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PANDANG GITAB NG MINDORO:

A Scoping Paper on the Island's Power Landscape

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Authored by: Jethro El Camara, Karlo de Guzman, and Andoy Dimatulac

Research team: Bruce Reyes

Reviewed by: Gerry Arances, Avril De Torres, Brent Ivan Andres, and Kenneth Quesada

Designed by: Jen Derillo

Cover photos by: Thena Jarabe/CEED (Mangyan Solarization); Fr. Edwin Gariguez (Mangyan Lady); Aristedes Leuterio (Pandang Gitab Festival); James Slade / Re:wild (Tamaraw)

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About the Title

"***Pandang Gitab***" is known across Oriental Mindoro as a festival of lights, celebrating grace, resilience, and the power of illumination in the midst of darkness. The phrase itself comes from two words: ***pandang***, from ***pandanggo***, a traditional folk dance of lights, and ***gitab***, from ***dagitab***, meaning spark or light. It is a name that evokes movement, vitality, and brightness. In this paper, ***Pandang Gitab ng Mindoro*** takes on a deeper and broader meaning. It is not about the festival alone, but about the entire island's journey to shed light on its power challenges and to celebrate the abundance of renewable energy sources waiting to be harnessed.

Mindoro today stands at a crossroads. Despite being blessed with generous sunlight, strong winds, powerful rivers, and fertile lands, the island remains dependent on costly and unreliable fossil-based power. The paradox of living in a land of abundance yet struggling with scarcity defines Mindoro's energy story. ***Pandang Gitab ng Mindoro*** seeks to reframe that story: from one of dependence and insecurity, to one of resilience, affordability, and ecological balance through renewable energy.

Pandang Gitab ng Mindoro celebrates light both as symbol and substance. It celebrates illumination not only of homes and industries but of possibilities and pathways forward. It calls attention to a just energy transition that can ensure ***mura, maaasahan, at malinis na kuryente*** for every Mindoreño. And it proposes that, just as the lamps of ***Pandang Gitab*** guide dancers safely through the night, renewable energy can guide Mindoro toward a brighter, more sustainable tomorrow.

At its core, ***Pandang Gitab ng Mindoro*** is both vision and invitation. It envisions an island powered not by imported fuels but by its own abundant resources, and it invites Mindoreños to be part of this illumination through renewed policies, reformed institutions, and a shared commitment to safeguard our common home. In time, it may even inspire a yearly celebration where the festival of lights is joined by a festival of clean energy — a reminder that the true light of Mindoro lies in its people and its abundant, renewable power.

About the Cover Page

The cover design features Mount Halcon, a powerful emblem of Mindoro's ecological soul. As the island's highest peak and one of the most biodiverse mountain ranges in the Philippines, Mt. Halcon is not merely a landmark; it is the ecological heart from which the island's life systems flow. Its forests, rivers, and sacred presence sustain both the natural landscape and the cultural identities rooted in the land. Mt. Halcon symbolizes the grounding principle that development, even in the energy sector, must stem from deep respect for nature's integrity.

The cover also features the tamaraw, the island's endemic and endangered species, representing resilience, strength, and survival against threats, much like the people of Mindoro who continue to endure the impacts of unreliable, extractive, and fossil-based power systems. The tamaraw here also projects forward: a guardian of the land and a reminder that Mindoro's natural resources are viable anchors for a renewable, self-sustaining energy future.

There also is an image of a Mangyan elder, a tribute to Mindoro's original inhabitants who, for generations, have preserved the dignity of the island and taught the value of living in peaceful coexistence with nature. This figure represents the enduring wisdom that continues to guide the island's aspirations for a just and balanced energy transition.
The cover page also features successful renewable energy projects in the island. One of which is the PHESI wind farm in Puerto Galera, a landmark that proves the energy transition in Mindoro is not just a distant vision but already underway. It reflects the island's abundance of natural resources, ready to be harnessed responsibly for clean and reliable energy if given the support it needs.

Also depicted is the solarized charging station in the Mangyan-Tadyawan community of Brgy. Loyal, Victoria, Oriental Mindoro. Established in 2021 and still operating 24/7, this community-led initiative demonstrates the reliability of renewable energy and assists the community in responsible development and sustainability.

Completing the composition is a reference to the Pandang Gitab Festival, where light itself becomes both symbol and celebration. The lamps carried in the dance honor resilience and guidance; on the cover they shine as a reminder of Mindoro's vast, untapped renewable sources of light that can sustain communities far beyond the festivities.

Together, these elements do not merely depict the island; they project a vision—of a land shaped by its mountains, guarded by its tamaraw, guided by the wisdom of its indigenous peoples, sustained by its abundant renewable resources, and illuminated by the spark of a just energy future.

Executive Summary

The paradox of living in a land of abundance yet struggling with scarcity defines Mindoro's energy story. Despite being blessed with generous sunlight, strong winds, powerful rivers, and fertile lands, the island remains dependent on costly and unreliable fossil-based power. ***Pandang Gitab ng Mindoro*** seeks to reframe that story: from one of dependence and insecurity, to one of resilience, affordability, and ecological balance through renewable energy.

This scoping paper is entitled ***Pandang Gitab ng Mindoro***, to embody the spirit of light, resilience, and collective movement. Rooted in the words ***pandang*** (from ***pandanggo***, the dance of light) and ***gitab*** (from ***dagitab***, spark or radiance), it symbolizes the people's capacity to kindle hope and illuminate a path forward together. ***Pandang Gitab ng Mindoro*** seeks to translate that symbolism into the energy future of Mindoro, one that shifts away from costly and unreliable fossil dependence toward a power system that is clean, affordable, and reliable. Just as the dance of light thrives in harmony and rhythm, Mindoro's energy transition must be guided by both technical solutions and the cultural and ecological wisdom of its people, especially the indigenous Mangyan communities.

Pandang Gitab ng Mindoro is thus offered as both a diagnostic and a guidepost, and a call to spark change, sustain balance, and collectively move toward a just and renewable future for the island.

Key findings

Mindoro is heavily dependent on oil-based technologies. 73.17% (126.693 MW) of its installed capacity are oil-based. Meanwhile, renewable energy, such as hydro, wind, and solar technologies, make up most of the remaining installed capacity at 13.38% (23.174 MW), 9.56% (16.6 MW), and 2.43% (4.2 MW) respectively. Between Mindoro's two main provinces, Occidental Mindoro is more dependent on oil-based technologies with 91.02% (68.075 MW) of its installed capacity as oil-based and only 5.62% (4.2 MW) of its installed capacity is solar power. Though oil-based technologies still compromise most of Oriental Mindoro's installed capacity at 59.60% (58.618 MW), they have a larger share of renewable energy technologies in their installed capacity compared to Occidental Mindoro, with 23.56% (23.174 MW) coming from mini-hydro power and 16.84% (16.560 MW) coming from wind power.

Figure ES-1. Installed capacity per type of technology, Mindoro, 2024

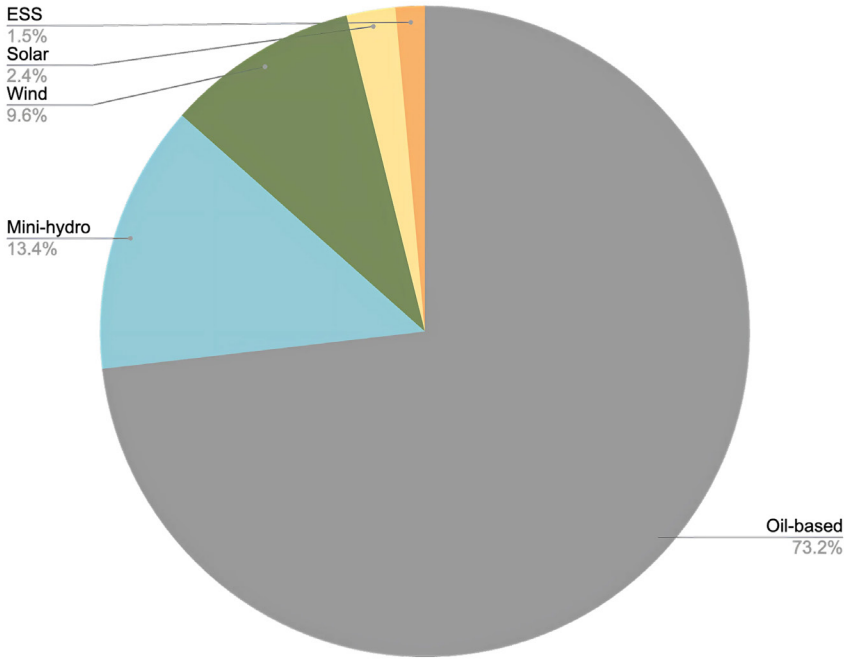
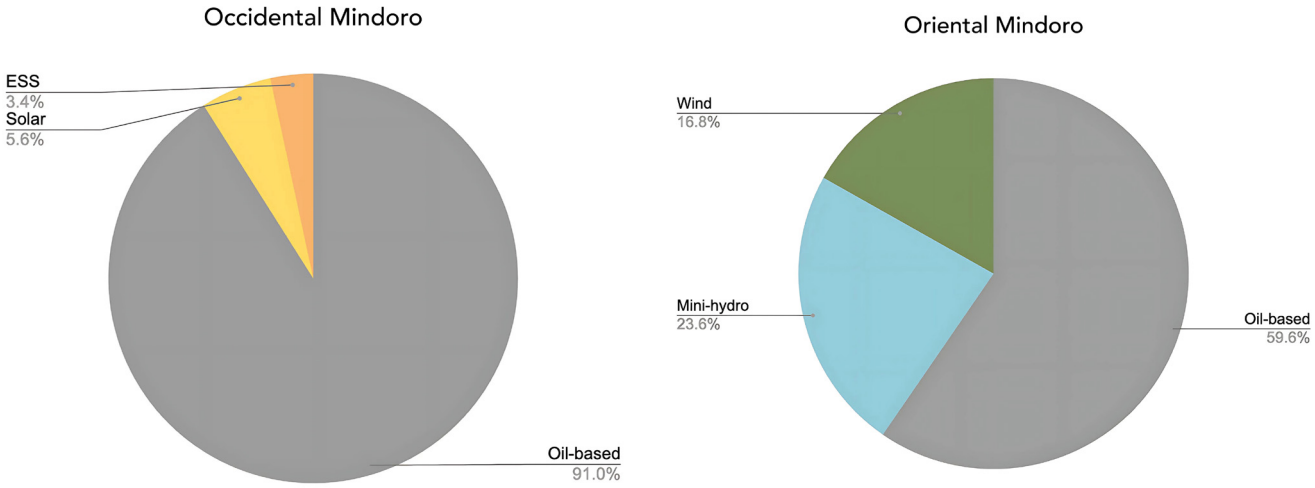


Figure ES-2. Installed capacity per type of technology, Occidental and Oriental Mindoro, 2024

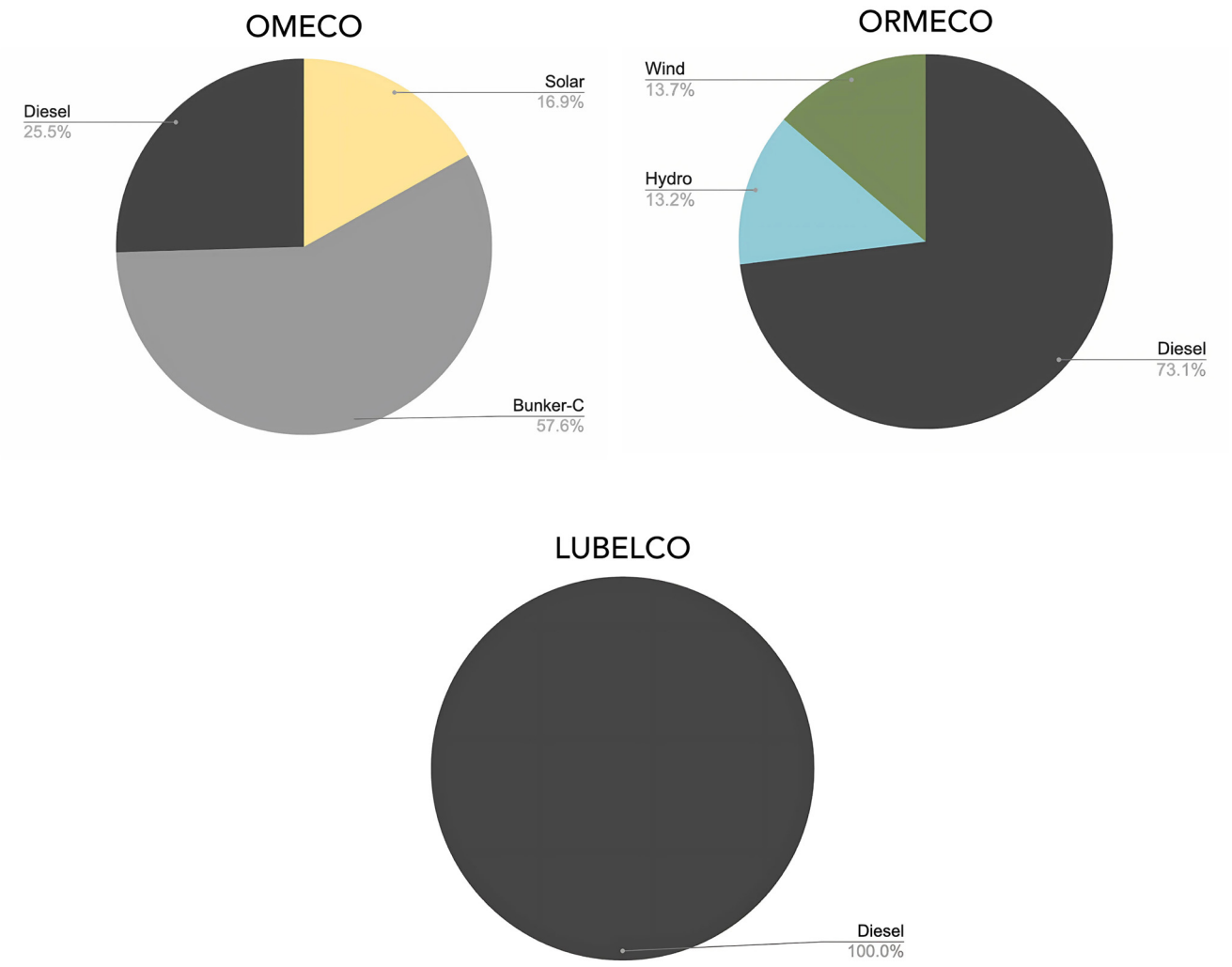


Notes: ESS – Energy Storage System.

Mindoro Electric Cooperatives contract power supply heavily from oil-based plants, with OMECO contracting less than a fifth of its electricity from solar, and ORMECO less than a fourth from wind and mini-hydro. In OMECO, bunker-fired technologies comprise 57.6% of the contracted capacity, diesel-fired plants are contracted for 25.5% of OMECO's capacity, and solar is only contracted for 16.9% or less than a fifth of its contracted supply. On the other hand, ORMECO is highly dependent on diesel, having 73.1% of its contracted capacity coming from diesel-fired power plants. Wind and hydro only comprise 13.7% and

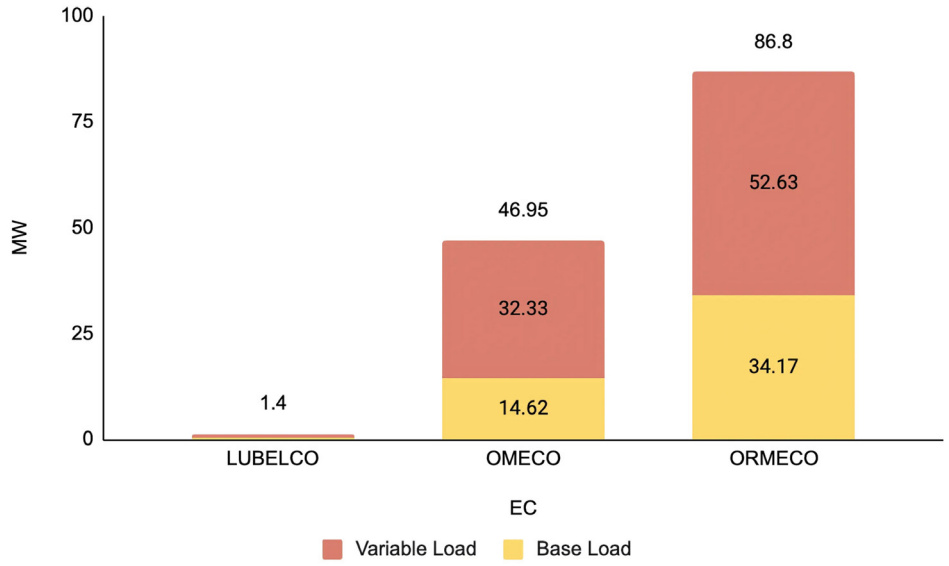
13.2% of ORMECO's contracted capacity, respectively, or less than a fourth of its contracted supply. Meanwhile, LUBELCO is fully contracted to diesel, and acquired most of its supply from the Lubang Diesel Power Plant (DPP) from 1.015 MW in 2018 to 1.323 MW in 2023. Its supply from the Cabra DPP, on the other hand, increased from 0.067 MW in 2018 to 0.077 MW in 2023.

Figure ES-3. Contracted supply per type of technology, OMECO and ORMECO, 2024



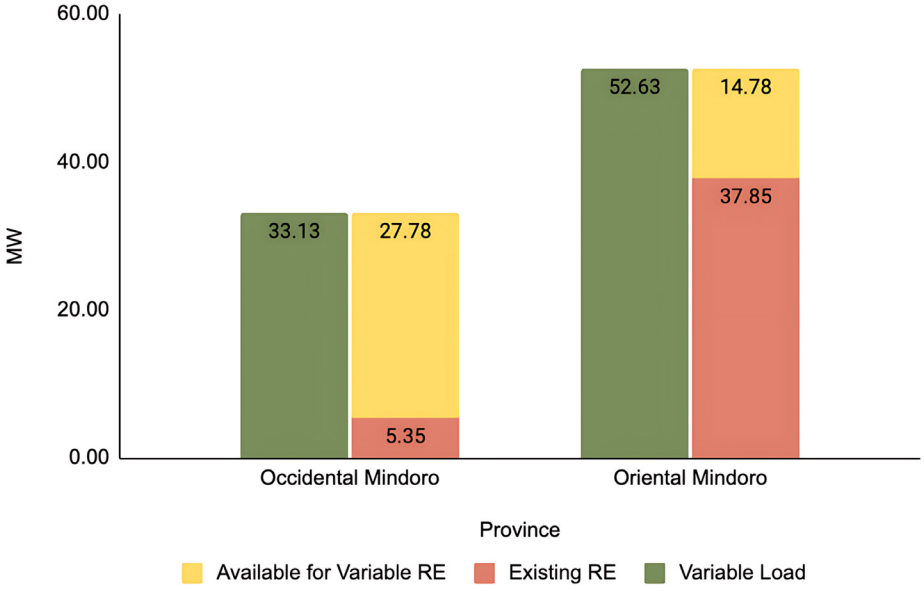
Even in a traditional baseload-centric planning, Mindoro Electric Cooperatives rely too heavily on baseload fossil fuel power, even for variable demand that can be met more reliably and affordably by abundant variable renewable energy. While Mindoro Electric Cooperatives rely heavily on oil-based supply (64.13 MW contracted by all ECs combined), all three electric cooperatives state that they only need a combined 49.39 MW of baseload capacity. Occidental Mindoro Electric Cooperative (OMECO) only requires a baseload of 14.62 MW, Oriental Mindoro Electric Cooperative (ORMECO) requires 34.17 MW, and Lubang Electric Cooperative, Inc. (LUBELCO) requires 0.60 MW.

Figure ES-4. Baseload and variable load, ORMECO, OMECO, and LUBELCO



On the other hand, OMECO, ORMECO, and LUBELCO have 32.33 MW, 52.63 MW, and 0.8 MW of variable load respectively used throughout the day which can be provided by variable renewable energy, such as solar and wind. Despite the opportunity for variable renewable energy resources to come in, Mindoro has over relied on baseload technologies in bunker- and diesel-fired power plants. All three ECs combined have a variable load of 85.76 MW and only 43.20 MW of existing renewable energy capacity, which means that there is still 42.56 MW of peaking load that can be met by variable renewable energy.

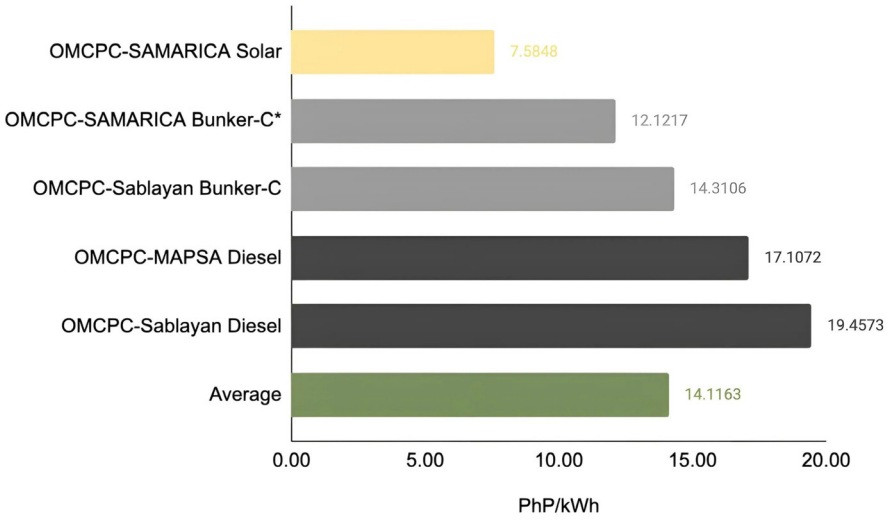
Figure ES-5. Variable load and availability for variable RE, Mindoro



Renewable energy provides the cheapest rates in Mindoro today while fossil fuels charge twice or thrice as much. In OMECO's existing PSAs, bunker- and diesel-fired plants range from twice to thrice the rate of OMECO's solar PSA (PhP 7.5848/kWh). Bunker PSAs have approved rates reaching as high as PhP 21.9181/kWh, while diesel PSAs reach as high

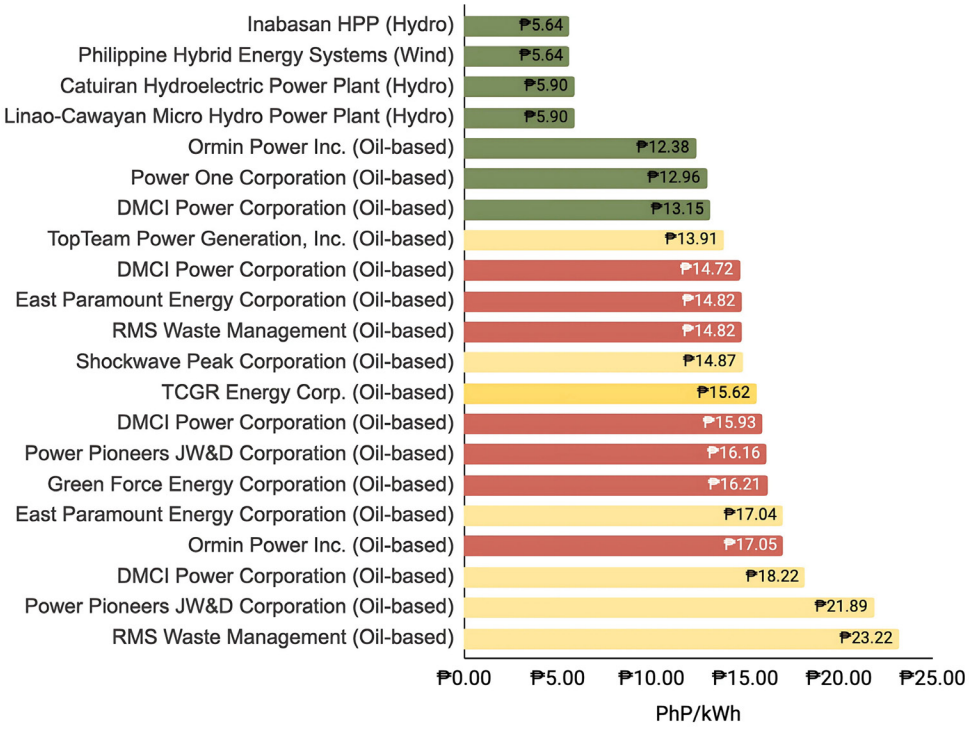
as PhP 19.4573/kWh. In ORMECO, renewable energy plants are providing the cheapest rates at around PhP 5.64/kWh to PhP 5.90/kWh. Meanwhile, supplies from fossil fuel Power Supply Agreements (PSAs) are twice as expensive than renewable energy sources from PhP 12.38/kWh to PhP 13.15/kWh.

Figure ES-6. Existing PSAs and approved generation rates, OMECO



Notes: *OMCPC-SAMARICA Bunker-C generation rate as of 2021. New rate has been adjusted to PhP/kWh 2.0764 + Fuel Costs.

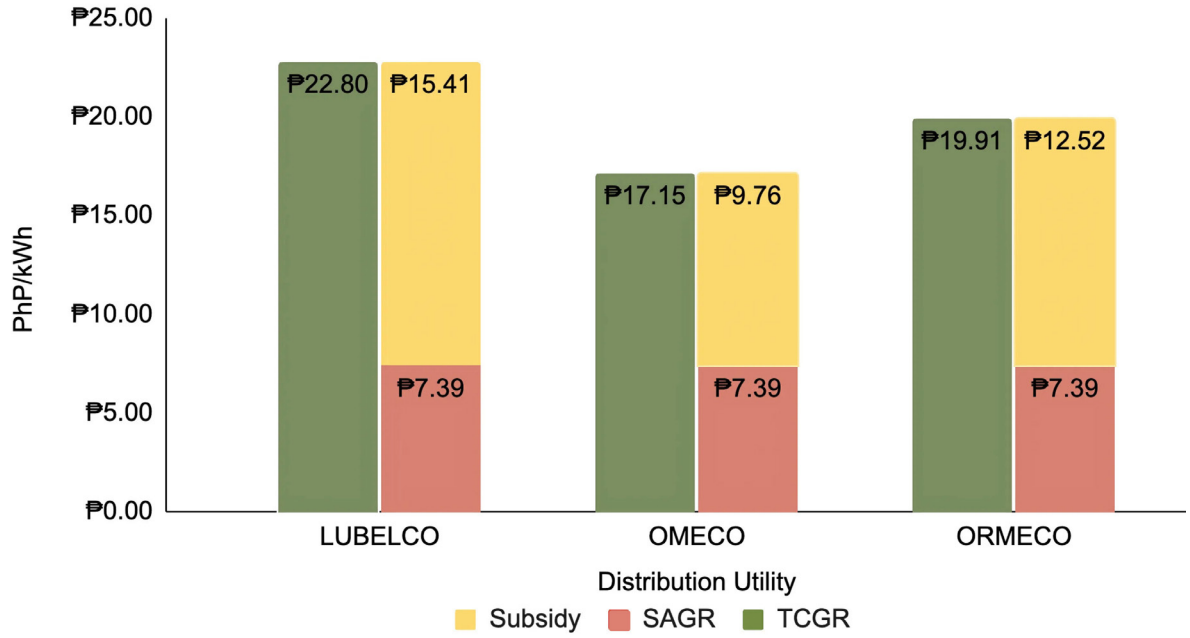
Figure ES-7. Generation rates from different power supply agreements, ORMECO



Note: Prices in green refer to those with existing Power Supply Agreements.
Prices in yellow refer to those with Emergency Power Supply Agreements.
Prices in red refer to those conducted through the 57 MW Competitive Selection Process
ORMECO - Oriental Mindoro Electric Cooperative, Inc.
PhP/kWh - Philippine Pesos per Kilowatt-hour

Renewables can provide cheaper rates than fossil fuels, even without subsidies, lessening the burden of missionary electrification to consumers. In off-grid areas, when the actual cost of producing electricity, also known as the True Cost Generation Rate (TCGR), is higher than the capped rate that consumers are allowed to pay, also known as the Subsidized Approved Generation Rate (SAGR), the difference is shouldered through subsidies. For example, subsidies reached as high as PhP 15.41/kWh in LUBELCO due to TCGR reaching as high as PhP 22.80/kWh, nearly triple the cost of the SAGR of PhP 7.39/kWh. These subsidies, which are applied to all off-grid fossil fuel generation in Mindoro due to their high generation costs, are covered by all electricity end-users, including Mindoro consumers themselves, through the Universal Charge for Missionary Electricification (UCME) according to Section 34 of the EPIRA. With renewables having much cheaper generation costs than fossil fuel, even lower than SAGR, shifting to renewable energy can lessen the subsidy requirements which ultimately reduces the burden of missionary electrification costs passed on to all consumers.

