BAGONG PILIPINAS

2024 POWER SITUATION REPORT



2024 POWER SITUATION

	GRID	OFF-GRID
PEAK DEMAND	19,274 MW	412 MW
GROSS GENERATION	126,940 GWh	2,123 GWh
INSTALLED CAPACITY	29,706 MW	807 MW
DEPENDABLE CAPACITY	26,087 MW	626 MW
NEWLY OPERATIONAL CAPACITY	1,665 MW	15.54 MW
ELECTRICITY SALES AND CONSUMPTION	126,940 GWh	

POWER PROJECT CAPACITY (GRID)

COMMITTED

16,843 MW

INDICATIVE

100,402 MW

GRID TRANSMISSION

SUBSTATION

58,653 MVA

LINE LENGTH

23,109 ckt-km

DISTRIBUTION

ELECTRIC COOPERATIVES: 120

PRIVATE INVESTOR-OWNED UTILITIES: 24

LOCAL GOVERNMENT UNIT-OWNED UTILITY: 2

MULTI-PURPOSE COOPERATIVE: 1

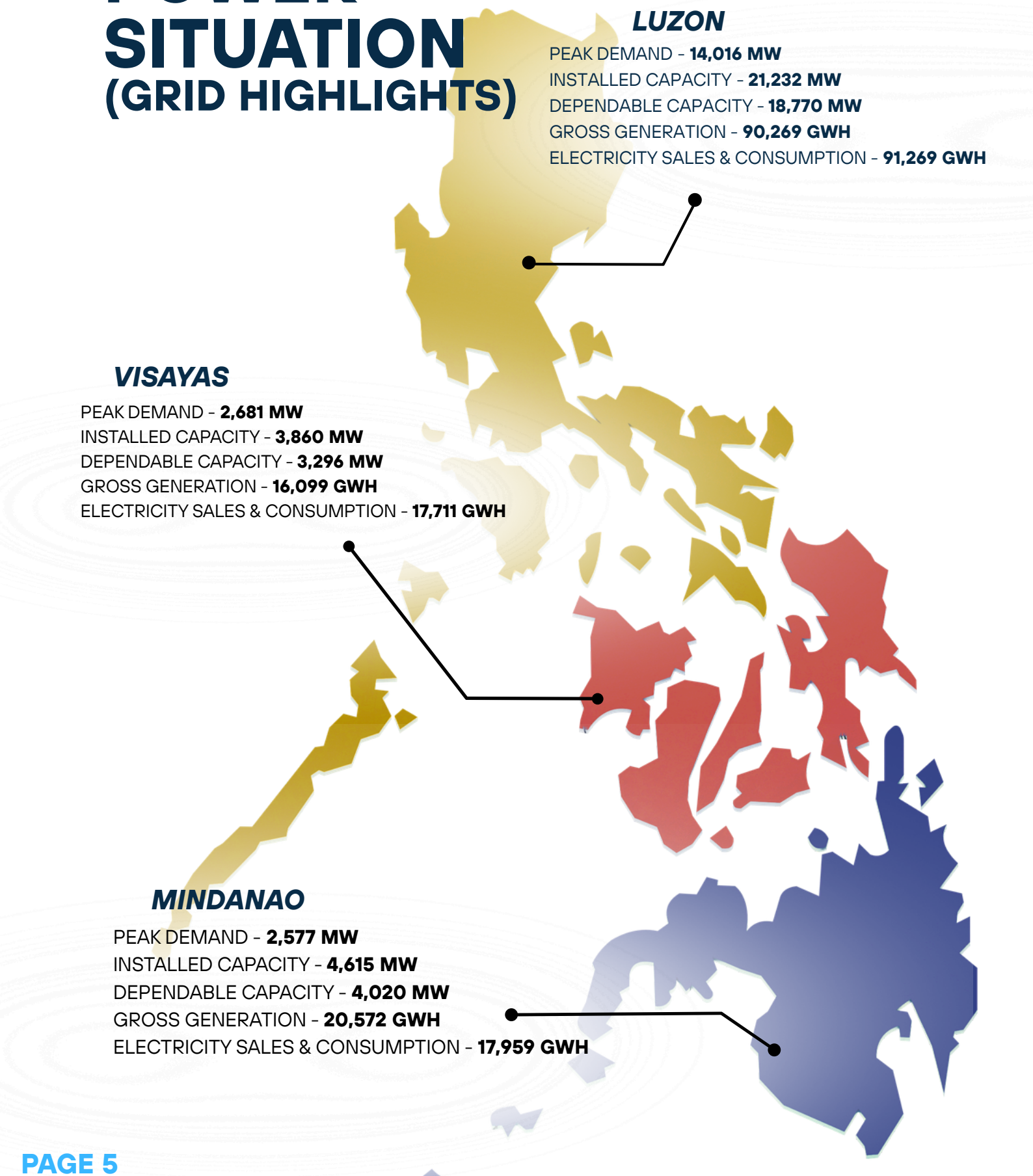
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ACRONYMS

AGR	Annual Growth Rate
BESS	Battery Energy Storage Systems
COC	Certificate of Conformity
CSP	Competitive Selection Process
DU	Distribution Utility
EC	Electric Cooperative
ERC	Energy Regulatory Commission
ESS	Energy Storage Systems
GEAP	Green Energy Auction Program
GEOP	Green Energy Option
GOMP	Grid Operating and Maintenance Program
HVDC	High-Voltage Direct Current
LNG	Liquefied Natural Gas
MGSP	Micro-Grid System Providers
MPGC	Masinloc Power Generation Corporation
MVIP	Mindanao–Visayas Interconnection Project
NCR	National Capital Region
NGCP	National Grid Corporation of the Philippines
NM	Net Metering
NPC	National Power Corporation
NPC-SPUG	National Power Corporation – Small Power Utilities Group
NPP	New Power Providers
PDP	Power Development Plan
PIOUs	Private Investor-Owned Utilities
RE	Renewable Energy
RoR	Run-of-River
TDP	Transmission Development Plan
TPSA	Transition Power Supply Agreement
WESM	Wholesale Electricity Spot Market

PHILIPPINE POWER SITUATION (GRID HIGHLIGHTS)



LUZON

PEAK DEMAND - **14,016 MW**
INSTALLED CAPACITY - **21,232 MW**
DEPENDABLE CAPACITY - **18,770 MW**
GROSS GENERATION - **90,269 GWH**
ELECTRICITY SALES & CONSUMPTION - **91,269 GWH**

VISAYAS

PEAK DEMAND - **2,681 MW**
INSTALLED CAPACITY - **3,860 MW**
DEPENDABLE CAPACITY - **3,296 MW**
GROSS GENERATION - **16,099 GWH**
ELECTRICITY SALES & CONSUMPTION - **17,711 GWH**

MINDANAO

PEAK DEMAND - **2,577 MW**
INSTALLED CAPACITY - **4,615 MW**
DEPENDABLE CAPACITY - **4,020 MW**
GROSS GENERATION - **20,572 GWH**
ELECTRICITY SALES & CONSUMPTION - **17,959 GWH**

2024 LUZON GRID HIGHLIGHTS

14,016 MW
PEAK DEMAND

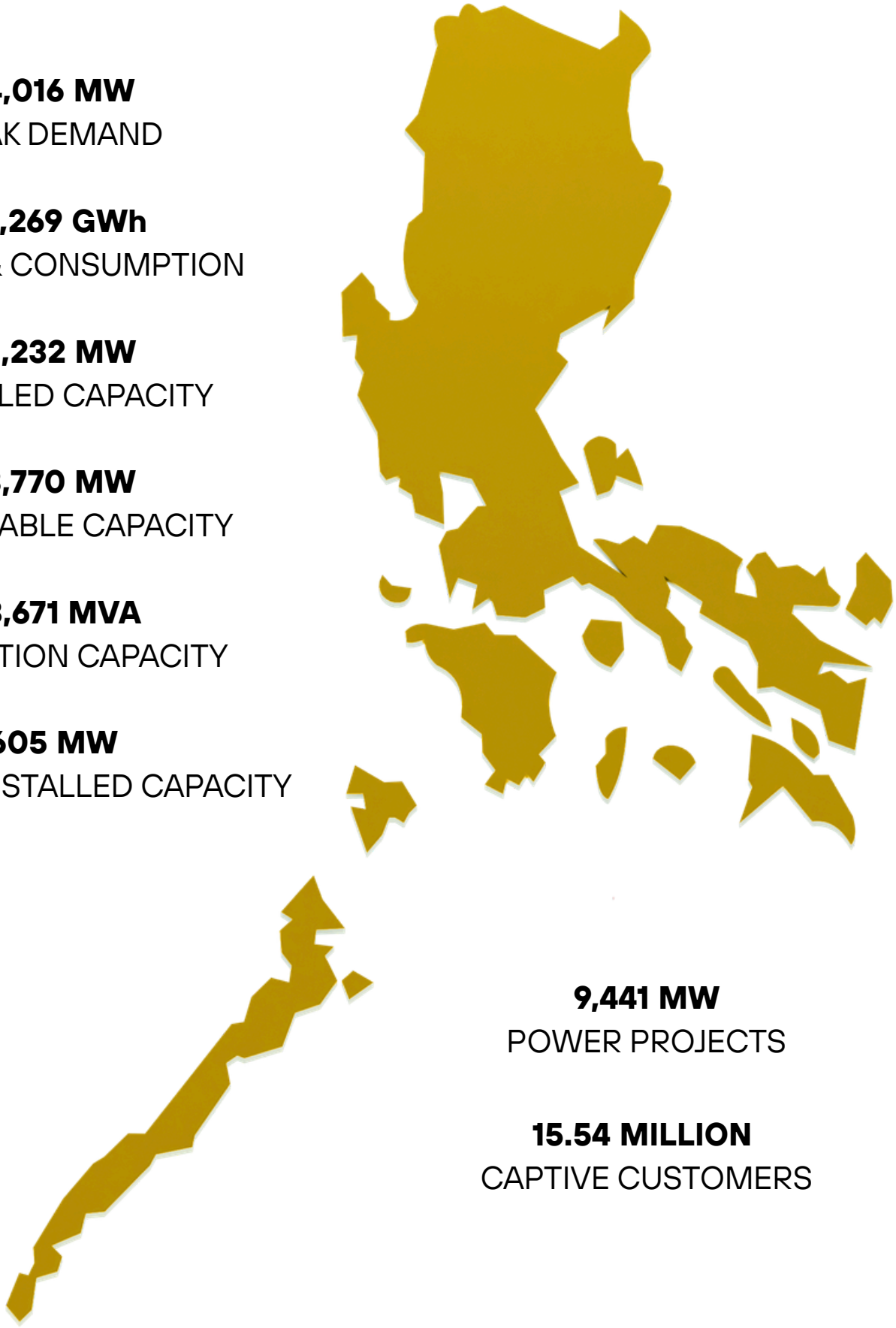
90,269 GWh
ESALES & CONSUMPTION

21,232 MW
INSTALLED CAPACITY

18,770 MW
DEPENDABLE CAPACITY

38,671 MVA
SUBSTATION CAPACITY

605 MW
OFF-GRID INSTALLED CAPACITY



9,441 MW
POWER PROJECTS

15.54 MILLION
CAPTIVE CUSTOMERS

2024 VISAYAS GRID HIGHLIGHTS

2,681 MW
PEAK DEMAND

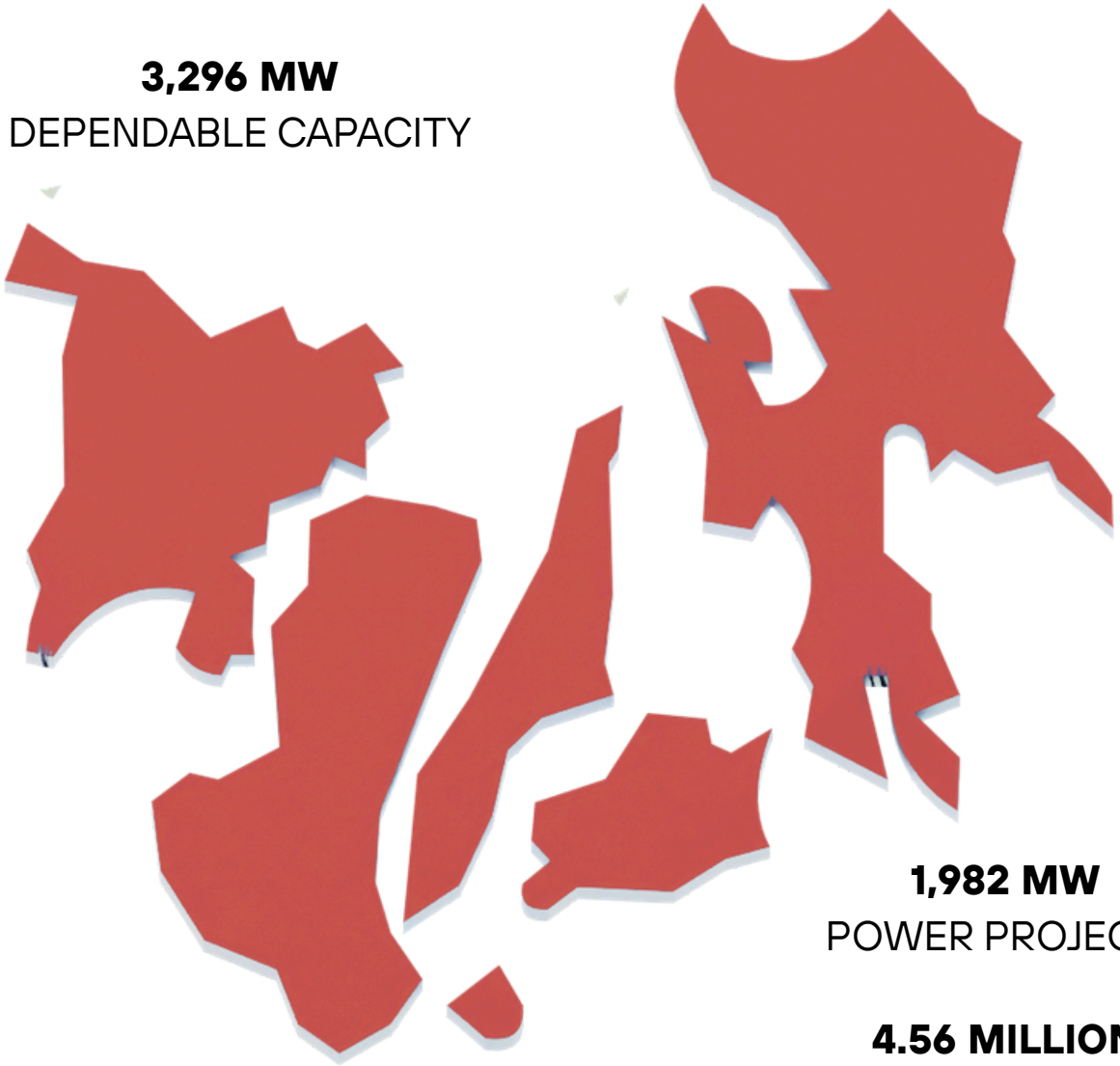
10,846 MVA
SUBSTATION CAPACITY

17,711 GWh
ESALES & CONSUMPTION

81 MW
OFF-GRID INSTALLED CAPACITY

3,860 MW
INSTALLED CAPACITY

3,296 MW
DEPENDABLE CAPACITY



1,982 MW
POWER PROJECTS

4.56 MILLION
CAPTIVE CUSTOMERS

2024 MINDANAO GRID HIGHLIGHTS

2,577 MW
PEAK DEMAND

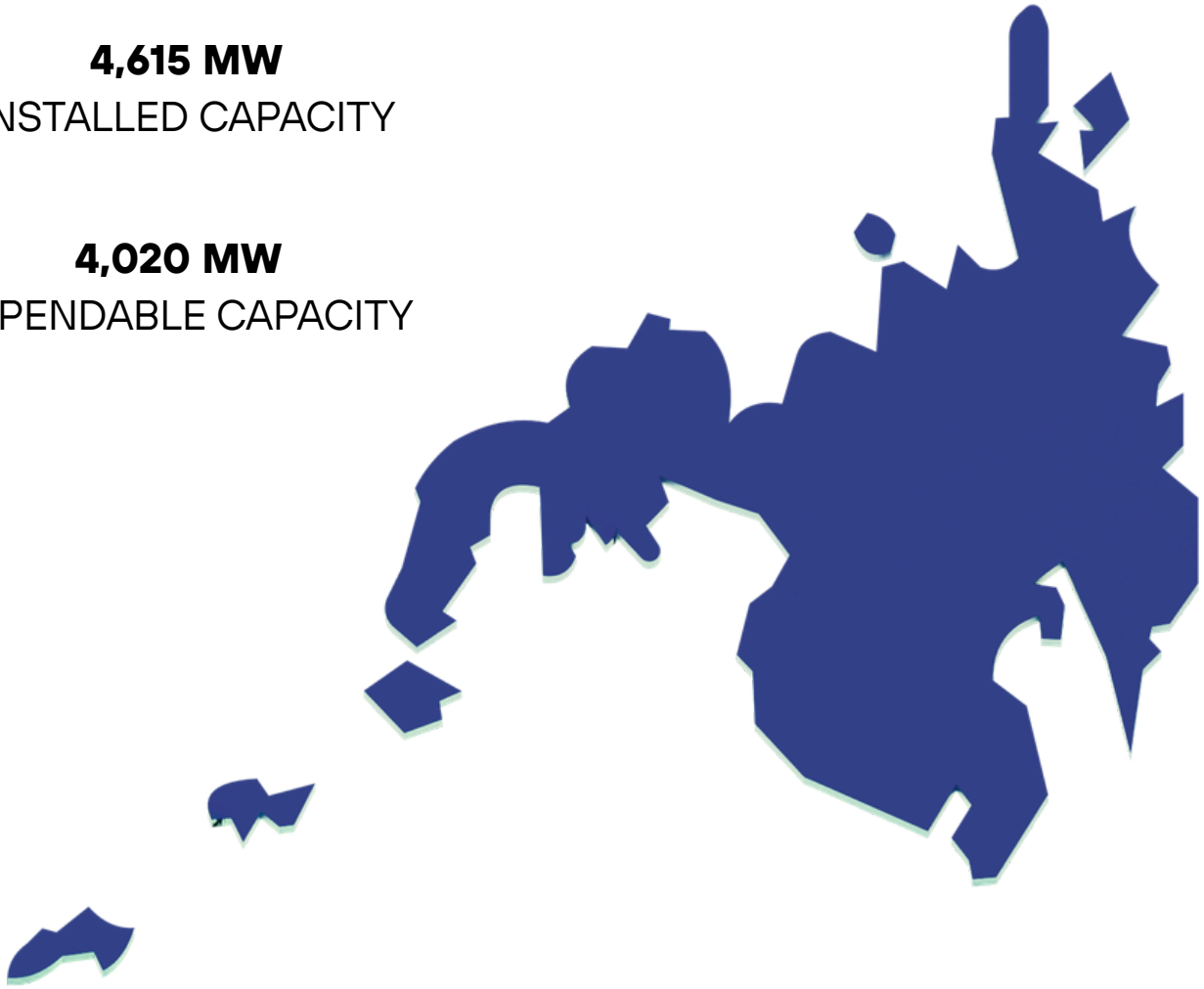
9,136 MVA
SUBSTATION CAPACITY

17,711 GWh
ESALES & CONSUMPTION

121 MW
OFF-GRID INSTALLED CAPACITY

4,615 MW
INSTALLED CAPACITY

4,020 MW
DEPENDABLE CAPACITY



574 MW
POWER PROJECTS

4.45 MILLION
CAPTIVE CUSTOMERS

EXECUTIVE SUMMARY

The 2024 Power Sector Report presents a comprehensive overview of the Philippine power sector for stakeholders, highlighting the current power statistics as of 2024 and key developments in the areas of power generation, transmission and distribution for both grid and off-grid areas. Divided into seven (7) parts, the report first introduces the **Grid Supply and Demand Highlights** in 2024, highlighting the Philippines' significant power statistics across all three major grids. This includes data for the country's peak demand, breakdown of the country's electric sales and consumption, current capacity of the entire grid, and the power generation mix.

