems
ETC	Estimated Time of Completion
EPIRA	Electric Power Industry Reform Act
ERC	Energy Regulatory Commission
ESS	Energy Storage System
FES	Flexible Energy Storage Systems
FIBECO	First Bukidnon Electric Cooperative, Inc.
FIT	Feed-in-Tariff
FS	Feasibility Study
GEA	Green Energy Auction
GEAP	Green Energy Auction Program
GEAR	Green Energy Auction Reserve
MERALCO	Manila Electric Company
MVIP	Mindanao-Visayas Interconnection Project
N-1	Single-outage contingency criterion
NCIP	National Commission on Indigenous Peoples
NEA	National Electrification Administration
NEECO II	Nueva Ecija II Electric Cooperative, Inc.
NGCC	Natural Gas-Fired Combined Cycle Power Plant/Project
NIST	National Institute of Standards and Technology
NOA	Notice of Auction
NREP	National Renewable Energy Program
PA	Provisional Authority
PAP	Person Affected by the Project
PASS	Pre-assessment Stage
PBR	Performance Based Regulation
PANELCO	Pangasinan III Electric Cooperative, Inc.
PENELCO	Peninsula Electric Cooperative, Inc.
PEP	Philippine Energy Plan
PDP	Power Development Plan
PFDA	Philippine Fisheries Development Authority
PGC	Philippine Grid Code
PS	Pole Site
PSALM	Power Sector Assets and Liabilities Management Corporation
PSIPP	Power Sector Initiated Power Projects
PTE	Permit to Enter
OP	Office of the President
OTCA	Online Transmission Connection Application
OT	Operational Technology
RE	Renewable Energy
REIS	Renewable Energy Integration Study
RED	Registered Equipment Data
REF	Reference Scenario
ROR	Run-of-River
ROW	Right-of-Way
RP	Regulatory Period
RTWR	Rules for the Setting of Transmission Wheeling Rate
SAMELCO I	Samar I Electric Cooperative, Inc.
SAMELCO II	Samar II Electric Cooperative, Inc.
SB	Sangguniang Barangay
SCADA	Supervisory Control and Data Acquisition
SCR	Short-Circuit Ratio
SIS	System Impact Study
SIPS	System Integrity Protection Scheme
SO	System Operator
SPD	System Peak Demand
SPP	Solar Power Plant/Project
Solar PV	Solar Photovoltaic
SS	Substation
STATCOM	Synchronous Condensers and Static Synchronous Compensators
TARELCO II	Tarlac II Electric Cooperative Inc.
TDP	Transmission Development Plan
TL	Transmission Line
TNP	Transmission Network Provider

GEDR	Grid Equipment Data Registration
GFL	Grid-Following
GFM	Grid-Forming
GIS	Gas Insulated Substation
GPP	Geothermal Power Plant/Project
GTCC	Gas-Turbine Combined Cycle Power Plants
HVDC	High-Voltage Direct Current
HEPP	Hydro Electric Power Plant
IAP	Integrated Action Plan
IBTS	In-Between Tower Sites
ICS	Industrial Control System
IBRs	Inverter-Based Resources
IFELCO	Ifugao Electric Cooperative, Inc.
IT	Information Technology
LGU	Local Government Units
LLDA	Laguna Lake Development Authority
LLRN	Laguna Lakeshore Road Network
LNG	Liquified Natural Gas
LOA	Letter of Acceptance
TOR	Term of Reference
TransCo	National Transmission Corporation
TRO	Temporary Restraining Order
TS	Tower Site
VoLL	Value of Lost Load
VOM	Visayas Operation and Maintenance
VRE	Variable Renewable Energy
VREIS	Variable Renewable Energy Integration Study
VSO	Visayas System Operations
WESM	Wholesale Electricity Spot Market
WFP	Wind Farm Project
WOP	Writ of Possession
WMSP	WESM Metering Service Provider
WPP	Wind Power Plant/Project
ZANECO	Zamboanga del Norte Electric Cooperative, Inc.

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