Figure ES-8. TCGR, SAGR, and subsidies, Mindoro, 2022



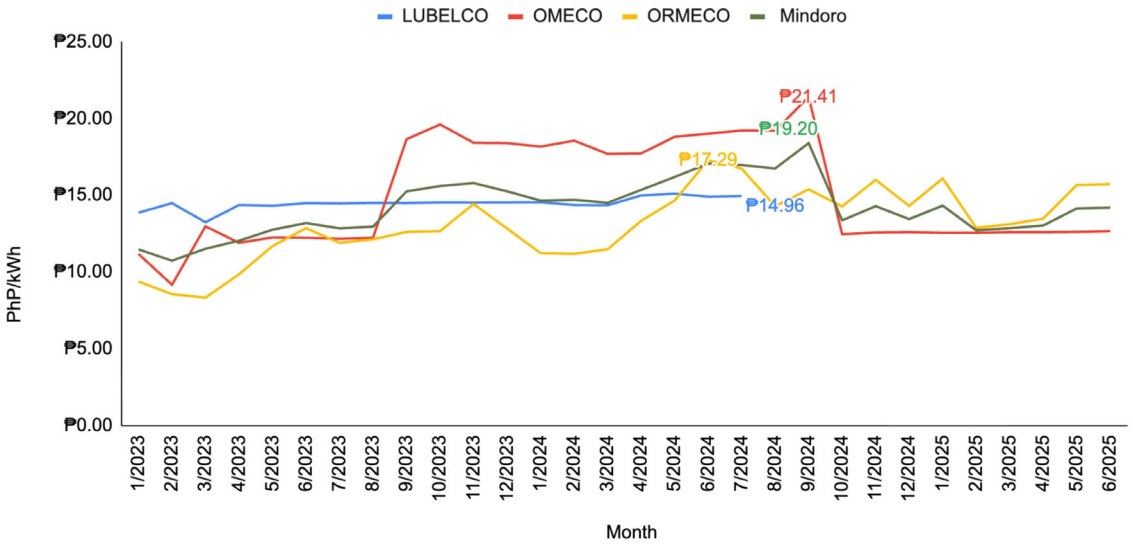
While ORMECO has addressed immediate power needs through emergency power supply agreements, these arrangements involve higher generation costs that cost two to three times that of renewable, raising questions about long-term planning efficiency. Emergency Power Supply Agreements (EPSAs) are even more expensive, reaching as high as PhP 23.22/kWh. Although already unreasonably high, the winning bids from the recent Competitive Selection Process (CSP) of ORMECO have surprisingly resulted in similar prices to EPSAs. In the absence of a spot market, along with the lack of proper planning, these ECs would have to contract EPSAs at a great cost to consumers because they would not be able to avail of subsidies provided to off-grid consumers in regular PSAs.

Mindoreños are also plagued by inaccessible and unreliable electricity. LUBELCO serves a total of 6,989 households in its coverage area, OMECO serves 96,561 households, and ORMECO serves 213,894 in total. Notably, compared to ORMECO and LUBELCO with 96.20% and 99.70% electrification rates respectively, OMECO only provides access to 77.90%

of households within its coverage area. In 2023, the provincial government of Occidental Mindoro declared a state of calamity because consumers experienced 20-hour daily power outages for over a month and a half, all while paying electricity prices as high as PhP 20.00/kWh. Furthermore, residents in the island experience outages in around 17 to 19 days per year. In the same year, these outages can last as long as 18 hours in Oriental Mindoro. At one series of frequent outages, this has been attributed to unpaid fuel subsidies from the National Power Corporation, indicating the precarity of relying on oil-based power sources.

Mindoreños pay for among the most expensive electricity rates in off-grid areas in Luzon–at least PhP 4.00/kWh more than ROMELCO and MASELCO, despite subsidies applied. Residential rates in OMECO went as high as PhP 20.00/kWh in 2023, while LUBELCO consistently posted rates around PhP 15.00/kWh for the same year. ORMECO's residential prices varied from around PhP 8.00/kWh to PhP 14.00/kWh. On average, Mindoro consumers paid for electricity at PhP 13.29/kWh in 2023, PhP 15.48/kWh in 2024, and Php 13.55/kWh in 2025 until June.

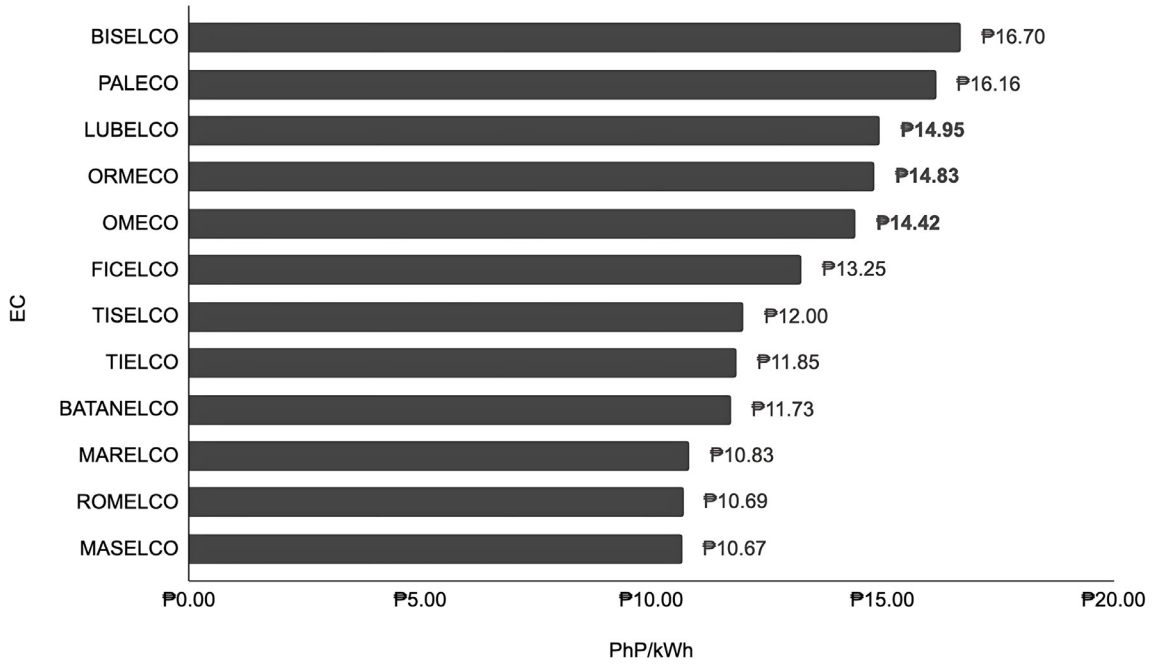
Figure ES-9. Residential rates, Mindoro, January 2023 - June 2025



Note: LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.
LUBELCO is data only until July 2024 due to data unavailability.

At the same time, comparing 12 off-grid ECs in Luzon, Mindoro residents pay the relatively more expensive rates in the island group. Based on the average rate from July 2024 to June 2025, OMECO's PhP 14.42/kWh, ORMECO's PhP 14.83/kWh, and LUBELCO's PhP 14.95/kWh are significantly higher than the cheapest offgrid ECs in Luzon - Masbate Electric Cooperative, Inc.'s PhP 10.67/kWh and Romblon's Electric Cooperative, Inc.'s PhP 10.69/kWh, having at least more than a PhP 4.00/kWh difference.

Figure ES-10. Average Residential rates, Off-grid Luzon ECs, July 2024-June 2025



Note: Mindoro ECs are highlighted in bold.
EC – Electric Cooperative;
PhP/kWh – Philippine Pesos per kilowatt-hour.

Local distribution systems are inefficient. The electricity that goes through the Electric Cooperatives' (ECs) distribution systems suffer losses ranging from 10% to 20% of the power delivered. In particular, ORMECO had 14.03% of system losses in 2023. OMECO reached 12.29%, while LUBELCO through Cabra and Lubang Islands reached 10.71% and 8.72% in 2020, respectively. For many years, these ECs have exceeded the maximum recoverable caps for system losses—14% until 2009 and 13% up to present—indicating the perennial inefficiency of Mindoro's local distribution systems. This is in sharp contrast to the Philippine average that is consistently below the recoverable limit from 12.86% in 2003 to 9.99% in 2023.

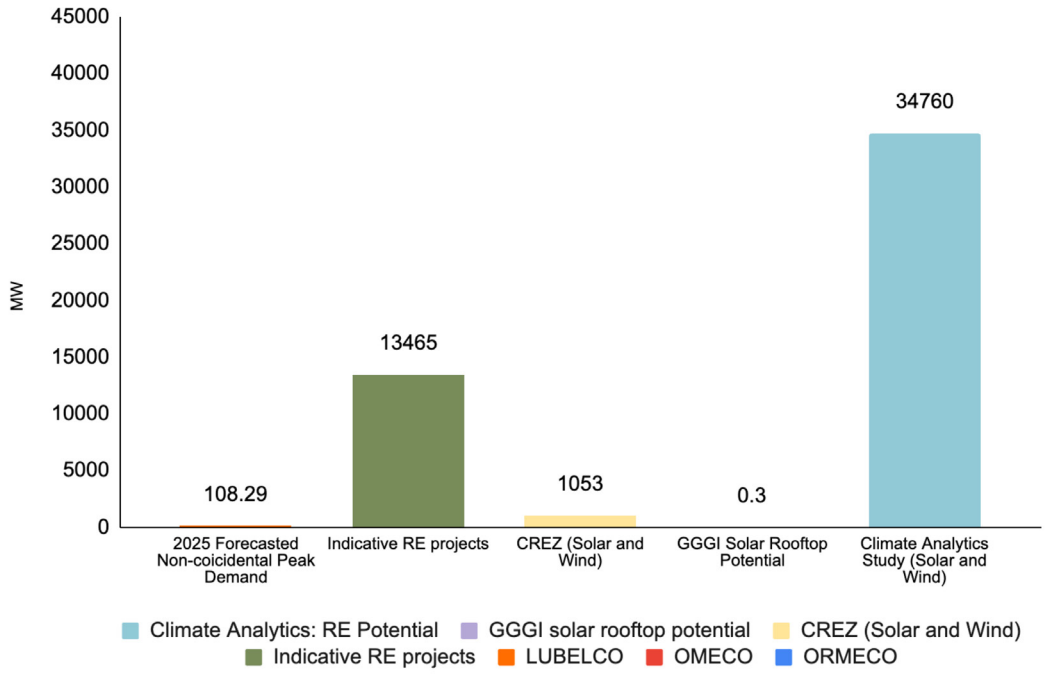
If not delayed, it will take another five years before the first interisland transmission project connecting Mindoro to the Luzon Grid via Batangas is completed. In the Transmission Development Plan (TDP) 2024-2050, the National Grid Corporation of the Philippines (NGCP) plans to complete the development of transmission infrastructure connecting Mindoro to Batangas by 2027 for stage 1, and by 2030 for stage 2, to Palawan by 2033, and to Panay by 2050. For the NGCP to meet the deadline, foreseen bottlenecks in the right-of-way and local permitting processes should be resolved promptly.

It is more prudent for Mindoreños to develop a self-reliant and renewable energy-based power system that would promptly resolve its power issues and avoid a sudden surge in the cost of electricity rates, especially considering NGCP's record of delayed transmission projects implementation and environmental concerns over interisland transmission projects. Although interconnecting Mindoro to the Luzon Grid may resolve issues of power supply since power can then be contracted from Luzon-based power producers and from the wholesale electricity spot market (WESM), this would also mean that Mindoreños will no longer be paying for subsidized electricity rates, and will instead pay for the expensive

true generation cost of current contracted fossil fuels. It should also be considered that NGCP has a record of delayed transmission projects, which means that interconnecting to the Luzon and Visayas Grid will most likely take longer than planned. Finally, the Mindoro-Batangas transmission project will traverse certain parts of the Verde Island Passage (VIP), which necessitates proper environmental impact assessment to avoid and minimize as much damage to this key biodiversity area. Considering these, it is more prudent for Mindoreños to transition to renewable energy use and upgrade the local distribution systems for variable renewable energy integration, as this would resolve current power issues more promptly.

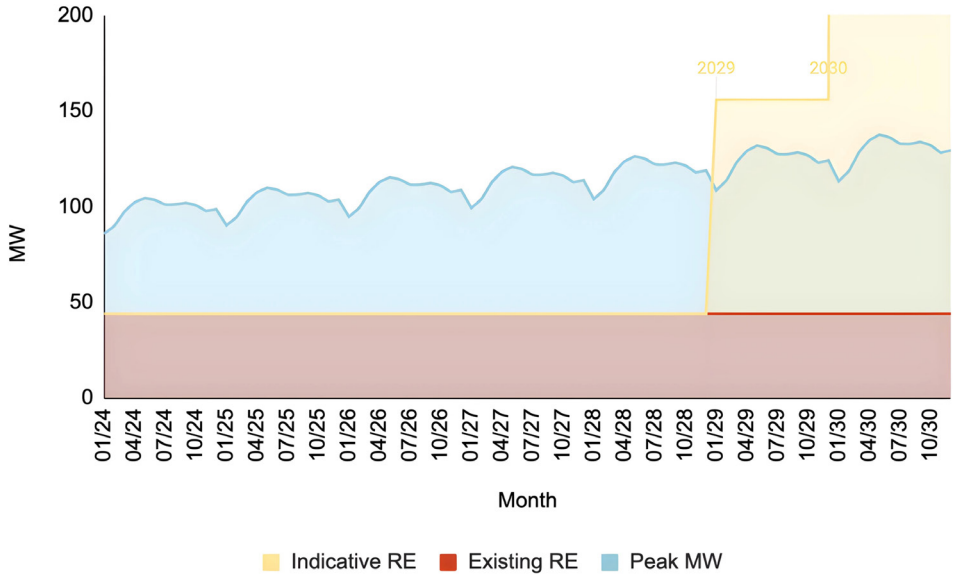
Despite its fossil fuel dependence, Mindoro has enormous potential for renewable energy–320 times more than the combined forecasted peak demand of Mindoro Electric Cooperatives in 2025–from solar and wind alone, not accounting for hydropower yet. Assuming timely completion of upcoming transmission projects within Mindoro Island, solar PV in Mindoro has a potential capacity of 343 MW and onshore wind has a potential capacity of 710 MW according to the competitive renewable energy zones (CREZ), that can be easily connected to the grid. Two sites are available for solar PV installations with 130 MW and 213 MW each, while the other two sites for wind installations provide 386 MW and 324 MW worth of capacity opportunity. Data from Climate Analytics depicts an even larger renewable energy potential compared to the CREZ. Mindoro Island is estimated to have a combined solar and wind energy potential of 34.76 GW in capacity, 33 times that of the renewable energy potential approximated by the CREZ and 320 times that of the 2025 forecasted peak demand (108.29 MW). These approximations do not take into account hydropower potential, which should contribute much more renewable energy capacity considering that Mindoro Island has numerous principal and tributary rivers. There are 18 classified principal river systems across Mindoro Island including the Balete, Bansud, Bongabong, Bulalacao, and Pulang Tubig principal rivers. Indicative Wind Projects located in Mindoro (both offshore and onshore) has a combined capacity of 13.5 GW but it is unclear as of this writing how much of this capacity will be connected to Mindoro.

Figure ES-11. Peak demand and overall RE potential in MW (indicative projects and identified potential from studies), Mindoro



Massive renewable energy projects are already in the pipeline, giving Mindoro Electric Cooperatives a pathway to fully contract renewable energy in the coming years and Mindoreños to benefit from full renewable energy use as early as 2029 assuming timely completion of transmission projects and renegotiated fossil fuel PSAs. From 2029 to 2033, Mindoro is expected to install 13,465 MW of capacity from both onshore and offshore wind projects. 7,138 MW (53%) would be installed in Occidental Mindoro, while 6,327 MW (47%) would be installed in Oriental Mindoro. By 2029, it is expected for 112 MW wind capacity to come online and another 1,830 MW by 2030. Meanwhile, based on ORMECO's projected demand and existing contracted supply, it is expected to procure further supply from 42 MW in 2026 to 57 MW in 2030 and the 57 MW CSP is reportedly done early in 2025. Meanwhile, OMECO is expected to procure 39 MW of supply in 2026 to 45 MW in 2030, while LUBELCO is expected to procure 3.541 MW of supply until 2030. It is then prudent for Mindoro Electric Cooperatives to consider the new renewable energy capacities expected to come online, by designing the terms of reference of competitive selection processes (CSPs) to be short-term and allowing carve-out clauses for renewables, or renegotiating or revoking recently concluded PSAs that will start implementation by 2029 or later. By 2029, renewable energy would be able to supply all of the planned procurement of all three Mindoro ECs and even switch to full renewable energy by 2030, replacing the existing oil-based contracts. Nonetheless, it is critical to fast track the installation of the renewable energy projects in the pipeline and to ensure the timely completion of the transmission projects so that these upcoming capacities would be available even earlier for ORMECO, OMECO, and LUBELCO to procure. Comparing potential capacities to the recorded peak demand by Mindoro ECs (108.29 MW), there is more than sufficient potential for Mindoro to fully transition into a renewable energy island. While it is unclear how much of the capacity will be connected to the Mindoro, 10% of the total pipeline will cover the mentioned peak demand

Figure ES-12. Peak MW and RE capacity, Mindoro, 2024-2030



To enhance reliability of the power system, Mindoro Electric Cooperatives should contract capacities from a mix of renewable energy sources that can complement each other based on seasonal changes and resource availability to reduce the risk of supply deficit, and should also utilize battery energy storage systems to enhance reliability. Considering that wind, solar, and hydro are complementary in nature, having a power mix using varied renewable energy sources can lead to a smoother overall power output. To put

simply, solar can provide electricity during daytime and best during the summer season, and complemented by wind and hydro throughout the day. At the same time, battery energy storage systems can ensure that there is reliable supply throughout the day. For example, excess energy from solar in the day can be stored in batteries to be used for consumption in the evening. This allows electric cooperatives in Mindoro to utilize clean and cheap energy while ensuring reliable supply to its customers throughout the day. In San Jose, Occidental Mindoro, a solar photovoltaic project with around 3 MW of dependable capacity is supported with a battery energy storage system through the Occidental Mindoro Consolidated Power Corporation.

Before the operation of the renewable energy projects in the pipeline, distributed renewable energy resources have played and can continue to play a role to hasten the energy transition in Mindoro. There are many government, community, church, and civil society efforts already leading the way. Solar rooftop installations in government buildings were found to result in government savings. In Brgy. Loyal, Victoria, a solar-powered charging station was installed for the Tadyawan Mangyan community, demonstrating how even small-scale systems can make a meaningful impact in isolated areas. The project has since helped the community raise its first college graduate, who was able to continue schooling with access to charged devices for study, and has inspired families to plan for their own household solar systems this year. The Sikat Foundation, in collaboration with local development groups, has implemented community solarization projects among Hanunuo Mangyan villages in Mansalay, bringing clean and reliable electricity to homes, schools, and chapels. In Pola, the solarization of the community water pump has been a daily relief for many households, allowing it to serve more families consistently without high costs of fuel-powered pumping and intermittent supply at night. As part of the Laudato Si' campaign for climate justice, several parishes in Oriental and Occidental Mindoro are now exploring solar installations as part of the 10 Million Solar Rooftops campaign, integrating ecological conversion into church-based action.

Policies and pronouncements that welcome more fossil fuels can exacerbate Mindoro's power issues, including energy insecurity and unreliability, expensive power rates, and destructive environmental impacts. Oriental Mindoro Gov. Humerlito 'Bonz' Dolor explained, though there were no provisions in the mining moratorium, that he only has one 'exemption' in mind in case he would be asked: to have an oil and/or gas exploration in Mindoro. This exception was seconded by Occidental Mindoro Governor Eduardo Gadiano. In fact, in Occidental Mindoro, a US energy firm is already exploring three fossil gas facilities in Mamburao, Sablayan, and San Jose, potentially providing a capacity of 5 to 15 MW each. Adding to these concerns, the previous Philippine Energy Plan 2020-2040 has identified 100 million metric tons of coal reserves in Mindoro, with several interested parties expressing plans to tap coal power or connect the island to the Semirara island through submersible cable, which remains dominantly coal-powered. Communities and civil society have raised concerns over the possible harmful effects of any plans to mine even if it meant to address power woes, aside from oil and gas exploration and production on their environment, recalling the destructive consequences of the 2023 oil spill on the shore of Oriental Mindoro, which released oil waste reaching up to Palawan and Antique. The cleanup took four months to accomplish, causing damages estimated up to around PhP 7 billion, affecting 21 marine protected areas, including the VIP, and disrupting the lives of around 172,928 residents in the process.

Recommendations

Develop a Power Development Plan (PDP) for Mindoro Island with the objective of establishing a self-reliant, reliable, affordable, sustainable, and democratic renewable energy-based power system for Mindoreños. The PDP should address the short-, medium-, and long-term challenges of the island, toward a power system that is: 1) Self-reliant even without an interisland transmission connection. 2) Reliable as it uses a complementary mix of renewable energy sources. 3) Affordable because it harnesses free renewable energy sources. 4) Sustainable in that it respects and protects the integrity of ecologies. 5) Democratic as it empowers ordinary Mindoreños to own, manage, and use distributed renewable energy systems. The PDP can be initiated and supported by a multi-stakeholder advisory group composed of government officials and the public and private sectors, and a technical working group composed of local and national experts. The Provincial Governments of Palawan and Negros Oriental have pursued similar efforts, from which Mindoro local governments can learn from.

Hasten the installation of renewable energy projects and supporting infrastructures. Since the earliest private sector-led renewable energy project in the pipeline is only expected to be in commercial operation by 2029, fast-tracking the entry of renewable energy projects, as well as their supporting infrastructures such as energy storage systems, would hasten the resolution of existing power issues. Renewable energy technologies can be installed much faster than fossil fuel technologies, and can offer solutions to power problems caused or exacerbated by fossil fuels. To do this, the provincial governments of Oriental and Occidental Mindoro can enact ordinances that would mandate the solarization or the installation of decentralized renewable energy sources in public buildings. They can also support the deployment of renewable energy systems not only from the private sector but also from the public sector–from communities, civil society, and local churches–by raising awareness through information and education campaigns, streamlining relevant local permitting processes without compromising the rights of communities, providing tax incentives, or offering concessional financing or financial assistance.

Reduce dependence on and eventually phase-out fossil fuels by improving terms of reference of competitive selection processes (CSPs) for future power procurements, renegotiating recently procured contracts that will start operations by 2029 considering the entry of planned new renewable energy capacities, renegotiating existing fossil fuel power supply agreements, and prohibiting fossil fuel exploration within and around the Mindoro Island. Mindoro is heavily dependent on fossil fuels partly because of CSPs with Terms of Reference that are made favorable for fossil fuels, such as terms that allow for the pass-through of fossil fuel costs to consumers. These have allowed the contracting of fossil fuel power supply agreements. The terms of CSPs can be formulated in a way that would level the playing field among fossil fuel and renewable energy players, or even tip the scales in favor of renewable energy. As for already existing fossil fuel power supply agreements, Mindoro Electric Cooperatives can lead the renegotiation of these contracts toward shortening their terms or reducing their contracted capacities, to allow for more renewable energy contracts to come in. For recently contracted power supply agreements whose implementation will not begin until 2029 or later, such as ORMECO's 5 MW oil-based PSA under Lot III in its 2024 CSP, these should be renegotiated or revoked, and CSP conducted again to allow for new and more affordable and reliable renewables to compete. This would also mean that there should be no room for further exploration of new oil and gas or coal deposits.

Prioritize the enhancement of the capacity and flexibility of the Mindoro Grid to integrate growing variable renewable energy and enhance self-reliance, over interisland transmission connections. Considering Mindoro's massive renewable energy potential and concerns regarding transmission development delays and environmental impacts, enhancing Mindoro's Grid should be prioritized over interisland transmission plans. Local transmission and distribution plans should consider connection to CREZ sites, enhancement of capacities for massive renewable energy integration, and also grid flexibility to allow for variable renewable energy sources. The development of battery storage technologies is also essential in enhancing reliability and unlocking the full potential of renewable energy in island regions like Mindoro.

Ensure that the upcoming review of the franchises of Mindoro Electric Cooperatives will result in accountability and improved performance and services. As the franchises of the Mindoro Electric Cooperatives are set to expire as early as 2030, the franchise review opens up a key window to surface the reasons behind substandard performances, poor or inadequate planning, and service gaps in remote areas. These are opportunities to understand the root causes behind perennial power issues in Mindoro, hold the Electric Cooperatives accountable, and even revoke their franchise if necessary. These also offer an avenue to come together in establishing an Electric Cooperative owned and managed by and for Mindoreños.

Ensure that the Mindoro power system not only harnesses renewable energy power from the environment, but also protects local communities and ecosystems, especially in key biodiversity areas like the Verde Island Passage. Fossil fuel development is not only causing and exacerbating power problems in Mindoro, and derailing the Island's energy transition, it also threatens the biodiversity and subsequently the livelihoods of coastal communities across Mindoro and the VIP. However, it should also be recognized that renewable energy projects, such as offshore wind, could also cause environmental harm. Environmental impact assessment processes should also be conducted for proposed renewable energy projects, including marine spatial planning for those that are sited offshore. The hastening of renewable energy projects should not compromise these safeguards.

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List of Acronyms

BESS – Battery Energy Storage System

BATANELCO – Batanes Electric Cooperative, Inc.

BISELCO – Busuanga Island Electric Cooperative, Inc.

CEED – Center for Energy, Ecology, and Development

CREZ – Competitive Renewable Energy Zones

CSO – Civil Society Organization

CSP – Competitive Selection Process

DDP – Distribution Development Plan

DER – Distributed Energy Resource

DOE – Department of Energy

DPP – Diesel Power Plant

DU – Distribution Utility

EC – Electric Cooperative

EPSA – Emergency Power Supply Agreement

ECC – Environmental Compliance Certificate

ERC – Energy Regulatory Commission

ESS – Energy Storage System

FICELCO – First Catanduanes Electric Cooperative, Inc.

GDC – Guaranteed Dependable Capacity

GGGI – The Global Green Growth Institute

ICSC – Institute for Climate and Sustainable Cities

ITB – Invitation to Bid

kWh – Kilowatt-hour

LCRB – Lowest Calculated Responsive Bid

LUBELCO – Lubang Electric Cooperative, Inc.

LGU – Local Government Unit

MARELCO – Marinduque Electric Cooperative, Inc.

MASELCO – Masbate Electric Cooperative, Inc.

MEDP – Missionary Electrification Development Plan

MGPC – Mindoro Geothermal Power Corporation

MW – Megawatt

NEA – National Electrification Administration

NGCP – National Grid Corporation of the Philippines

NPC-SPUG – National Power Corporation-Small Power Utilities Group

NPP – New Power Provider

OMCPC – Occidental Mindoro Consolidated Power Corporation

OMECO – Occidental Mindoro Electric Cooperative, Inc.

ORMECO – Oriental Mindoro Electric Cooperative, Inc.

PALECO – Palawan Electric Cooperative, Inc.

PDP – Power Development Plan

PHESI – Philippine Hybrid Energy Systems, Inc.

PhP – Philippine Pesos

PSA – Power Supply Agreement

PSPP – Power Supply Procurement Plan

PV – Photovoltaic

RE – Renewable Energy

ROMELCO – Romblon Electric Cooperative, Inc.

SAGR – Subsidized Approved Generation Rate

SAIDI – System Average Interruption Duration Index

SAIFI – System Average Interruption Frequency Index

SPSB – Solar para sa Bayan

TCGR – True Cost Generation Rate

TDP – Transmission Development Plan

TIELCO – Tablas Island Electric Cooperative, Inc.

TISELCO – Ticao Island Electric Cooperative, Inc.

TOR – Terms of Reference

UC-ME – Universal Charge for Missionary Electrification

VIP – Verde Island Passage

Introduction

Mindoro Island has perennial power problems. In 2023, the provincial government of Occidental Mindoro declared a state of calamity because consumers experienced 20-hour daily power outages for over a month and a half, all while paying electricity prices as high as PhP 20.00/kWh. These problems were due to unplanned outages from the plant of the province's sole New Power Provider (NPP), the Occidental Mindoro Consolidated Power Corporation (OMCPC). In Oriental Mindoro, consumers also suffer from significant electricity price changes, such as PhP 2.00/kWh increases in May 2025 that even the provincial government recognizes as a power crisis. Although Mindoro is no longer in a state of calamity, the island continues to report blackouts lasting up to 18 hours. In 2024, residents endured brownouts for around 17 to 19 days, and as recent as July 2025, hearings convened by newly elected officials in Oriental Mindoro underscored the persistence of pressing power problems.

This paper provides an overview of Mindoro's electric power sector, describing the island's sources of energy, the prospects and implications of shifting from off-grid to on-grid, and the impacts of unstable electricity access on consumers' everyday lives. It also highlights Mindoro's renewable energy potential—particularly in solar and wind technologies—and discusses the policy issues and opportunities that arise from the island's status as an isolated off-grid system. From this, the paper puts forward recommendations to strengthen Mindoro's sustainable energy security through the clean energy transition.

Titled ***Pandang Gitab ng Mindoro: A Scoping Paper on the Island's Power Landscape***, this study takes inspiration from the words ***pandang*** (from ***pandanggo***, the traditional "dance of light") and ***gitab*** (from ***dagitab***, meaning spark or radiance). Together, they symbolize the power of light to kindle hope, rhythm, and collective movement. In the midst of Mindoro's power crisis, the title reflects both metaphor and mission: to spark transformation away from costly, fossil-based dependence and toward a future of clean, affordable, and reliable power. It also calls for harmony between technical solutions and cultural wisdom, honoring the ecological balance long upheld by the Mangyan peoples. ***Pandang Gitab ng Mindoro*** is thus not only an account of the island's power challenges but also a guidepost toward an energy transition that is technically sound, socially just, ecologically grounded, and culturally resonant.