The **New Power Projects** showcases the newly operational power plants that contributed to increasing the overall capacity of the Philippine Grid. The newly commenced power projects consisted mostly of new solar and hydroelectric plants, further aligning the Department's goal of an increased share of renewable energy (RE) in the power generation mix of 35% by 2030 and 50% by 2040. The **Transmission** section focuses on the current transmission assets of the National Grid Corporation of the Philippines (NGCP), along with the major transmission projects completed in 2024, increasing interconnectivity between the three major islands of the country. Future transmission projects listed in the Transmission Development Plan (TDP) were also outlined, to ensure that new power generation facilities can effectively deliver power across the grid. On the other hand, the Distribution section highlights the continued growth of connected customers, energy sales, and the expansion of Distribution Utility (DU) infrastructure in 2024, reflecting the rising demand for electricity in the market. This section also reflects the growing number of end-users that are part of renewable energy initiatives such as the Net Metering Program and the Green Energy Option Program (GEOP).

The report also includes **Off-Grid and Missionary Power Statistics**, which outlines the power situation in off-grid and missionary areas providing an overview of the assets owned by off-grid operators and their respective generation mix, and newly operational power plants, and future power projects in these areas. The **Significant Incidents** section describes and breaks down the major alert incidents that occurred for the year 2024. Finally, the **Major Policy Issuances** section enumerates the different policies issued in 2024 that aim to promote development in various sectors of the power industry.

1. GRID SUPPLY & DEMAND HIGHLIGHTS

PHILIPPINES' PEAK DEMAND

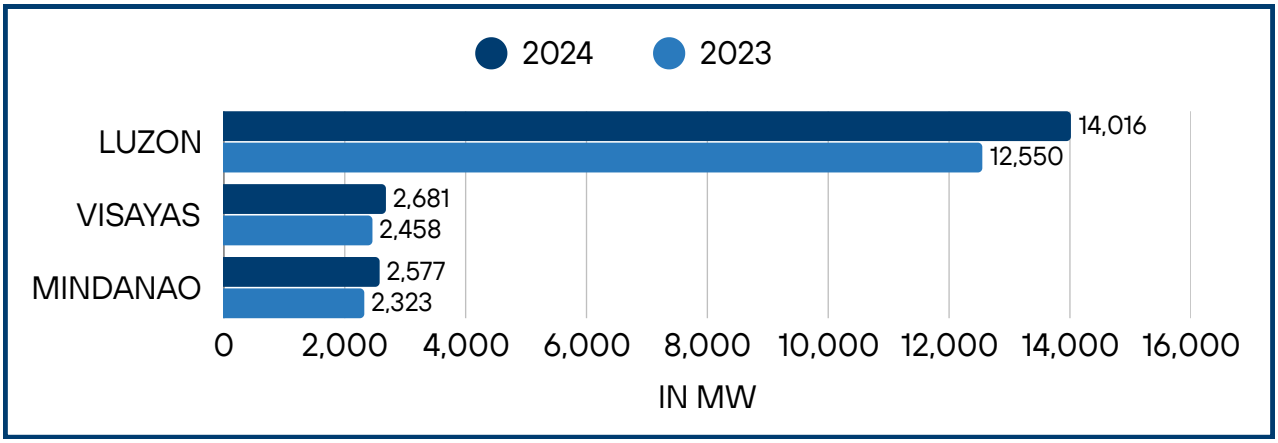
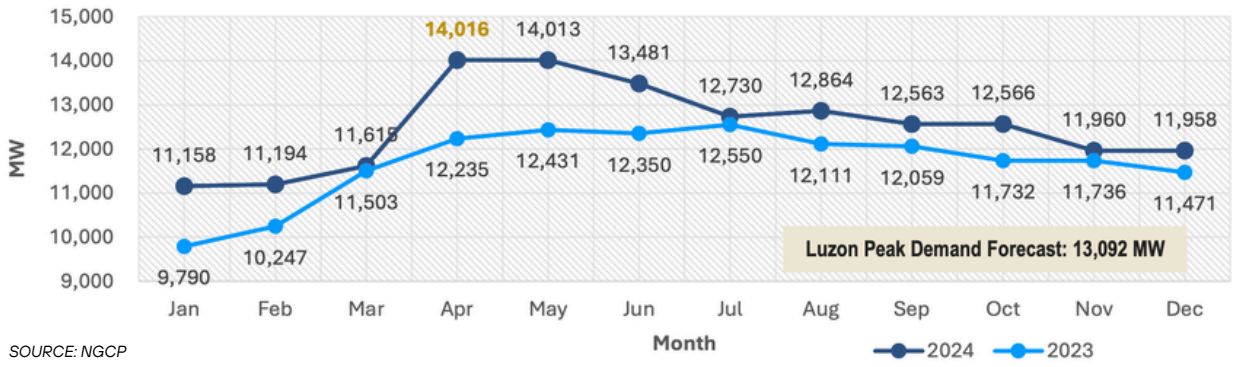


Figure 1. 2024 vs. 2023 Peak Demand per Grid, in MW

In 2024, the country's non-coincident peak demand reached 19,274 MW—an 11.2% rise from 17,331 MW in 2023—mainly due to El Niño–driven increase in the electricity use across all sectors, with records of "danger level" heat index ranging from 42°-53° degrees Celsius, which have been felt across the nation.

Note: Coincident peak demand is defined as the peaking of each grid's demand on the same day/time, while the non-coincident peak demand is the peaking of each grid on a separate day/time. Further, based on PAGASA declaration[1], the El Niño climate phenomenon in the country started from July 2023 up until June 2024.

LUZON



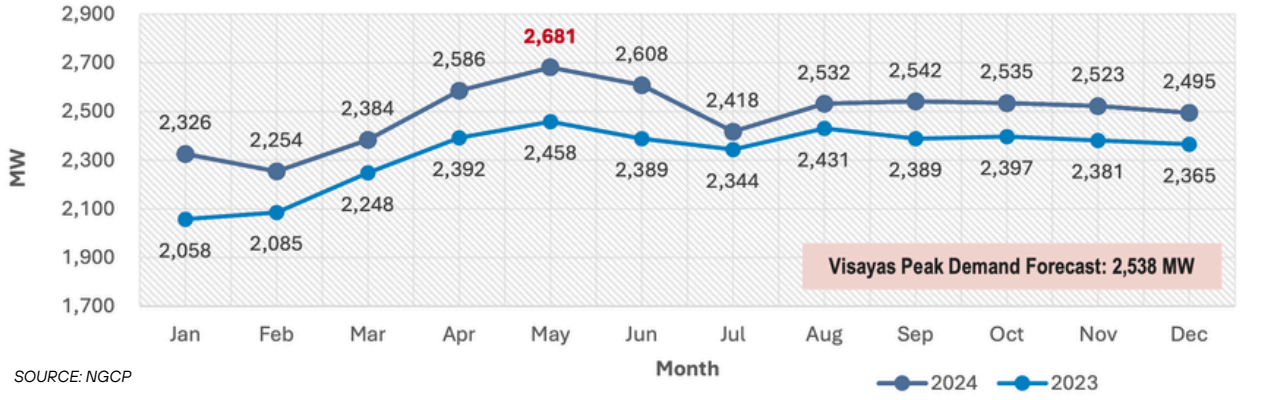
SOURCE: NGCP

Figure 2. 2024 vs. 2023 Luzon Monthly Peak Demand, in MW

The peak demand in the Luzon Grid occurred in April 2024 reaching 14,016 MW — an 11.7% increase compared to 12,550 MW recorded in 2023, and exceeding the forecasted demand of 13,092 MW by 7.1%.

1 Retrieved through: DOST-PAGASA Press Conference, 04 July 2023 link: https://www.youtube.com/watch?v=BwKvor9Ckuo

VISAYAS



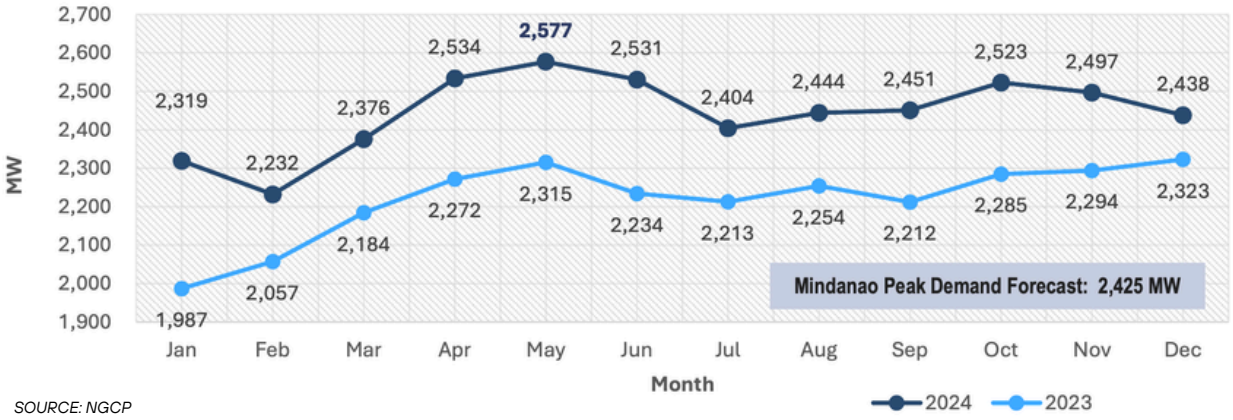
SOURCE: NGCP

Figure 3. 2024 vs. 2023 Visayas Monthly Peak Demand, in MW

In the Visayas Grid, peak demand hit 2,681 MW in May, a 9.1% year-on-year increase, exceeding the 2023 PDP forecast of 2,538 MW by 5.6%.

The Visayas Grid recorded 36 alert notices (28 yellow and 8 red alerts), resulting in rotating brownouts and power interruptions, particularly during the months of April to May. Further, a four-day total blackout occurred in January 2024 in the Panay Island due to the simultaneous tripping of major generating plants, including PEDC and PCPC coal plants, PDPP, Power Barge 101, and AVON-Nabas diesel plants.

MINDANAO



SOURCE: NGCP

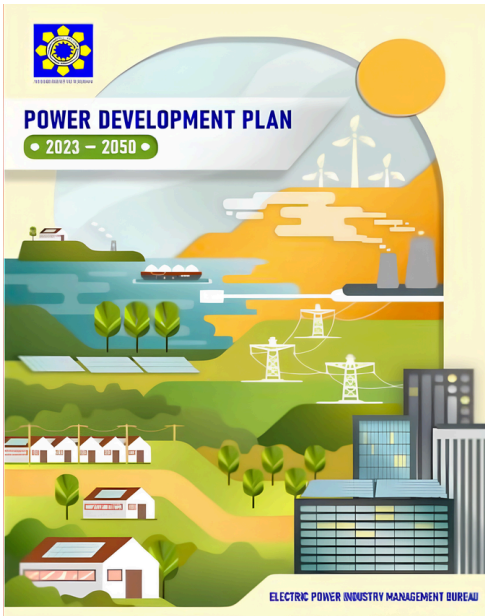
Figure 4. 2024 vs. 2023 Mindanao Actual Peak Demand, in MW

Mindanao Grid's 2024 peak demand reached 2,577 MW in May, up 254 MW (10.9%) from 2023, also surpassing the PDP forecast of 2,425 MW.

Peak Demand Forecast (2021-2050) in MW

Year	Luzon	Visayas	Mindanao	Philippines
2021*	**11,640**	**2,252**	**2,144**	**16,036**
2022*	**12,113**	**2,316**	**2,167**	**16,596**
2023	12,559	2,464	2,315	17,338
2024	13,092	2,538	2,425	18,056
2025	13,728	2,687	2,588	19,003
2026	14,466	2,864	2,766	20,097
2027	15,274	3,063	2,954	21,291
2028	16,149	3,280	3,153	22,582
2029	17,070	3,511	3,363	23,944
2030	18,038	3,753	3,585	25,376
2031	18,985	3,990	3,790	26,765
2032	19,982	4,238	4,004	28,224
2033	21,031	4,496	4,229	29,757
2034	22,134	4,766	4,467	31,367
2035	23,293	5,047	4,717	33,056
2036	24,506	5,340	4,975	34,821
2037	25,778	5,643	5,245	36,666
2038	27,116	5,961	5,529	38,606
2039	28,516	6,291	5,827	40,634
2040	29,984	6,634	6,140	42,759
2041	31,496	6,985	6,455	44,936
2042	33,069	7,347	6,780	47,196
2043	34,705	7,720	7,117	49,542
2044	36,405	8,106	7,466	51,977
2045	38,172	8,503	7,828	54,503
2046	40,003	8,913	8,198	57,115
2047	41,902	9,335	8,579	59,816
2048	43,869	9,770	8,970	62,609
2049	45,906	10,218	9,374	65,497
2050	48,014	10,678	9,791	68,483

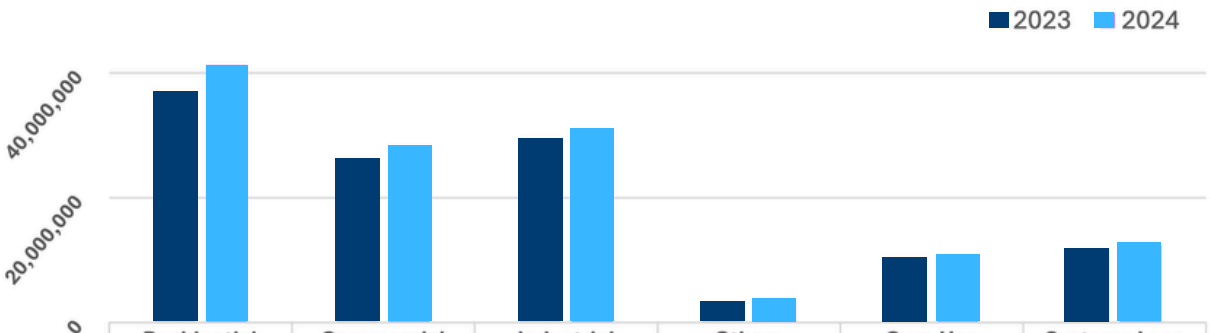
*Actual Values



The **Power Development Plan (PDP) 2023-2050** serves as a comprehensive guide for industry participants, offering a detailed view of the Philippine electric power industry highlights, power supply-demand outlook, and sectoral roadmaps. (check www.doe.gov.ph for more details)

Scan for PDP Copy

ELECTRICITY SALES AND CONSUMPTION



	Residential	Commercial	Industrial	Others	Own-Use	Systems Loss
2023	36,967,945	26,235,632	29,492,598	3,111,679	10,403,203	11,792,853
2024	41,205,378	28,032,923	31,073,893	3,595,941	10,557,956	12,474,736

Figure 5. 2024 vs. 2023 Electricity Consumption by Sector, in MWh

In 2024, the Residential Sector consumed the highest electricity among all sectors recorded at 38% or 42,226 GWh. Industrial customers account for about 24,352 GWh or 5.4% increase from the previous year, the Commercial sector at 28,475 GWh or 6.9% increase, and Systems Loss, Own-Use, and Others for shares at 8,398 GWh (5.8% increase), 143 GWh (1.5% increase), and 2,884 GWh (8% increase), respectively.

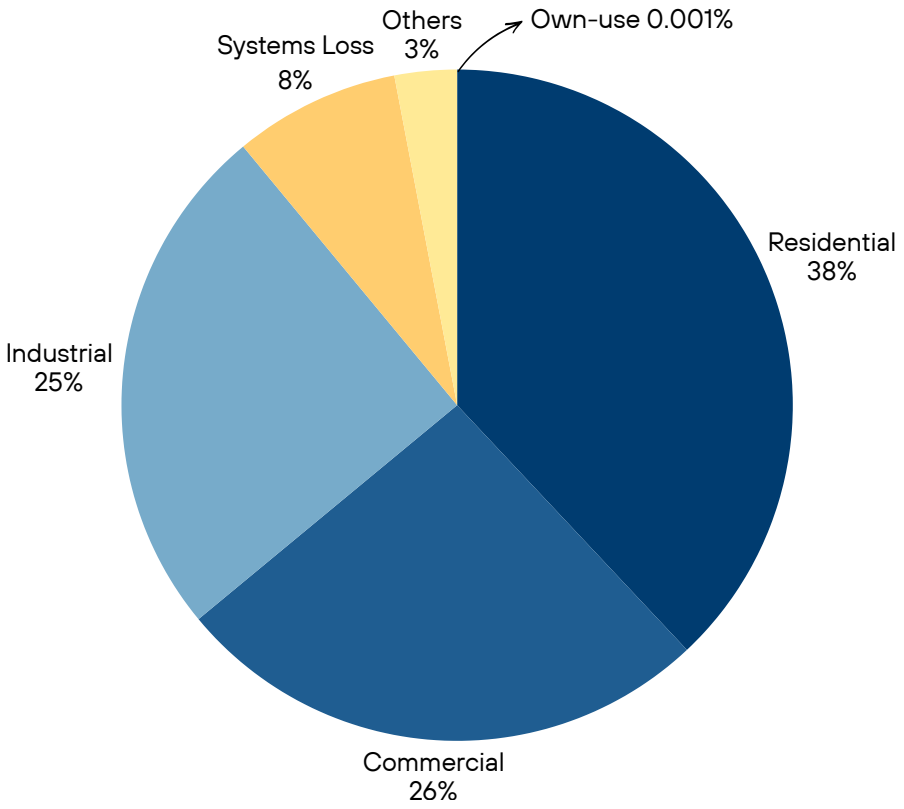


Figure 6. 2024 Total Philippines Electricity Sales & Consumption, PIOUs + ECs

"Residential" consumers are typically household customers who use electricity usage is for lighting and household appliances. **"Commercial"** consumers are primarily identified as establishments such as malls, schools, buildings, and mixed-use developments. **"Industrial"** consumers are those who use the electricity to run their motors, equipment, and machines to be able to produce their products like ice-making plants, food manufacturing facilities, etc. **"Others"** refers to public buildings, streetlights, irrigation systems, and similar infrastructure.



Households

Malls
Private Establishments

Factories
Manufacturing
Establishments

Streetlight
Irrigation
Public Offices

Private Investor-Owned Utilities (PIOUs) have the highest electricity consumption among all sectors in the Distribution sector, accounting for 74,727 GWh. This was primarily driven by demand in the National Capital Region (NCR), which remains the country's main load center.

POWER SUPPLY

The country's total grid installed capacity[2] increased by 5%, from 28,291 MW in 2023 to 29,706 MW in 2024. Coal remained the dominant source (43.8%), followed by natural gas (12.6%) and oil-based (11.6%), while renewables grew to 32.0%, up from 29.7% in 2023.

Note: RE technologies are composed of Hydro with 12.9% share, followed by Solar at 9.1%, Geothermal at 6.6%, Biomass at 2%, and Wind at 1.4% share.

Renewable Energy (RE) is comprised of five (5) main technologies namely Biomass, Geothermal, Solar, Hydro, and Wind. The existing Solar facilities are comprised of Ground-mounted Solar PVs and Behind-the- meter or the Rooftop PVs with a capacity of 2,710 MW, while the Hydro facilities are determined as Run-of-River (RoR), Impoundment (Dam type), and Pumped- Storage Hydro, with a capacity 3,836 MW of installed capacity.

Additionally, the Visayas Grid has the largest share of RE resources in terms of both installed and dependable capacity, with 50.6% and 48.9% share of RE resources, respectively.

INSTALLED CAPACITY (GRID)

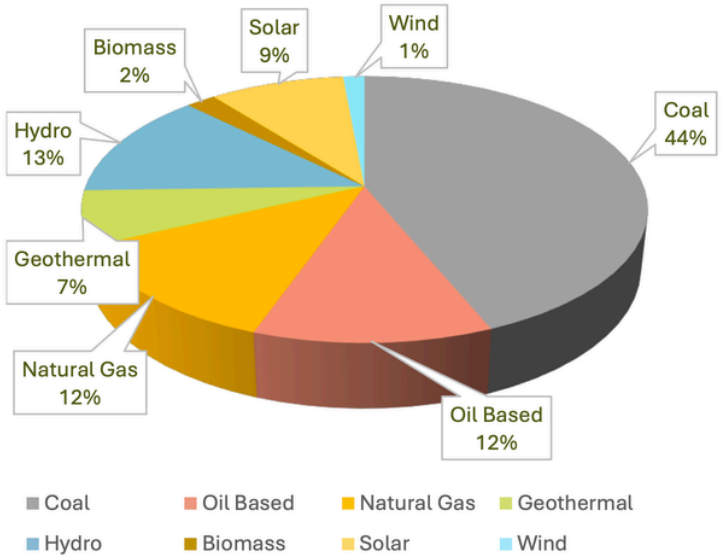


Figure 7. 2024 Installed Capacity Mix per Technology, in MW

DEPENDABLE CAPACITY (GRID)

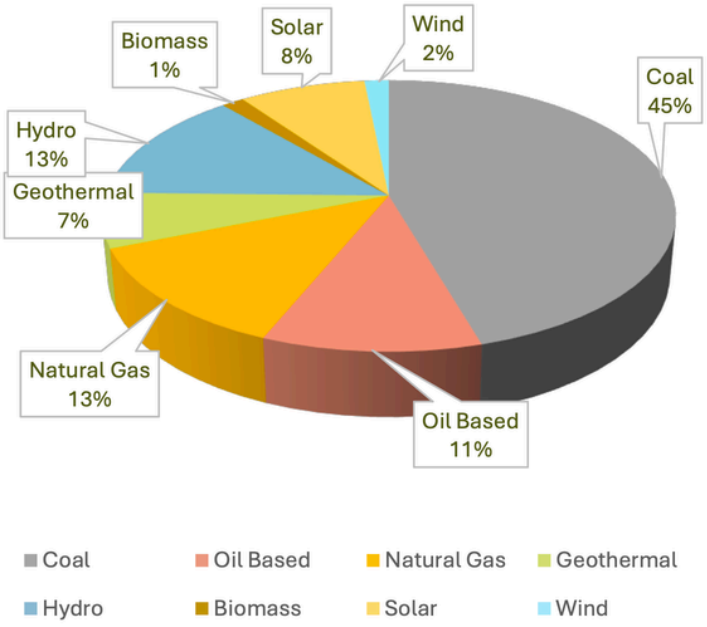


Figure 8. 2024 Dependable Capacity Mix per Technology, in MW

The country's total Dependable Capacity[3] rose by 1,433 MW, from 24,654 MW in 2023 to 26,087 MW in 2024. Figure 8 shows that Coal remains the dominant source (11,863 MW), followed by natural gas (3,281 MW) and oil-based capacity (2,806 MW). Renewables—including geothermal (1,708 MW), solar (2,154 MW), wind (412 MW), and biomass—still account for a smaller share, underscoring continued reliance on conventional energy sources.

2 Refers to the total nameplate or rated output (in MW) of all power generation facilities connected to the grid; and
3 Refers to the portion of installed capacity that can be reliably and continuously supplied to the grid.

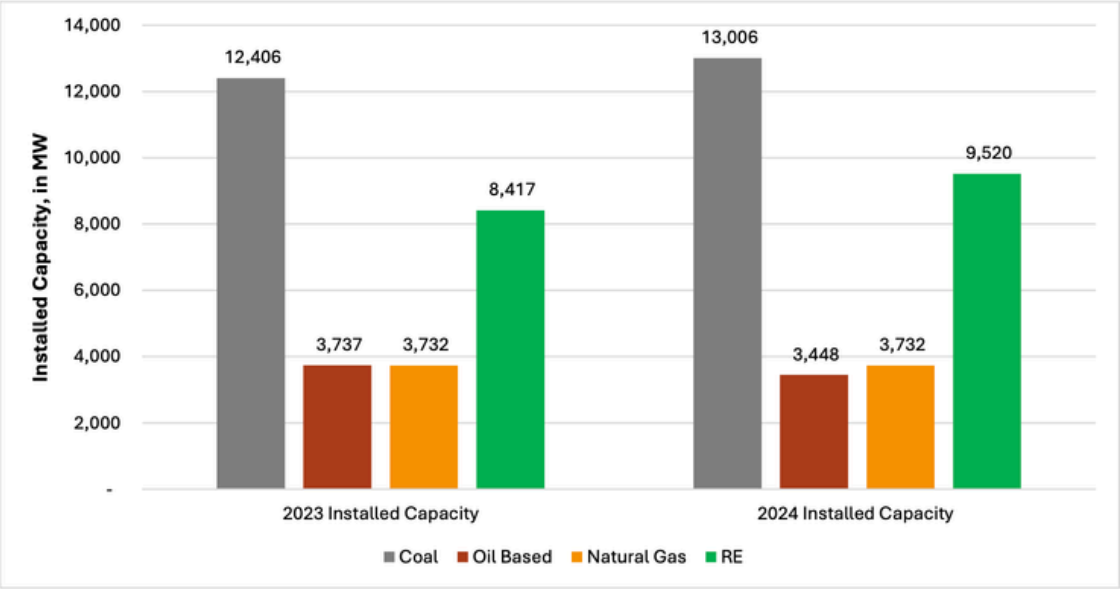


Figure 9. 2023 & 2024 Comparative Installed Capacity per technology

Figure 9 shows that RE and Coal made significant developments in terms of installed capacity. RE share increased by 13.1%, signaling a gradual transition toward cleaner energy sources, while Coal gains a 4.8% increase within one year.

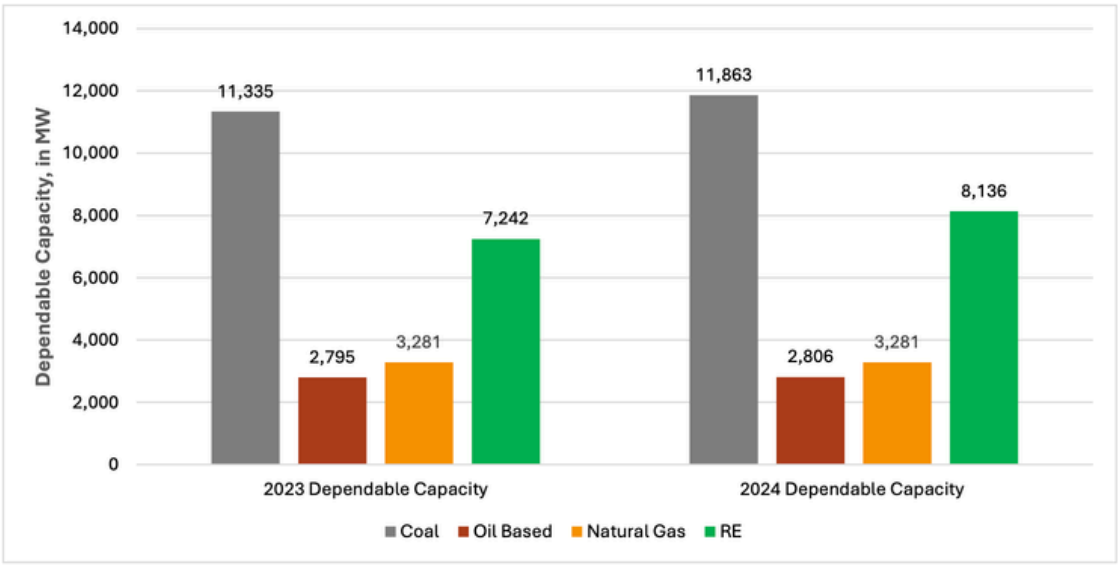


Figure 10. 2023 & 2024 Comparative Dependable Capacity per technology

In summary of Figure 10, the data indicates modest total dependable capacity growth, driven mainly by renewables and coal, with little change in oil and natural gas capacities.

POWER GENERATION

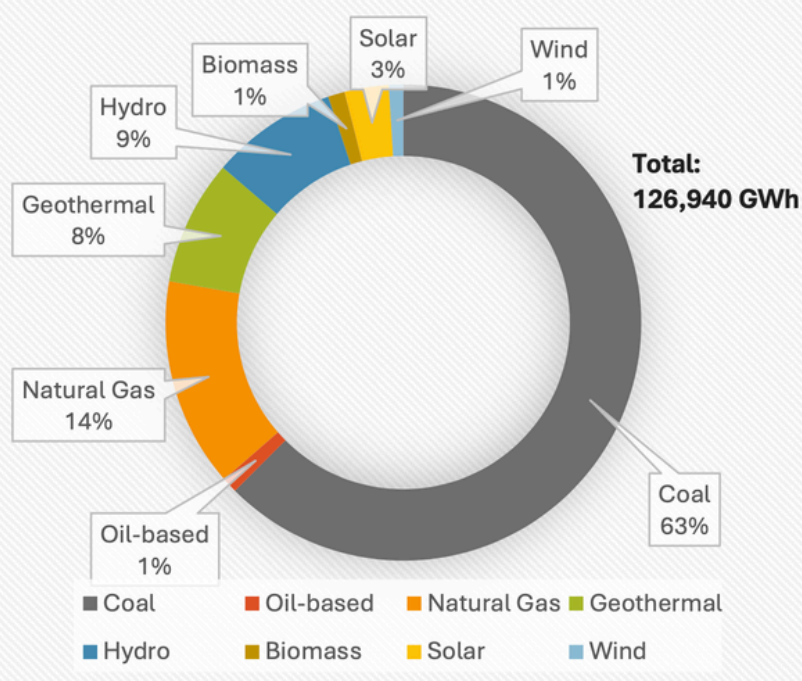


Figure 11. 2024 Gross Generation, in GWh

Hydro and Geothermal, accounted for the largest generation shares at 9% and 8%, respectively, whereas other RE (solar, wind, biomass) accounted only with a combined 5% share. Coal technology remains the largest contributor to the Philippines' power generation at 63% share, followed by Natural Gas at 14%.

The Gross Generation of the Philippines for 2024 increased by 7.6% from 2023. The Luzon Grid's accounts for highest generation of 90,269 GWh, followed by Mindanao at 20,572 GWh, and Visayas at 16,099 GWh.

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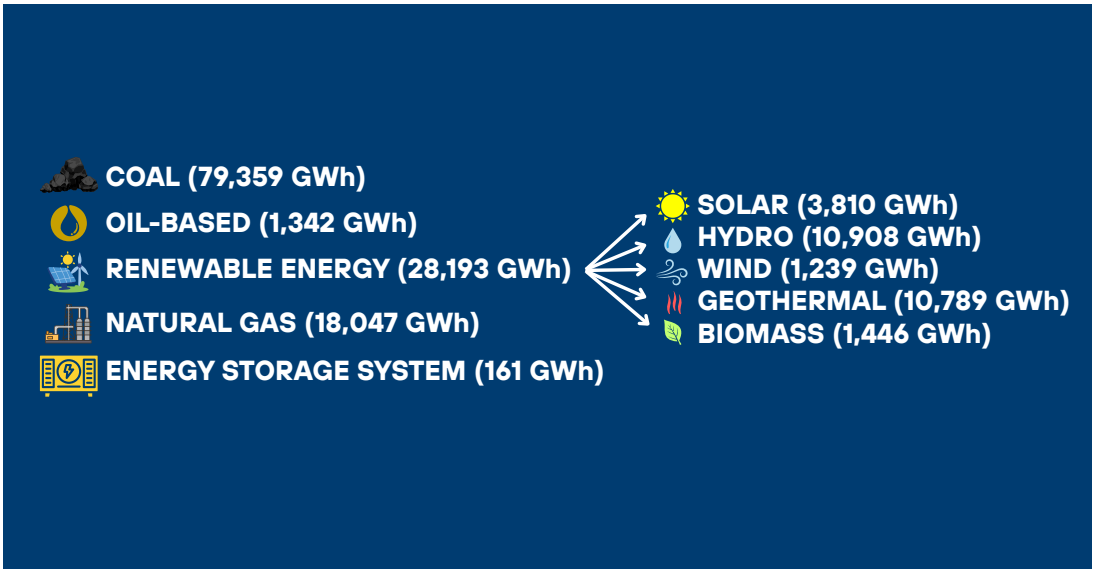
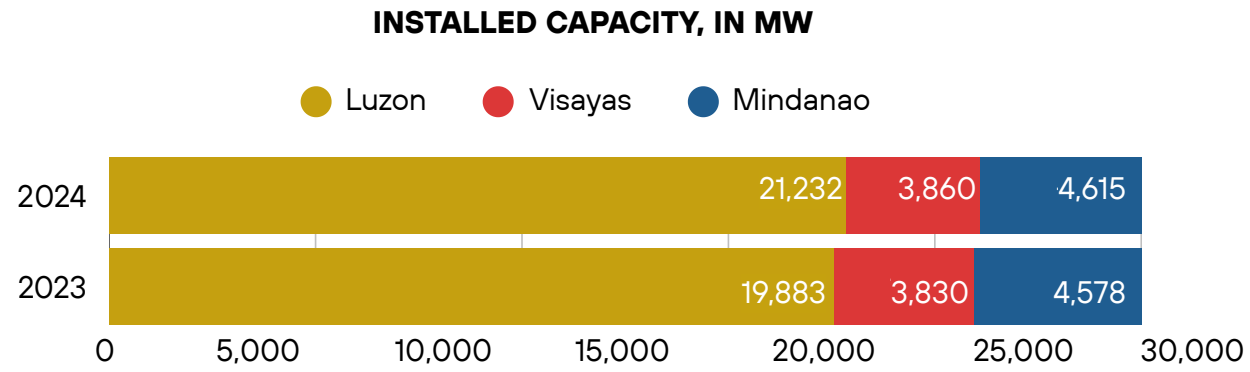


Figure 12. 2024 Gross Generation per technology, in GWh

In 2024, the DOE recorded increases of 7.6%, 8.3%, 2.9%, and 7.3% in power generation from Coal (79,359 MWh, Natural Gas (18,047 MWh), Oil-based (1,342 MWh), and Renewable Energy (RE) with 28,193 MWh, respectively. However, the Wind Sector has experienced a 5.3% decline in power generation due to the wind drought associated with El Niño phenomenon."

2. NEW POWER PROJECTS

NEWLY OPERATIONAL POWER PROJECTS



Source: List of Private Sector-Initiated Power Projects as of December 2024

In 2024, a capacity of 1,349 MW was added in Luzon, while 30 MW for Visayas and 37 MW in Mindanao. Newly commissioned solar power plants drove capacity additions in the country, with solar capacity increasing by 63.9% from the previous year.



Solar photovoltaic panels. Source: Solar Philippines

- The additional 600 MW capacity from the Masinloc Power Generation Corporation (MPGC) Coal-fired Power Plant in the province of Zambales also contributed to the country's total capacity in 2023.
- Ten (10) Solar Power Plants, mainly in Luzon, provided additional capacity with a total of 1,028 MW in 2024 as they commenced their operation in the grid.
- Four (4) Hydropower plants contributed an additional 36.5 MW of capacity nationwide.
- Battery Energy Storage Systems (BESS) capacities increased by 45.4% from 436 MW in 2023 to 634 MW in 2024. These however are not counted in the total installed capacity due to the BESS operational characteristics.



Note: An "Energy Storage System (ESS)", refers to a facility capable of absorbing energy directly from the Grid or Distribution System, or from an RE Plant or from a Conventional Plant connected to the Grid or Distribution System and storing it for a time period, and injecting stored energy when prompted, needed to ensure reliability and balanced power system. While "Battery Energy Storage System (BESS)" refers to an ESS capable of storing electric energy electrochemically from which it is able to charge or discharge electric energy.

There were fifteen (15) Committed Power Projects in the country that commenced commercial operation in 2024. Details of these power projects, including their capacity and location, are shown in Figure 13.



Figure 13. List of Power Projects commercially operated in 2024



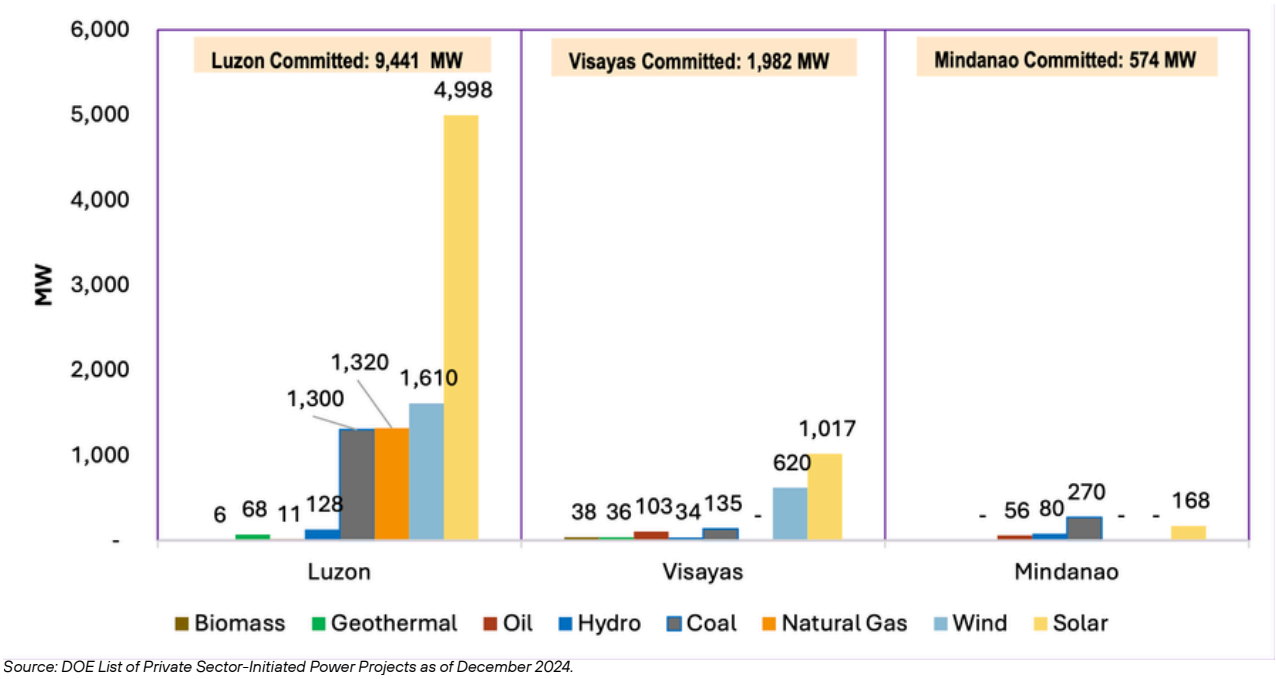
133 MW Cagayan North SPP
Source: www.acenrenewables.com



348.8 MW San Marcelino SPP Phase 1&2
Source: www.acenrenewables.com



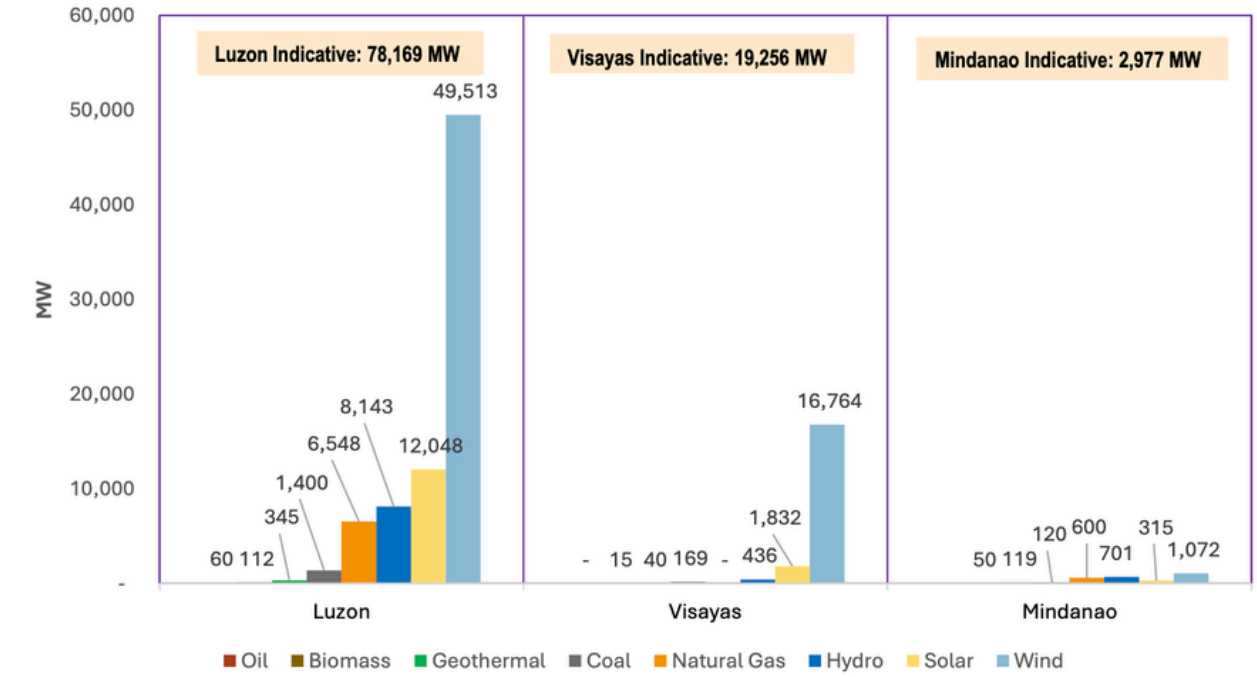
12 MW Liangan HEPP
Source: LGU Lanao Del Norte FB page



Source: DOE List of Private Sector-Initiated Power Projects as of December 2024.