Methodology

The paper employed a mixed methods research design. Considered a pragmatic approach, this research design allowed for flexibility in utilizing the type of information explaining present facts in Mindoro's electric power sector, especially when there were logistical and administrative limitations on the capacity to extensively collect data through one methodological process or another. Furthermore, this research design enabled confidence in the analyses when different types of information agree with respect to the study's findings. At the same time, it also presented the opportunity to express nuance on the provided explanations when these types of information resulted in different outcomes.[1]

With a mixed methods research design, administrative data was collected through document review and insights on the ground were gathered through focus group discussions.

Specifically, both qualitative information and quantitative data were gathered from government documents that discussed Mindoro's electric power sector, such as the Department of Energy (DOE)'s list of existing off-grid power plants and of indicative power projects in Luzon, the National Grid Corporation of the Philippines (NGCP)'s 2024-2050 Transmission Development Plan (TDP), the DOE's 2023-2032 Distribution Development Plan (DDP) and 2024-2028 Missionary Electrification Development Plan (MEDP), and the respective Power Supply Procurement Plans (PSPPs) of the electric cooperatives (ECs) in Mindoro. If needed, analyses of these documents were complemented through relevant news and research articles, applicable regulatory issuances, and project-specific implementation documents.

These findings were also triangulated with insights on the ground through focus group discussions. Discussions were held with community leaders and local officials in Mindoro in different circumstances, such as December 2024 and June and July 2025, communicating the preliminary findings on the paper to check if they were consistent with their experiences on the ground and allowing space for them to provide additional points of research that should be discussed by the paper. This also helped strengthen the initial analyses through possible counterfactuals that might be raised to the respective policy recommendations.

Overview of Mindoro's electric power sector

Like many electric power systems, Mindoro's power is structured around the necessary infrastructure to generate, transmit, and distribute electricity. In the island, power is generated through New Power Providers (NPPs) from the private sector, the National Power Corporation – Small Power Utilities Group (NPC-SPUG), and the ECs themselves. Because Mindoro is currently not connected to the nationwide grid, it has its own grid system whereby electricity can be transmitted from generation facilities to households through distribution utilities. Finally, those in charge of providing electricity to consumers are the three ECs in Mindoro, namely: Oriental Mindoro Electric Cooperative, Inc. (ORMECO), Occidental Mindoro Electric Cooperative, inc. (OMECO), and Lubang Electric Cooperative, Inc. (LUBELCO).

Local policy issuances dealing with the power sector

Given the opportunities in transitioning to sustainable alternatives from conventional fossil fuels, the local governments in Mindoro have taken steps toward legislations that support sustainable energy and prohibit fossil fuels. In 2019, Ordinance No. 99[2], also known as the "Green Energy Ordinance," aimed to regulate the use of fossil fuels and prohibit the establishment and operation of coal-fired power plants in Occidental Mindoro. It advocates for the transition to alternative green energy sources in alignment with global climate change mitigation efforts. The ordinance underscored the importance of protecting Occidental Mindoro's natural resources and economy, often referred to as the "Food Basket of Luzon." The province is home to a rich biodiversity, including the world's largest number of endemic species, as well as nine significant primary watersheds that are critical for irrigation and drinking water supply. This measure reflected Occidental Mindoro's commitment to sustainable development, environmental conservation, and ensuring the well-being of future generations.

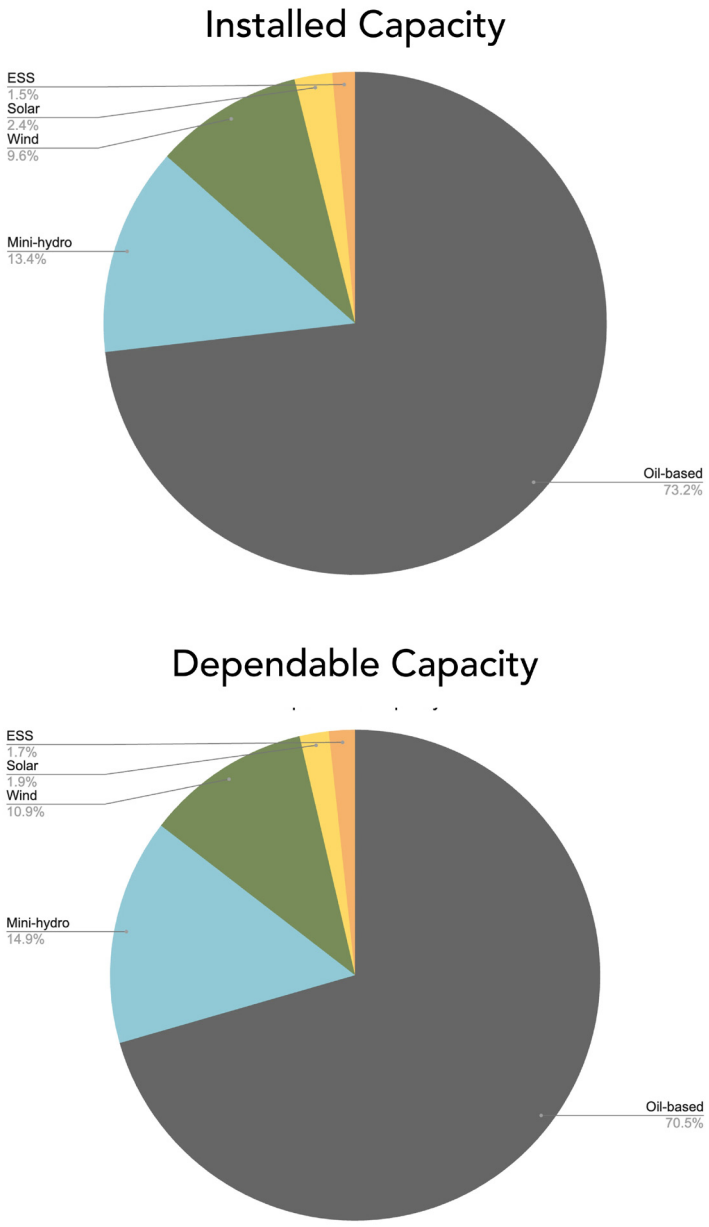
Several years later, an Executive Order was issued in the provincial government of Oriental Mindoro to further support the transition towards sustainable energy, such as renewable energy for Mindoro Island. In the Executive Order dated January 7, 2023, Governor Humerlito Dolor declared Oriental Mindoro as a province committed to advancing clean and renewable energy development. The measure established the Provincial Power and Energy Council as a policymaking body to spearhead the formulation and implementation of initiatives that promote clean and renewable energy programs. The Executive Order aimed to foster innovative energy solutions and efficient resource utilization, positioning Oriental Mindoro as a green and energy-sufficient province. It highlighted the province's dedication to sustainability and environmental conservation, contributing to global efforts in mitigating climate change while ensuring energy security for future generations.[3]

While there are steps taken, through local legislation, geared towards the transition to renewable energy, Mindoro Island is also seen taking a step back by entertaining a detour to fossil gas, another fossil fuel that will promote energy insecurity and high electricity costs much like coal. Resolution No. 301-2024[4] was passed by the Sangguniang Panlalawigan of Occidental Mindoro in 2024. It sought to endorse the proposal from Infratechnik International Ventures and Development Corporation to provide a 21 MW LNG/LPG-based power source to OMECO. The resolution reflected the province's intent to address the ongoing power problems by exploring more fossil fuels, such as fossil gas and LNG. This measure fails to protect the public's interest, mitigate the economic impacts of the perennial power woes, and ensure a more stable and reliable energy supply for Occidental Mindoro, as it was intended.

Generation

Mindoro is highly dependent on oil-based technologies (bunker-fired and diesel-fired), given that 73.17% (126.693 MW) and 70.54% (103.440 MW) of its installed and dependable capacity are oil-based. Meanwhile, renewable energy, such as run-of-river hydro, wind, and solar technologies, make up most of the remaining capacity at 13.38% (23.174 MW), 9.56% (16.560 MW), and 2.43% (4.200 MW) for installed and at 14.90% (21.849 MW), 10.91% (16.000 MW), and 1.93% (2.830 MW) for dependable. New emerging technologies, such as Battery Energy Storage Systems (ESS), make up a measly 1.46% (2.520 MW) and 1.72% (2.520 MW) of the island's installed and dependable capacity.

Figure 1. Installed and dependable capacity per type of technology, Mindoro, 2024[5]

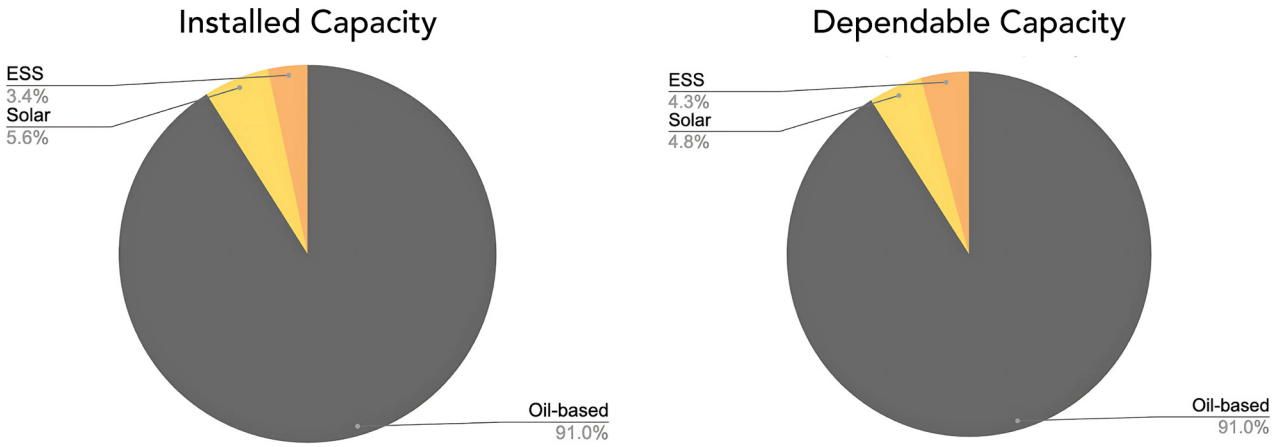


Note: MW – Megawatts.
ESS – Energy Storage System.

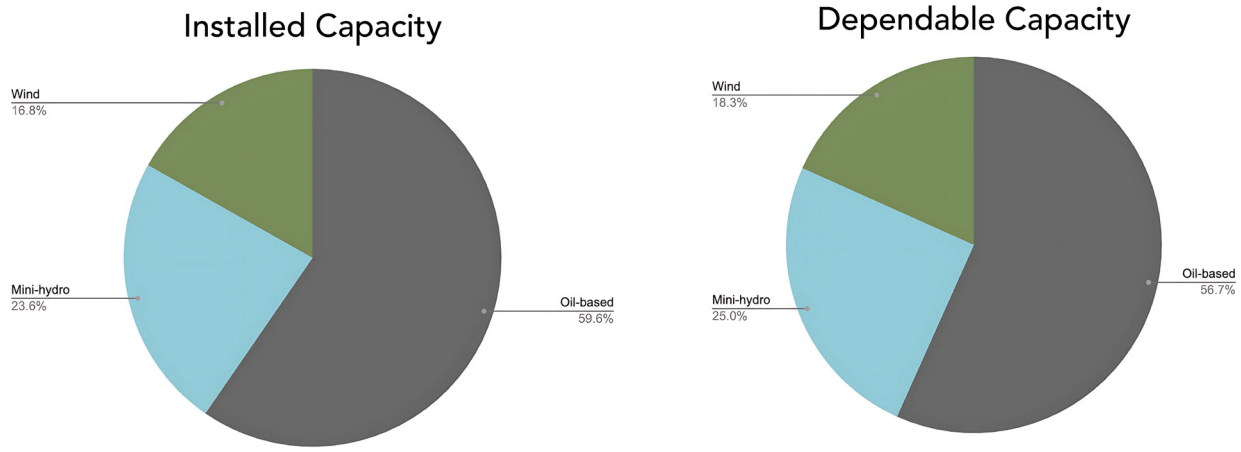
This dependence is further highlighted when disaggregated between Occidental and Oriental Mindoro. At 68.075 MW and 53.860 MW respectively, oil-based installed and dependable capacity is dominant in Occidental Mindoro, providing 91.02% and 90.96% of the province's respective capacities. Solar and ESS only provide 5.62% (4.200 MW) and 3.37% (2.520 MW) of installed capacity, and 4.78% (2.830 MW) and 4.26% (2.520 MW) of dependable capacity respectively. On the other hand, Oriental Mindoro's installed and dependable capacity has hydro at 23.174 MW (23.56%) and 21.849 MW (24.99%) respectively, with all four of its hydro plants classified as run-of-river in type and mini-hydro in size[6], each under 10 MW in installed capacity. Oriental Mindoro also has onshore wind at 16.560 (16.84%) and 16.000 (18.30%) installed and dependable capacity respectively. Nonetheless, oil-based technologies still dominate the province's capacities with 58.618 MW (59.60%) and 49.580 MW (56.71%).

Figure 2. Installed and dependable capacity per type of technology, Occidental and Oriental Mindoro, 2024[7]

Occidental Mindoro



Oriental Mindoro



Note: ESS – Energy Storage System.

Installed and dependable capacity in Mindoro is significantly owned by NPPs with 159.522 MW (92.13%) and 137.859 of the island's installed and dependable capacity, respectively. The NPC, through the NPC-SPUG, remains to own 4.88% (8.450 MW) and 2.51% (3.680 MW) of Mindoro's capacities. Meanwhile, the island's ECs owned a combined 5.175 MW (2.99%) installed capacity, of which 5.100 MW (3.48%) is dependable.

Table 1. Installed and dependable capacity per owner type, Mindoro, 2024[8]

Owner Type	Capacity			
	Installed	%	Dependable	%
NPP	159.522	92.13%	137.859	94.01%
NPC	8.450	4.88%	3.680	2.51%
DU	5.175	2.99%	5.100	3.48%
Grand Total	**173.147**	**100.00%**	**146.639**	**100.00%**

Note: NPP – New Power Provider;
NPC – National Power Corporation;
DU – Distribution Utility.

In Oriental Mindoro, electricity is only provided either through NPPs or its own EC, ORMECO. With 93.177 MW (94.74%) and 82.329 MW (94.17%) of the province's installed and dependable capacity, consumers are significantly reliant on private sector-initiated and fossil fuel-dependent power plants. Meanwhile, ORMECO supplies 5.175 MW (5.26%) and 5.100 MW (5.83%) worth of installed and dependable capacity. At the same time, Occidental Mindoro's NPPs provide 66.345 MW (88.70%) of installed capacity with 55.530 MW (93.78%) of dependable capacity. NPC only provides 8.450 MW (11.30%) and 3.680 MW (6.22%) of installed and dependable capacity.

Table 2. Installed and dependable capacity per owner type, Oriental and Occidental Mindoro, 2024[9]

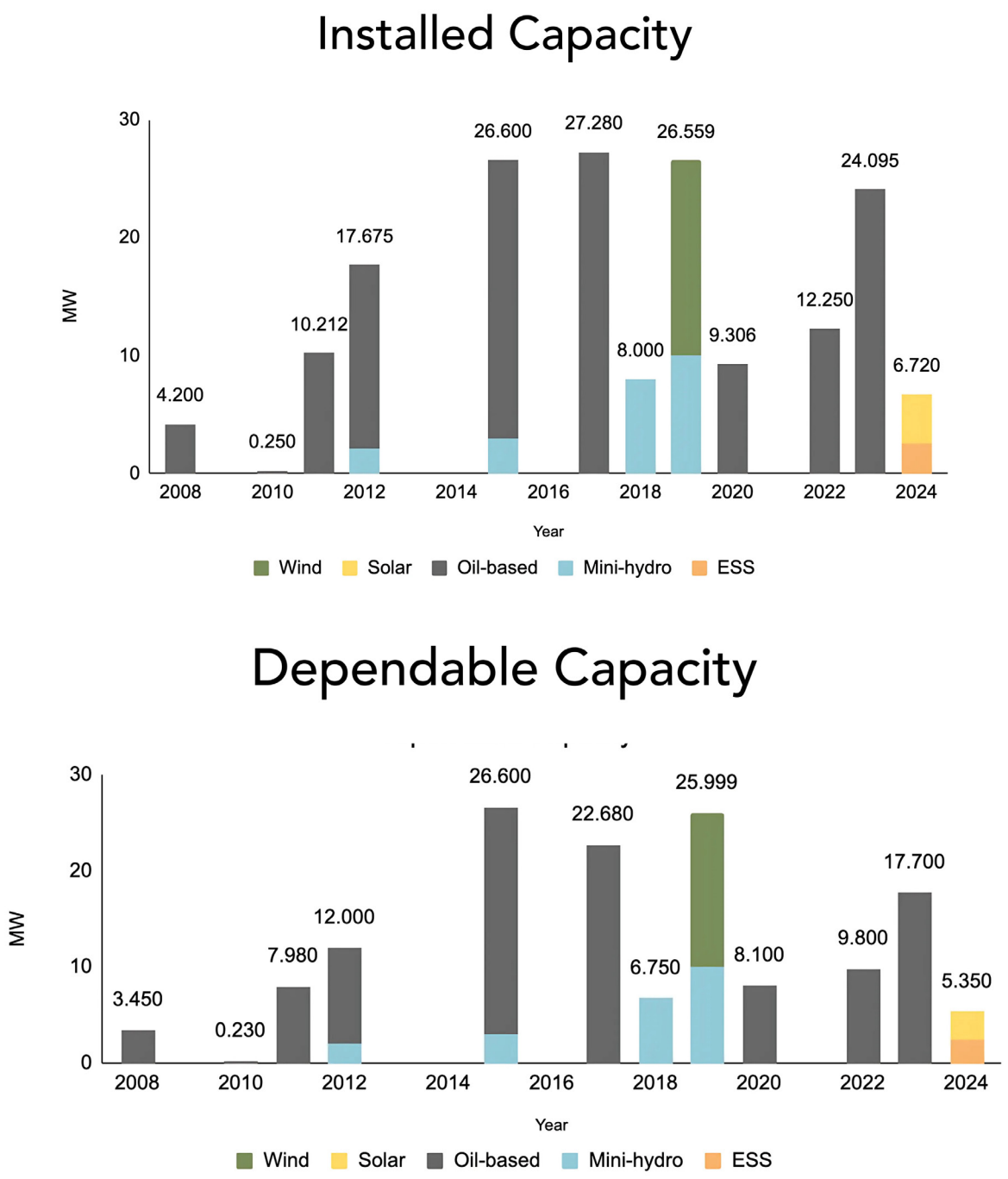
Owner Type	Capacity (MW)			
	Installed	%	Dependable	%
Occidental Mindoro				
NPP	66.345	88.70%	55.530	93.78%
NPC	8.450	11.30%	3.680	6.22%
Grand Total	**74.795**	**100.00%**	**59.210**	**100.00%**
Oriental Mindoro				
NPP	93.177	94.74%	82.329	94.17%
DU	5.175	5.26%	5.100	5.83%
Grand Total	**98.352**	**100.00%**	**87.429**	**100.00%**

Note: NPP – New Power Provider;
NPC – National Power Corporation;
DU – Distribution Utility.

Throughout the years, Mindoro has consistently added capacity from oil-based generation

facilities. While solar and Battery ESS were only added in 2024, generation from diesel- and bunker-fired plants has been present since 2008. Meanwhile, run-of-river hydroelectric power plants were added between 2012 and 2019, and wind capacity was introduced in Mindoro in 2019.

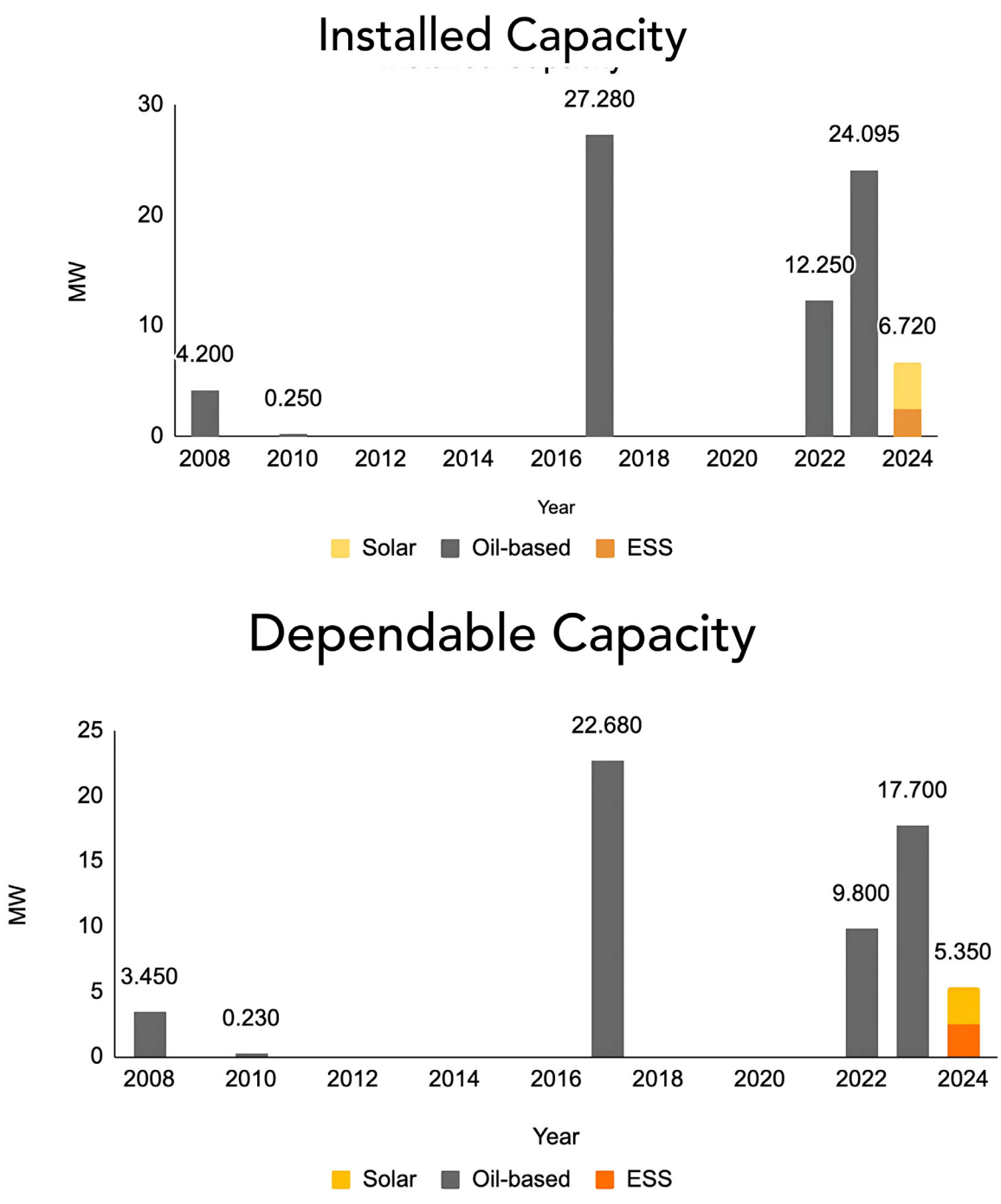
Figure 3. Newly installed and dependable capacity per year, Mindoro, 2008-2024[10]



Note: Only includes capacity from currently operational plants.
MW – Megawatts;
ESS – Energy Storage System.

Based on the DOE's list of existing plants as of December 2024, the only non-oil-based plants in Occidental Mindoro, solar and ESS, were introduced only in 2024. Prior to that, the province has been solely reliant on diesel- and bunker-fired plants all these documented years.

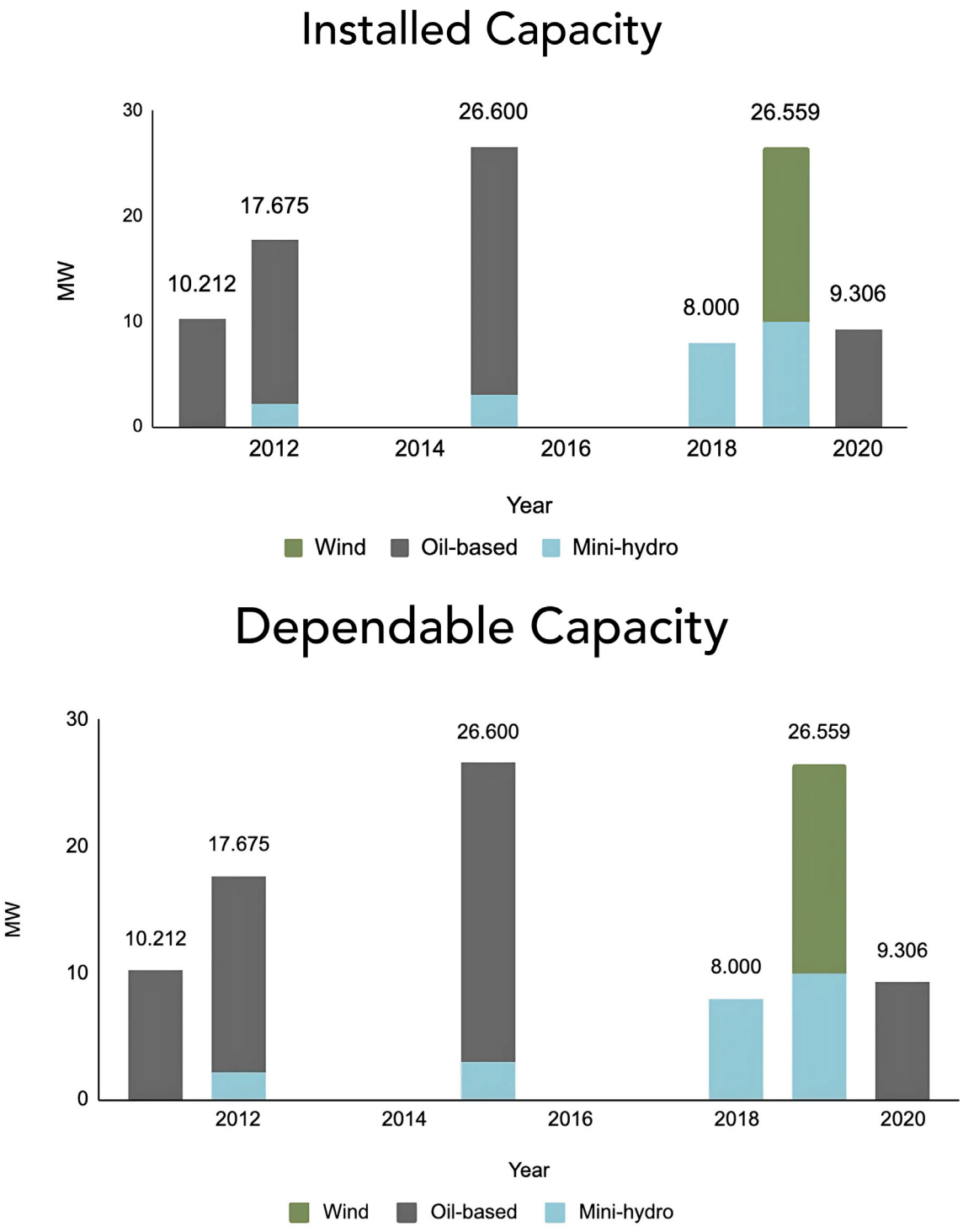
Figure 4. Newly installed and dependable capacity per year, Occidental Mindoro, 2008-2024[11]



Note: Only includes capacity from currently operational plants.
MW – Megawatts;
ESS – Energy Storage System.

The historical dependence is also present in Oriental Mindoro. Wind energy facilities were only listed starting 2019, while hydro has only been incrementally included, in stark contrast to the installed and dependable capacity arising from oil-based power plants.

Figure 5. Newly installed and dependable capacity per year, Oriental Mindoro, 2008-2024[12]

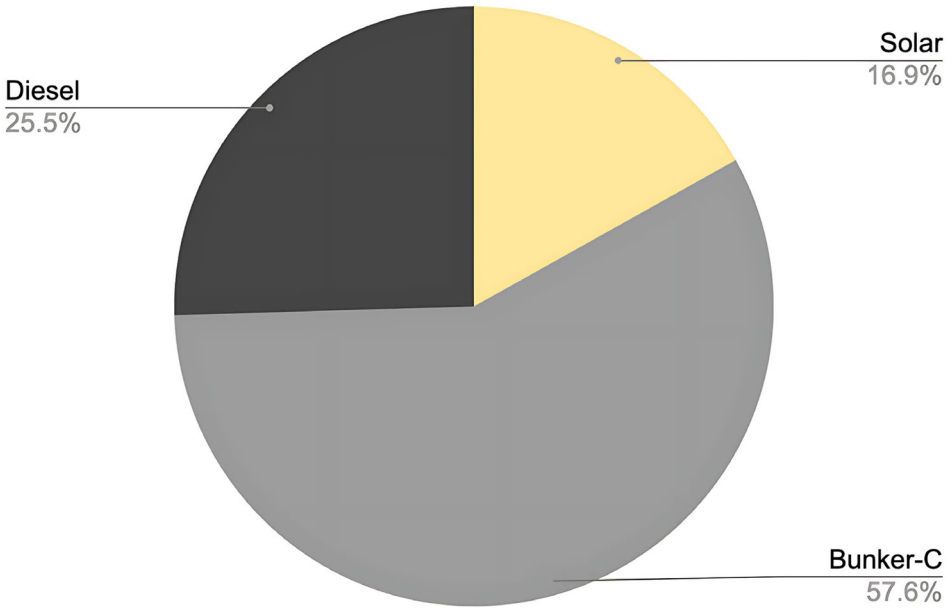


Note: Only includes capacity from currently operational plants.
MW – Megawatts;
ESS – Energy Storage System.

These capacities, however, do not take into account decentralized renewable energy resources, such as solar rooftop installations. Some of these installations are led by some private entities, and communities with the support of civil society organizations and local churches.[1314]

While, of course, it is not automatic that the installed and dependable capacity generated in an area is immediately utilized by Electric Cooperatives, with Mindoro being an off-grid system, these capacities are further reflected in the existing contracts by Mindoro's ECs through their filed Power Supply Agreements (PSAs) before the Energy Regulatory Commission (ERC). In OMECO, bunker-fired technologies comprise 57.6% of the contracted capacity, diesel-fired plants are contracted for 25.5% of OMECO's capacity, and solar is only contracted for 16.9%.

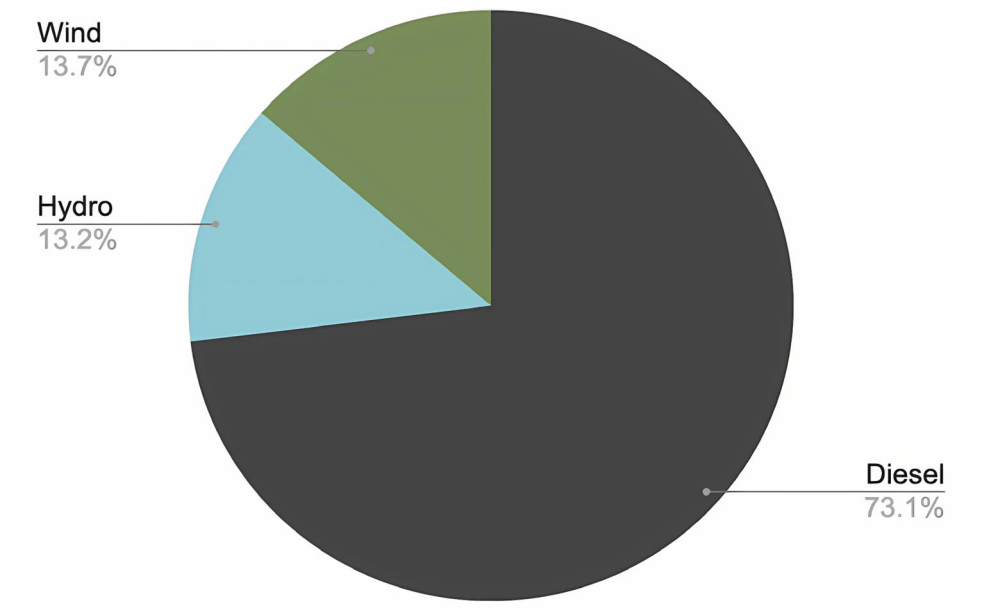
Figure 6. Contracted capacity by technology, OMECO[151617]



Note: Does not include the Emergency Power Supply Agreements.
PSA - Power Supply Agreement;
OMECO - Occidental Mindoro Electric Cooperative, Inc.

On the other hand, ORMECO is highly dependent on diesel, having 73.1% of its contracted capacity coming from diesel-fired power plants. Wind and hydro only comprise 13.7% and 13.2% of ORMECO's contracted capacity, respectively.

Figure 7. Contracted capacity by technology, ORMECO[18]



Note: Does not include the Emergency Power Supply Agreements.
PSA – Power Supply Agreement;
ORMECO – Oriental Mindoro Electric Cooperative, Inc.

Meanwhile, LUBELCO is directly supplied by the government through the NPC-SPUG. In the EC's coverage area, two diesel power plants (DPPs) operate: the Cabra DPP and the Lubang DPP. LUBELCO acquired most of its supply from the Lubang DPP from 1.015 MW in 2018 to 1.323 MW in 2023. The Cabra DPP, on the other hand, increased from 0.067 MW in 2018 to 0.077 MW in 2023.

In every electric power system, the needed generation is based on the demand it needs to match at every period of time. ECs do not have to utilize all its capacity in every minute, as demand fluctuates depending on the needs of consumers per day. Historically (2024 for OMECO; 2023 for ORMECO), OMECO only requires a baseload of 14.62 MW, ORMECO only requires 34.17 MW, and LUBELCO only requires a baseload of 0.60 MW. On the other hand, OMECO, ORMECO and LUBELCO have 32.33 MW, 52.63 MW, and 0.8 MW of variable load respectively used throughout the day.Despite the opportunity for variable renewable energy resources to come in, Mindoro ECs rely excessively on baseload technologies in bunker- and diesel-fired power plants.

Table 3. List of contracted capacities, ORMECO and OMECO, as of 2024[19]

Name	Case No.	Type	PSA Start	PSA End	Minimum MW	Technology	PSA rate
ORMECO							
DMCI Diesel	2014-085 RC	Base	2013	2035	15	Diesel	₱11.06
OrMin Diesel	2011-017 RC	Base	2010	2026	8	Diesel	₱2.95
Sta. Clara Hydro	2013-164 RC	Base	2018	2043	4.2	Hydro	₱6.55
OrMin Hydro	2013-212 RC	Intermediate	2019	2044	1	Hydro	₱6.00
Wind	2014-001 RC	Base	2019	2044	6	Wind	₱6.50
ORMECO Hydro Lower Linao-Cawayan	2012-131 RC	Intermediate	2012	2044	0.3	Hydro	₱6.95
ORMECO Hydro Upper Linao-Cawayan	2020-035 RC	Base	2015	2045	0.3	Hydro	₱7.88
PowerOne Diesel	2014-003 RC	Intermediate	2012	2032	9	Diesel	₱7.44
OMECO							
OMCPC-SAMARICA Solar	2023-045 RC	Intermediate	2024	2026	6.3	Solar	₱7.58
OMCPC-SAMARICA Bunker-C	2023-045 RC	Base	2024	2026	19	Bunker-C	₱12.12*
OMCPC-Sablayan Bunker-C	2022-031 RC	Intermediate	2022	2027	2.5	Bunker-C	₱14.31
OMCPC-MAPSA Diesel	2022-027 RC	Intermediate	2022	2027	7	Diesel	₱17.11
OMCPC-Sablayan Diesel	2022-031 RC	Intermediate	2022	2027	2.5	Diesel	₱19.46
LUBELCO							
NPC (Cabra Island)	NPC SPUG	Base	2023	2028	0.053	Diesel	NDA
NPC (Lubang Island)	NPC SPUG	Base	2023	2028	1.078	Diesel	NDA

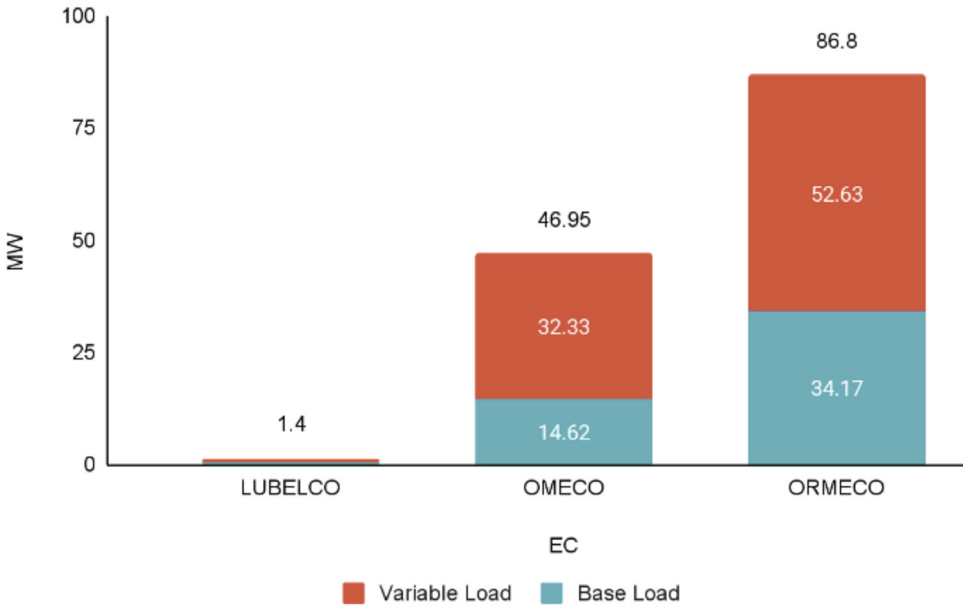
Note: *OMCPC-SAMARICA Bunker-C generation rate as of 2021. New rate has been adjusted to PhP/kWh 2.0764 + Fuel Costs;

MW – Megawatts;
PSA – Power Supply Agreement;
NDA - No Data Available;
ORMECO – Oriental Mindoro Electric Cooperative, Inc.;
OMECO – Occidental Mindoro Electric Cooperative, inc.

(From top to bottom, left to right) The power plant profile of Mindoro Island: the DMCI Diesel Power Plant in Calapan City; OMCPC's Bunker Fuel Power Plant and 6MW Solar Farm, both in San Jose, Occidental Mindoro; and, the 16MW Wind Farm of PHESI in Puerto Galera, Oriental Mindoro. Source: DMCI Power Corporation, CEED/ Andoy Dimatulac, PHESI, and Mangyan Travel Vlog.

In fact, the earliest baseload PSA that will expire in ORMECO after 2026 is still in 2035, which is the 15 MW diesel PSA with DMCI Power Corporation that costs the EC a rate of PhP 11.0597/kWh.[20] In OMECO, the earliest baseload PSA is on 2027, providing 5 MW of oil-based capacity (2.5 MW of diesel and bunker-fired each) with the Occidental Mindoro Consolidated Power Corporation. The bunker-fired and diesel rates cost around PhP 14.31/kWh and PhP 19.46/kWh each. It is evident that there is no need to procure baseload in the near future if it only promotes further fossil fuel lock-in, unreliable supply, and high electricity prices for consumers.

Figure 8. Baseload and variable load , ORMECO21, OMECO22, and LUBELCO[2324]

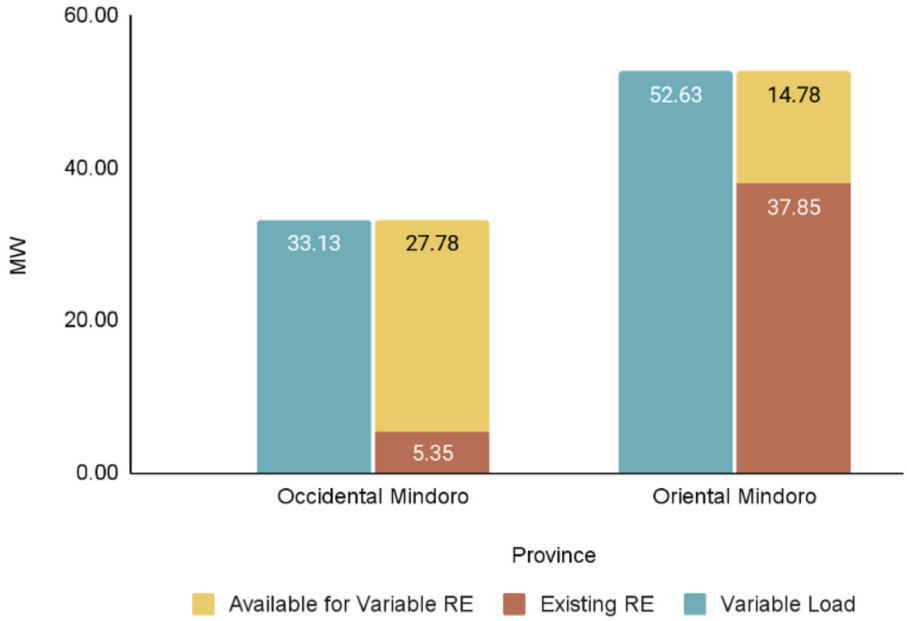


Note: LUBELCO – Lubang Island Electric Cooperative, Inc.;
OMECO – Occidental Mindoro Electric Cooperative, Inc.;
ORMECO – Oriental Mindoro Electric Cooperative, Inc.;
MW - Megawatts;
EC – Electric Cooperatives.

This is further illustrated when comparing the variable load and the existing dependable capacity for renewable energy in both Occidental and Oriental Mindoro. Because of the overdependence on baseload supply, there is an underutilized supply for variable renewable energy. Occidental Mindoro, having 33.13 MW of variable load and only 5.35 MW of existing renewable energy capacity, can still utilize 27.78 MW of capacity for its peaking supply. This includes both OMECO (32.33 MW of variable load and 5.35 MW of renewable energy capacity) and LUBELCO (0.8 MW of variable load). On the other hand, Oriental Mindoro, having 52.63 MW of variable load and 37.85 MW of renewable energy capacity, can still procure 14.78 MW of renewable energy.

Figure 9. Variable load and availability for variable RE, Mindoro[2526]

Notes: Occidental Mindoro is based on the combined variable load of LUBELCO and OMECO, while



Oriental Mindoro is based on the variable load of ORMECO. Existing RE is based on the dependable capacity for each province.

RE – Renewable energy; and
MW – Megawatts.

Transmission

As Mindoro is currently isolated from the nationwide grid systems, there are only existing plans to connect the island to other points of transmission. In the TDP 2024-2050, the NGCP plans to develop transmission infrastructure connecting Mindoro to Batangas by 2030, to Palawan by 2033, and to Panay by 2050.

Table 4. Transmission development projects in the pipeline, Mindoro[27]

Name	Estimated Time of Completion
Batangas-Mindoro Interconnection and Backbone (Stage 1)	September 2027
Batangas-Mindoro Interconnection and Backbone (Stage 2)	December 2030
Palawan-Mindoro Interconnection	February 2033
Mindoro-Panay 230 kV Interconnection Project	2041-2050

Note: kV - Kilovolts.

First, the Batangas-Mindoro Interconnection and Backbone Project connects Mindoro to the Luzon grid through a Batangas-Mindoro link. The Project will occur in 2 stages. By September 2027, both provinces will be connected through a 500 kV Calapan-Magsaysay transmission line. By December 2030, this connection will be strengthened through investments in the transmission network of Mindoro and increases in transfer capacity between Mindoro and the Luzon grid. The TDP 2024-2050 provides that this would support the bulk of the upcoming renewable energy projects in Mindoro.

However, this project is not without its issues. Although interconnecting Mindoro to the Luzon Grid may resolve issues of power supply since power can then be contracted from Luzon-based power producers and from the wholesale electricity spot market (WESM), this would also mean that Mindoreños will no longer be paying for subsidized electricity rates, and will instead pay for the expensive true generation cost of current contracted fossil fuels. The NGCP has also noted that the current timeline is very tight with respect to the global average for a transmission project like the Batangas-Mindoro Interconnection and Backbone Project. Furthermore, for the NGCP to meet the deadline, it requires resolution of the foreseen bottlenecks in the right-of-way and local permitting processes on the side of the government.[28] Nonetheless, there remains a concern for the environmental impacts of these projects. The aforementioned transmission projects will traverse certain parts of the Verde Island Passage (VIP). The DOE has announced that it is closely monitoring these developments[29], and through the bottlenecks in the completion of these development projects, there are opportunities to ensure that the interconnection would not come at the expense of the environment.

Figure 10. Batangas-Mindoro Interconnection and Backbone Project (Stage 1)[30]

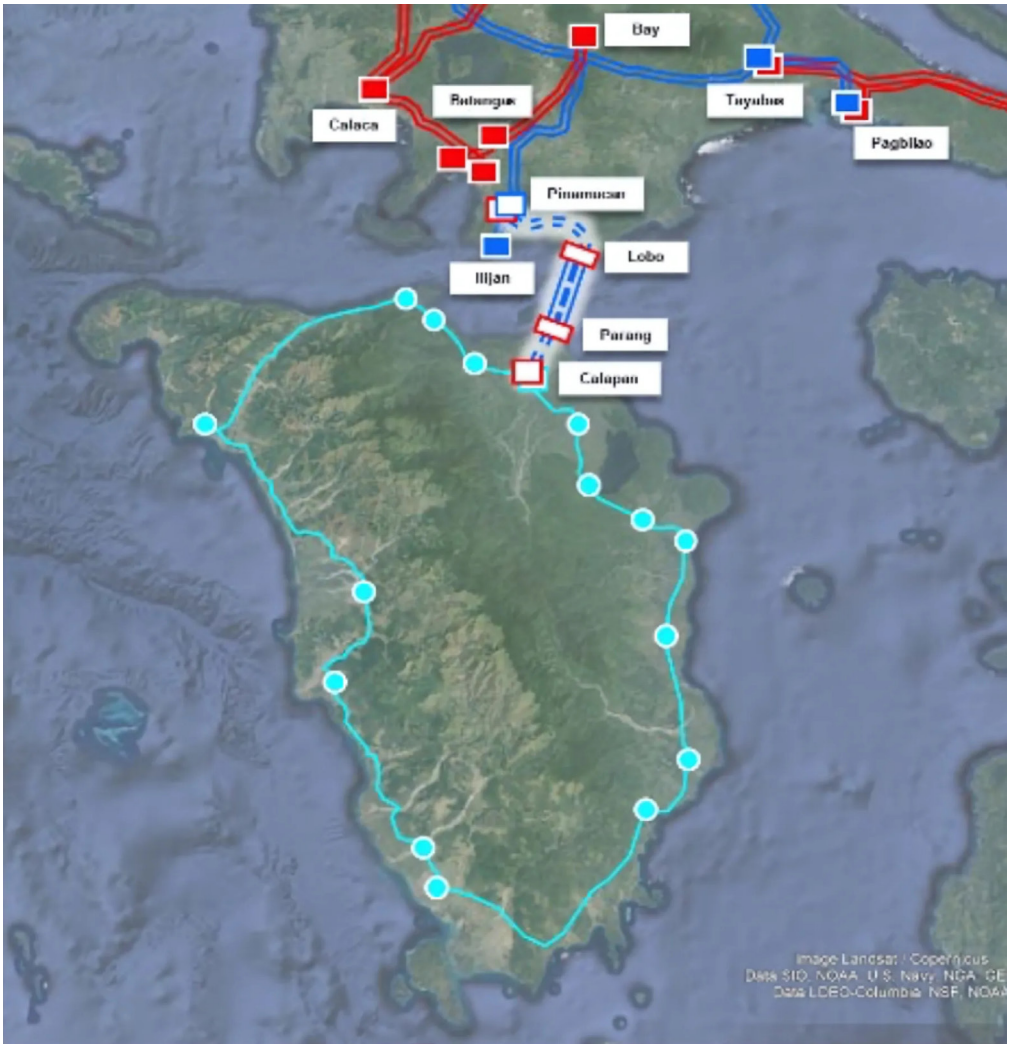


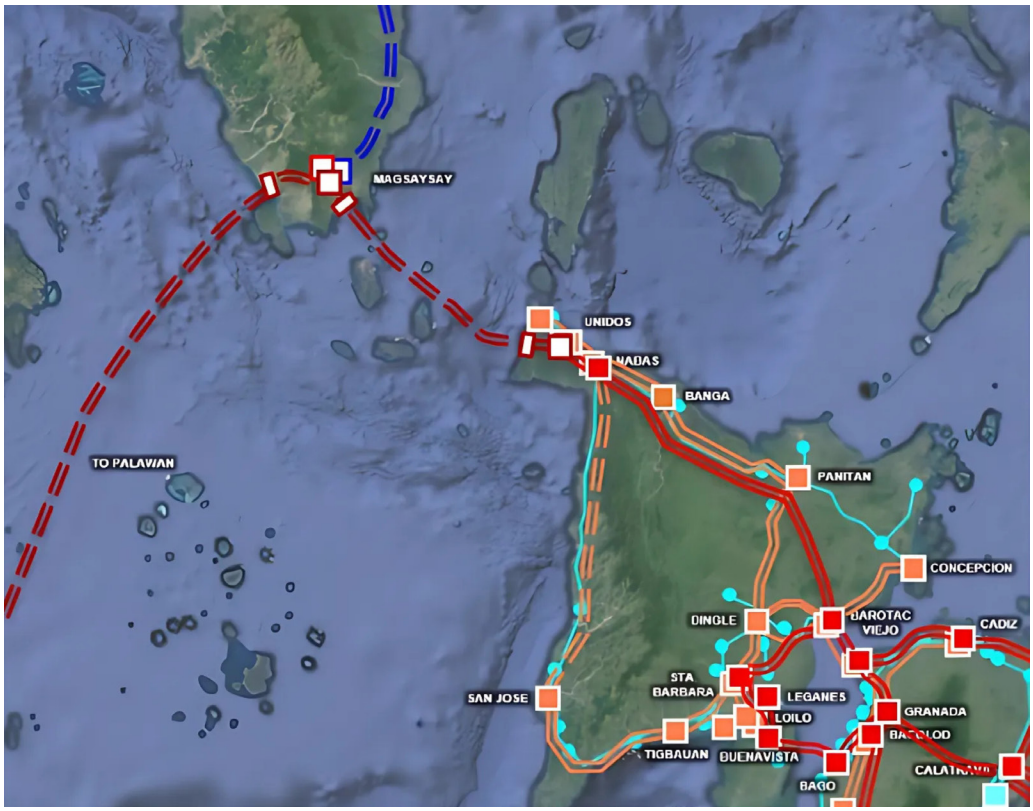
Figure 11. Batangas-Mindoro Interconnection and Backbone Project (Stage 2)[31]

Second, the Palawan-Mindoro Interconnection Project connects Palawan to the Luzon grid through Mindoro. This Project is considered the next step to the interconnection aspirations of the NGCP for off-grid islands after the completion of the Batangas-Mindoro Interconnection Project. By February 2033, the Project's completion is expected to encourage the development of renewable energy plants between the islands for export and to become a starting point for international connection between countries in Southeast Asia.

Figure 12. Palawan-Mindoro Interconnection Project[32]

Finally, through the Mindoro-Panay Interconnection Project, the Luzon and Visayas grids would have a point of transmission through Mindoro, strengthening grid reliability and providing additional opportunities for securing energy supply within the island.

Figure 13. Mindoro-Panay Interconnection Project[33]



Distribution

At the end of the electric power systems are ECs in charge of delivering electricity to end-users or consumers who use them. These cooperatives—LUBELCO, OMECO, and ORMECO—are responsible for ensuring electricity supply across the island's city and municipalities. In 2022, LUBELCO, OMECO, and ORMECO had 298,012 captive customers and 462,326 MWh of energy sales.

Table 5. Number of captive customers and energy sales (MWh), Mindoro, 2022[34]

Distribution Utility	*Type*	*Captive Customers*	*Energy Sales (MWh)*
LUBELCO	Commercial	214	1,144
	Industrial	37	281
	Others	228	780
	Residential	6,645	3,645
LUBELCO Total		7,124	5,850
OMECO	Commercial	4,422	22,852
	Industrial	71	14,519
	Others	1,884	11,082
	Residential	80,554	76,334
OMECO Total		86,931	124,787
ORMECO	Commercial	12,301	76,395
	Industrial	196	26,452
	Others	5,315	30,746
	Residential	186,145	197,096
ORMECO Total		203,957	330,689

Notes: LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.

The table above shows that all three electric cooperatives mostly serve residential customers, and they also distribute electricity to a substantial amount of commercial customers. Through access to electricity, the daily living conditions of households and the economic activities of firms in Mindoro are significantly dependent on these electric cooperatives.

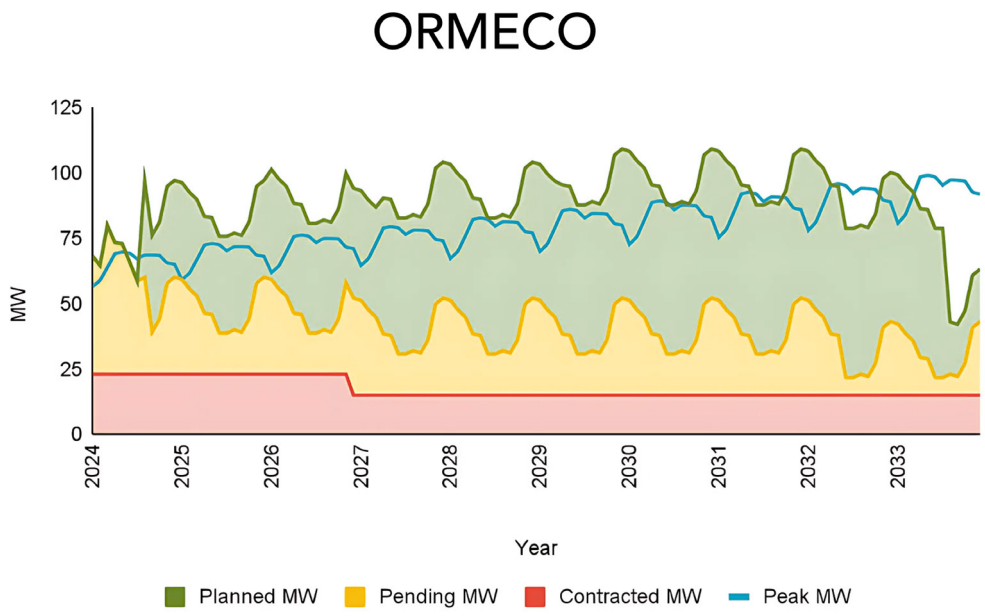
In an off-grid system with no access to a spot market, securing electricity supply is key for the ECs in Mindoro. While the DOE has initiated steps to facilitate a spot market for the island through a Mindoro-Palawan electricity spot market, these depend on the completion of the Batangas-Mindoro Interconnection Project and the Palawan-Mindoro Interconnection Project.[35] Therefore, Mindoro ECs still have to rely on bilateral contracting in the near future before such a market becomes operational in their coverage areas.

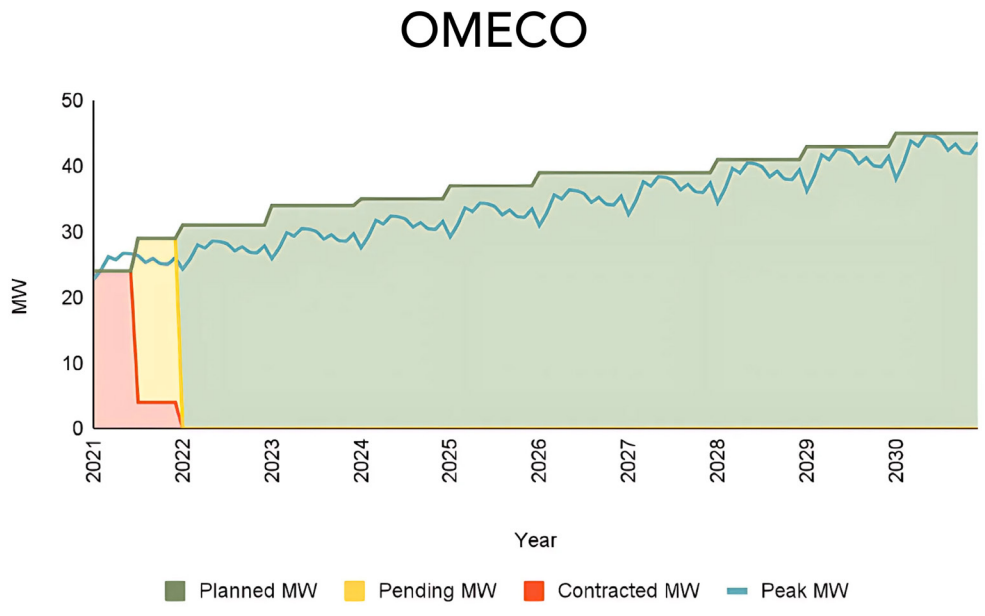
In their respective Power Supply Procurement Plans (PSPPs), ECs face the problem of securing the level of contracting that meets their power demand in the coming years. While ORMECO has contracted and pending capacity until 2033, these are significantly insufficient relative to peak demand forecasted for their respective years. Meanwhile, OMECO and LUBELCO suffer from the lack of contracted and pending capacity—as early as 2022 for OMECO and 2024 for LUBELCO. In the absence of a spot market, along with the lack of proper planning,

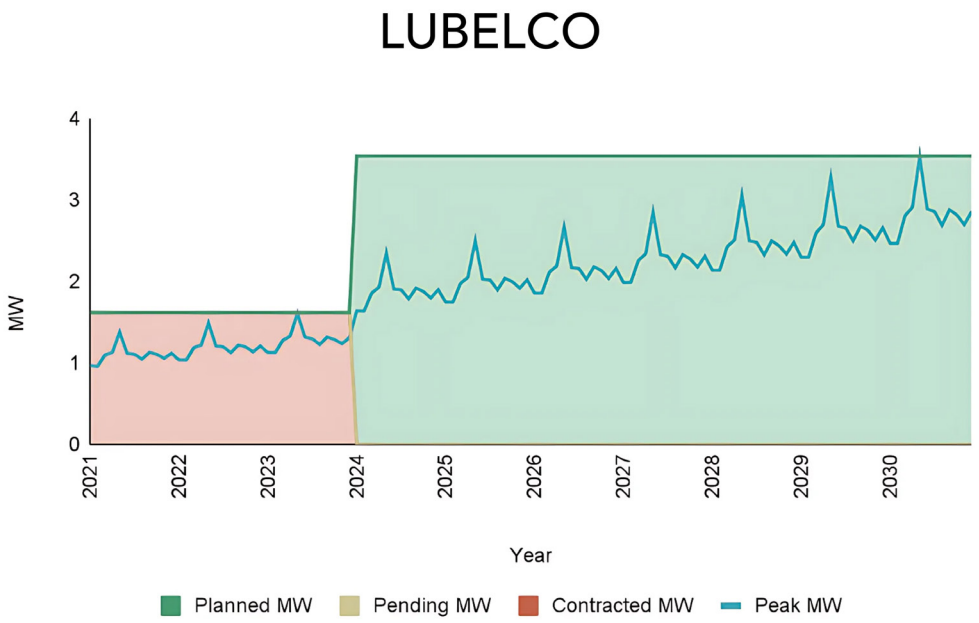
these ECs would have to contract Emergency Power Supply Agreements (EPSAs) at a great cost to consumers because they would not be able to avail of subsidies provided to off-grid consumers in regular PSAs.