Figure 14. 2024 Summary of Committed Power Projects Capacity

A total of 11,997 MW of new capacity; 9,441 MW in Luzon, 1,982 MW in Visayas, and 574 MW in Mindanao, is expected to come online from 2025 to 2030, with projects already funded and/or under construction.



Source: DOE List of Private Sector-Initiated Power Projects as of December 2024.

Figure 15. 2024 Summary of Indicative Power Projects Capacity

In terms of indicative power projects with target commercialization from 2025 to 2033 and with non-firm commercialization, accounted for a total capacity of 78,169 MW in Luzon, 19,256 MW in Visayas, and 2,977 MW in Mindanao. This excludes the capacity from BESS. The list was generated by the conduct of SIS of the NGCP.

Committed Power Projects refer to projects that have already secured firm financial closing, are already in the construction stage, or were awarded through the Green Energy Auction Program (GEAP).

Indicative Power Projects refer to projects that are in the pre-development stage, have secured its clearance to undertake a System Impact Study with the NGCP, and are compliant with reportorial requirements, including the regular submission of its Monthly Accomplishment Report to the DOE.



159 MW Laoag SPP
Source: https://aboitizpower.com



94.7 MW Cayanga-Bugallon SPP
Source: https://aboitizpower.com



35.2 MW Currimao 2 SPP
Source: https://www.pna.gov.ph



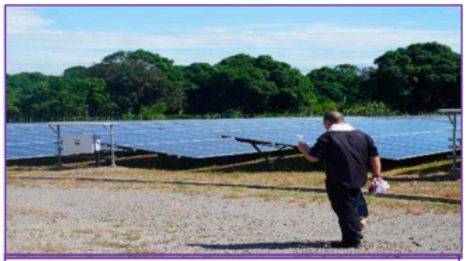
14.5 MW Siguil HEPP
Source: https://alsonspower.com



74.1 MW Calabanga SPP
Source: https://nexifratch.com



95.8 MW Pinugay SPP
Source:
https://www.meralcopowergen.com



20.4 MW Orion SPP
Source: https://pavi.com.ph



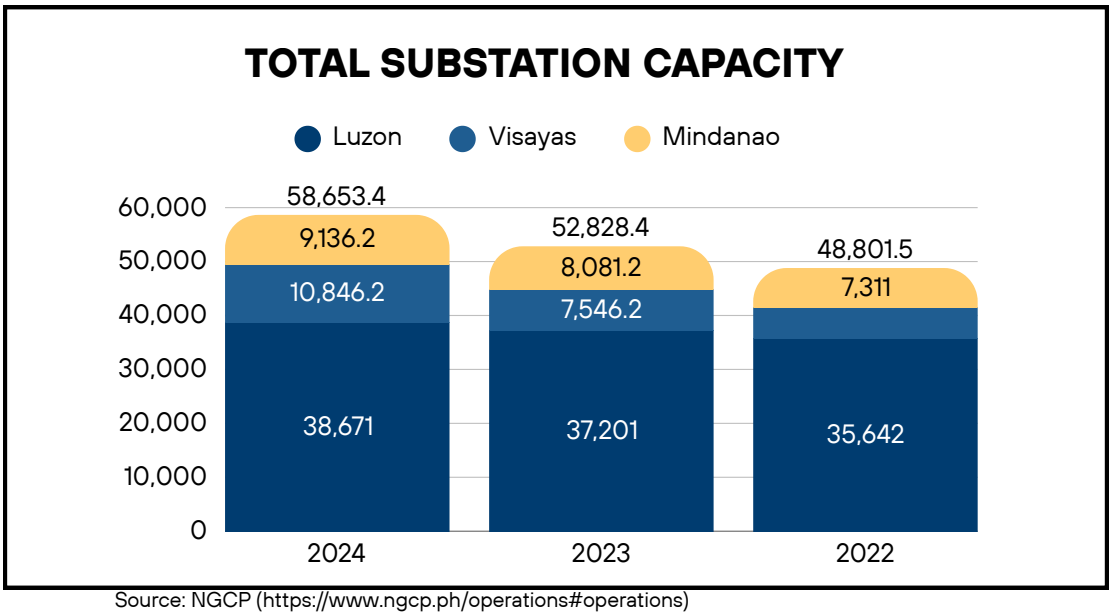
20.8 MW Trust SPP
Source: https://solenergy.com.ph



8.6 MW Matuno HEPP
Source:
https://magisenergyholdings.com

3. TRANSMISSION

GRID PROFILE



Source: NGCP (https://www.ngcp.ph/operations#operations)

Figure 16. 2024 Total Grid Substation Capacity, in MVA

As of December 2024, a total of 58,653.40 MVA of substation capacity and 23,109.94 circuit-kilometers (ckt-km) transmission assets are managed by the NGCP. Figure 16 and 17 compare substation capacities and available transmission lines for CY 2022–2024.

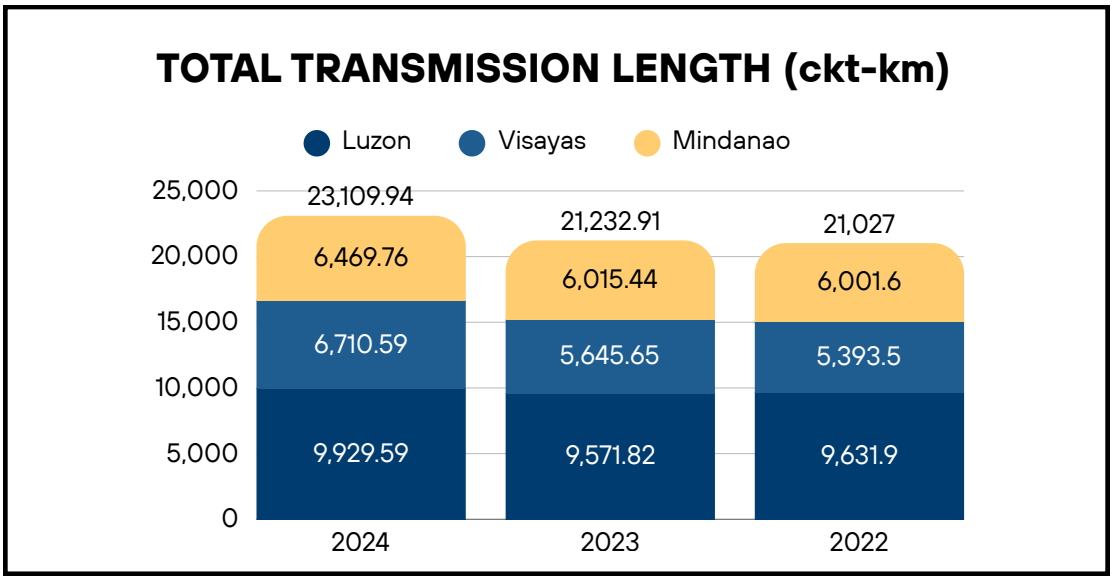


Figure 17. 2024 Total Transmission Line Length, in ckt-km

The additional transmission line length for 2024 aims to help augment the line constraints between the island region, especially with the commencement of the Cebu-Negros-Panay and Cebu-Bohol Interconnection Projects.

As shown in Figure 18, the completion of the Mindanao–Visayas Interconnection Project (MVIP) in 2024 was a major milestone toward a One Grid System by enabling interconnection among the country's three main grids. In the Visayas Grid, the Cebu–Negros–Panay Stage 3 (CNP3) Project, completed in Q2 2024, contributed to maintaining Panay's grid stability during the 2024 El Niño.

LUZON	VISAYAS	MINDANAO
• Pagbilao 500kV S/S Project	• Tigbauan 138 kV S/S Project	• Kauswagan-Lala 230 kV T/L Project
• South Luzon S/S Upgrading Project	• Tagbilaran 69 kV S/S Project (1-10 MVA)	• Mindanao S/S Upgrading Project
• Mariveles-Balsik (Hermosa) 500kV T/L	• Visayas Voltage Improvement Project	• Eastern Mindanao Voltage Improvement Project
• San Manuel-Nagsaag 230kV T/L Project	• Negros-Panay -Interconnection Project, Line 2	• Mindanao S/S Expansion 4 Project
• Bataan-Grid 230kV Reinforcement Project	• Cebu-Negros-Panay 230 kV Backbone Project, Stage 1	• Mindanao-Visayas Interconnection Project
• Tuguegarao-La-lo (Magapit) 230kV T/L Project	• Cebu-Negros-Panay 230 kV Backbone Project, Stage 2	• Laguindingan 230 kV S/S Project
• Western 500 kV Backbone Project, Stage 1	• Permanent Restoration of Colon-Samboan 138 kV Line 1&2 affected by landslides	• Zamboanga Peninsula Voltage Improvement Project
• North Luzon S/S Upgrading Project	• Visayas S/S Upgrading Project 1	• Mindanao S/S Upgrading Project 2
• Tiwi S/S Upgrading Project	• Cebu-Bohol 230 kV Interconnection Project	
• South Luzon S/S Upgrading Project 2	• Visayas S/S Upgrading Project 2	
• Ilijan 500 kV S/S Upgrading Project	• Cebu-Negros-Panay 230 kV Backbone Project, Stage 3	
• Marilao 500 kV S/S Project		
• Balsik (Hermosa) – San Jose 500 kV T/L		
• North Luzon S/S Upgrading Project 2		

Figure 18. 2023-2024 Completed Transmission Projects

Note: Different energization dates vary depending on the components of each TLPs implemented by the NCGP. / Source: NGCP's Transmission Project Status Report (TPSR)

MAJOR TRANSMISSION PROJECTS COMPLETED



Mariveles-Hermosa-San Jose 500kV Transmission Line (July 2024)



Cebu-Negros-Panay 230kV Backbone Project



Mindanao-Visayas Interconnection Project (January 2024)



Cebu-Bohol 230kV Interconnection Project (December 2024)

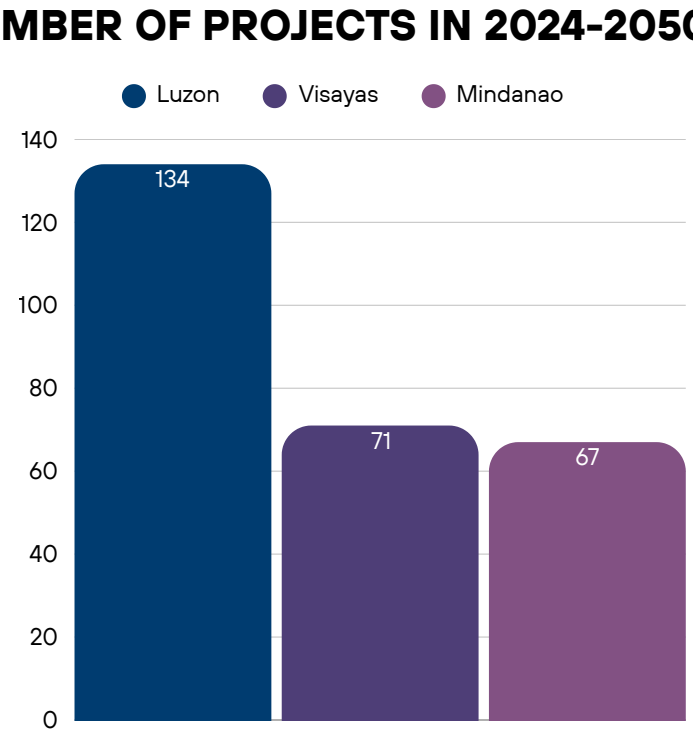


Figure 19. 2024 Number of Ongoing Transmission Projects by the System Operator

The approved 2024–2050 Transmission Development Plan (TDP) outlines a total of 272 transmission projects nationwide, consisting of 134 projects in Luzon, 71 projects in Visayas, and 67 projects in Mindanao, as detailed in Annex A. The TDP will serve as a key reference for the upcoming Regulatory Reset application and future applications by the National Grid Corporation of the Philippines (NGCP). Implementation of these projects is expected to strengthen grid reliability and ensure adequate transmission capacity to support the integration of new power generation facilities.



Pagbilao 500kV S/S Project
Source: https://ngcp.ph

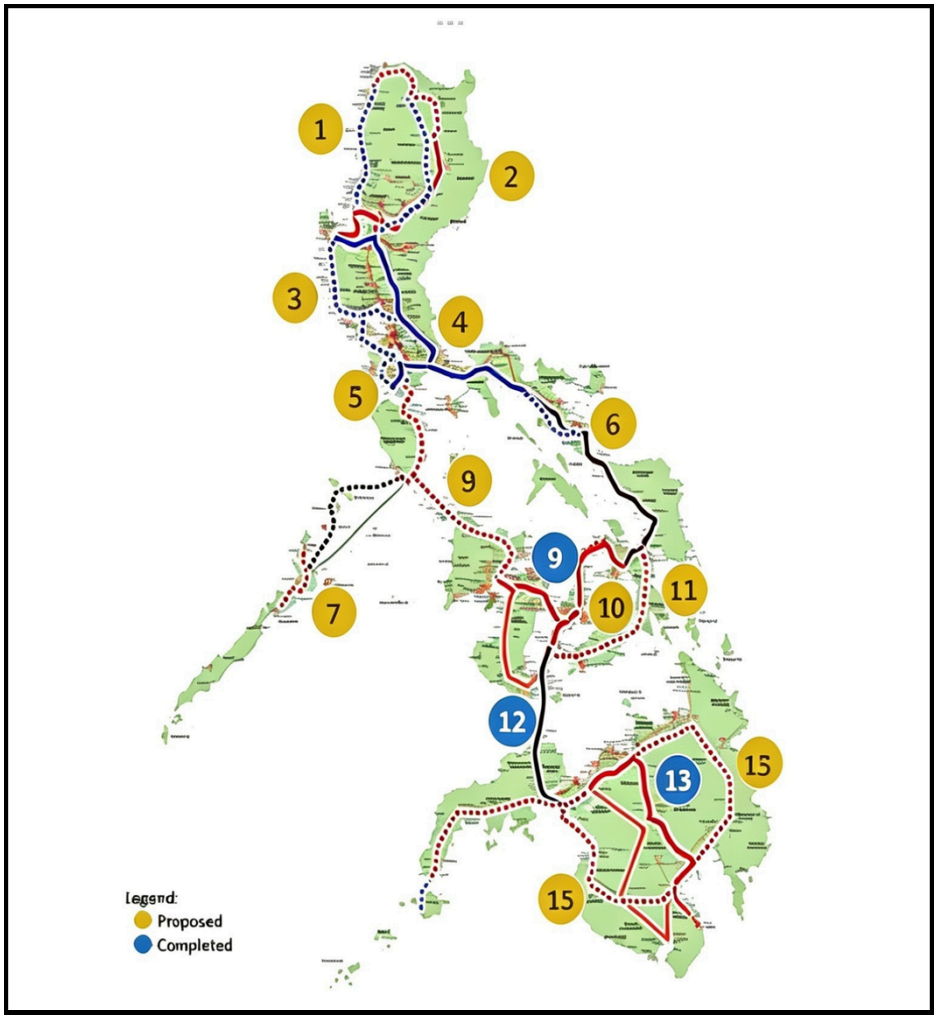


Cebu-Negros-Panay 230 kV Backbone Project (Cadiz Calatrava)
Source: https://ngcp.ph



Mindanao – Visayas Interconnection Project (Lala Converter Station)
Source: NGCP's Approved 2024-2050 TDP

PROPOSED TRANSMISSION MASTERPLAN 2025-2050



TRANSMISSION OUTLOOK

1. Bolo –Laoag 500 kV Backbone (Mar 2028)
2. Nagsaag to Kabugao 500 kV Backbone (2041-2050)
3. Western Luzon 500 kV Backbone (Stage 2: Dec 2025)
4. Metro Manila 500 kV Backbone Loop (2031-2040)
5. Batangas –Mindoro Interconnection (Stage 1: Sep 2027, Stage 2: Dec 2030)
6. Luzon –Visayas HVDC Bipolar Operation (Dec 2032)
8. Mindoro – Panay 230 kV Interconnection Project (2041-2050)
9. Cebu – Negros –Panay 230 kV Backbone (Completed)
10. Metro Cebu 230 kV Backbone Loop (2024-2050)
11. Cebu – Bohol –Leyte 230 kV Backbone (2024-2050)
12. Mindanao-Visayas Interconnection (Completed)
13. Mindanao 230 kV Backbone (Completed)
14. Western Mindanao 230 kV Backbone (2031-2040)
15. Eastern Mindanao 230 kV Backbone (2032)

Source: NGCP Approved 2024-2050 TDP

4. DISTRIBUTION

DISTRIBUTION PROFILE

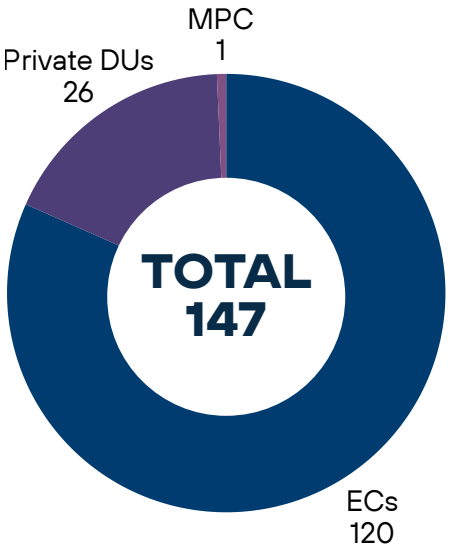


Figure 20. Total Number of DUs, ECs, PIOUs, and MPC

In 2023, the total number of captive customer connections across all grids reached 23.95 million. Luzon accounted for 15.14 million customers, Visayas had 4.42 million, and Mindanao registered 4.39 million. Residential consumers accounted for the largest share at 22.13 million, followed by commercial at 1.42 million, others at 0.35 million, and industrial at 0.05 million

Table 1. 2023 Captive Customer Connections, in Million

CATEGORY		LUZON	VISAYAS	MINDANAO	TOTAL
	Residential	13.98	4.13	4.02	**22.13**
	Commercial	0.96	0.2	0.26	**1.42**
	Industrial	0.02	0.01	0.02	**0.05**
	Others	0.18	0.08	0.09	**0.35**
	TOTAL	**15.14**	**4.42**	**4.39**	**23.95**

Source: 2024-2033 Distribution Development Plan

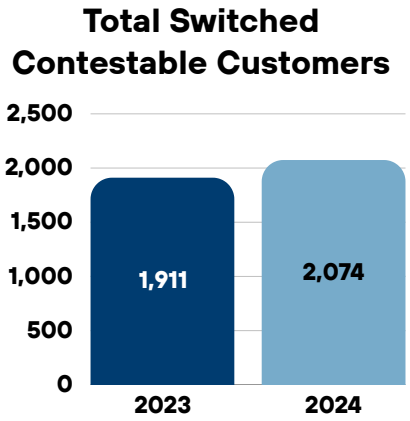
In 2024, the total number of captive customer connections increased to 24.55 million. Luzon continued to account for the largest share with 15.54 million customers, followed by Visayas at 4.56 million and Mindanao at 4.45 million.