Furthermore, because of the insufficient contracted capacity, it is expected that these ECs would be conducting Competitive Selection Processes (CSPs) for the coming years. Aside from its recently concluded 57 MW CSP, ORMECO would be contracting further 20 MW by 2033. Meanwhile, OMECO is expected to procure supply from 39 MW by 2026 to 45 MW by 2030. Finally, LUBELCO would have to contract 3.541 MW of supply until 2030. These present opportunities for Mindoro to tread the path towards the clean energy transition or to remain dependent on dirty, deadly, and costly diesel.

Figure 14. Consumption forecast, ORMECO36, OMECO37, and LUBELCO[383940]







Note: ORMECO – Oriental Mindoro Electric Cooperative, Inc.;
OMECO – Occidental Mindoro Electric Cooperative, Inc.;
LUBELCO – Lubang Electric Cooperative, Inc.;
MW – Megawatts.

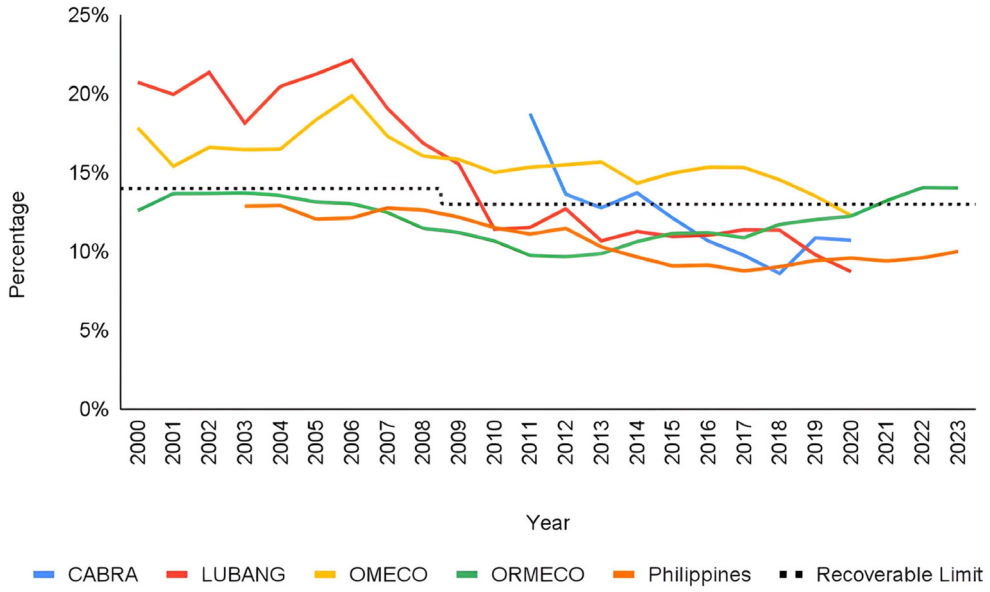
System losses

Meanwhile, the electricity that goes through the ECs distribution systems continues to suffer significant losses ranging from 10% to 20% of the energy distributed. In particular, ORMECO had 14.03% of system losses in 2023. OMECO reached 12.29%, while LUBELCO through Cabra and Lubang Islands reached 10.71% and 8.72% in 2020, respectively.

System losses, strictly speaking, refer to the difference between energy sales purchased by a distribution utility to the actual energy delivered to the consumers. Under ERC Resolution No. 17-08, system losses in the Philippines are further categorized into three different types: technical losses, non-technical losses, and administrative losses. Technical losses are those that arise from the physical limitations of the distribution system, while non-technical losses are those that arise from human interventions, such as electricity theft, unaccounted billing, or computational error. Meanwhile, administrative losses are defined as those that the distribution utilities use in the operation of their local systems.[41] In ORMECO, system losses decreased to 9.67% in 2012 due to the implementation of infrastructure projects that allowed the distribution system to be more efficient. However, after other needed projects were delayed and ORMECO had to take over as the system operator in the Oriental Mindoro grid, its system losses increased to 14.03% in 2023.[42] In OMECO, system losses have decreased to 12.29% in 2020. In LUBELCO, its system losses peaked in particular years (Cabra's 18.75% in 2011 and Lubang's 22.15% in 2006) because of problems in their distribution infrastructure. Mindoro's system losses are largely dependent on the state of their local distribution systems.

Through Republic Act No. 7832 and ERC Resolution No. 17-8, the ERC has the power to set the maximum system loss cap that DUs (both private DUs and ECs) can recover from consumers.[43] Beyond a particular percentage, further system losses can no longer be passed on to consumers, resulting in further financial losses for these DUs. This policy is intended to incentivize DUs to make their local distribution systems more efficient. However, for many years, ECs in Mindoro have exceeded the maximum recoverable caps for system losses—14% until 2009 and 13% up to present—indicating the perennial inefficiency of Mindoro's local distribution systems. This is in sharp contrast to the Philippine average that is consistently below the recoverable limit from 12.86% in 2003 to 9.99% in 2023.

Figure 15. System losses, ORMECO[44], OMECO[45], and LUBELCO[46], 2000-2023[4748]

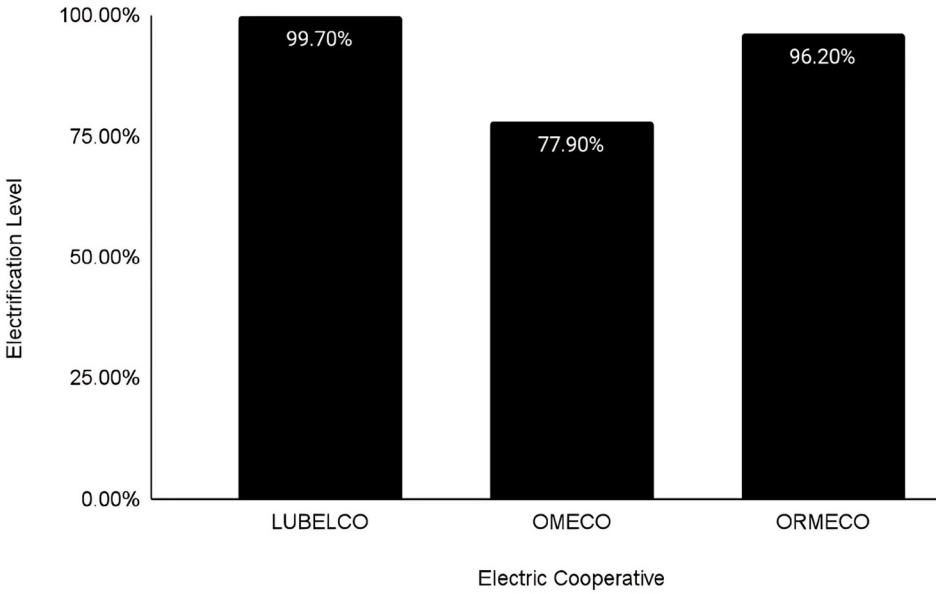


Note: LUBELCO's system losses are disaggregated into the system losses of Cabra and Lubang islands. Missing values are due to unavailable data.
ORMECO – Oriental Mindoro Electric Cooperative, Inc.;
OMECO – Occidental Mindoro Electric Cooperative, Inc.;
LUBELCO – Lubang Electric Cooperative, Inc.

Electrification

A significant portion of residents in Mindoro have access to electricity. LUBELCO serves a total of 6,989 households in its coverage area, OMECO serves 96,561 households, and ORMECO serves 213,894 in total. Notably, compared to other electric cooperatives, OMECO only provides access to 77.90% of households within its coverage area. The Missionary Electrification Development Plan 2024-2028 highlights five key developmental challenges related to achieving full missionary electrification. First, reaching remote areas is plagued with complex operational and logistical issues because of the limited infrastructure available. Second, funding gaps exist given the limited economic returns currently present in these areas. Third, off-grid ECs still rely on unsustainable technologies, such as diesel generators and outdated transmission and distribution infrastructure, that pose problems for long-term electrification in these remote areas. Fourth, these ECs also lack the managerial and technical know-how to improve their operations such that they can improve electrification outcomes. Finally, existing permitting and regulatory processes also pose costs that would have otherwise made it viable to pursue an electrification project.

Figure 16. Household electrification, Mindoro, June 2023[49]

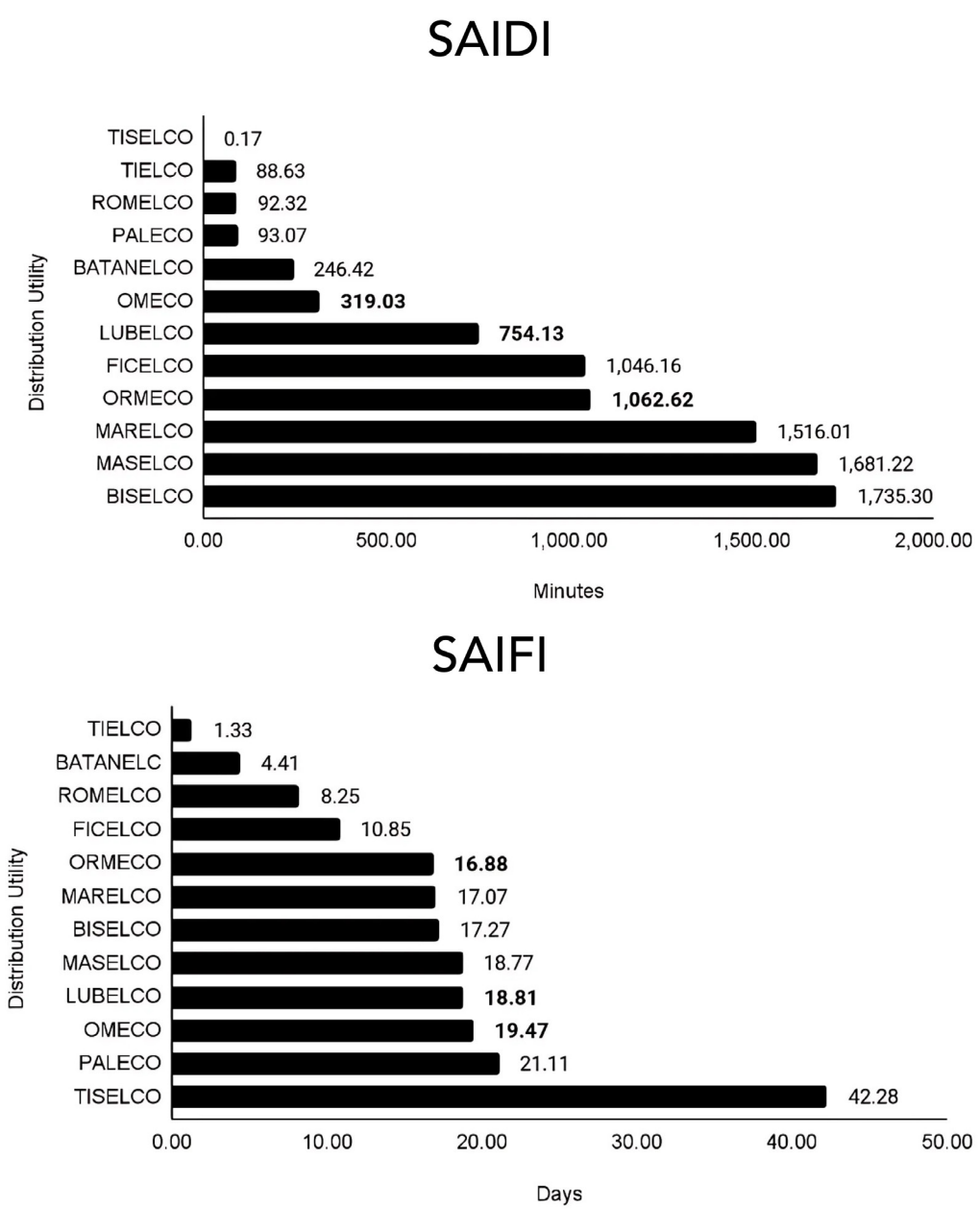


Note: LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.

Power reliability

Furthermore, without reliability, people's activities are constantly in limbo, leaving them vulnerable to system interruptions. Reliability is often measured through the System Average Interruption Frequency Index (SAIFI) and the System Average Interruption Duration Index (SAIDI), indicating the extent to which power outages affect consumers' use of electricity in a given area. Specifically, SAIFI measures how consumers regularly experience power interruptions per year, while SAIDI measures how long consumers experience these in those years.

Figure 17. SAIFI and SAIDI, off-grid ECs, Luzon, Q4 2024[50]



Note: Mindoro ECs are highlighted in bold.
SAIFI - System Average Interruption Frequency Index
SAIDI - System Average Interruption Duration Index

Looking at the indices in Mindoro, in 2024, residents in the island experience outages in around 17 to 19 days per year. In the same year, these outages can last as long as 18 hours in Oriental Mindoro. Compared to other off-grid ECs, ORMECO, OMECO, and LUBELCO experience relatively more frequent and longer power interruptions. In Mindoro, these power interruptions have not only existed in 2024. When Occidental Mindoro faced 20-hour outages, its provincial government declared a state of calamity to deal with its power issues.[51] At one series of frequent outages, this has been attributed to unpaid fuel subsidies from the National Power Corporation[52], indicating the precarity of relying on oil-based power sources. These power interruptions affect the lives of Mindoro consumers significantly, disrupting their activities and leaving their lives vulnerable to the lack of electricity.

In a separate research published by the CEED it was established that power outages in the Philippines are significantly caused by fossil fuel use. Fossil fuel power plants that rely on fossil fuels more regularly go on outages, causing system interruptions to the detriment of electricity consumers.[53] Considering that wind, solar, and hydro are complementary in nature, having a power mix using varied renewable energy sources can lead to a smoother overall power output. To put simply, solar can provide electricity during daytime and best during the summer season, and complemented by wind and hydro throughout the day. At the same time, battery energy storage systems can ensure that there is reliable supply throughout the day. For example, excess energy from solar in the day can be stored in batteries to be used for consumption in the evening. This allows electric cooperatives in Mindoro to utilize clean and cheap energy while ensuring reliable supply to its customers throughout the day.

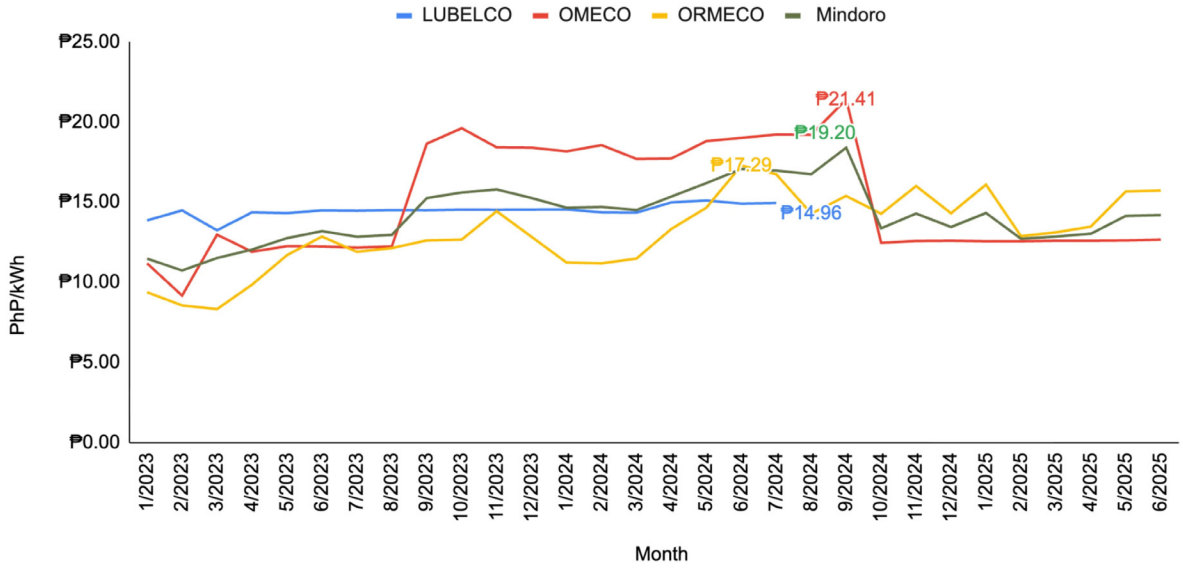
Rates

For most consumers, the performance of a power sector boils down to the costs they incur from using that system. No matter how accessible and reliable a system can be, if the resulting electricity is expensive, many households would suffer. This is more significant considering that in Mindoro, residents have no choice but to bear the costs as captive markets of the electric cooperatives.

Residential rates

Residential rates in OMECO went as high as PhP 21.00/kWh in 2024, while LUBELCO consistently posted rates around PhP 15.00/kWh for the same year. ORMECO's residential prices varied from around PhP 8.00/kWh to PhP 17.00/kWh. On average, Mindoro consumers paid for electricity at PhP 13.29/kWh in 2023 and at PhP 15.48/kWh in 2024.

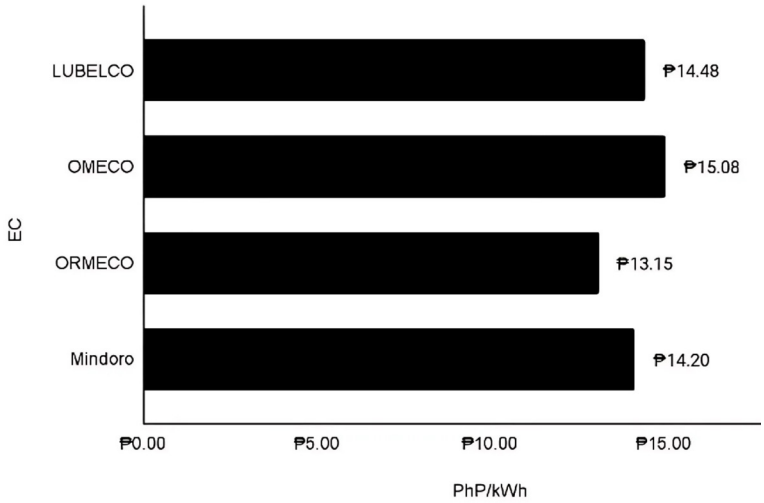
Figure 18. Residential rates per month, Mindoro, January 2023 - June 2025[54]



Note: LUBELCO is data only until July 2024 due to data unavailability.
LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.

In terms of overall averages, residents in Mindoro pay PhP 14.20/kWh from January 2023 to June 2025. Specifically, residents pay PhP 14.48/kWh in LUBELCO, PhP 15.08/kWh in OMECO, and PhP 13.15/kWh in ORMECO.

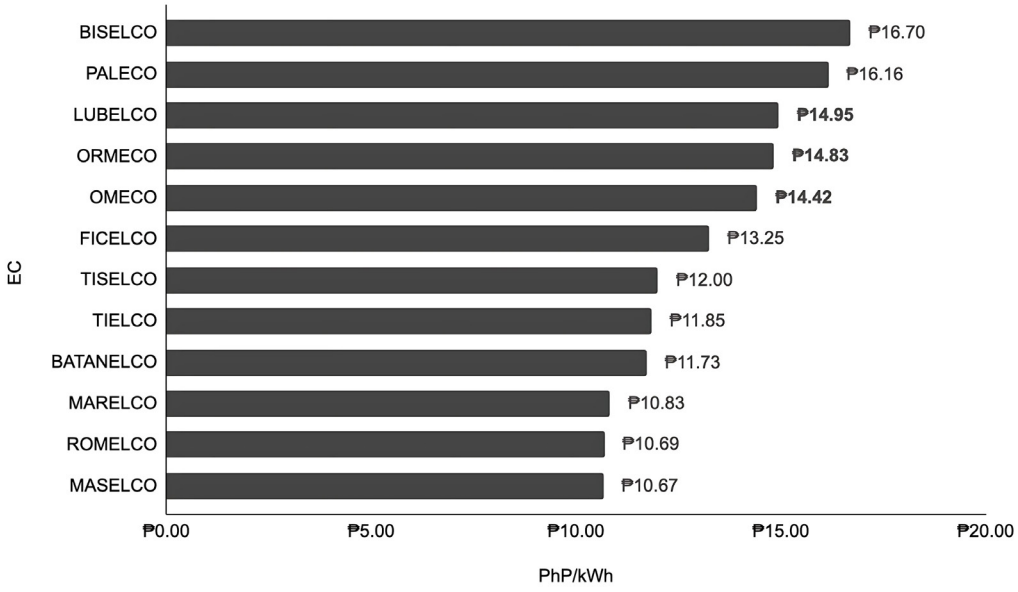
Figure 19. Average residential rates, Mindoro, January 2023 - June 2025[55]



Note: LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.

At the same time, compared to the rates of other off-grid ECs in Luzon, Mindoro residents pay the relatively more expensive rates in the island group. Averaging the rates from July 2024 to June 2025, OMECO's PhP 14.42/kWh, ORMECO's PhP 14.83/kWh, and LUBELCO's PhP 14.95/kWh are significantly higher than Masbate Electric Cooperative, Inc.'s PhP 10.67/kWh and Marinduque Electric Cooperative, Inc.'s PhP 10.69/kWh, having at least more than PhP 4.00/kWh difference.

Figure 20. Average residential rates, Off-grid Luzon ECs, July 2024 - June 2025[56]

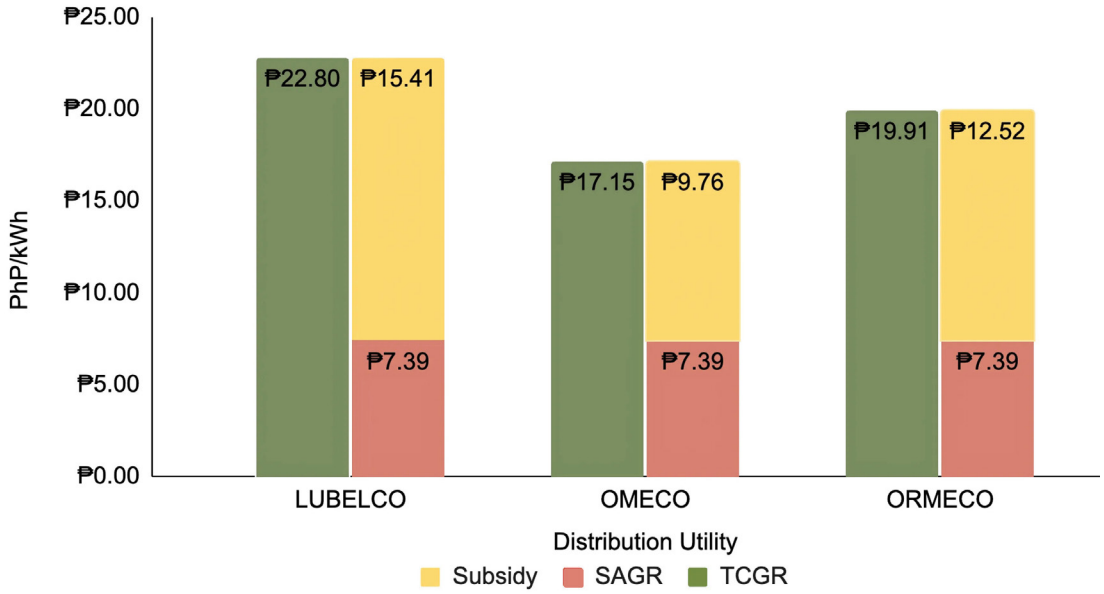


Note: EC – Electric Cooperative;
PhP/kWh – Philippine Pesos per kilowatt-hour.

Subsidies

To alleviate the expensive electricity rates in offgrid areas, the government subsidizes electricity costs to levels submitted by the NPC and approved by the ERC known as the Subsidized Approved Generation Rate (SAGR).[57] The subsidies depend on the actual generation costs incurred by the electric cooperatives, also known as the True Cost Generation Rate (TCGR).

Figure 21. TCGR, SAGR, and subsidies, Mindoro, 2022[58]



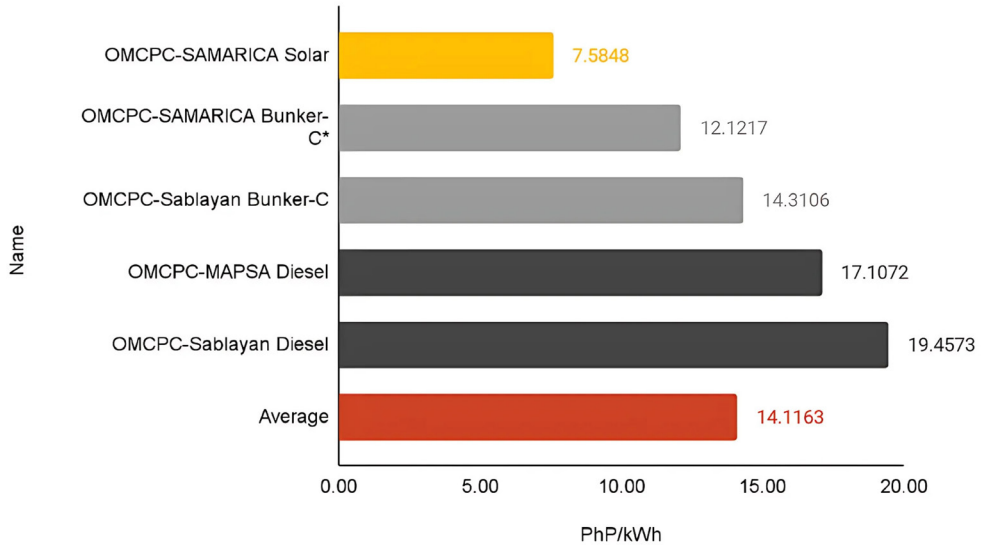
Note: LUBELCO - Lubang Electric Cooperative, Inc.
OMECO - Occidental Mindoro Electric Cooperative, Inc.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.
SAGR - Subsidized Approved Generation Rate
TCGR - True Cost Generation Rate
PhP/kWh - Philippine Pesos per Kilowatt-hour.

Through the Universal Charge for Missionary Electrification (UC-ME), Mindoro's generation rates are heavily subsidized by all electricity end-users around the country, Subsidies reached as high as PhP 15.41/kWh in LUBELCO to achieve the SAGR of PhP 7.39/kWh. This only consists of the generation component in the electric bill charged to the consumers. Other unbundled costs exist that would add to the final residential rate that consumers receive. Furthermore, regardless of income, all consumers in Mindoro pay for the same residential rate, implying that high-income consumers also enjoy the subsidized generation rates in Mindoro. Without the SAGR, many households would be paying for significantly higher electricity costs.

PSA rates

The culprit behind these high prices is Mindoro's dependence on oil-based power plants.

Figure 22. Existing PSAs by generation rate, OMECO, 2025[596061]



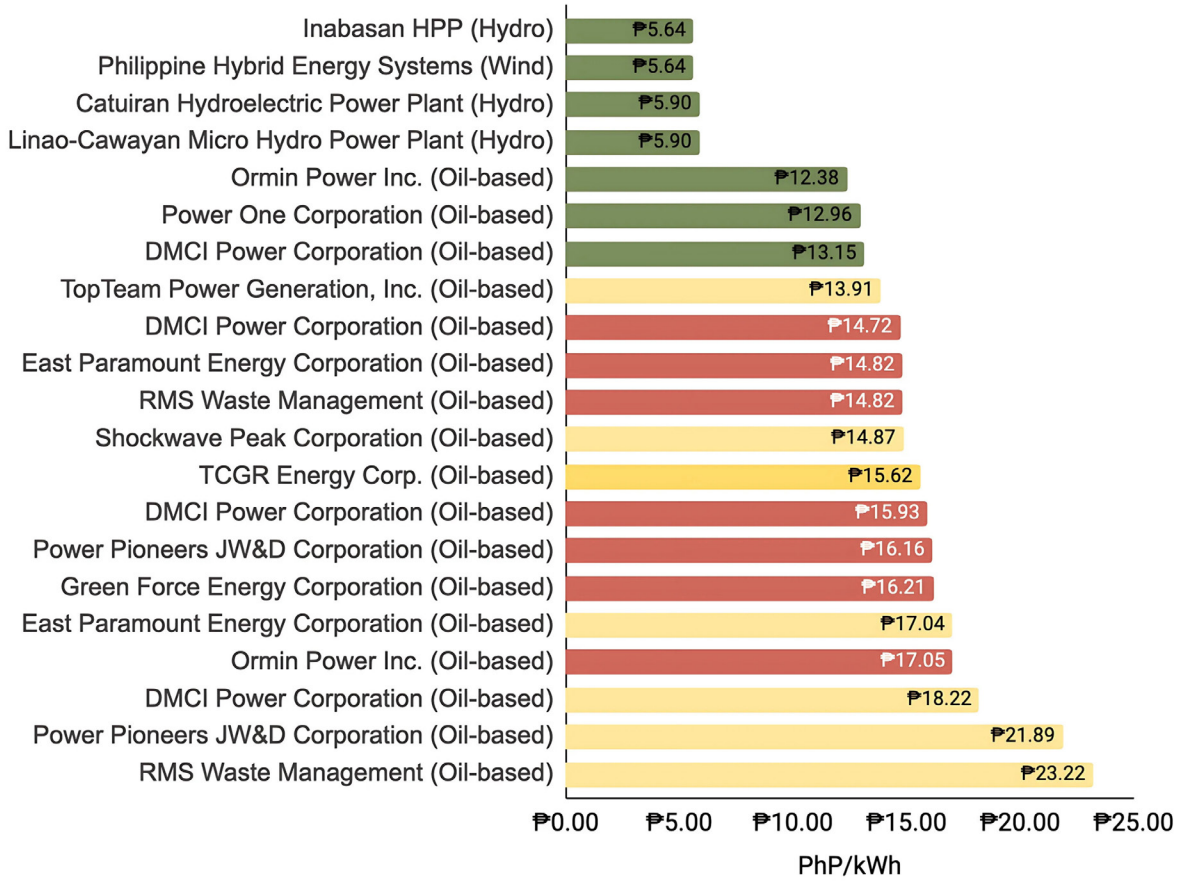
Note: *OMCPC-SAMARICA Bunker-C generation rate as of 2021. New rate has been adjusted to PhP/kWh 2.0764 + Fuel Costs;

PSA - Power Supply Agreement;
OMECO - Occidental Mindoro Electric Cooperative, Inc.;
ERC - Energy Regulatory Commission;
PhP/kWh - Philippine Pesos per Kilowatt-hour.