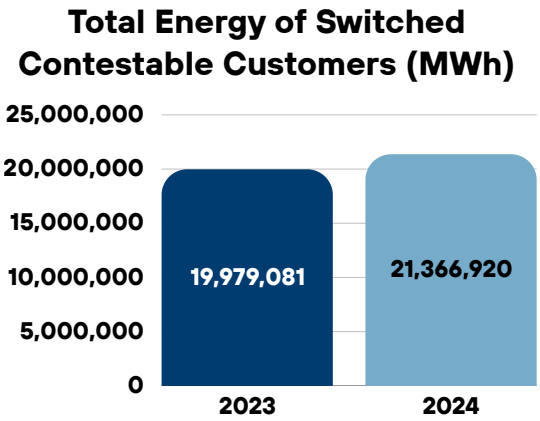
Table 2. 2024 Captive Customer Connections, in Million

CATEGORY		LUZON	VISAYAS	MINDANAO	TOTAL
	Residential	14.35	4.26	4.08	**22.69**
	Commercial	0.98	0.21	0.26	**1.45**
	Industrial	0.03	0.01	0.02	**0.06**
	Others	0.18	0.08	0.09	**0.35**
	TOTAL	**15.54**	**4.56**	**4.45**	**24.55**

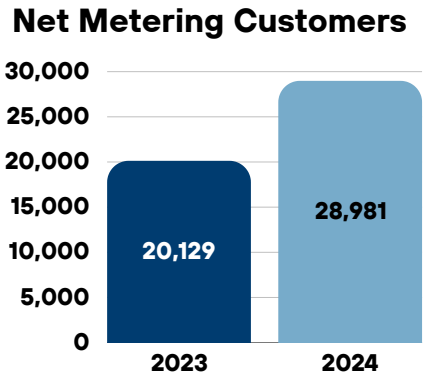
Source: 2025-2034 Distribution Development Plan

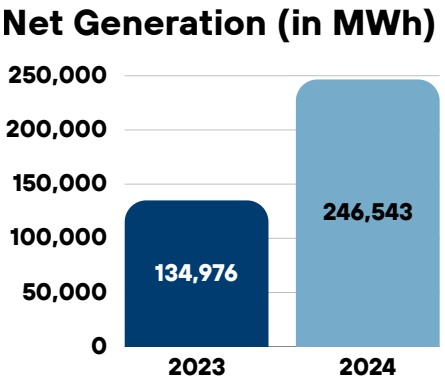
CONTESTABLE CUSTOMERS





NET METERING





GREEN ENERGY OPTION PROGRAM (GEOP)

	2023	2024
Number of GEOP Customers	312	528
Total MWh of GEOP Customers	394,578 MWh	675,872 MWh

SUPPLY AND DEMAND OUTLOOK OF DISTRIBUTION UTILITIES

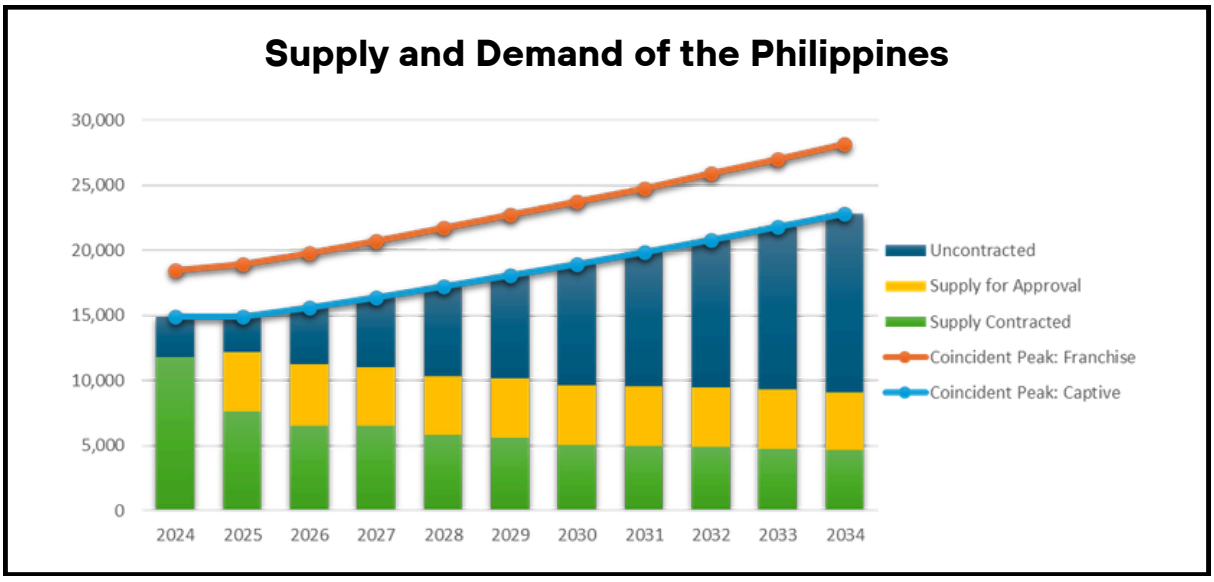


Figure 21. 2024–2034 Electricity Supply and Demand Outlook of the Philippines

Table 3. 2024–2034 Projected Demand and Supply Requirements of the Philippines

	Coincident Peak: Franchise	Coincident Peak: Captive	Supply Contracted	Supply for Approval	Uncontracted	Supply for CSP
2024	18,430	14,886	11,766	-	3,121	-
2025	18,898	14,859	7,585	4,630	2,644	879
2026	19,797	15,577	6,512	4,774	4,291	2,886
2027	20,741	16,352	6,541	4,486	5,325	3,615
2028	21,713	17,187	5,800	4,510	6,877	4,651
2029	22,702	18,049	5,609	4,564	7,876	5,617
2030	23,735	18,913	5,095	4,559	9,259	6,830
2031	24,766	19,822	5,009	4,566	10,247	6,839
2032	25,867	20,800	4,915	4,569	11,317	7,584
2033	26,959	21,774	4,772	4,551	12,451	8,044
2034	28,114	22,809	4,638	4,410	13,761	8,282

Source: 2025-2034 Distribution Development Plan

In 2024, DUs recorded a non-coincident peak demand of 14.89 GW for captive customers nationwide, with a total ERC-approved contracted capacity of 11.77 GW. The remaining uncontracted requirements are sourced from the Wholesale Electricity Spot Market (WESM). Peak demand is projected at 14.86 GW in 2025, while rising to 22.81 GW by 2034, with an average annual growth rate of 4.37%.

Presented below is the supply and demand of Luzon, Visayas, and Mindanao grids in detail. Notable, Luzon recorded a peak demand of 10.55 GW, Visayas with 1.95 GW, and Mindanao with 2.38 GW in 2024. Across the three major island grids, both coincident peaks, uncontracted requirements, and supply for CSP are expected to increase in the next decade, while contracted and supply for approval are expected to decline.

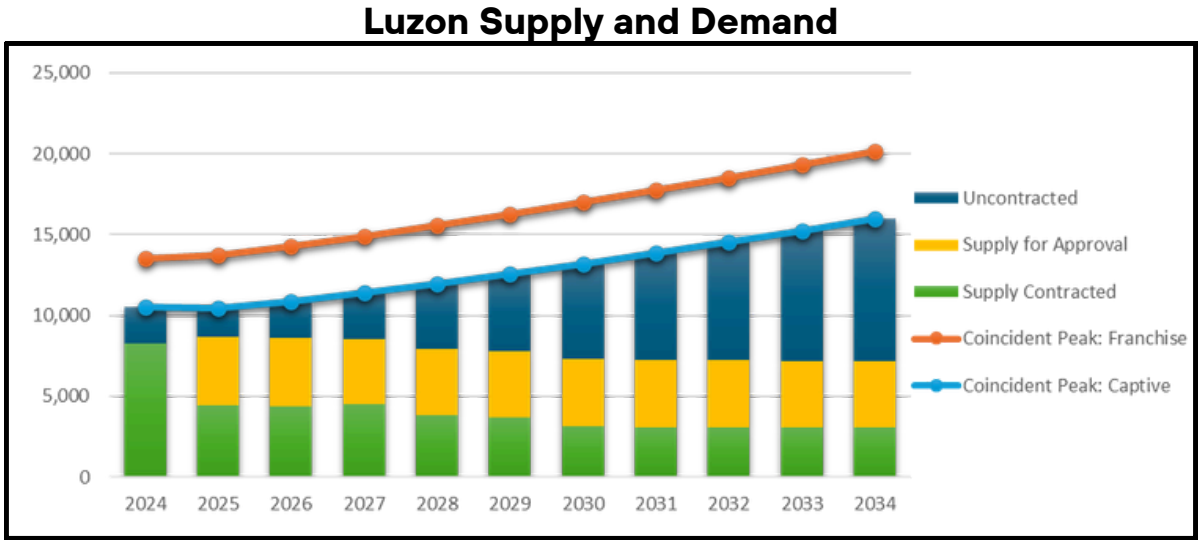


Figure 22. 2024–2034 Luzon Electricity Supply and Demand Outlook

Table 4. 2024–2034 Luzon Projected Demand and Supply Requirements

	Coincident Peak: Franchise	Coincident Peak: Captive	Supply Contracted	Supply for Approval	Uncontracted	Supply for CSP
2024	13,493	10,552	8,296	-	2,256	-
2025	13,700	10,426	4,470	4,224	1,732	533
2026	14,280	10,874	4,350	4,270	2,254	1,396
2027	14,912	11,397	4,504	4,054	2,839	1,701
2028	15,584	11,972	3,862	4,072	4,037	2,904
2029	16,271	12,566	3,685	4,118	4,763	3,672
2030	17,001	13,203	3,177	4,136	5,891	4,722
2031	17,733	13,849	3,097	4,143	6,608	4,696
2032	18,520	14,555	3,108	4,140	7,308	5,364
2033	19,301	15,260	3,088	4,122	8,050	5,785
2034	20,134	16,005	3,081	4,101	8,823	5,905

Visayas Supply and Demand

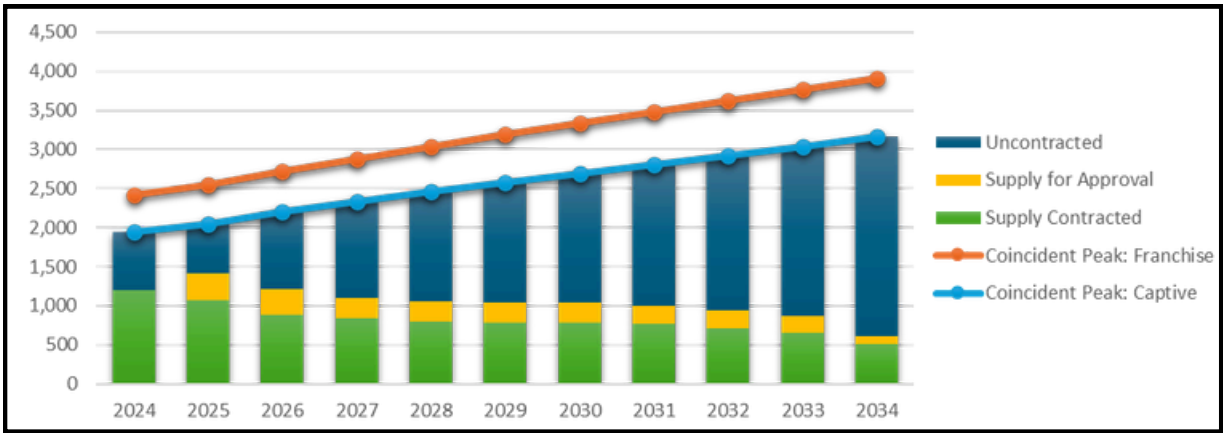


Figure 23. 2024–2034 Visayas Electricity Supply and Demand Outlook

Table 5. 2024–2034 Visayas Projected Demand and Supply Requirements

	Coincident Peak: Franchise	Coincident Peak: Captive	Supply Contracted	Supply for Approval	Uncontracted	Supply for CSP
2024	2,420	1,951	1,205	-	747	-
2025	2,548	2,046	1,068	352	627	132
2026	2,723	2,197	885	323	989	529
2027	2,879	2,329	836	262	1,232	713
2028	3,033	2,455	794	260	1,402	741
2029	3,186	2,579	776	260	1,544	763
2030	3,334	2,697	777	260	1,661	819
2031	3,478	2,812	761	240	1,811	766
2032	3,622	2,925	710	224	1,991	831
2033	3,769	3,042	647	217	2,178	808
2034	3,918	3,166	517	90	2,559	903

Mindanao Supply and Demand

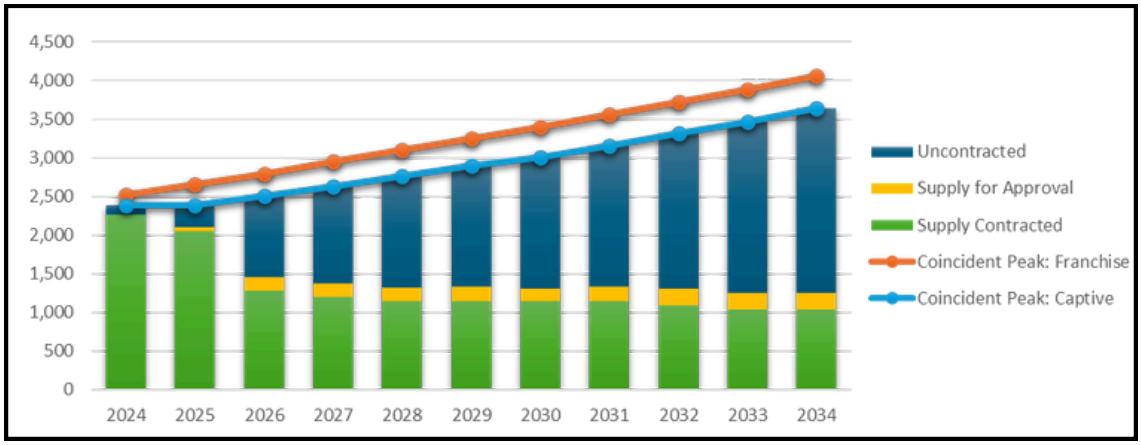


Figure 24. 2024–2034 Mindanao Electricity Supply and Demand Outlook

Table 6. 2024–2034 Mindanao Projected Demand and Supply Requirements

	Coincident Peak: Franchise	Coincident Peak: Captive	Supply Contracted	Supply for Approval	Uncontracted	Supply for CSP
2024	2,516	2,383	2,265	-	118	-
2025	2,651	2,388	2,047	55	285	214
2026	2,794	2,506	1,277	181	1,048	961
2027	2,950	2,626	1,201	170	1,254	1,201
2028	3,096	2,759	1,144	178	1,437	1,007
2029	3,245	2,903	1,148	186	1,569	1,182
2030	3,400	3,013	1,142	163	1,708	1,289
2031	3,555	3,162	1,150	183	1,828	1,377
2032	3,725	3,320	1,097	205	2,018	1,389
2033	3,889	3,472	1,037	213	2,223	1,450
2034	4,062	3,639	1,040	220	2,379	1,474

COMPETITIVE SELECTION PROCESS (CSP)

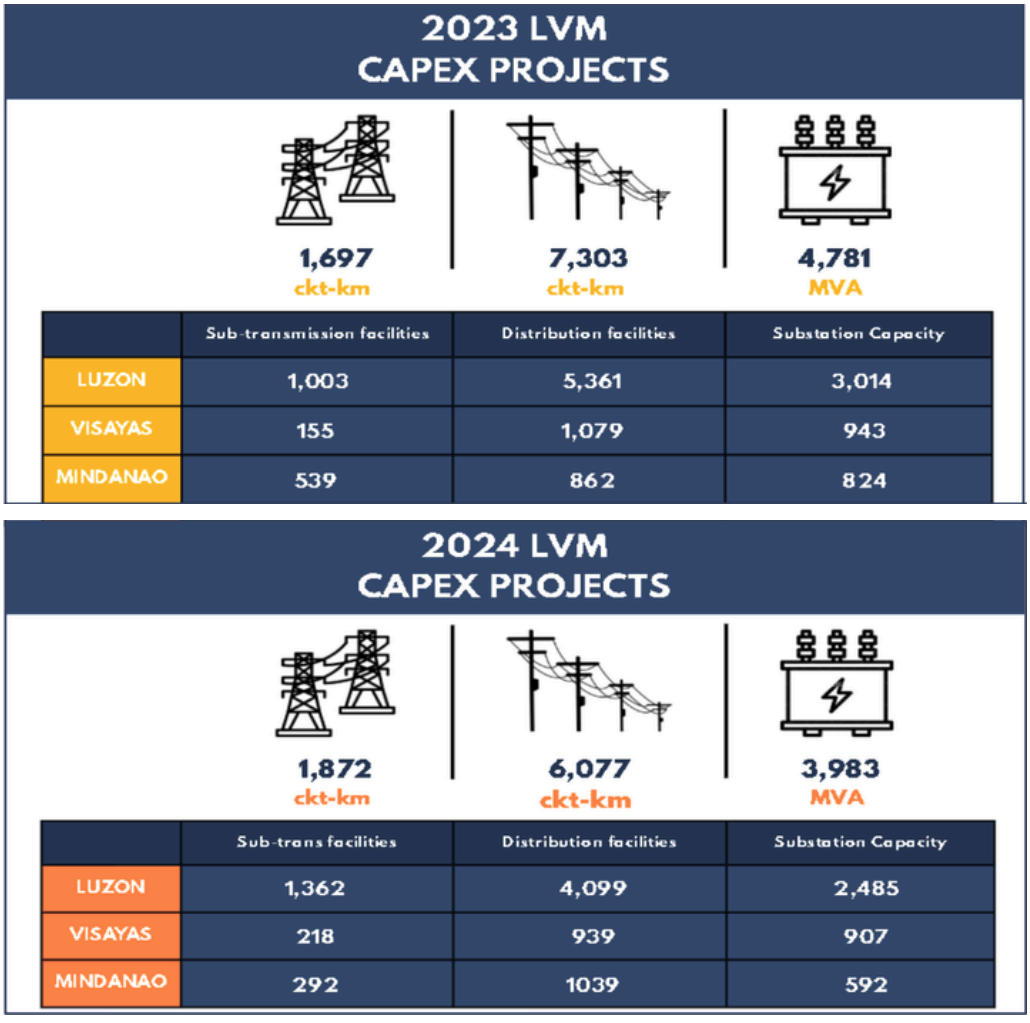
Since the issuance of DC No. DC2023-06-0021 or the CSP Policy, a total of 19 Certificates of Conformity (COCs) have been issued by the DOE to 24 DUs, covering a contracted capacity of 5,452 MW. This includes baseload requirements totaling 4,833 MW, intermediate supply of 568 MW, and 36.6 MW peaking requirements. Among the 24 DUs issued with COCs, 16 DUs have completed their CSP for total contracted capacity of 5,239 MW.

Table 7. List of Distribution Utilities with Conducted CSP in 2023 & 2024

No.	DU Name	Capacity (in MW)	Period	Winning GenCo
1	CEBECO II	12	26 July 2024 to 25 July 2034	KEPCO SPC Power Corporation
2	FRECOR 8 Lot 1	162	9 years & 3 months (varies per EC)	Therma Luzon, Inc.
	FRECOR 8 Lot 2	28	9 years & 3 months (varies per EC)	Therma Luzon, Inc.
3	LEYECO II	20	12 August 2024 to 25 August 2034	KEPCO SPC Power Corporation
4	PELCO I	15 15	26 December 2024 to 25 December 2034	GN Power Dinginin Sual Power, Inc.
5	ANTECO	2	31 July 2024 to 30 July 2034	DMCI Power Corporation
6	ZAMCELCO	85	26 July 2025 to 25 July 2035	Malita Power, Inc.
7	MERALCO	1,800	26 November 2024 to 25 November 2039 26 April 2025 to 25 April 2040	1200 MW - Excellent Energy Resources, Inc. 300 MW – Masinloc Power Company Ltd.

				300 MW - GN Power Dinginin Ltd. Co.
8	MERALCO	1,200	26 December 2023 to 25 December 2038 (810 MW) 26 February 2024 to February 2039 (200 MW) 26 March 2024 to 25 March 2039 (190 MW)	South Power Premiere Corporation
9	MERALCO	400	26 February 2024 to 25 February 2025	Limay Power, Inc.
10	MERALCO	500	26 February 2025 to 25 February 2035 (350 MW) 26 February 2026 to 25 February 2036 (150 MW)	340 MW - San Roque Hydropower, Inc.
				139 MW – Gigasol3, Inc.
				21 MW - Santa Cruz Solar Energy, Inc.
11	MERALCO	600	26 August 2025 to 25 August 2040	500 MW - Masinloc Power Company Ltd.
				100 MW - GN Power Dinginin Ltd. Co.
12	MERALCO	400	26 August 2025 to 25 August 2040	GN Power Dinginin Ltd. Co.

2023 AND 2024 CAPITAL EXPENDITURE PROJECTS



Source: 2024-2033 & 2025-2034 Distribution Development Plan

Figure 25. 2023 & 2024 Capital Expenditure Projects

DUs expanded their networks nationwide with major projects in 2023–2024. In 2024, a total of 1,872 ckt-km of sub-transmission lines, 6,077.2 ckt-km of distribution facilities, and 3,983.1 MVA of additional substation capacity were implemented.

2024 PHILIPPINE TOTAL ENERGY SALES

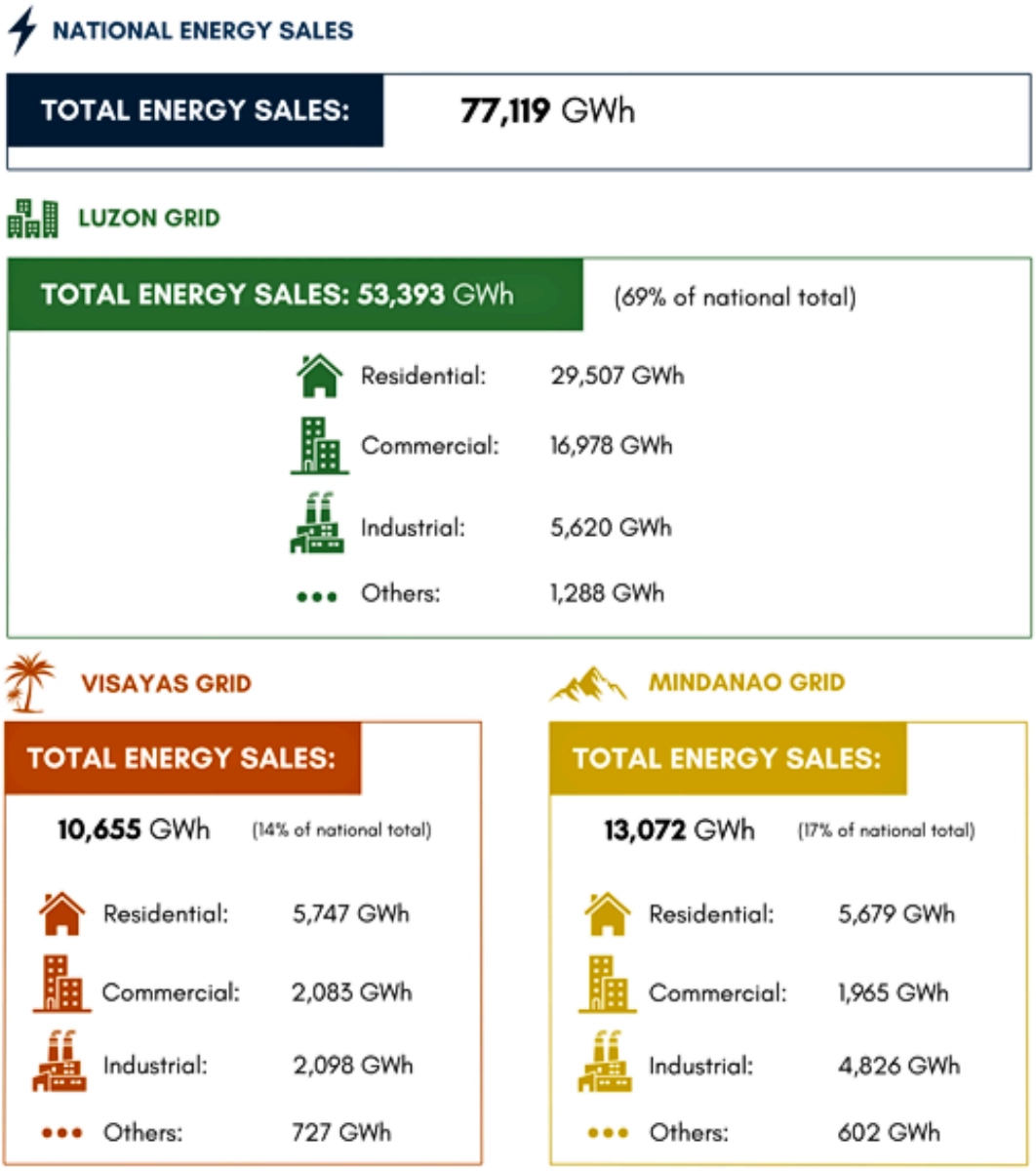
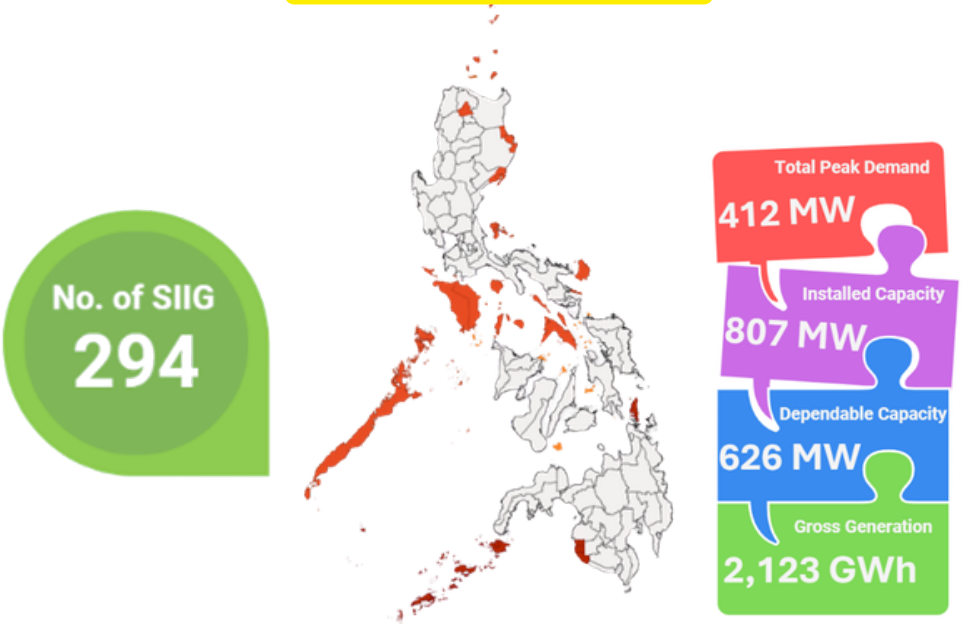


Figure 26. 2024 Philippine Total Energy Sales

In 2024, the grid DUs recorded a total energy sales of 77,119 GWh, with Luzon having the most dominant share of 53,393 GWh or 69% of the entire country's total grid energy sales. Mindanao and Visayas share similar values with 13,072 GWh and 10,655 GWh, respectively.

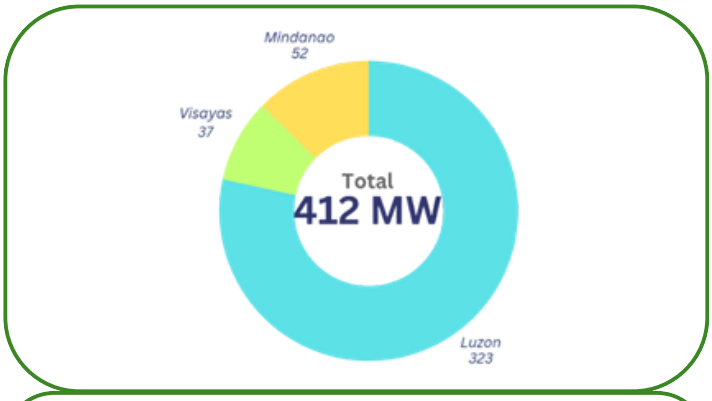
5. OFF-GRID AND MISSIONARY POWER STATISTICS

OFF-GRID PROFILE

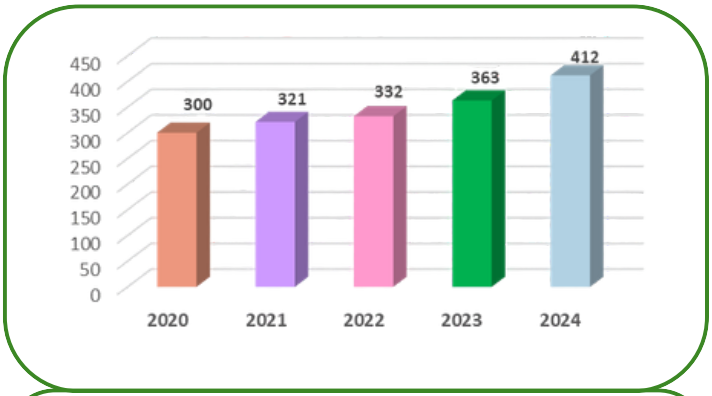


The DOE has identified a total of 294 off-grid and missionary areas as of December 2024, which are being served by the National Power Corporation – Small Power Utilities Group (NPC-SPUG), New Power Providers (NPP), Distribution-Owned Power Generation and Microgrid System Providers (MGSPs).

Note: Missionary Electrification, as defined in Rule 4 of EPIRA-IRR, refers to the provision of basic electricity service in unviable areas with the aim of bringing the operations in these areas to viability levels. These areas typically include small islands and isolated grids that are not connected to the main transmission system, commonly referred to as off-grid areas. It plays a crucial role in providing electricity access to off-grid and remote areas across the Philippines, with the goal of achieving operational viability in these locations.



2024 Off-Grid Demand, MW (per LVM)



2020-2024 Off-Grid Demand Trend, MW

Figure 27. Missionary and Off-Grid Areas Total and Peak Demand, as of 31 December 2024

In 2024, the total peak demand across all Off-grid Areas reached 412 MW, with Luzon accounting for 78.4%, Mindanao 12.6%, and Visayas 9%. This reflects an Annual Growth Rate (AGR) of 6.9% for the Philippines, with Luzon at 6.7%, Visayas at 8.7%, and Mindanao at 6.2%.

Table 8. Categorization of Missionary and Off-grid Areas

	Very Large Island Grid - Island grid with more than 10 MW peak demand and with a service hour of 24 hours. There are nine (9) Very Large Islands: Basilan, Catanduanes, Jolo Island, Marinduque, Masbate, Occidental Mindoro, Oriental Mindoro, Palawan, and Tablas Island.
	Large Island Grid - Island grid with 5 MW to 10 MW peak demand and with a service hour of 24 hours. There are six (6) Large Islands: Bantayan Island, Busuanga Island, Dinagat-Nonoc Island, El Nido, Siquijor, and Bongao.
	Medium Island Grid - Island grid with 1 MW to less than 5 MW peak demand and with a service hour of 24 hours. There are considered ten (10) in Medium Island Grids: Batan Island, Camotes Main Island, Cuyo Island, Lubang Island, Romblon, Semirara Island, Siasi Island, Sibuyan Island, Taytay Island (Palawan) and Ticao Island.
	Small Island Grid - Island grid with less than 1MW peak demand. There are seventy-one (71) in missionary and off-grid areas. Average Service Hours is 24 hrs.
	Isolated Grid - Isolated systems in mainland Luzon and Mindanao. There are six (6) in missionary and off-grid areas. Average Service Hours is 24 hrs.
	Underserved Areas - With less than twenty-four (24) hours of daily supply of electricity. There are one hundred ninety-two (192) in missionary and off-grid areas. Average Service Hours is 8-16 hrs.
	Unserved Areas - Areas with no electricity access, no distribution system lines, no home power systems, no connection to any microgrid system, or for which no distribution grid extension has been developed or implemented by the DU. There are no identified areas in missionary and off-grid areas.

This classification was introduced in the 2024-2028 MEDP, which was developed based on various considerations, including peak demand levels, service coverage, and accessibility, to better reflect the operational and technical conditions of different off-grid areas. The figure above presents the count of missionary and off-grid areas along with their corresponding average service hours, categorized accordingly.

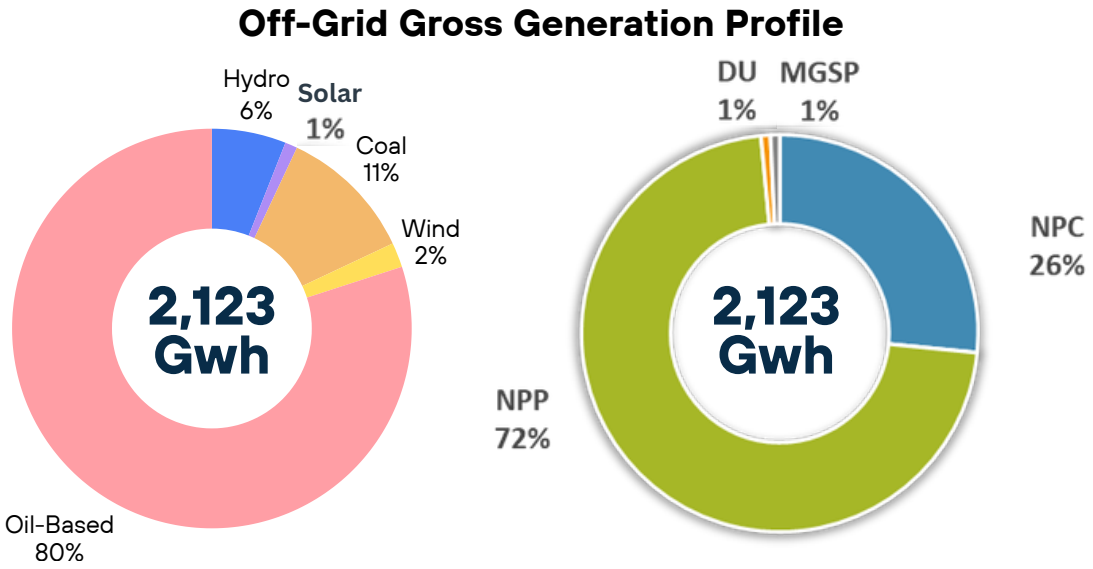


Figure 28. 2024 Gross Generation Mix per Technology and per Owner

Electricity generated in Off-grid Areas increased at 9.7% from 1,935 GWh in 2023 to 2,123 GWh in 2024. This electricity is generated by 374 power plants operating in missionary and off-grid areas across Luzon, Visayas, and Mindanao; 307 of these plants were owned and operated by the NPC-SPUG, while the 67 were operated by the NPPs, DUs, and MGSPs.

In the Gross Generation Mix, oil-based technologies are the leading source of electricity supply in the Off-Grid areas of the Philippines, with an approximately 80% share, coal follows with an 11% share, while RE-based technologies account for a total share of 9%.

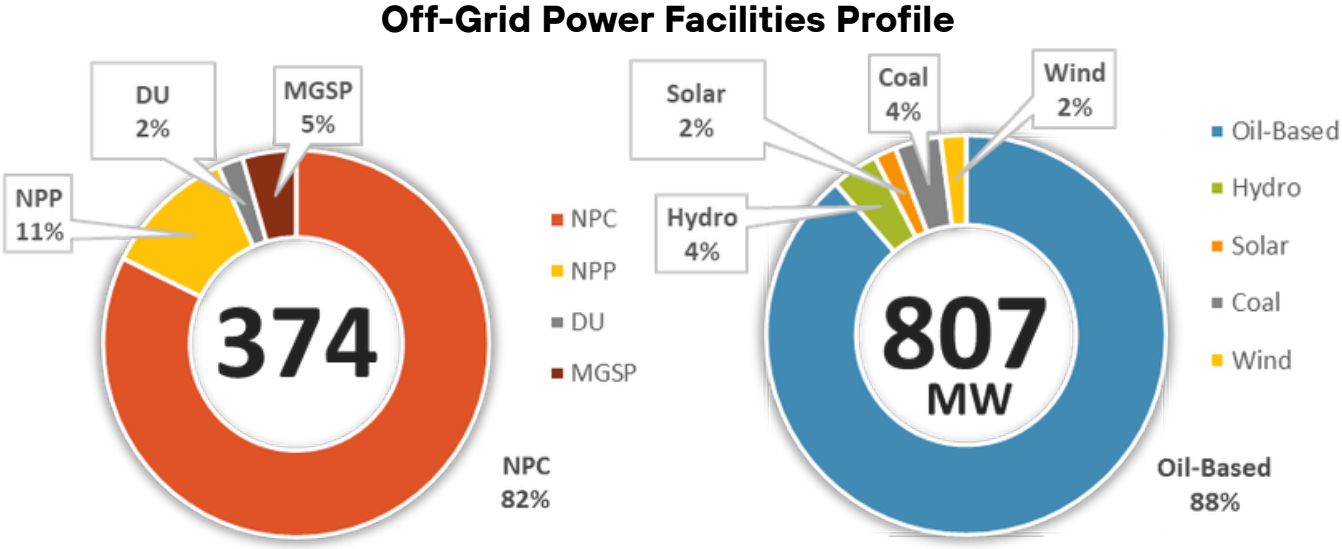


Figure 29. 2024 Total Number of Off-Grid Power Plants and Total Installed Capacity Mix per Technology

The total installed capacity of 374 plants is 807 MW, marking an 18% increase from 684 MW in 2023, primarily due to capacity additions from NPC-SPUG and existing NPPs.

TOTAL OFF-GRID ELECTRICITY CONSUMPTION AND SALES

In 2024, the off-grid areas in the Philippines reached 2,099 GWh, an increase of 13.03% from 1,857 GWh recorded in 2023. The residential sector accounted for the largest share of electricity consumption in missionary areas at 53.13%, followed by the commercial sector (21.66%), other sectors (10.61%), system loss (9.98%), and the industrial sector (4.45%). Meanwhile, electricity sales across the residential, commercial, industrial, and other customer sectors totaled 1,886 GWh in 2024, reflecting the continued demand for electricity in off-grid areas.