Looking at the generation rates in OMECO's existing PSAs in 2025, we see that bunker- and diesel-fired plants range from twice to thrice the rate of OMECO's solar PSA (PhP 7.5848/kWh). Bunker PSAs have approved rates reaching as high as PhP 21.9181/kWh, while diesel PSAs reach as high as PhP 19.4573/kWh.

On the other hand, in ORMECO, a comparison of the rates from its PSAs, EPSAs, and prospective rates from its recently conducted CSP corroborates the driving factor behind high electricity prices in the island: fossil fuels.

Figure 23. Rates from current power supply agreements, ORMECO[62] [63] [64]



Note: Prices in green refer to those with existing Power Supply Agreements.
Prices in yellow refer to those with Emergency Power Supply Agreements.
Prices in red refer to those conducted through the 57 MW Competitive Selection Process.
ORMECO - Oriental Mindoro Electric Cooperative, Inc.
PhP/kWh - Philippine Pesos per Kilowatt-hour

At current rates, contracted supply from renewable energy PSAs are the lowest at around PhP 5.64/kWh to PhP 5.90/kWh. Meanwhile, supplies from fossil fuel PSAs are twice as expensive than renewable energy sources without subsidies ranging from PhP 12.38/kWh to PhP 13.15/kWh. EPSAs are even more expensive, reaching as high as PhP 23.22/kWh, and the winning bids have similar prices to these EPSAs. With renewables having much cheaper generation costs than fossil fuel, even lower than SAGR, shifting to renewable energy can lessen the subsidy requirements which ultimately reduces the burden of missionary electrification costs passed on to all consumers.

At present, ORMECO continues to maintain this dependence through its recently conducted 57 MW CSP. As a result of the bidding process, the CSP in ORMECO resulted in awards to the following bidders, subject to the approval in the ERC when they file their respective PSAs:

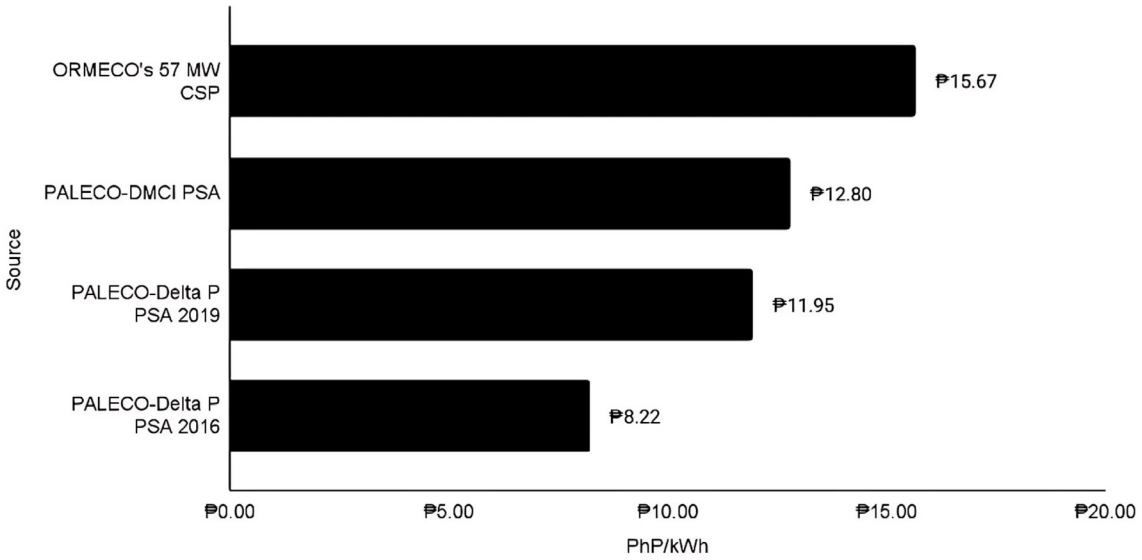
Table 6. List of winning bidders, 57 MW GDC Power Supply, ORMECO[65]

Winning Bidder	Parent Company	Lot No.	Location	Capacity (MW)	Commercial Operations Date	Bid Price (PhP/kWh)
DMCI Power Corporation	DMCI Holdings, Inc.	I	Calapan City	5	Jan 1, 2026	14.717
Ormin Power Inc.	Jolliville Holdings Corp.	II	Calapan City	10	Apr 1, 2027	17.0479
DMCI Power Corporation	DMCI Holdings, Inc.	III	Calapan City	5	Apr 1, 2029	15.9339
Power Pioneers JW&D Corporation	Undetermined	IV	Naujan	5	Jan 1, 2025	16.1607
RMS Waste Management and Petroleum Technology Corporation	RMS Group of Companies	V	Pinamalayan	14	Jan 1, 2025	14.8225
East Paramount Energy Corporation	East Paramount Fuel Corporation	VI	Bansud	10	Jan 1, 2025	14.8219
Green Force Energy Corporation	Undetermined	VII	Roxas	8	Jan 1, 2025	16.2056

Note: MW - Megawatts
GDC - Guaranteed Dependable Capacity
ORMECO - Oriental Mindoro Electric Cooperative, Inc.
PhP/kWh - Philippine Pesos per Kilowatt-hour

The results of the CSP shows that ORMECO will maintain its dependence on diesel, in turn perpetuating perennial power issues in its coverage areas. First, a cursory look at comparable rates exemplifies the costly nature of the diesel contracts ORMECO plans to enter into. In the Figure below, the average price of the winning bids in the recently conducted CSP is higher than the other comparable rates from another off-grid electric cooperative, the Palawan Electric Cooperative, Inc. These bid prices could also result in higher generation rates, given possible pass-on costs that may be shifted to consumers, increasing the subsidies needed to maintain the SAGR.

Figure 24. Rate comparisons between the 57 MW CSP and other PSAs[66676869]



Note: ORMECO's 57 MW CSP refers to the average of the winning bid prices.
MW - Megawatts
CSP - Competitive Selection Process
PSA - Power Supply Agreement

PALECO and DMCI Power Corporation had a PSA rate of PhP 12.80/kWh, while ORMECO's winning bid with DMCI Power Corporation in the 57 MW CSP went as high as PhP 15.93/kWh. While the different contracts were entered into at different times and are contracted under different fuel pricing assumptions, we can, nonetheless, see the evolution of pricing under diesel-based PSAs—one that is becoming more expensive as time passes. This reflects the failure of the CSP to provide electricity supply to its consumers with the least cost.

REnew Mindoro: Renewable energy, the solution to Mindoro's power problems

The island has a viable energy solution to its current perennial power issues: renewable energy. Mindoro requires supply that would withstand variability of demand while avoiding risks of outages. Many studies have been published showing that variable renewable energy resources are suitable to the supply issues that the electric power industry faces in the Philippines. A CEED study has found that renewable energy sources have less forced outages than fossil fuel plants, making them more reliable.[70] The Institute for Climate and Sustainable Cities (ICSC) have also illustrated how prolonged forced outages by baseload coal plants have led to the introduction of yellow and red alerts in the Luzon grid.[71] This is due to the country's overreliance on baseload coal technologies in the country, using them even as variable load despite baseload coal's lack of flexibility to address varying demand throughout the day. In Mindoro, the province's overreliance on fossil fuel plants have led to the same issues, despite sufficient space for renewable energy integration. Therefore, it is important to assess the capability of the province to pursue energy transition by looking at its renewable energy potential.[72]

Renewable energy potential

In the DOE's Ready for Renewables: Grid Planning and Competitive Renewable Energy Zones (CREZ) in the Philippines, four different sites were identified for possible solar photovoltaic (PV) and wind installations given their cost-effectiveness and high developer interest. Assuming timely completion of pending transmission projects in Mindoro, two sites are available for solar PV installations with 130 MW and 213 MW each, while other two sites for onshore wind installations provide 386 MW and 324 MW worth of capacity opportunity.[73] Furthermore, the Batangas-Mindoro Interconnection and Backbone Project in the TDP 2024-2050 is being developed to encourage generation companies in creating solar PV and wind installations on these sites.

Figure 25. Potential solar photovoltaic sites, Philippines[74]

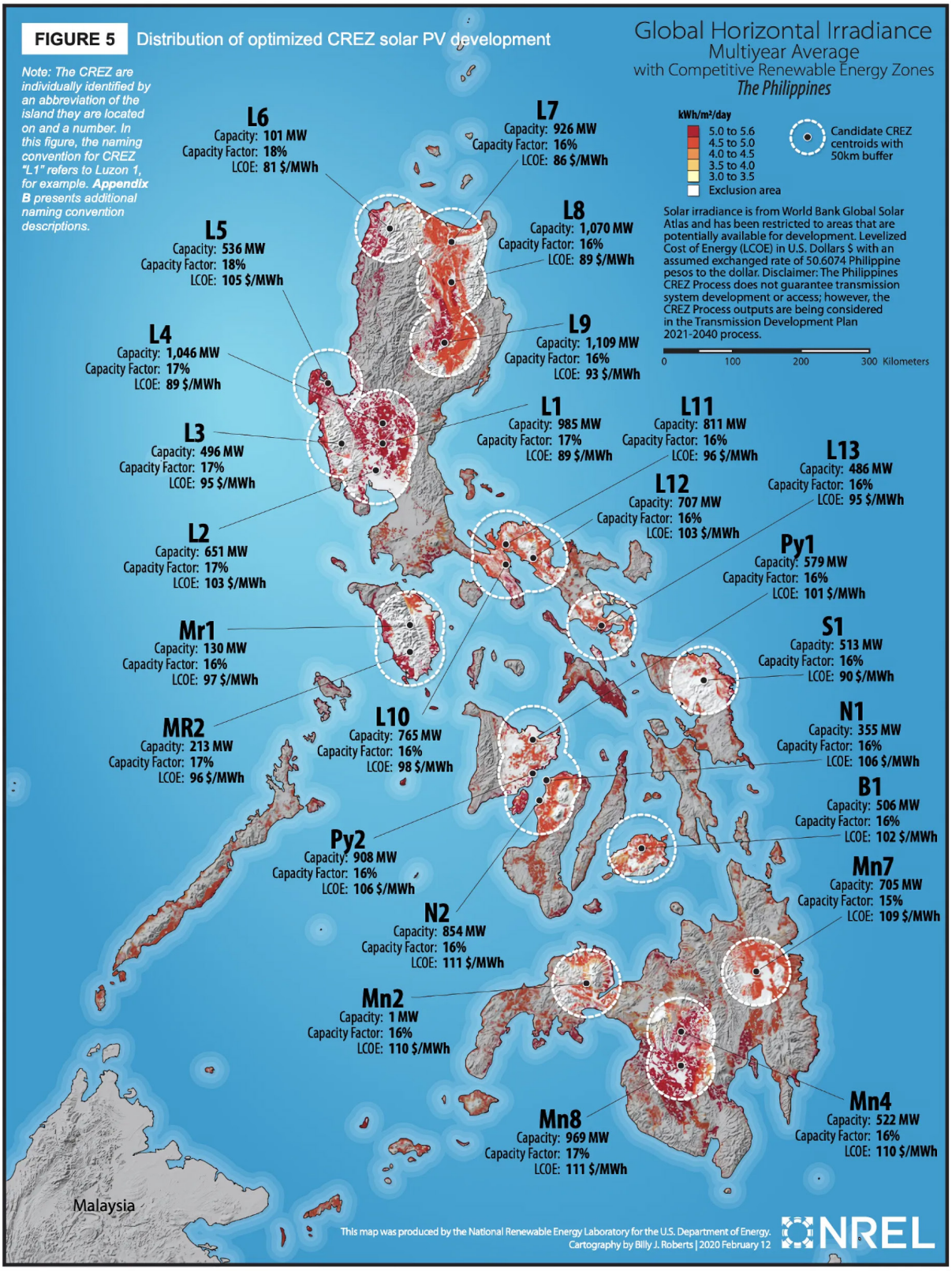
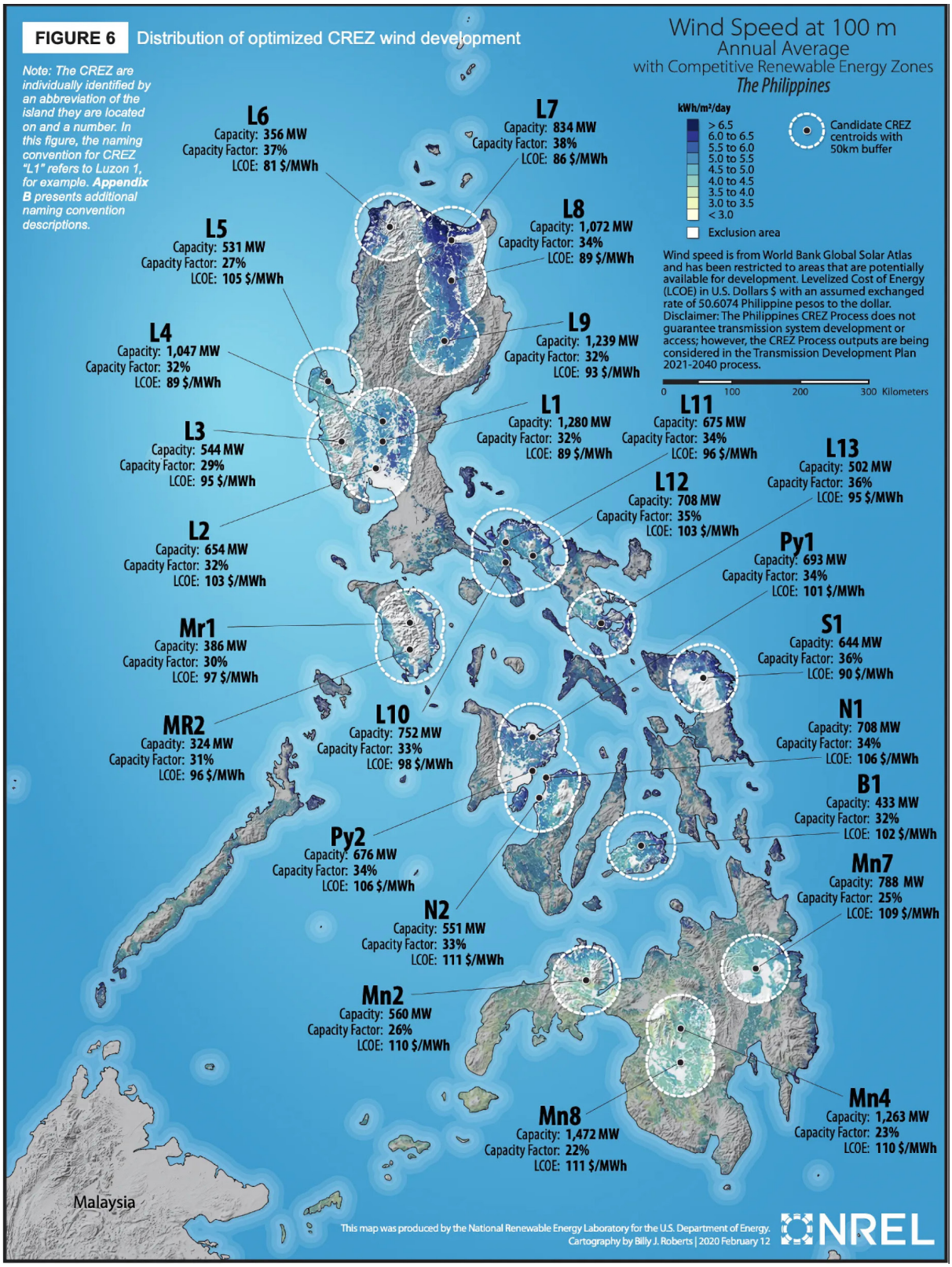


Figure 26. Potential onshore wind sites, Philippines[75]



Data from Climate Analytics, who undertook what could be the most detailed 1.5˚C scenario modeling of the Philippines power sector, depicts an even larger renewable energy potential compared to the CREZ. Simulation models indicate that Mindoro Island has a combined solar and wind energy potential of 34.76 GW in capacity or 88.9 TWh in power generation. This is 33 times that of the renewable energy potential approximated by the CREZ and 290 times that of the recorded peak demand by Mindoro ECs (120 MW).

Table 7. Battery technologies in Mindoro[76]

Facility Name	Subtype	Dependable Capacity (MW)	Location	Region	Operator	Date of Commissioning
OMCPC SMRA Solar	Ground-Mounted Solar PV (Hybrid)	2.83	San Jose Occidental Mindoro	4-B	Occidental Mindoro Consolidated Power Corporation (OMCPC)	August 2024
OMCPC SMRA BESS	Battery Energy Storage System (Hybrid)	2.52	2.52			

Note: BESS - Battery Energy Storage System.

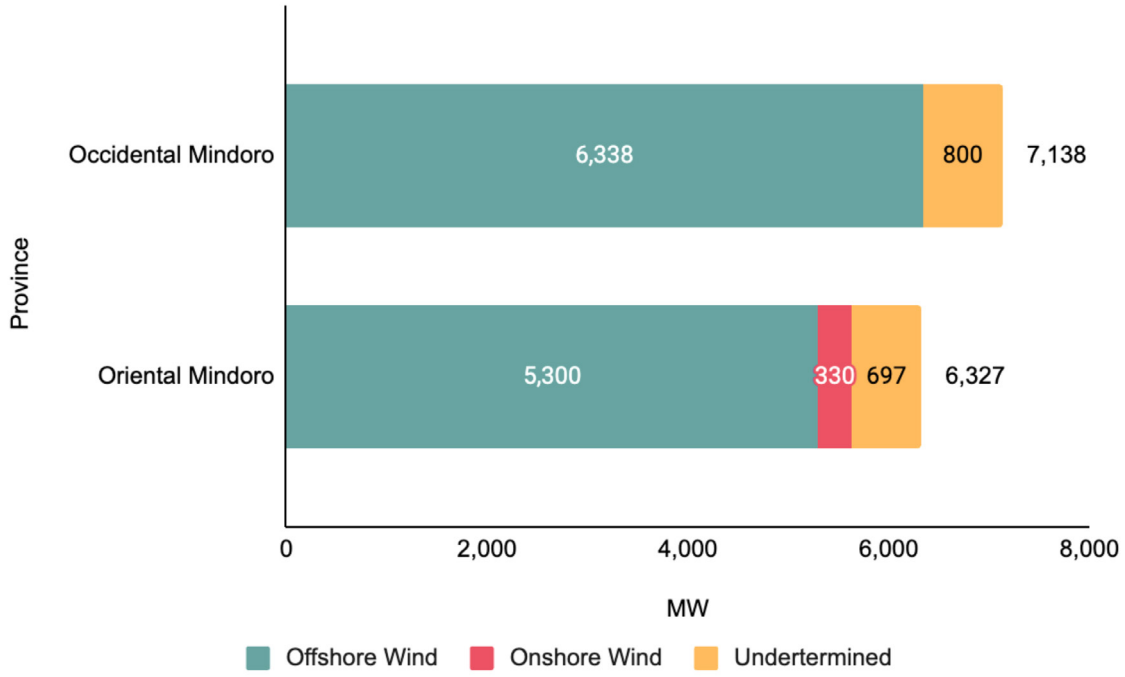
The CREZ and the data from Climate Analytics do not take into account hydropower potential. However, Mindoro Island has access to numerous primary and tributary rivers. There are 18 classified principal river systems across Mindoro Island including the Balete, Bansud, Bongabong, Bulalacao, and Pulang Tubig principal rivers.

Comparing all potential capacities to the recorded peak demand by Mindoro ECs, there is more than sufficient potential for Mindoro to fully transition into a renewable energy island.

Moreover, local government-funded studies also corroborate the potential for the utilization of solar PV installations. The provincial government of Oriental Mindoro considered the feasibility of a solar rooftop installation in their government buildings, and it was found that having such an installation would result in savings for the government. Utilizing renewable energy is economically feasible and financially viable.[77]

In the Department of Energy's list of renewable energy projects in the pipeline, developers concur with the wind potential of Mindoro through their committed projects being operational as early as 2029. These wind projects provide Mindoro with the maximum possible capacity of around 13,465 MW.

Figure 27. Indicative wind power projects by technology subtype, Mindoro, as of December 31, 2024[78]



Notes: MW – Megawatts.

Specifically, 11,638 MW (86.43%) are offshore wind projects, while 330 MW (2.45%) are onshore. The remaining 1497 MW (11.12%) is still undetermined. All pipeline renewable energy projects are planned to be installed outside the Verde Island Passage, but the affected sites are also homes to two identified fish sanctuaries.[79] The availability of renewable energy alternatives in the near future shows that electric cooperatives do not need to enter into long-term contracts with fossil fuel suppliers and can avoid perennial power issues.

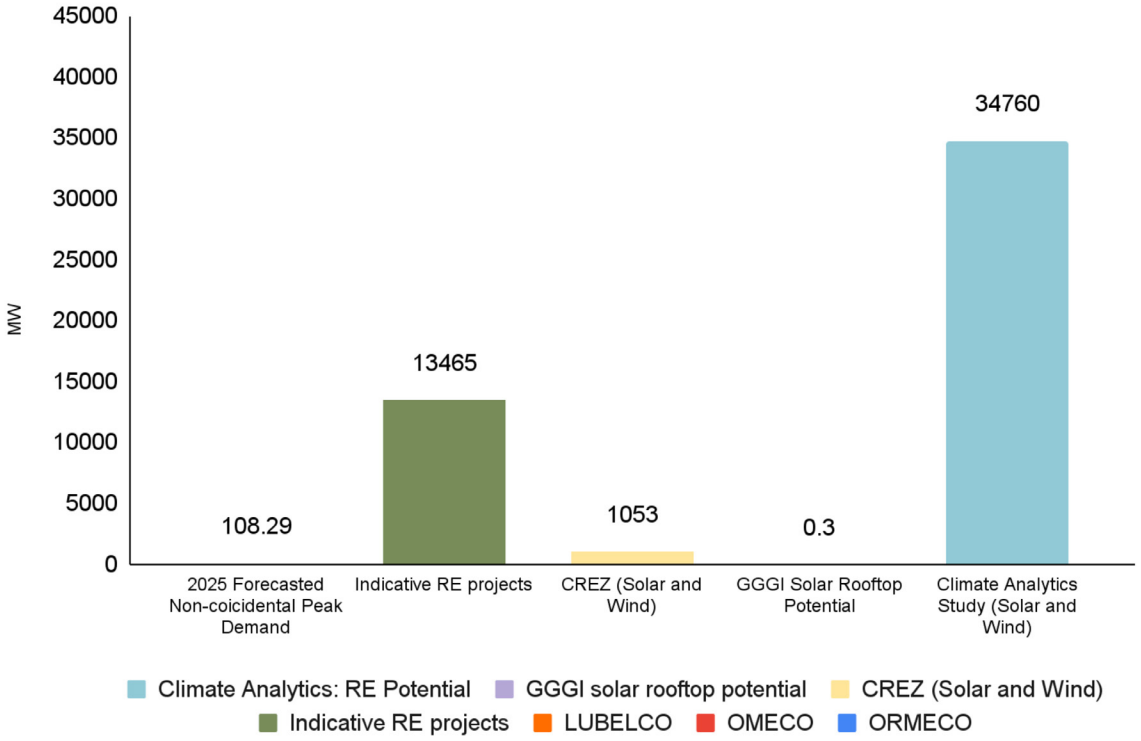
Furthermore, renewable energy, specifically solar, can be supported by battery storage technologies. Excess energy from solar in the day can be stored in batteries to be used for consumption in the evening. This allows electric cooperatives in Mindoro to utilize clean and cheap energy while ensuring reliable supply to its customers throughout the day.

Table 8. Battery technologies in Mindoro[80]

Facility Name	Subtype	Dependable Capacity (MW)	Location	Region	Operator	Date of Commissioning
OMCPC SMRA Solar	Ground-Mounted Solar PV (Hybrid)	2.83	San Jose Occidental Mindoro	4-B	Occidental Mindoro Consolidated Power Corporation (OMCPC)	August 2024
OMCPC SMRA BESS	Battery Energy Storage System (Hybrid)	2.52				

In San Jose, Occidental Mindoro, a solar photovoltaic project with around 3 MW of dependable capacity is supported with a battery energy storage system through the Occidental Mindoro Consolidated Power Corporation. There are already existing investments for renewable energy and battery technologies, and given Mindoro's potential, renewable energy is substantially a viable energy solution.

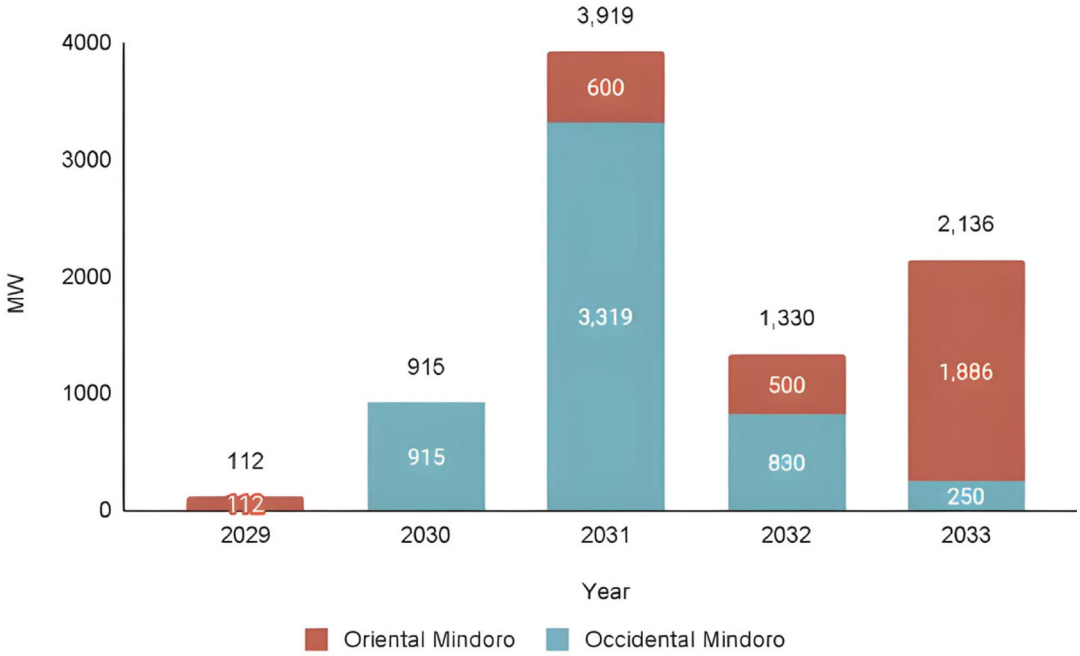
Figure 28. Peak demand and overall RE potential (indicative projects and identified potential from studies), Mindoro[81]



Mindoro's pathway to energy transformation

To enable the energy transition, long-term planning is necessary to develop the pathway. Looking at the power projects in the pipeline for Mindoro, we find that all of the upcoming projects utilize wind technology and in the coming years, these wind projects in both Occidental and Oriental Mindoro would be sufficient to supply all three ECs' projected energy demand. From 2029 to 2033, Mindoro is expected to install 13,465 MW of capacity from both onshore and offshore wind projects. 7,138 MW (53.01%) would be installed in Occidental Mindoro, while 6,327 MW (46.99%) would be installed in Oriental Mindoro.[82]

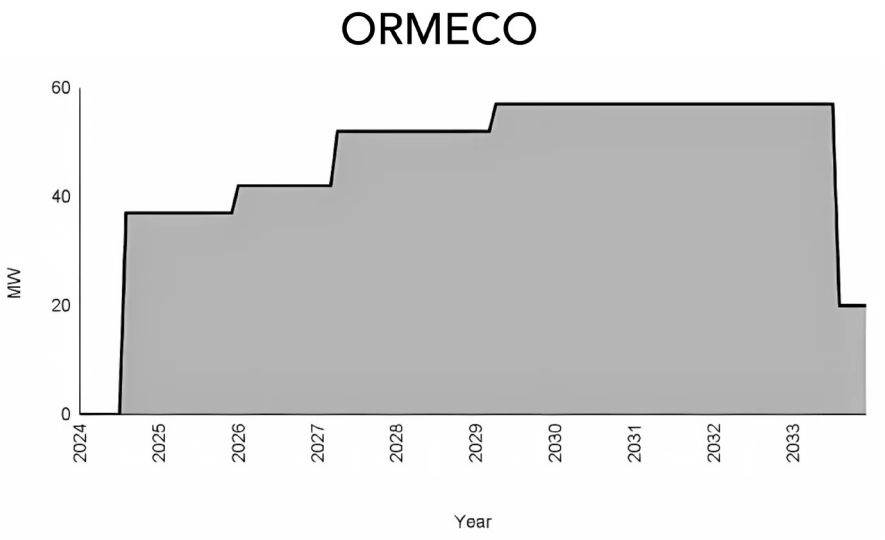
Figure 29. Indicative power projects, Mindoro, as of December 31, 2024[83]



Notes: MW – Megawatts.

Based on ORMECO's projected demand and existing contracted supply, it is expected to procure further supply from 42 MW in 2026 to 57 MW in 2030.

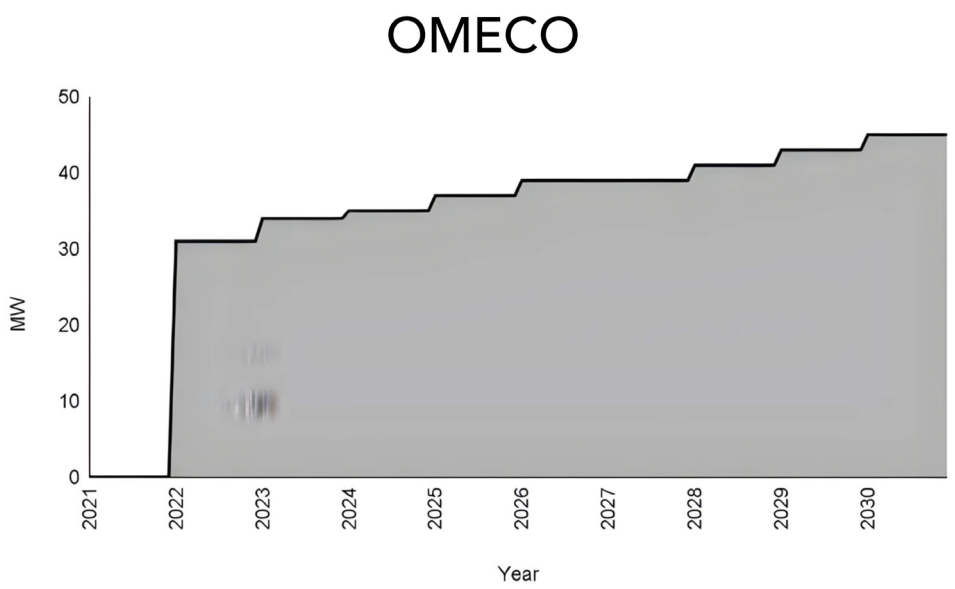
Figure 30. Planned MW, ORMECO, 2024-2033[84]



Notes: ORMECO – Oriental Mindoro Electric Cooperative, Inc.;
MW – Megawatts.

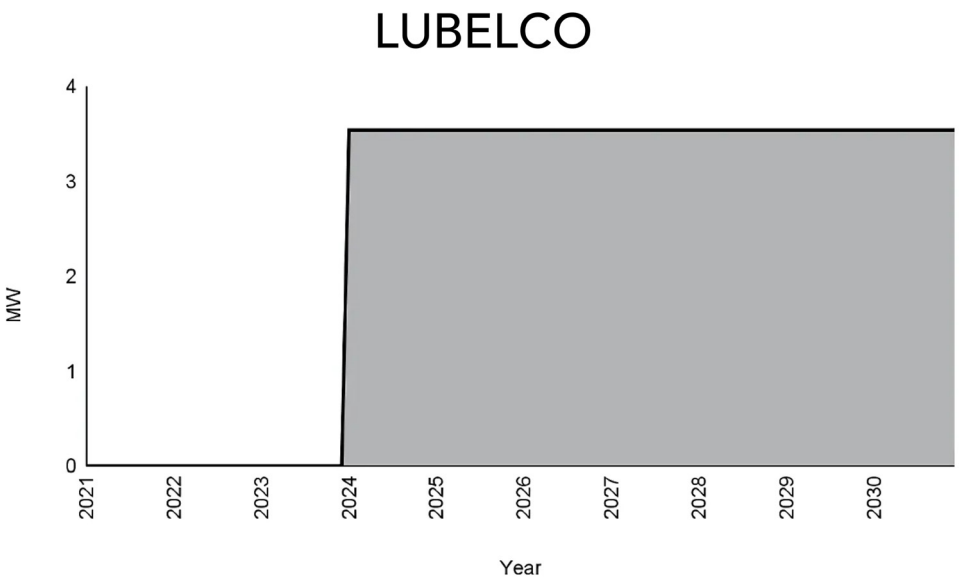
Meanwhile, OMECO is expected to procure 39 MW of supply in 2026 to 45 MW in 2030, while LUBELCO is expected to procure 3.541 MW of supply until 2030.

Figure 31. Planned MW, OMECO, 2021-2030[85]



Notes: OMECO – Occidental Mindoro Electric Cooperative, Inc.;
MW – Megawatts.

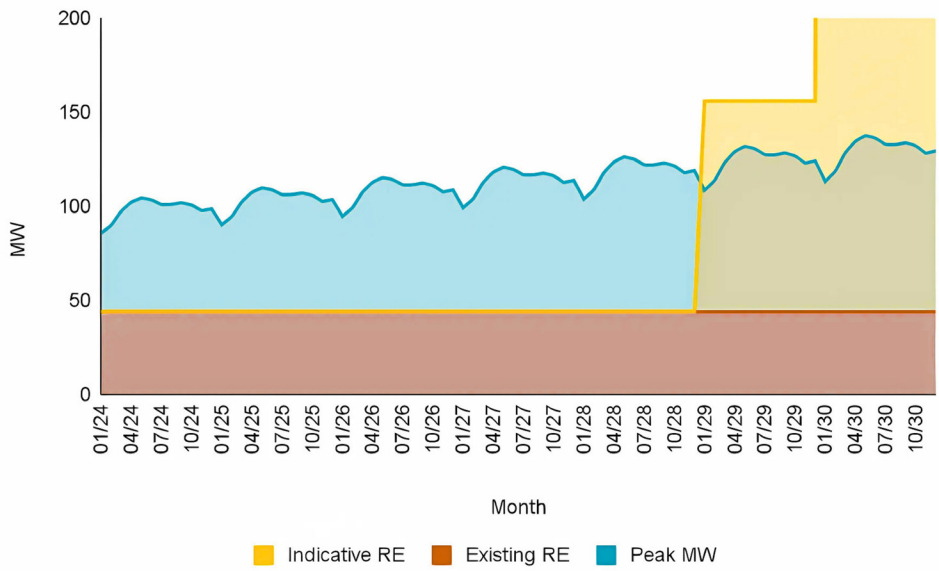
Figure 32. Planned MW, LUBELCO, 2021-2030[86]



Notes: LUBELCO – Lubang Electric Cooperative, Inc.;
MW – Megawatts.

By 2029, even at the initial phase of the transition, renewable energy would be able to supply all of the planned procurement of all three Mindoro ECs. Specifically, by January 2029, renewable energy can supply 100% of the 108.510 MW of peak demand in Mindoro with 155.934 MW of the existing and indicative renewable energy capacity in the island. The opportunity to fully contract renewable energy can be maintained in the succeeding years, as more indicative renewable energy projects become commercially operational.

Figure 33. Peak MW and RE capacity, Mindoro, 2024-2030[87]



Note: Peak demand is calculated by adding the peak demand of ORMECO, OMECO, and LUBELCO per month. The upper bound for indicative RE is not shown to highlight the visualization of Mindoro's peak demand.

MW – Megawatt;
RE – Renewable Energy

Nonetheless, it is critical to fast track the installation of the renewable energy projects in the pipeline and to ensure the timely completion of the transmission projects so that these upcoming capacities would be available even earlier for ORMECO, OMECO, and LUBELCO to procure.

Critical Role of Distributed Energy Resources (DERs) in Accelerating Energy Transition

While the upcoming wind power projects in Mindoro signal a major shift in the island's energy future, most of these large-scale developments are not expected to become operational until 2029 or later. In the face of urgent and recurring power outages, communities cannot afford to wait. There is a clear and immediate need to fast-track the transition not only by ensuring the timely implementation of utility-scale projects and transmission lines, but also by investing in distributed energy resources (DERs) systems that provide localized, rapid, and resilient access to power.

DERs such as rooftop solar systems, solar microgrids, and community-based power stations are particularly well-suited for archipelagic and rural contexts like Mindoro, where grid access is limited, and outages are frequent. These systems can immediately reduce dependence on diesel, provide cost-effective energy, and empower communities to participate in the energy transition.

The Global Green Growth Institute study in Oriental Mindoro identified that several government buildings are technically viable for rooftop solar installation. These include municipal buildings, hospitals, schools, and other public institutions whose energy stability is essential for service delivery. Prioritizing their solarization offers both symbolic and functional value: they become models for clean energy leadership while also reducing operational costs and exposure to fuel price volatility.

Beyond government-led initiatives, there are community, church, and civil society efforts already leading the way, to name a few:

- **Solar-powered charging station in the community of Mangyan-Tadyawan in Loyal, Victoria, Oriental Mindoro**

  In 2021, a 2-kilowatt solar-powered charging station with battery storage was installed in the Tadyawan Mangyan community of Brgy. Loyal, Victoria, through a collaboration between CEED and the Apostolic Vicariate of Calapan. The Tadyawans originally lived in the upland sitio of Pamuwisan, where they tended their farms, but many families had to move to the lowlands so they could sell their crops, buy household necessities, and ensure their children could attend school. The land where they resettled, lent to them by the Apostolic Vicariate under agreed terms, was agricultural and not connected to the electric grid.

  While the community's way of life was not heavily dependent on electricity, the lack of it posed real challenges. Students struggled to do research for school assignments after dark, and families had no reliable way to charge battery-powered lamps or radios, which become critical tools during typhoons and other emergencies. The solar charging station changed this. For the first time, households could power basic devices that support education, communication, and safety.

  Five years on, the system remains in use and continues to bring tangible improvements to daily life. Students are now able to study and access learning materials after dark, and families can keep their battery-powered lamps and radios charged that also act as lifelines during storms and emergencies. For many in the community, access to even this modest off-grid solar system has opened new opportunities for education and resilience, proving how small-scale renewable solutions can spark lasting change in marginalized areas.

CEED's solarization project in Barangay Loyal, Victoria, Oriental Mindoro
Source: CEED / Andoy Dimatulac

- **Solar-powered water pump in the fishing community of Batuhan in Pola, Oriental Mindoro**

  In the coastal fishing community of Batuhan in Pola, Oriental Mindoro, another 2-kilowatt solar-powered system was installed to operate the community's water pump. Before its installation, residents had to spend long hours manually pumping and carrying water to their homes. With the solar-powered pump, fetching water has become more convenient and accessible, reaching more families than before and easing one of the community's basic daily burdens.

  Batuhan's story reflects the compounded challenges faced by small fishing villages in Mindoro. In 2023, the community was among the most heavily affected by the oil spill that devastated the Verde Island Passage, one of the world's richest marine biodiversity corridors. For nearly a year, many fishers were banned from going out to sea, losing both their livelihoods and a significant source of food. Even after restrictions were lifted, fish catch, and consequently household income, remained far below what it used to be.

  On top of these hardships, the community continues to struggle with the high cost and unreliability of fossil fuel–based power. These experiences have deepened their resolve to pursue cleaner and more affordable energy sources. The solar-powered pump stands as both a practical solution and a symbol of that shift, showing how renewable energy can reduce daily labor, improve access to basic needs, and help build resilience in communities on the frontlines of both environmental degradation and the climate crisis.

The inauguration of solar-powered water pump in Pola, Oriental Mindoro last February 2025. Source: CEED / Harold Ian Tan

- **Solarization efforts of Sikat Solar Challenge Foundation Inc. and Keep Hope Alive PH in the remote, upland Mangyan communities across Mindoro Island**
  In partnership with local development groups, several Hanunuo Mangyan villages in Mansalay have been solarized over the past decade, bringing clean and reliable electricity to homes, schools, and chapels in these remote upland areas. The installations typically include small off-grid solar units that power household lighting, phone-charging stations, and basic appliances for education and community gatherings. These systems have reduced the villages' dependence on kerosene and disposable batteries, improved safety and comfort after dark, and created new opportunities for students to study at night and for health workers to serve the community more effectively.

Members of the Mangyan tribes installing their own solar PV systems
Source: Sikat Solar Challenge Foundation Inc.[88]

- **Solarization of Church facilities in Apostolic Vicariates of Calapan and San Jose in Mindoro as part of their commitment to 10 Million Solar Rooftops Challenge**
  As part of the broader ***Laudato Si'*** campaign for climate justice and the nationwide 10 Million Solar Rooftops Challenge, several parishes across Oriental and Occidental Mindoro have begun exploring or piloting solar installations. These initiatives reflect a growing commitment within the local Church to translate the call for ecological conversion—articulated in Pope Francis' encyclical ***Laudato Si'***—into tangible, community-based action.

  Solarizing parish buildings such as convents, chapels, and parish halls not only lowers electricity costs and eases the financial burden on church ministries, but also demonstrates leadership in adopting cleaner energy solutions. For many parish leaders and lay volunteers, the transition to solar has become both a moral and practical response to the twin crises of climate change and high energy costs on the island. Beyond providing power for pastoral activities, these installations serve as visible signs of the Church's solidarity with vulnerable communities most affected by environmental degradation and energy poverty.

In recent years, several parishes in both provinces have conducted assessments of their rooftops and energy needs, laying the groundwork for more widespread adoption of rooftop solar in the coming years. These efforts exemplify how faith-based institutions can play a catalytic role in mainstreaming renewable energy, inspiring other sectors to follow suit in building a cleaner and more resilient energy future for Mindoro.

Solar power systems installed in Sacred Heart Academy in Gloria, Oriental Mindoro (top) and Holy Family Academy in Central, San Jose, Occidental Mindoro (bottom).

These efforts are not merely stopgap solutions. They are transformational examples of energy democracy in action. They show that Mindoreños, from upland communities to coastal barangays, from local governments to faith institutions, are already forging pathways to a sustainable energy future, even as larger projects remain on the horizon.

To hasten the energy transition in Mindoro, DERs must be scaled up, supported by enabling policies, public investment, and technical assistance. The potential is clear: distributed renewable energy can bridge the gap between energy poverty and energy justice, and ensure that no community is left behind as the island moves toward a clean and resilient power system.

Challenges to Mindoro's power transformation

Outside of Mindoro's renewable energy future, however, many issues remain that plague the pathway to the energy transition.

Proposals for fossil fuel extraction in Mindoro

Key political leaders have expressed openness to oil and gas exploration in their provinces. In a "Church-LGU-CSO Forum on Mining Moratorium" organized by the Apostolic Vicariate of Calapan, Oriental Mindoro incumbent Gov. Humerlito 'Bonz' Dolor explained, though there were no provisions in the mining moratorium, Dolor said he only has one 'exemption' in mind in case he would be asked: to have an oil and/or gas exploration in Mindoro. This exception was seconded by Occidental Mindoro incumbent Gov. Eduardo Gadiano. In fact, in Occidental Mindoro, a US energy firm is exploring three fossil gas facilities in Mamburao, Sablayan, and San Jose, potentially providing a capacity of 5 to 15 MW each. While it has not received approval from the government, Governor Gadiano has already welcomed such a development, expecting that it would solve the province's power woes.[89] However, welcoming this project will seriously gloss over the possible destructive effects on the environment, especially when it comes to the handling of fossil gas. In 2023, an oil tanker spilled offshore of Oriental Mindoro, releasing oil waste reaching up to Palawan and Antique. The cleanup took four months to accomplish, causing damages estimated up to around PhP 7 billion, affecting 21 marine protected areas, including the VIP, and disrupting the lives of around 172,928 residents in the process.[90] Fossil gas extraction provides serious environmental, health and economic risks that it can worsen, not solve, the province's power issues.

Alongside these coal and gas interests, the Philippine Energy Plan 2020-2040 has also identified coal reserves in Mindoro with at least 100 million metric tonnes. This has encouraged some proponents to push for coal-fired energy development on the island through extraction or to propose a submersible cable link to Semirara Island whose power supply remains dominantly sourced from coal. These prospects have raised alarms among local communities, civil society organizations, and Church leaders who have consistently opposed mining and coal development in Mindoro due to its grave ecological risks. Beyond the island's long-standing stand against any form of mining, introducing coal contradicts the urgent need for a just and renewable energy transition in Mindoro.

New long-term fossil fuel power supply agreements

The major ECs in Mindoro, ORMECO and OMECO, are anticipating to secure new PSAs in the next two years.

Competitive Selection Process for ORMECO's 57MW Guaranteed Dependable Capacity

On August 10, 2024, the ORMECO issued an Invitation to Bid (ITB) for its 57 Megawatts (MW) Guaranteed Dependable Capacity (GDC) Power Supply under its Competitive Selection Process (CSP).[91] Within the ITB, the ORMECO provided its Terms of Reference (TOR) with the following details:

- Dependable Capacity: Baseload (20 MW), Load-Following (33 MW), and Escalating Capacity (4 MW);
- Type of Technology: Open;
- Contract Duration: 180 Months;
- Commercial Operations Date: 37 MW (January 2025), 5 MW (January 2026), 10 MW (April 2027), and 5 MW (April 2029);
- Cost and Tariff Structure: Capital Recovery Fee, Fixed Operations and Maintenance, Variable Operations and Maintenance, Fuel Fee, if applicable, and Lube Oil Fee, if applicable;
- Outage Allowance: None;
- Fortuitous Event: No payment of fee in case of fortuitous event;
- Conditions Precedent: Energy Regulatory Commission Approval of the PSA, Security Deposit, Signed Connection Agreement, and Other Documents; and
- Grounds for Termination: Event of Default, Expiration of Cooperation Duration, Failure to Achieve Commercial Operations Date, Fortuitous Event, Expiration or Revocation of Franchise, and Analogous Circumstances.[92]

Based on the TOR, only 20 MW worth of baseload is expected to be contracted out of the 57 MW total dependable capacity. All lots are expected to be contracted for 15 years, and with the risk of entering into contracts with fossil fuel suppliers, would prevent Mindoro from phasing out fossil fuel until at least 2040. Baseload capacity in the TOR won't be operational until at least January 2026. Resulting PSAs would include costs for capital, operations and maintenance, and fuel fees, if applicable. Consumers would shoulder the volatility of fuel prices based on the cost structure. No allowance for outages implies the importance of the contracted supply, which should be a deterrent for contracting heavily unreliable fossil fuel.

On September 25, 2024, the ORMECO conducted a pre-bidding conference for prospective bidders for the different lots in the 57 MW GDC Power Supply CSP.[93] Between November 4 to 11, 2024, the ORMECO opened the bids for different lots, allotting a date for each lot.[94] On January 28, 2025, after the ORMECO determined the Lowest Calculated Responsive Bids (LCRBs) for each of the lots in the 57 MW GDC Power Supply and submitted their bids to the National Electrification Administration (NEA) for conformity, the NEA recommended awarding the bids to the following:

1. Lot I: DMCI Power Corporation - 5 MW;
2. Lot II: OrMin Power Inc. - 10 MW;
3. Lot III: DMCI Power Corporation - 5 MW;

4. Lot IV: Power Pioneers JW&D Corporation - 5 MW;
5. Lot V: RMS Waste Management and Petroleum Technology Corporation - 14 MW;
6. Lot VI: East Paramount Technology - 10 MW; and
7. Lot VII: Green Force Energy Corporation - 8 MW.

Of the seven lots opened for bidding, only four lots (Lots IV-VII) will start their PSAs in January 2025 with contracted capacity amounting to 37 MW. Lot I will start in 2026, Lot II in 2027, and Lot III will start in 2029. 2025 lots are all ancillary power projects, classified as load-following. Six players won the bidding, with DMCI Power Corporation winning 2 lots equivalent to 10 MW. All winning bidders are old players, except the Green Force Energy Corp: DMCI Power Corporation has an existing PSA and EPSA with ORMECO; Ormin Power Inc. is bound to secure a new PSA apart from its existing one; East Paramount, which was recently awarded with 7 MW EPSA last January, is bound to secure an additional 10 MW PSA; and Power Pioneers and RMS Petroleum is finally bound to secure a PSA. All winning bidders have declared internal equity as a financing mechanism, except DMCI Power Corporation which has a line of credit with the Bank of the Philippine Islands. All the bidding dates for all the lots were attended by major and minor stakeholders, with representatives from the National Electrification Administration and the Energy Regulatory Commission (ERC). All winning bids for the 57MW CSP of ORMECO will utilize fossil fuel energy sources, specifically diesel. Finally, there was no actual renewable energy bidder for any of the lots; there were some RE players that bought bidding documents but did not proceed with the bidding.

Throughout the CSP, many irregularities were found during the proceedings. Many bidding documents, such as the Invitation to Bid and the Terms of Reference, were not published in the NEA and DOE websites and in local newspapers as mandated by the CSP rules.[95] Furthermore, in Lot VII, while the lowest bid announced during the opening of bids was Shockwave Peak Corporation with a bid price of PhP 14.4404/kWh[96], the announced winning bidder in the notice of award was Green Force Energy Corporation.[97] There was no explanation on the part of ORMECO for the change in winning bidder. By endangering the competitiveness of these processes, these irregularities invite concerns towards the capacity of ORMECO to secure electricity supply at least cost.

On February 14, 2025, through a ceremonial awarding, the ORMECO issued the Notices of Award to the winning bidders in the 57 MW GDC Power Supply.[98] On April 14, 2025, the ORMECO signed the Power Supply Agreements with the winning bidders.[99]

Anticipated Competitive Selection Process in replacement for OMECO's existing PSA bound to lapse in 2026

OMECO is expected to conduct a CSP in anticipation of the expiration of its current PSA in 2026. The PSA, entered into with Occidental Mindoro Consolidated Power Corporation (OMCPC), supplies approximately 24 MW—comprising a 20 MW bunker-fired diesel plant and supplemental capacity from diesel generator sets.

To date, there has been no public issuance of a new CSP or Terms of Reference (TOR) for the post-2026 supply contract. However, regulatory practice, particularly under Department of Energy (DOE) guidelines, requires distribution utilities to initiate the CSP process well ahead of PSA expiry to ensure continuity of supply and compliance with competitive procurement mandates. The DOE has reportedly placed OMECO, alongside ORMECO, under close monitoring for their anticipated CSPs, as noted in official disclosures by the National Power Corporation (NPC)[100].

While no formal bidding documents have yet to be released, precedent from OMECO's earlier CSPs, particularly its 2021 short-term power procurement, suggests that the cooperative typically begins the process 12 to 18 months before contract expiry. As such, publication of the TOR and formal CSP proceedings may be expected within 2025.

This upcoming CSP presents an opportunity to improve OMECO's energy mix, reliability, and cost-efficiency. It also invites critical scrutiny over their readiness to transition from diesel dependence toward more sustainable power sources, especially in the context of Occidental Mindoro's broader development goals and energy security concerns.

Skepticism around renewable energy due to failed or inefficient projects

While renewable energy remains the most viable and sustainable long-term solution to Mindoro's persistent energy woes, it is important to acknowledge the growing public skepticism fueled by the shortcomings of some early RE projects in the province. These high-profile initiatives have faced operational, regulatory, and political challenges that have unfortunately clouded public perception of the sector. Understanding these cases is crucial not to dismiss renewable energy, but to draw lessons that can help improve future implementation, governance, and community engagement.

'*Solar Para sa Bayan, Solar na Pinabayaan?*': the abandoned 2MW Solar Philippines power project in Brgy. Alipaoy, Paluan, Occidental Mindoro

In 2018, the town of Paluan, Occidental Mindoro, momentarily became a beacon of hope for renewable energy in the country. The Solar Para sa Bayan (SPSB) project, developed by Solar Philippines, brought what was then the largest solar-battery system in Southeast Asia—a 2 MW solar farm with a 2 MWh battery energy storage system, with a backup of 2MW diesel genset[101]. The town, long plagued by power outages, celebrated this monumental feat with banners proclaiming "No More Blackouts" during the project inauguration in March 2018. For the first time, residents enjoyed cheaper electricity rates, paying as low as P8/kWh, almost a third of their previous rates.

However, the euphoria was short-lived. Within a year of operation, consumers began reporting prices higher than those initially promised under a Memorandum of Agreement between the Paluan LGU and Solar Philippines which cannot now be retrieved. Eventually, the plant ceased operations altogether, and Paluan reverted to sourcing power from OMECO's diesel-dependent supply. Since then, the facility has been left unattended, with parts of the infrastructure, specifically batteries and cables, stolen, leaving behind an abandoned shell of a once-promising initiative. Until now, there is no explanation from neither the Solar Philippines nor the past administration of Paluan LGU about the discontinuation of the project.

Paluan Association of Barangay Captains President Romelito Talento, who witnessed the entire arc of the project, acknowledges that the solar plant generated hundreds of local jobs during its construction and initial operations. He shared that the company has expressed intentions to donate the system to Paluan LGU, but the new municipal leadership is hesitant, citing the high cost of recovery and necessary maintenance to restore the facility and doubtful technicalities on the terms of the donation.

The abandoned 2MW solar farm under the Solar Para sa Bayan project in Paluan, Occidental Mindoro. Source: CEED / Andoy Dimatulac

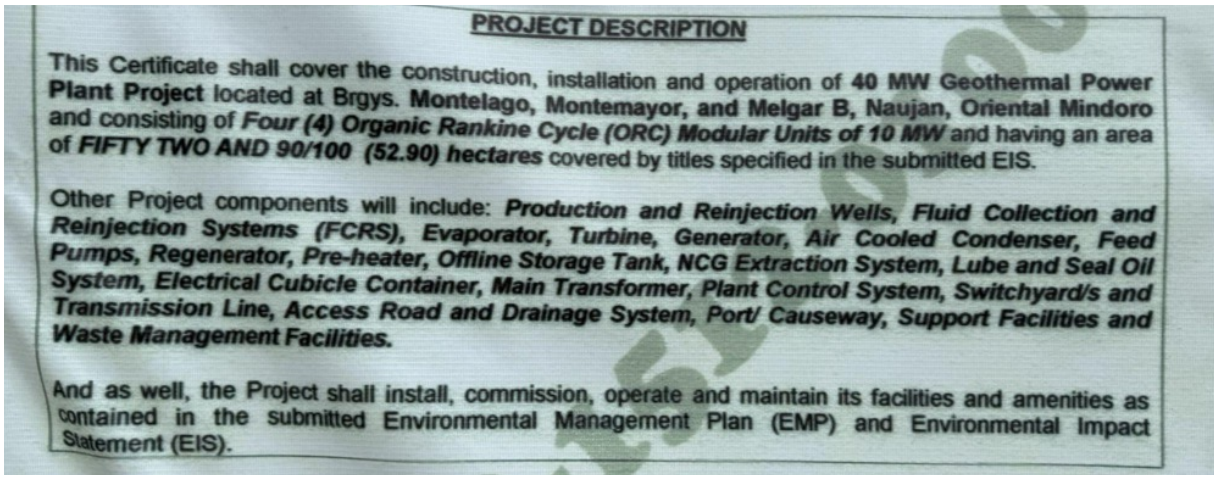
A 2MW backup diesel generator of the Solar Para sa Bayan project in Paluan, Occidental Mindoro. Source: CEED / Andoy Dimatulac

Catching fire: the decade-long struggle of the 40MW geothermal project of Mindoro Geothermal Power Corporation in Brgy. Melgar B, Naujan, Oriental Mindoro

In Naujan, Oriental Mindoro, another promising project has also stalled: the proposed 40 MW geothermal power plant by Mindoro Geothermal Power Corporation (MGPC), a partially-owned subsidiary of Nickel Asia Corp. (NIKL). The project was issued an Environmental Compliance Certificate (ECC) in January 2016[102] and conducted multiple rounds of exploratory drilling, the last of which took place around five years ago. Since then, activity has halted, and the area remains idle.

While the project garnered local support, especially after proponents reportedly offered free electricity to nearby communities, it has left many disappointed by its failure to progress. The uncertainty reached a decisive point in May 2024, when the DOE terminated MGPC's Geothermal Renewable Energy Service Contract (GRESC) No. 2010-02-013, citing the company's failure to meet its work commitments from 2021 to 2023[103]. This move came just months after Nickel Asia announced plans to begin flow testing, a critical step toward actual generation, by the third quarter of 2024.

NIKL has since signaled its intent to appeal the DOE decision. Although the project site still hosts a handful of company staff and the land remains under MGPC's control, its future remains uncertain, with many viewing it as another missed opportunity.