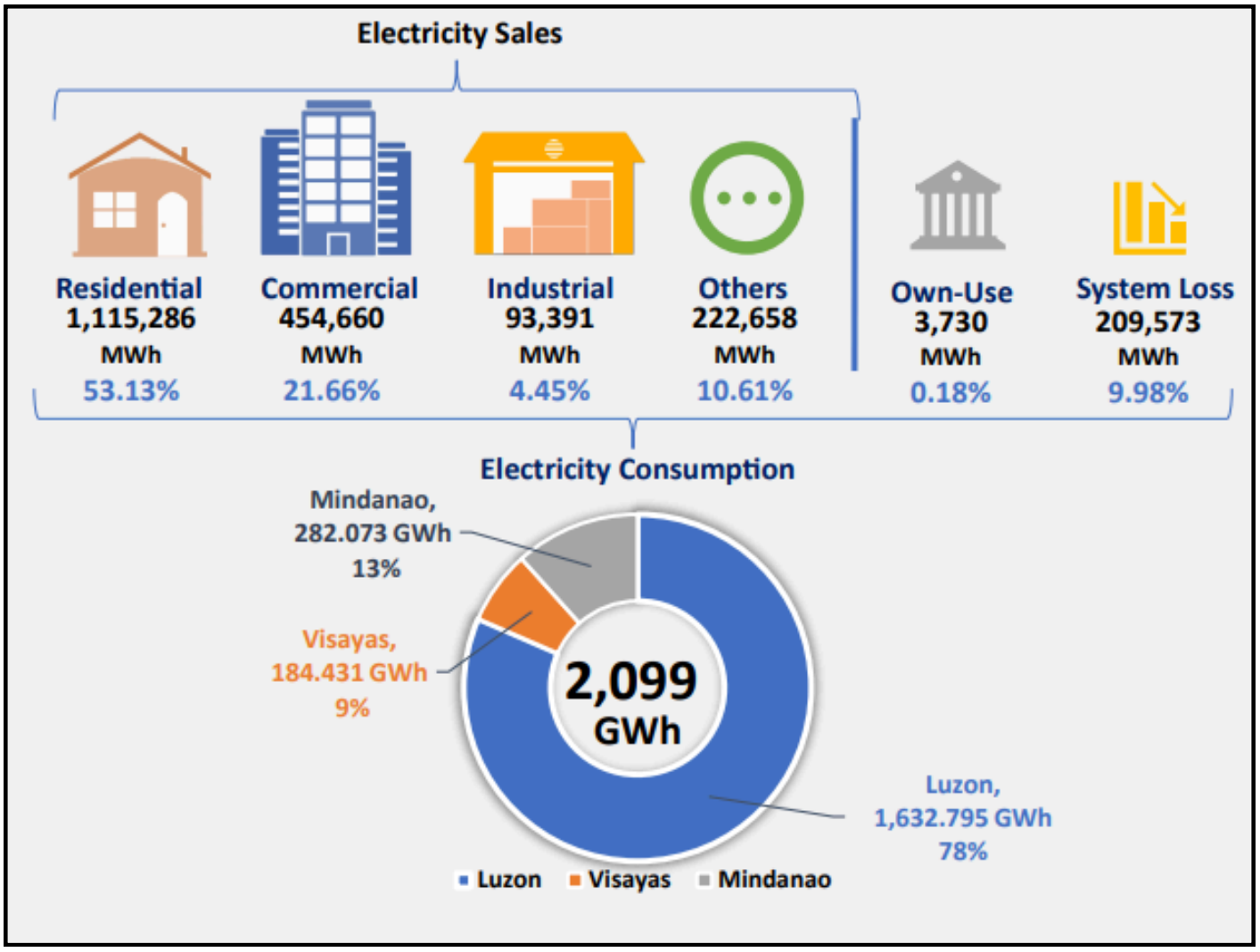


Figure 30. Total Off-Grid 2024 Electricity Consumption per Sector

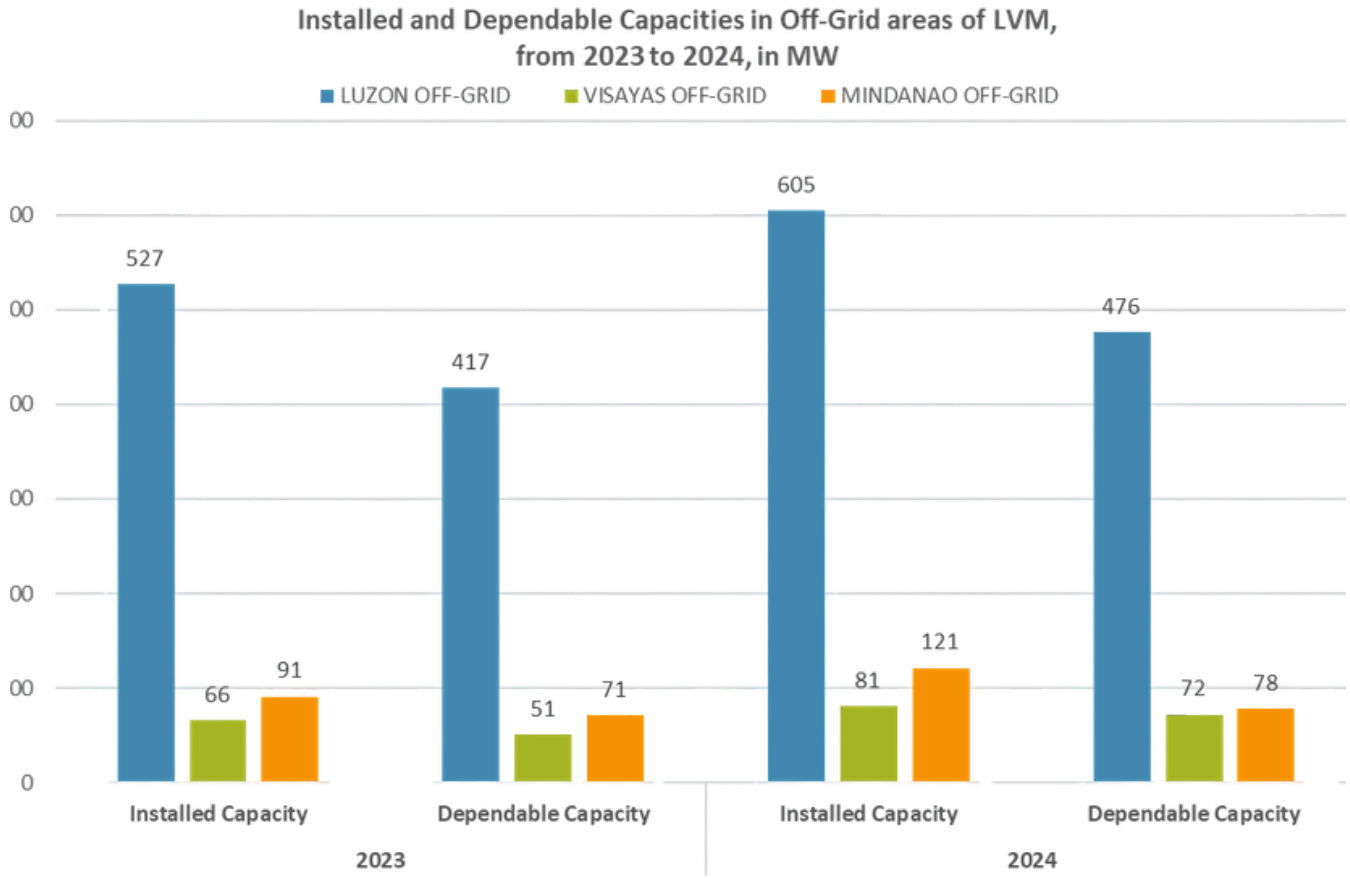


Figure 31. Comparison of Installed and Dependable Capacities in Off-Grid Areas per LVM, 2023 to 2024

From 2023 to 2024, installed and dependable capacities grew across all regions. Luzon Off-Grid has a 15% increase in installed capacity and a 14% increase in dependable capacity, Visayas Off-Grid has recorded a 23% increase in installed capacity and a 41% increase in dependable capacity. Finally, Mindanao posted 33% and 10%, respectively.

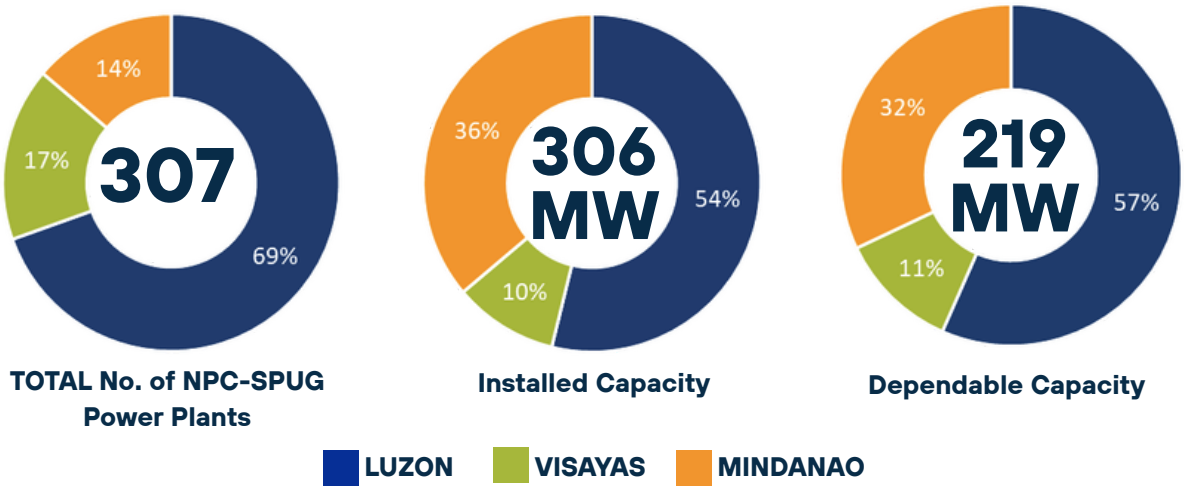


Figure 32. 2024 NPC Generating Facilities Generation Profile

In 2024, the NPC, with its mandate to implement missionary electrification through the SPUG, remains the primary power generation service provider, serving 276 of the 294 missionary and off-grid areas through its 307 power plants.

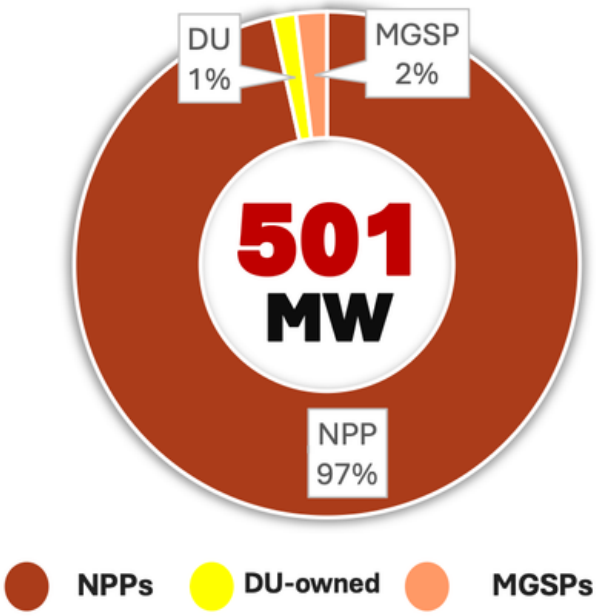


Figure 33. 2024 NPPs/DUs/MGSPs Total Installed Capacity

The NPPs, DU-owned power generation, and MGSPs collectively contribute 501 MW of power, to areas with higher demand and availability of indigenous renewable resources. As of 31 December 2024, there are 23 generation companies comprising NPPs, DUs, and MGSPs totaling 67 power plants operating in different off-grid areas across Luzon, Visayas, and Mindanao.



13.72 MW OMCPC-SMRA Bunker/Diesel Power Plant
Source: *Occidental Mindoro Consolidated Power Corporation (OMCPC)*

LIST OF NEWLY OPERATIONAL OFF-GRID POWER PROJECTS IN 2023

2.82 MW Claveria Diesel Power Plant	• Location: Sitio Kilapad, Barangay Poblacion II, Claveria, Masbate • COD: April 2023
10. 38 MW MCPC-SBYN Diesel Power Plant	• Location: Sitio Agusli, Barangay Sto. Niño, Sablayan, Occidental Mindoro • COD: April 2023
15 MW Circulating Fluidized Bed Coal-Fired Power Plant (Phase 1)	• Location: Barangay Bato-Bato (San Isidro), Narra, Palawan • COD: May 2023
0.05 MW Maroyogroyog Diesel Power Plant	• Location: Barangay Maroyogroyog, Linapacan, Palawan • COD: June 2023
0.04 MW Pical Diesel Power Plant	• Location: Barangay Pical, Linapacan, Palawan • COD: June 2023
4.0 MW Rio Tuba (Modular) Satellite Diesel Power Plant	• Location: Barangay Rio Tuba, Bataraza, Palawan • COD: July 2023
0.03 MW Galoc Diesel Power Plant	• Location: Barangay Galoc, Culion, Palawan • COD: August 2023
0.1 MW Batas Diesel Power Plant	• Location: Barangay Batas, Taytay, Palawan • COD: September 2023
0.43 MW Luuk Diesel Power Plant	• Location: Barangay Tandu-Bato, Luuk, Sulu •COD: September 2023
0.09 MW Tagubanhan Diesel Power Plant	• Location: Barangay Tagubanhan, Ajuy, Iloilo • COD: September 2023
13.72 MW OMCPC-SMRA Bunker/Diesel Power Plant	• Location: OccMin Power Compound Sitio Pulang Lupa, Barangay Central, San Jose, Occidental Mindoro • COD: December 2023

As of 31 December 2023, eleven (11) new power plants totaling 46.6 MW installed capacity began operating in off-grid areas to meet the increasing electricity demand and improve energy access in remote areas.



15 MW Circulating Fluidized Bed Coal-Fired Power Plant (Phase 1) in Narra, Palawan
Source: *DMCI Power Corporation*

LIST OF NEWLY OPERATIONAL OFF-GRID POWER PROJECTS IN 2024

0.06 MW Dibay-Dilam Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Dibay, Calayan, Cagayan • COD : January 2024
0.06 MW Paarol Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay North Paarol, Paarol Island, Banguingui, Sulu • COD : February 2024
0.06 MW Bangalaw Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Bangalaw, Banguingui, Sulu • COD : June 2024
0.39 MW Tagubanhan Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Tagubanhan, Ajuy, Iloilo • COD : June 2024
0.08 MW Butawanan Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Butawanan, Siruma, Camarines Sur • COD : June 2024
6.63 MW Coron Power Station - Emergency Units	• Owner : Calamian Islands Power Corp. • Location : Sitio Lilibutin, Barangay Guadalupe, Coron, Palawan • COD : July 2024
0.10 MW Saluping Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Bukut-Umus, Saluping Island, Tabuan-Lasa, Basilan • COD : July 2024
7.40 MW SMRA Solar Power Plant with Integrated Battery Energy Storage System	• Owner : Occidental Mindoro Consolidated Power Corporation • Location : Barangay San Isidro, San Jose, Occidental Mindoro • COD : August 2024
0.12 MW Bulan Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Kahikukuk, Bulan Island, Banguingui, Sulu • COD : August 2024
0.06 MW Banguingui Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Luuk, Banguingui, Sulu • COD : August 2024
0.08 MW Bubuan Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Bubuan, Tabuan Lasa, Basilan • COD : December 2024
0.20 MW Bucutua Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Dungon, Banguingui, Sulu • COD : December 2024
0.30 MW Sarangani Diesel Power Plant	• Owner : National Power Corporation • Location : Barangay Camalig, Sarangani, Davao Occidental • COD : December 2024



SMRA Solar Power Plant in San Jose, Occidental Mindoro with integrated BESS
Source: *OMCPC*

As of 31 December 2024, thirteen (13) new power plants totaling 15.5 MW installed capacity began their operations in off-grid areas. One notable project is the 7.4 MW SMRA Solar Power Plant with Integrated Battery Energy Storage System.

TRANSMISSION RELIABILITY IN OFF-GRID AREAS

As of December 2024, NPC operates 1,173.9 ckt-km of transmission lines and 225 MVA substation capacity in DOE-classified Extra Large Island missionary areas.

TRANSMISSION LINES
1,174 ckt-km

TOTAL SUBSTATION CAPACITY
225 MVA

14
SUBSTATIONS

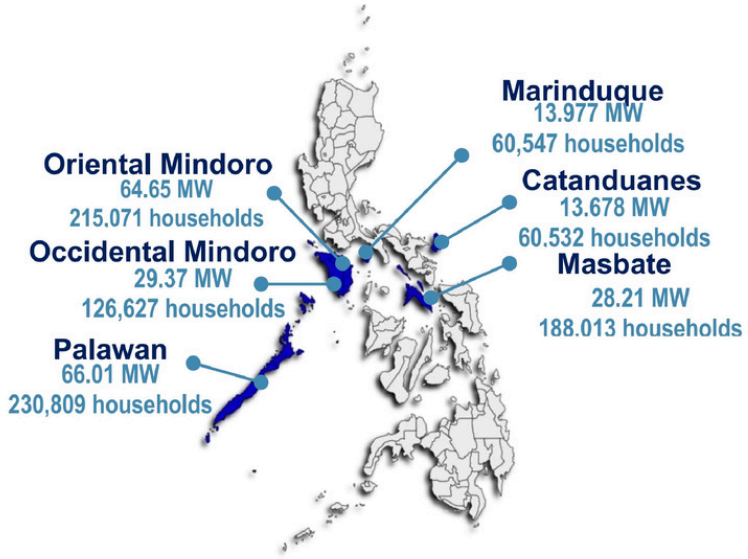


Table 9. List of NPC-SPUG Transmission System Profiles in Off-Grid Areas

EXTRA LARGE ISLAND	TRANSMISSION SYSTEM PROFILE			
	TRANSMISSION LINE (ckt-km)		SUBSTATION CAPACITY (MVA)	
	2024	2023	2024	2023
1. CATANDUANES	122.65	119.69	25	25
2. MASBATE	150.41	150.41	20	20
3. PALAWAN	359.3	359.3	65	60
4. MARINDUQUE	92.51	60.51	20	20
5. MINDORO *(ORIENTAL & OCCIDENTAL)*	449.03	449.03	95	95
TOTAL:	**1,173.9**	**1,138.9**	**225**	**220**

Source: 2025-2029 Missionary Electrification Plan

The NPC is mandated to ensure reliable power supply in missionary areas, including the upgrading, expansion, rehabilitation, and reinforcement of transmission systems and related facilities.