PROJECT DESCRIPTION

This Certificate shall cover the construction, installation and operation of **40 MW Geothermal Power Plant Project** located at Brgys. **Montelago, Montemayor, and Melgar B, Naujan, Oriental Mindoro** and consisting of ***Four (4) Organic Rankine Cycle (ORC) Modular Units of 10 MW*** and having an area of ***FIFTY TWO AND 90/100 (52.90) hectares*** covered by titles specified in the submitted EIS.

Other Project components will include: ***Production and Reinjection Wells, Fluid Collection and Reinjection Systems (FCRS), Evaporator, Turbine, Generator, Air Cooled Condenser, Feed Pumps, Regenerator, Pre-heater, Offline Storage Tank, NCG Extraction System, Lube and Seal Oil System, Electrical Cubicle Container, Main Transformer, Plant Control System, Switchyard/s and Transmission Line, Access Road and Drainage System, Port/ Causeway, Support Facilities and Waste Management Facilities.***

And as well, the Project shall install, commission, operate and maintain its facilities and amenities as contained in the submitted Environmental Management Plan (EMP) and Environmental Impact Statement (EIS).

An excerpt from MGPC's ECC posted outside its site in Naujan, Oriental Mindoro as of July 2025

Inefficient systems? Existing RE plants pinpointed for frequent shortages during summer 2025

In the summer of 2025, Oriental Mindoro once again experienced frequent red and orange alerts, underscoring the island's precarious power supply. But this time, the source of instability was not just fossil fuel shortages or diesel price hikes but also the seasonal underperformance of existing renewable energy projects.

During the Sangguniang Panlalawigan Hearing in Aid of Legislation on Provincial Power and Energy Woes last July 14, the Philippine Hybrid Energy Systems, Inc. (PHESI), the sole operator of the wind power plant in Puerto Galera, mentioned that wind energy harvests were significantly reduced during the summer months due to seasonal variability. Simultaneously, the extreme heat increased river outflows, lowering hydro energy production from dams according to the major hydroelectric power operators in Mindoro, the OrMin Power, also present at the hearing. Since a significant portion of Oriental Mindoro's power comes from RE, this reduction in output triggered a thin power reserve margin, resulting in more frequent outages and supply interruptions. ORMECO General Manager Humphrey Dolor confirmed that the inefficiency of RE operations during that period contributed heavily to the instability.

These cases are often cited by critics to question the credibility and reliability of renewable energy. However, it is important to recognize that these challenges stem not from the technology itself, but from project implementation, governance frameworks, and institutional continuity.

What these cases reveal are the gaps in planning, community engagement, regulatory oversight, and sustainability strategies, all of which can be addressed with stronger public-private partnerships, robust due diligence, and clear accountability mechanisms. Moreover, they serve as a cautionary tale on the dangers of abandonment and short-termism, not an indictment of renewable energy as a solution.

Mindoro's energy future still lies in clean, affordable, and reliable sources. Renewable energy remains the most viable and ethical path forward. In fact, as demonstrated in other parts of the province through DERs such as solarized Mangyan communities, solar-powered government buildings, and church-led energy initiatives, renewables are already transforming lives in ways that are community-centered, cost-effective, and sustainable.

Rather than allow isolated failures to cast doubt on renewable energy's promise, they must be treated as lessons for smarter, more inclusive energy development where transparency, long-term planning, and local capacity building are placed front and center.

Recommendations

Pandang Gitab ng Mindoro embodies the vision this study seeks to carry forward: that the pathway to a just, resilient, and renewable energy future must be grounded not only in technical solutions but also in the cultural, ecological, and lived knowledge of the people of Mindoro. As its name suggests the study calls for energy that brings both radiance and rhythm to the lives of Mindoreños. It is an invitation to reimagine power: not as a burden of blackouts and costly fuels, but as a source of life, movement, and harmony with nature.

These recommendations, therefore, are not merely policy prescriptions but guideposts inspired by the experiences, aspirations, and grounded realities of Mindoro's communities. They draw from the wisdom of the indigenous Mangyan, who for generations have modeled sustainable ways of living with the land. Despite persistent challenges, Mindoro holds immense potential to become a green and energy-sufficient island. With a clear and determined pathway, it can move from fossil dependence toward renewable energy that is affordable, reliable, and community-driven.

This vision is possible. To begin Mindoro's own transformation, the following recommendations are put forward:

Develop a Power Development Plan (PDP) for Mindoro Island with the objective of establishing a self-reliant, reliable, affordable, sustainable, and democratic renewable energy-based power system for Mindoreños.

The island of Mindoro has seen the impacts of fossil fuel dependence. What it truly needs is a declaration of its commitment to transition from fossil fuels to renewable energy aligned with the Paris Agreement's 1.5 degree Celsius (°C) climate goal. The PDP should work towards a power system that is: 1) Self-reliant even without an interisland transmission connection. 2) Reliable as it uses a complementary mix of renewable energy sources. 3) Affordable because it harnesses free renewable energy sources. 4) Sustainable in that it respects and protects the integrity of ecologies. 5) Democratic as it empowers ordinary Mindoreños to own, manage, and use distributed renewable energy systems. Specifically, it can be initiated and supported through an advisory and technical working group composed of local and national experts. Officials can look at the efforts done by other provinces, such as Palawan[104] and Negros Oriental[105] for comparison. The PDP would, in effect, integrate local policy issuances and develop long-term frameworks, and not just programs, towards the 1.5°C climate goal.

Hasten the installation of renewable energy projects and supporting infrastructures.

Because the earliest renewable energy project in the pipeline is only expected to be in commercial operation by 2029, it is imperative that the island fast track the entry of renewable energy projects, as well as their supporting infrastructures such as energy storage systems. The current President recognizes that solar is the quickest solution to Mindoro's power problems.[106] The provincial governments of Oriental and Occidental Mindoro should enact ordinances that would mandate the solarization or decentralized renewable energy sources for consumption in public buildings. They should also assess existing local permitting processes and tax regulations and find ways to incentivize greater participation from renewable energy companies.

Furthermore, local governments can also support the deployment of renewable energy systems not only from the private sector but also from the public sector–from communities, civil society, and local churches–by raising awareness through information and education campaigns, streamlining relevant local permitting processes, providing tax incentives, or offering concessional financing or financial assistance. Local governments should institutionalize platforms for collaborating with local civil society organizations so that local community concerns can actively reach policymaking processes.

Reduce dependence on and eventually phase-out fossil fuels by improving terms of reference of competitive selection processes (CSPs) for future power procurements, renegotiating recently procured contracts that will start operations by 2029 considering the entry of planned new renewable energy capacities, renegotiating existing fossil fuel power supply agreements, and prohibiting fossil fuel exploration within and around the Mindoro Island.

A study by Climate Analytics underscores the urgency and feasibility of phasing out coal by 2035 and nearly eliminating gas-fired generation by 2040 to meet the Paris Agreement's 1.5°C target. The renewable energy capacity in the pipeline for Mindoro Island should be expedited to stop reliance on oil-based fuels that produce costly and unreliable energy.

CSPs must be conducted that enable and incentivize renewable energy developers to participate. Specifically, first, they should be processed in consideration of the renewable energy projects in the timeline for Mindoro. It is also critical to shorten PSAs for fossil fuel plants and prioritize renewable energy projects as an immediate solution. In particular, the 57 MW CSP in ORMECO, to prevent fossil fuel lock-in and continued energy insecurity, should shorten the terms provided in the 2025 lots until renewable energy projects in the pipeline have become operational. Furthermore, it should rebid the other lots slated for 2026 to 2029 to allow renewable energy developers to participate. For recently contracted power supply agreements whose implementation will not begin until 2029 or later, such as ORMECO's 5 MW oil-based PSA under Lot III in its 2024 CSP, these should be renegotiated or revoked, and CSP conducted again to allow for new and more affordable and reliable renewables to compete. Second, variable tariff provisions should be prohibited in the future CSPs. Variable tariffs in bilateral supply contracts pass on the volatility of prices to consumers. In Mindoro, the island's dependence on diesel implies that the fuel's erratic price changes are shouldered by consumers and by the government through its subsidies. These variable tariffs continue to exist to the detriment of the consumer, contrary to the mandate of providing electricity supply at least cost, especially when renewable energy sources that do not rely on variable fuel prices are available. This policy will deter continued reliance on fossil fuel contracts and encourage transition to renewable energy sources.

The island should also reject any plans for the exploration of new oil and gas deposits or mining of coal. Despite the ruling of the Supreme Court in ***Province of Occidental Mindoro v. Agusan Petroleum*** that nullified Occidental Mindoro's mining moratorium[107], the provincial governments should explore ways to limit the application of the ruling by dealing with the proposed applications for exploration and mining at the review process among others. Through a thorough analysis of the health, environmental, and inequitable impacts of proposed exploration projects, there would be a basis for rejecting the aforementioned proposals for oil and gas exploration and coal mining.

Prioritize the enhancement of the capacity and flexibility of the Mindoro Grid to integrate growing variable renewable energy and enhance self-reliance, over interisland transmission connections.

Enhancing grid flexibility is key for island provinces like Mindoro to integrate renewable energy effectively. A smart grid system could enable the transmission network to adjust to demand shifts. Strategies like load shifting, where energy demand is moved to times of surplus renewable production, offer flexibility but require significant investment and coordination. Additionally, real-time forecasting for demand optimization is necessary to improve operations and reduce reliance on costly fossil fuels. Solar energy, if optimally located, could be a sufficient energy source during the day, further decreasing dependence on fossil fuels.

Pursuing interconnection with the nationwide grids require the timely completion of the upcoming transmission projects in Mindoro, such as the Batangas-Mindoro Interconnection and Backbone Project, the Palawan-Mindoro Interconnection Project and the Mindoro-Panay Interconnection Project. The ERC and the DOE should provide effective regulatory approvals and resolve bottlenecks in right-of-way and permitting processes. The NGCP should prioritize its time and resources towards completing these projects.

While improving interconnectivity with neighboring islands is crucial, Mindoro should also prioritize transferring surplus renewable energy rather than fossil fuel-based power. The NGCP Transmission Development Plan for 2024-2050 aims to establish a unified, flexible smart grid across the country, with a particular focus on regions like Mindoro that have high renewable energy potential. Parallel to enhancing grid flexibility, promoting decentralized renewable energy systems is a top priority, contributing to enhanced energy resilience and sustainability. Timely investments in local transmission and distribution infrastructure should be prioritized. Local transmission and distribution plans should consider connection to CREZ sites, enhancement of capacities for massive renewable energy integration, and also grid flexibility to allow for variable renewable energy sources. System losses and lack of access to electricity on the part of consumers will remain regardless of interisland connection unless ECs improve their local distribution systems.

To further support alignment with grid flexibility, Mindoro's provincial governments should encourage deployment of local renewable energy sites and net-metering installations through island-wide information and educational campaigns. They should also track the existing efforts and streamline processes to ensure further community-led development on decentralized energy systems. Furthermore, they can promote this decentralization by fully transitioning to renewable energy within government buildings through solar rooftop installations. In particular, the provincial government of Oriental Mindoro already has a commissioned study on the feasibility of this arrangement. They only need to implement it.[108]

The development of battery storage technologies is also essential to unlocking the full potential of renewable energy in island regions like Mindoro. Renewable energy sources such as solar and wind are intermittent, meaning they do not produce consistent power output at a certain level throughout the day or night. While proposed battery storage projects have risen in recent time, projects developed in Mindoro are limited. By investing in advanced energy storage systems, renewable production times can be maximized and used when demand is high or when renewable supply is low. This capability would help ensure a stable and reliable energy supply, even in far flung unelectrified areas with inconsistent or without access to

electricity. According to the National Renewable Energy Laboratory, energy storage systems can help balance supply and demand, enhance grid flexibility, and stabilize energy costs. In Mindoro's case, these systems could help optimize the use of its abundant wind and solar resources, reduce reliance on costly and polluting fossil fuels, and avoid grid instability. With the right investments in battery storage, Mindoro could achieve a fully sustainable, renewable energy system that supports both environmental goals and economic growth.

Ensure that the upcoming review of the franchise of Mindoro Electric Cooperatives will result in accountability and improved performance and services.

As the franchises of the Mindoro Electric Cooperatives approach expiration as early as 2030, the franchise review provides a crucial opportunity to uncover the reasons behind subpar performance, weak or insufficient planning, and persistent service gaps in remote communities. Doing so will allow stakeholders to dig into the root causes of Mindoro's recurring power problems, demand accountability from the Electric Cooperatives, and push for franchise revocation if needed. It also opens the door for collective efforts toward creating an Electric Cooperative that is truly owned and managed by and for Mindoreños.

Ensure that the Mindoro power system not only harnesses renewable energy power from the environment, but also protects local communities and ecosystems, especially in key biodiversity areas like the Verde Island Passage.

Fossil fuel development is not only an issue for the energy transition, but also a major issue that threatens the biodiversity and subsequently the livelihoods of coastal communities across Mindoro and VIP. Specifically, the protection of the VIP and its biodiversity is crucial in the context of Mindoro's energy transition. The inclusion of the VIP under the ENIPAS heightens protection against the development of fossil fuel industries and subsequently protects health and livelihoods of communities in Mindoro Island and the VIP.

The environmental threats posed by fossil fuel-based energy projects, such as heavy metal contamination that endanger both marine ecosystems and the economy of these coastal communities, and numerous oil spill incidents demonstrate the lack of safeguards for these resources. Integrating renewable energy systems into Mindoro's power infrastructure is a strategic way to protect the VIP while advancing sustainability. The shift to cleaner energy sources can reduce dependence on fossil fuels, mitigate impacts attributed to fossil fuel development. Policies aimed at boosting renewable energy development, such as the promotion of distributed renewable energy systems and enhancing grid flexibility, can help Mindoro Island to fasttrack the energy transition. At the same time, however, while renewable energy has certainly less harmful impacts than fossil fuels, the provincial governments should ensure that the same standards should be applied for proposed renewable energy projects. The hastening of renewable energy projects should not compromise these safeguards.

Finally, the potential environmental impacts of the upcoming offshore wind projects and of the pending transmission projects should be addressed as soon as possible. These projects' assessments should include marine spatial planning before they can be implemented. If they severely impact the biodiversity and livelihoods of coastal communities, other potential sites should be seriously considered.

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Annexes

Annex A. Consumption forecast, ORMECO, OMECO, and LUBELCO

Year	Peak MW	Contracted MW	Pending MW	Planned MW
ORMECO				
2024	56.520	23.000	45.300	0.000
	58.830	23.000	41.600	0.000
	63.860	23.000	56.900	0.000
	69.150	23.000	50.400	0.000
	69.710	23.000	49.900	0.000
	69.320	23.000	42.800	0.000
	67.140	23.000	35.700	0.000
	68.590	23.000	37.000	37.000
	68.590	23.000	16.150	37.000
	68.450	23.000	21.200	37.000
	65.550	23.000	34.850	37.000
	65.130	23.000	37.100	37.000
2025	59.220	23.000	36.300	37.000
	61.620	23.000	32.600	37.000
	66.880	23.000	29.900	37.000
	72.410	23.000	23.400	37.000
	72.980	23.000	22.900	37.000
	72.560	23.000	15.800	37.000
	70.270	23.000	15.700	37.000
	71.770	23.000	17.000	37.000
	71.760	23.000	16.150	37.000
	71.600	23.000	21.200	37.000
	68.550	23.000	34.850	37.000
	68.110	23.000	37.100	37.000
2026	61.910	23.000	36.300	42.000
	64.420	23.000	32.600	42.000
	69.900	23.000	29.900	42.000
	75.670	23.000	23.400	42.000
	76.260	23.000	22.900	42.000
	75.800	23.000	15.800	42.000
	73.400	23.000	15.700	42.000
	74.950	23.000	17.000	42.000
	74.930	23.000	16.150	42.000
	74.750	23.000	21.200	42.000
	71.560	23.000	34.850	42.000
	71.080	15.000	37.100	42.000
2027	64.610	15.000	36.300	42.000
	67.210	15.000	32.600	42.000
	72.920	15.000	29.900	42.000
	78.930	15.000	23.400	52.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	79.530	15.000	22.900	52.000
	79.040	15.000	15.800	52.000
	76.520	15.000	15.700	52.000
	78.130	15.000	17.000	52.000
	78.100	15.000	16.150	52.000
	77.900	15.000	21.200	52.000
	74.560	15.000	34.850	52.000
	74.060	15.000	37.100	52.000
2028	67.300	15.000	36.300	52.000
	70.010	15.000	32.600	52.000
	75.940	15.000	29.900	52.000
	82.190	15.000	23.400	52.000
	82.800	15.000	22.900	52.000
	82.280	15.000	15.800	52.000
	79.650	15.000	15.700	52.000
	81.310	15.000	17.000	52.000
	81.270	15.000	16.150	52.000
	81.050	15.000	21.200	52.000
	77.570	15.000	34.850	52.000
	77.030	15.000	37.100	52.000
2029	69.990	15.000	36.300	52.000
	72.800	15.000	32.600	52.000
	78.960	15.000	29.900	52.000
	85.440	15.000	23.400	57.000
	86.070	15.000	22.900	57.000
	85.520	15.000	15.800	57.000
	82.780	15.000	15.700	57.000
	84.500	15.000	17.000	57.000
	84.440	15.000	16.150	57.000
	84.200	15.000	21.200	57.000
	80.570	15.000	34.850	57.000
	80.010	15.000	37.100	57.000
2030	72.690	15.000	36.300	57.000
	75.590	15.000	32.600	57.000
	81.990	15.000	29.900	57.000
	88.700	15.000	23.400	57.000
	89.340	15.000	22.900	57.000
	88.760	15.000	15.800	57.000
	85.900	15.000	15.700	57.000
	87.680	15.000	17.000	57.000
	87.610	15.000	16.150	57.000
	87.350	15.000	21.200	57.000
	83.580	15.000	34.850	57.000
	82.980	15.000	37.100	57.000
2031	75.380	15.000	36.300	57.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	78.390	15.000	32.600	57.000
	85.010	15.000	29.900	57.000
	91.960	15.000	23.400	57.000
	92.610	15.000	22.900	57.000
	92.000	15.000	15.800	57.000
	89.030	15.000	15.700	57.000
	90.860	15.000	17.000	57.000
	90.780	15.000	16.150	57.000
	90.500	15.000	21.200	57.000
	86.580	15.000	34.850	57.000
	85.960	15.000	37.100	57.000
2032	78.070	15.000	36.300	57.000
	81.160	15.000	32.600	57.000
	88.000	15.000	29.900	57.000
	95.180	15.000	23.400	57.000
	95.840	15.000	22.900	57.000
	95.210	15.000	6.800	57.000
	92.150	15.000	6.700	57.000
	94.070	15.000	8.000	57.000
	93.990	15.000	7.150	57.000
	93.690	15.000	12.200	57.000
	89.610	15.000	25.850	57.000
	88.930	15.000	28.100	57.000
2033	80.760	15.000	27.300	57.000
	83.960	15.000	23.600	57.000
	91.020	15.000	20.900	57.000
	98.430	15.000	14.400	57.000
	99.110	15.000	13.900	57.000
	98.450	15.000	6.800	57.000
	95.280	15.000	6.700	57.000
	97.250	15.000	8.000	20.000
	97.160	15.000	7.150	20.000
	96.840	15.000	12.200	20.000
	92.610	15.000	25.850	20.000
	91.910	15.000	28.100	20.000
OMECO				
2021	22.750	24.000	0.000	0.000
	24.190	24.000	0.000	0.000
	26.180	24.000	0.000	0.000
	25.750	24.000	0.000	0.000
	26.730	24.000	0.000	0.000
	26.660	24.000	0.000	0.000
	26.360	4.000	25.000	0.000
	25.350	4.000	25.000	0.000
	25.910	4.000	25.000	0.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	25.130	4.000	25.000	0.000
	25.060	4.000	25.000	0.000
	26.040	4.000	25.000	0.000
2022	24.320	0.000	0.000	31.000
	25.870	0.000	0.000	31.000
	28.000	0.000	0.000	31.000
	27.530	0.000	0.000	31.000
	28.580	0.000	0.000	31.000
	28.510	0.000	0.000	31.000
	28.180	0.000	0.000	31.000
	27.110	0.000	0.000	31.000
	27.710	0.000	0.000	31.000
	26.880	0.000	0.000	31.000
	26.800	0.000	0.000	31.000
	27.850	0.000	0.000	31.000
2023	25.930	0.000	0.000	34.000
	27.580	0.000	0.000	34.000
	29.850	0.000	0.000	34.000
	29.350	0.000	0.000	34.000
	30.470	0.000	0.000	34.000
	30.400	0.000	0.000	34.000
	30.050	0.000	0.000	34.000
	28.900	0.000	0.000	34.000
	29.540	0.000	0.000	34.000
	28.650	0.000	0.000	34.000
	28.570	0.000	0.000	34.000
	29.690	0.000	0.000	34.000
2024	27.570	0.000	0.000	35.000
	29.320	0.000	0.000	35.000
	31.730	0.000	0.000	35.000
	31.200	0.000	0.000	35.000
	32.390	0.000	0.000	35.000
	32.310	0.000	0.000	35.000
	31.940	0.000	0.000	35.000
	30.730	0.000	0.000	35.000
	31.400	0.000	0.000	35.000
	30.460	0.000	0.000	35.000
	30.370	0.000	0.000	35.000
	31.560	0.000	0.000	35.000
2025	29.230	0.000	0.000	37.000
	31.090	0.000	0.000	37.000
	33.650	0.000	0.000	37.000
	33.090	0.000	0.000	37.000
	34.350	0.000	0.000	37.000
	34.270	0.000	0.000	37.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	33.880	0.000	0.000	37.000
	32.580	0.000	0.000	37.000
	33.300	0.000	0.000	37.000
	32.300	0.000	0.000	37.000
	32.210	0.000	0.000	37.000
	33.470	0.000	0.000	37.000
2026	30.930	0.000	0.000	39.000
	32.900	0.000	0.000	39.000
	35.610	0.000	0.000	39.000
	35.010	0.000	0.000	39.000
	36.350	0.000	0.000	39.000
	36.260	0.000	0.000	39.000
	35.840	0.000	0.000	39.000
	34.480	0.000	0.000	39.000
	35.240	0.000	0.000	39.000
	34.180	0.000	0.000	39.000
	34.080	0.000	0.000	39.000
	35.410	0.000	0.000	39.000
2027	32.660	0.000	0.000	39.000
	34.740	0.000	0.000	39.000
	37.600	0.000	0.000	39.000
	36.970	0.000	0.000	39.000
	38.380	0.000	0.000	39.000
	38.290	0.000	0.000	39.000
	37.850	0.000	0.000	39.000
	36.410	0.000	0.000	39.000
	37.210	0.000	0.000	39.000
	36.090	0.000	0.000	39.000
	35.980	0.000	0.000	39.000
	37.400	0.000	0.000	39.000
2028	34.430	0.000	0.000	41.000
	36.610	0.000	0.000	41.000
	39.630	0.000	0.000	41.000
	38.970	0.000	0.000	41.000
	40.460	0.000	0.000	41.000
	40.360	0.000	0.000	41.000
	39.890	0.000	0.000	41.000
	38.370	0.000	0.000	41.000
	39.220	0.000	0.000	41.000
	38.040	0.000	0.000	41.000
	37.930	0.000	0.000	41.000
	39.410	0.000	0.000	41.000
2029	36.220	0.000	0.000	43.000
	38.520	0.000	0.000	43.000
	41.700	0.000	0.000	43.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	41.000	0.000	0.000	43.000
	42.570	0.000	0.000	43.000
	42.460	0.000	0.000	43.000
	41.980	0.000	0.000	43.000
	40.380	0.000	0.000	43.000
	41.260	0.000	0.000	43.000
	40.030	0.000	0.000	43.000
	39.910	0.000	0.000	43.000
	41.470	0.000	0.000	43.000
2030	38.050	0.000	0.000	45.000
	40.470	0.000	0.000	45.000
	43.800	0.000	0.000	45.000
	43.070	0.000	0.000	45.000
	44.720	0.000	0.000	45.000
	44.610	0.000	0.000	45.000
	44.100	0.000	0.000	45.000
	42.420	0.000	0.000	45.000
	43.350	0.000	0.000	45.000
	42.050	0.000	0.000	45.000
	41.920	0.000	0.000	45.000
	43.570	0.000	0.000	45.000
LUBELCO				
2021	0.970	1.620	0.000	0.000
	0.960	1.620	0.000	0.000
	1.100	1.620	0.000	0.000
	1.130	1.620	0.000	0.000
	1.380	1.620	0.000	0.000
	1.120	1.620	0.000	0.000
	1.110	1.620	0.000	0.000
	1.050	1.620	0.000	0.000
	1.130	1.620	0.000	0.000
	1.110	1.620	0.000	0.000
	1.060	1.620	0.000	0.000
	1.120	1.620	0.000	0.000
2022	1.040	1.620	0.000	0.000
	1.040	1.620	0.000	0.000
	1.190	1.620	0.000	0.000
	1.220	1.620	0.000	0.000
	1.490	1.620	0.000	0.000
	1.210	1.620	0.000	0.000
	1.200	1.620	0.000	0.000
	1.130	1.620	0.000	0.000
	1.220	1.620	0.000	0.000
	1.200	1.620	0.000	0.000
	1.140	1.620	0.000	0.000

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	1.210	1.620	0.000	0.000
2023	1.130	1.620	0.000	0.000
	1.130	1.620	0.000	0.000
	1.280	1.620	0.000	0.000
	1.330	1.620	0.000	0.000
	1.610	1.620	0.000	0.000
	1.320	1.620	0.000	0.000
	1.300	1.620	0.000	0.000
	1.230	1.620	0.000	0.000
	1.320	1.620	0.000	0.000
	1.290	1.620	0.000	0.000
	1.240	1.620	0.000	0.000
	1.310	1.620	0.000	0.000
2024	1.640	0.000	0.000	3.541
	1.640	0.000	0.000	3.541
	1.860	0.000	0.000	3.541
	1.930	0.000	0.000	3.541
	2.350	0.000	0.000	3.541
	1.910	0.000	0.000	3.541
	1.900	0.000	0.000	3.541
	1.790	0.000	0.000	3.541
	1.920	0.000	0.000	3.541
	1.880	0.000	0.000	3.541
	1.800	0.000	0.000	3.541
	1.900	0.000	0.000	3.541
2025	1.750	0.000	0.000	3.541
	1.750	0.000	0.000	3.541
	1.980	0.000	0.000	3.541
	2.050	0.000	0.000	3.541
	2.500	0.000	0.000	3.541
	2.030	0.000	0.000	3.541
	2.020	0.000	0.000	3.541
	1.900	0.000	0.000	3.541
	2.040	0.000	0.000	3.541
	2.000	0.000	0.000	3.541
	1.920	0.000	0.000	3.541
	2.020	0.000	0.000	3.541
2026	1.860	0.000	0.000	3.541
	1.860	0.000	0.000	3.541
	2.120	0.000	0.000	3.541
	2.190	0.000	0.000	3.541
	2.670	0.000	0.000	3.541
	2.170	0.000	0.000	3.541
	2.160	0.000	0.000	3.541
	2.030	0.000	0.000	3.541

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	2.180	0.000	0.000	3.541
	2.140	0.000	0.000	3.541
	2.040	0.000	0.000	3.541
	2.160	0.000	0.000	3.541
2027	1.990	0.000	0.000	3.541
	1.990	0.000	0.000	3.541
	2.260	0.000	0.000	3.541
	2.340	0.000	0.000	3.541
	2.850	0.000	0.000	3.541
	2.330	0.000	0.000	3.541
	2.310	0.000	0.000	3.541
	2.170	0.000	0.000	3.541
	2.330	0.000	0.000	3.541
	2.280	0.000	0.000	3.541
	2.180	0.000	0.000	3.541
	2.310	0.000	0.000	3.541
2028	2.140	0.000	0.000	3.541
	2.140	0.000	0.000	3.541
	2.430	0.000	0.000	3.541
	2.510	0.000	0.000	3.541
	3.060	0.000	0.000	3.541
	2.500	0.000	0.000	3.541
	2.480	0.000	0.000	3.541
	2.330	0.000	0.000	3.541
	2.500	0.000	0.000	3.541
	2.440	0.000	0.000	3.541
	2.340	0.000	0.000	3.541
	2.480	0.000	0.000	3.541
2029	2.300	0.000	0.000	3.541
	2.300	0.000	0.000	3.541
	2.600	0.000	0.000	3.541
	2.700	0.000	0.000	3.541
	3.280	0.000	0.000	3.541
	2.680	0.000	0.000	3.541
	2.660	0.000	0.000	3.541
	2.500	0.000	0.000	3.541
	2.680	0.000	0.000	3.541
	2.630	0.000	0.000	3.541
	2.510	0.000	0.000	3.541
	2.660	0.000	0.000	3.541
2030	2.470	0.000	0.000	3.541
	2.470	0.000	0.000	3.541
	2.810	0.000	0.000	3.541
	2.910	0.000	0.000	3.541
	3.530	0.000	0.000	3.541

Year	Peak MW	Contracted MW	Pending MW	Planned MW
	2.890	0.000	0.000	3.541
	2.860	0.000	0.000	3.541
	2.690	0.000	0.000	3.541
	2.880	0.000	0.000	3.541
	2.820	0.000	0.000	3.541
	2.700	0.000	0.000	3.541
	2.860	0.000	0.000	3.541

Endnotes

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19 See notes 15 to 18, supra.

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41 ERC Resolution No. 17-08, A Resolution Adopting a New System Loss Cap for Distribution Utilities.

42 See note 38, supra.

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