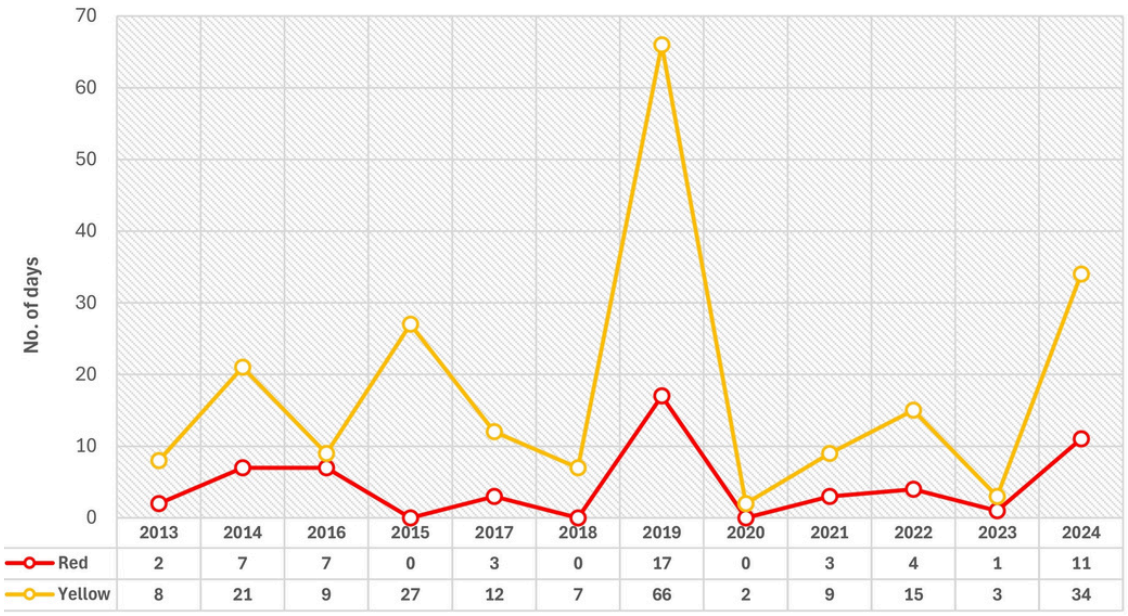
IDENTIFIED AREAS FOR POSSIBLE DEVELOPMENT OF 69KV TRANSMISSION SYSTEM

Area	*Peak Demand*	*EC*	*Category*
El Nido, Palawan	4.93 MW	PALECO	Large
Busuanga Island, Palawan	6.57 MW	BISELCO	Large
Tablas Island, Romblon	8.46 MW	TIELCO	Large
Bantayan Island	7.35 MW	BANELCO	Large
Siquijor	6.2 MW	PROSIELCO	Large
Jolo Island, Sulu	9.15 MW	SULECO	Large
Basilan	12.470 MW	BASELCO	Extra Large

6. SIGNIFICANT INCIDENTS

LUZON, VISAYAS AND MINDANAO ALERT NOTICES

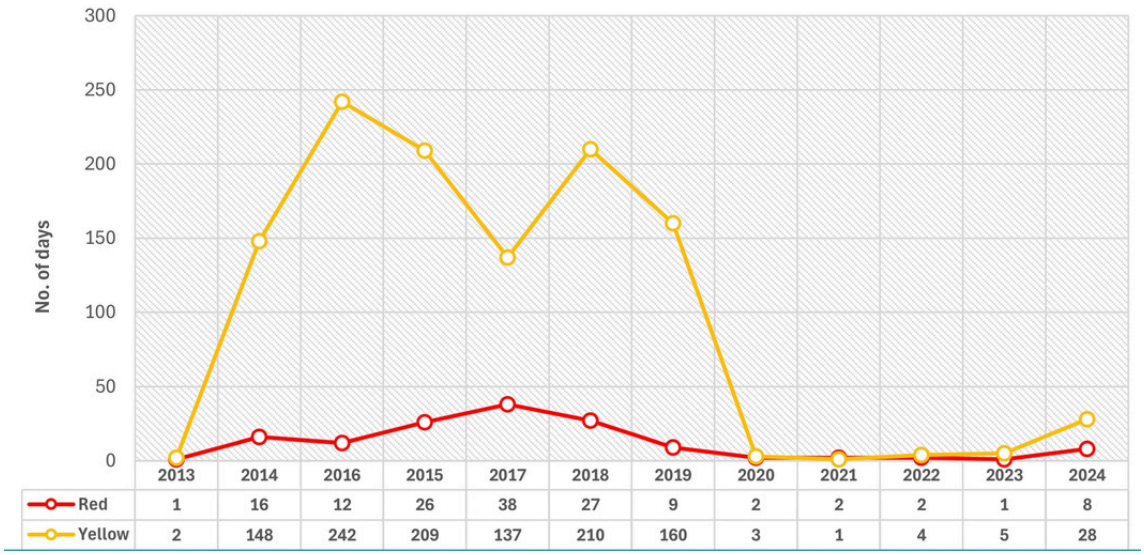
Alert incidents in the Luzon and Visayas grids have declined in the past decade as illustrated in Figures 34 and 35. In 2023, Luzon experienced one red and three yellow alert days, while Visayas recorded one red and five yellow alert days. However, in 2024, both saw more yellow and red alerts, due to the El Niño's impact on power demand and supply



	2013	2014	2016	2015	2017	2018	2019	2020	2021	2022	2023	2024
Red	2	7	7	0	3	0	17	0	3	4	1	11
Yellow	8	21	9	27	12	7	66	2	9	15	3	34

Figure 34. Alert Incidents in Luzon Grid from 2013-2024, in days

Source: NGCP

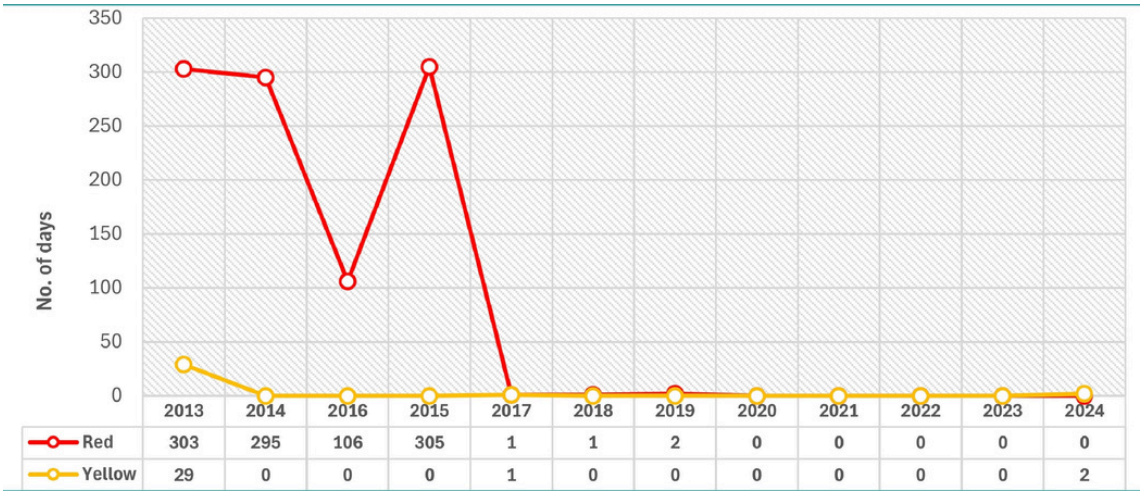


	2013	2014	2016	2015	2017	2018	2019	2020	2021	2022	2023	2024
Red	1	16	12	26	38	27	9	2	2	2	1	8
Yellow	2	148	242	209	137	210	160	3	1	4	5	28

Figure 35. Alert Incidents in Visayas Grid from 2013-2024, in days

Source: NGCP

As shown in Figure 36, the Mindanao grid demonstrated exceptional reliability, recording zero alert incidents for four consecutive years from 2020 to 2023, and only two yellow alerts for the year 2024.



	2013	2014	2016	2015	2017	2018	2019	2020	2021	2022	2023	2024
Red	303	295	106	305	1	1	2	0	0	0	0	0
Yellow	29	0	0	0	1	0	0	0	0	0	0	2

Figure 36. Alert Incidents in Mindanao Grid from 2013-2024, in days

Source: NGCP

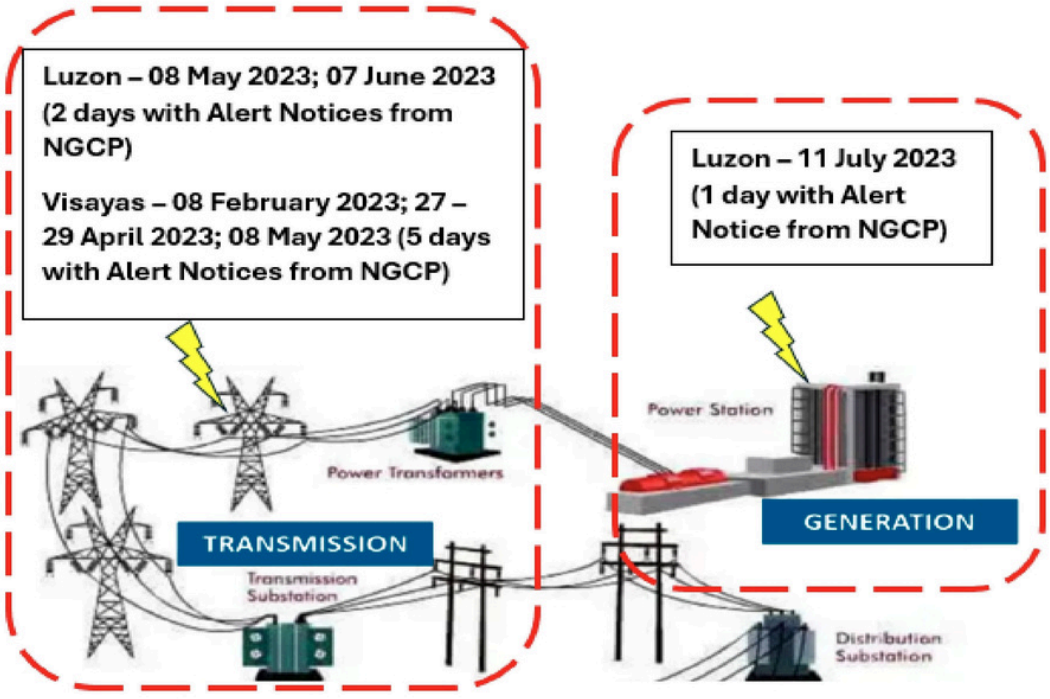


Figure 37. Causes that Trigger the Issuance of Alert Notices for 2023

In 2023, most alert notices were caused by transmission and generation tripping, which disrupted the stability of the grid and triggered protective shutdowns in affected power plants. A notable example is the Visayas blackout on 27 April 2023, which resulted in cascading outages across multiple power plants. On 08 May 2023, alert notices were simultaneously issued for both the Visayas and Luzon grids due to Luzon experiencing a generation deficiency, as the Visayas grid highly depends on Luzon's exports through the High Voltage Direct Current (HVDC) link.

On 02 January 2024, the Visayas grid experienced a Partial blackout in Panay and Guimaras Islands mainly due to the power plant tripping of major power plants. Furthermore, Panay Island was totally isolated from the Visayas grid due to the tripping of the Bacolod-Barota Viejo 138 kV submarine interconnection cable. NGCP then issued a yellow alert notice for intervals 1600H to 2100H due to thin reserves in the Visayas grid. This incident left Panay Island, especially Iloilo province without electricity until 05 January 2024.

On 16 April 2024, the Luzon grid experienced cascading plant outages, resulting in a series of red and yellow alert notices until 20 April 2025. This was due to the outage of 19 power plants, with three others on derated output. As a result, the Visayas grid also experienced a lack of operating reserves from plant outages and multiple plant tripping. This also led to Market Intervention in the electricity market and load dropping in some areas in. order to balance the remaining supply to the electricity demand.

Distribution utilities such as MERALCO activated their Interruptible Load Program to allow large customers with generator sets to voluntarily reduce their consumption from the grid and operate their own generator sets to alleviate the impact of rotating brownouts on end users, particularly residential customers.

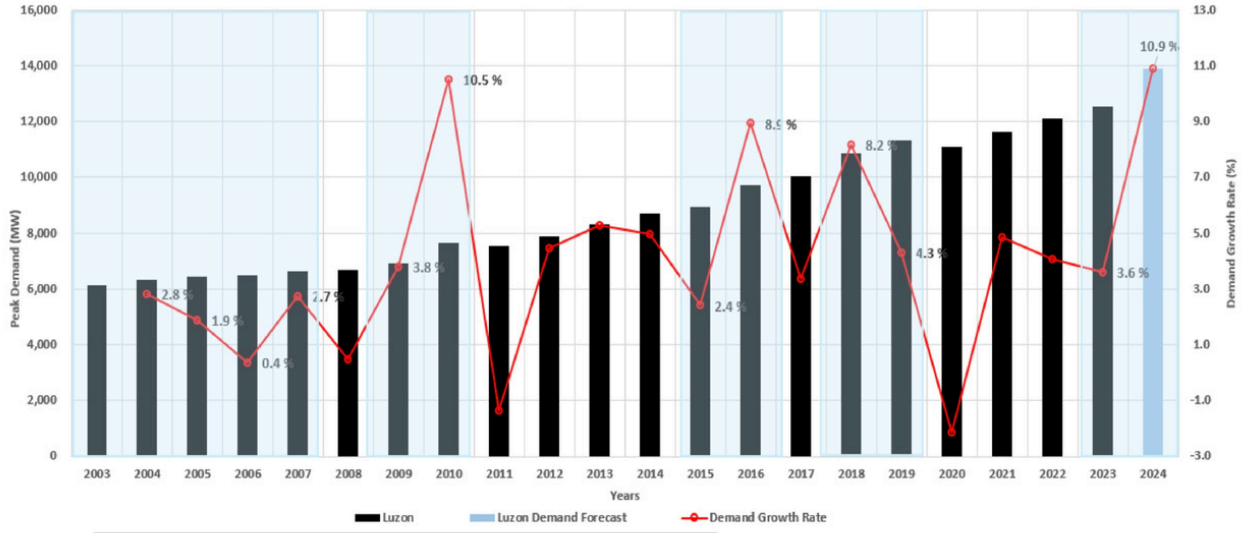
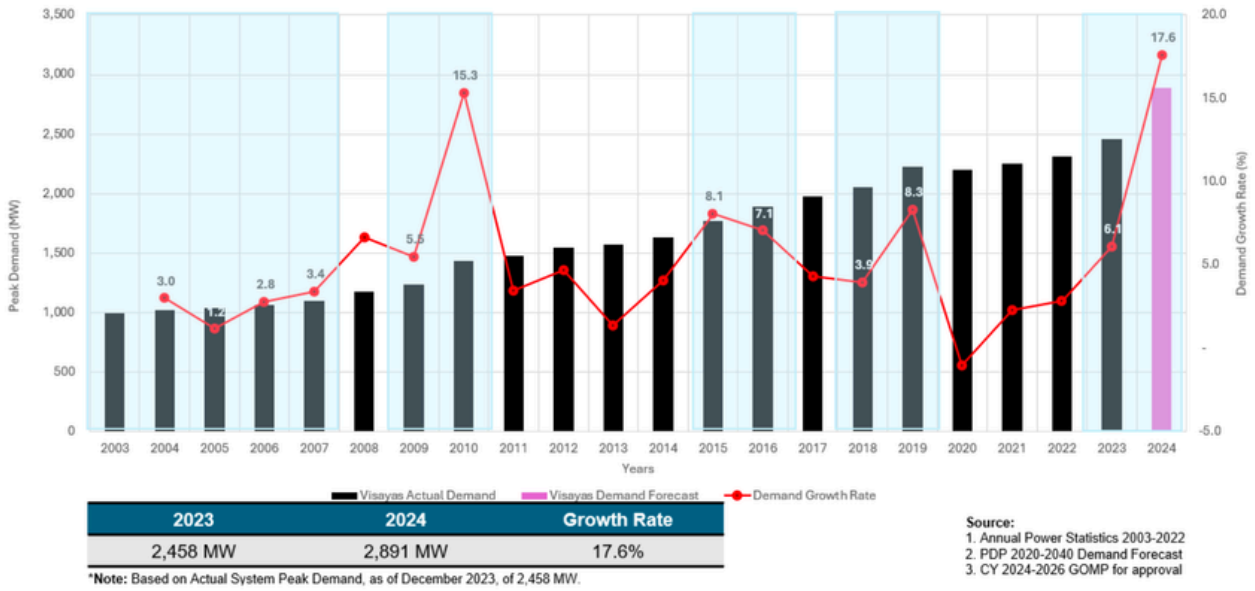


Figure 38. Luzon Grid: Historical Annual Peak Demand, Demand Forecast, and Growth Rate During El Niño Years

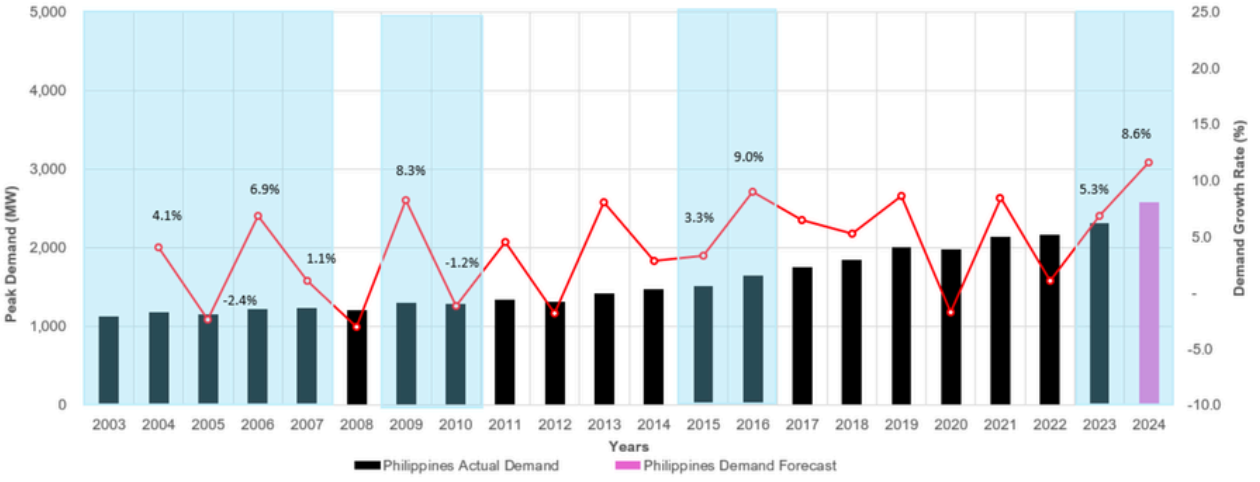


2023	2024	Growth Rate
2,458 MW	2,891 MW	17.6%

*Note: Based on Actual System Peak Demand, as of December 2023, of 2,458 MW.

Source:
1. Annual Power Statistics 2003-2022
2. PDP 2020-2040 Demand Forecast
3. CY 2024-2026 GOMP for approval

Figure 39. Visayas Grid: Historical Annual Peak Demand, Demand Forecast, and Growth Rate During El Niño Years



2023	2024	Growth Rate
2,315 MW	2,584 MW	11.6%

*Note: Based on Actual System Peak Demand, as of December 2023, of 2,315 MW.

Source:
1. Annual Power Statistics 2003-2022
2. PDP 2020-2040 Demand Forecast
3. CY 2024-2026 GOMP for approval

Figure 40. Mindanao Grid: Historical Annual Peak Demand, Demand Forecast, and Growth Rate During El Niño Years

Note: In 2024, the rise in Yellow and Red Alert issuances for Luzon and Visayas was largely driven by a sudden surge in electricity demand coupled with a decline in available power supply, primarily due to the reduced availability of hydroelectric resources. This trend was especially pronounced during the summer or peak months. Figures 38-40 show the historical increase in demand during El Niño years for all grids.

7. MAJOR POLICY ISSUANCES IN 2023 AND 2024

DOE Advisory No. 2024-11-001-SEC
"Advisory on the Implementation of the Guidelines on the Planned Outage Schedules of Power Plants and Transmission Facilities"

Issuance Date: 05 November 2024
To ensure reliable power supply through timely coordination, quarterly updates to the Grid Operating and Maintenance Program (GOMP), and procedures for emergency adjustments.

DOE Advisory 2024-08-0003-SEC
"Supplement to the Competitive Selection Process (CSP) Advisory dated 16 August 2019"

Issuance Date: 04 August 2024
To provide guidance on the Transition Power Supply Agreements (TPSA) as interim measure of all affected DUs under certain conditions.

Department Order No. DO2024-05-0006
"Establishing the Creation and Composition of Mindoro-Palawan Electricity Spot Market - Technical Working Group"

Issuance Date: 13 May 2024
To facilitate the creation of an electricity spot market in the provinces of Mindoro and Palawan and to address persistent power supply issues and prepare for the integration of these provinces into the Luzon grid through the Batangas-Mindoro and Palawan-Mindoro Interconnection Projects.

DOE Advisory No. 2024-04-001-SEC
"Responsibilities of the Electric Power Industry Participants in Ensuring Secure, Reliable, and Stable Power Supply for 2024"

Issuance Date: 01 April 2024
To outline the roles of key stakeholders in maintaining grid stability, especially in light of the El Niño phenomenon.

DOE Advisory No. 2024-004-002-SEC
"Implementation of the Interruptible Load Program in Preparation for Summer 2024"

Issuance Date: 01 April 2024
To direct Distribution Utilities (DUs), NGCP, and NEA to prepare for the activation of the Interruptible Load Program (ILP) during the summer season.

Department Circular No. DC2023-06-0021
"Policy for the Mandatory Conduct of the Competitive Selection Process (CSP) by Distribution Utilities (DUs) for Power Supply Procurement"

Issuance Date: 30 June 2023
To ensure that all DUs procure power supply for their captive markets through a transparent, competitive, and timely bidding process.

Department Order No. DO2023-05-0015
"Enjoining the ERC and Other Concerned Entities to Ensure Non-Discriminatory Treatment of Generating Facilities Utilizing Liquefied Natural Gas (LNG)"

Issuance Date: 23 May 2023
To direct regulatory bodies and market operators to support the fair integration of LNG-fired power plants into the energy system.

Department Circular No. DC2023-04-0008
"Policy for Energy Storage Systems (ESS) in the Electric Power Industry"

Issuance Date: 20 April 2023
To regulate and promote the use of ESS technologies (e.g., battery, flywheel, pumped hydro) for improving grid reliability, supporting renewable energy (RE), and managing demand.

2024 POWER SITUATION REPORT

Prepared by the
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