

2022 Energy Outlook

Executive Summary

The sustainable energy sector continued to remain resilient in 2021, rebounding nicely after the 2020's global lockdown and despite COVID-19 persisting through the year.

Renewable energy (RE) in particular is a highly competitive option in many markets globally, bolstered by increasing efficiencies and reductions in price. Battery storage in particular continues to experience significant growth, providing an excellent option when combined with solar photovoltaics. The emergence of new technologies has also attracted considerable attention, particularly green hydrogen. While still a nascent market, government support and investment has been substantial. Supply-chain issues coupled with shipping complications have slowed down the market somewhat, however, capacity addition for renewables remained at an all-time high.

The 26th United Nations Climate Change Conference of Parties (COP26) set a precedent for national emission reductions, prompting several countries in the region to increase decarbonization ambitions. The Philippines set a target of 35 percent share of RE by 2030– this however is limited to the power generation mix. Further details on the implications of COP26 can be found [here](#).

The Philippines' power sector experienced some turmoil in 2021, with Luzon experiencing rotational blackouts and power rate increases due to supply restrictions from the Malampaya gas field and transmission issues. However, the Wholesale Electricity Spot Market (WESM) was finally implemented nation-wide, increasing the competitiveness of the power market.

We foresee power demand to continue to increase in the country in 2022, while RE continues to slowly penetrate the power sector. However, laggard commitments from the current administration will continue to keep fossil fuel technologies persistent in the short-term. With an upcoming national election on the way, this is something to watch out for and could potentially shift technology inertia in either direction. In our outlook for 2022, we expect the following trends to sit at the forefront for the remainder of the year.



Transportation remains oily

The transportation sector in the region has considerable fossil-based inertia, relying primarily on oil and internal combustion engines. However, national targets in the region have begun to shift towards low-carbon transportation. Indonesia plans to produce 600,000 electric vehicles (EVs) and 2.45 million battery-powered motorcycles by 2030, while ramping up biodiesel mandates. This is coupled with a massive battery manufacturing facility projected to come online by 2023. Similarly, Malaysia has also increased its biodiesel mandate while increasing fiscal incentives for manufacturers and EV owners alike.

At the time of this writing, the Philippines recently ratified the **Electric Vehicle Industry Development Act**, which provides a potential pathway for the industry, although this should be viewed with caution as policy implementation has been historically slow in the country.

This bill features a **Comprehensive Road Map for the Electric Vehicle Industry (CREVI)** and the creation of an **Electric Vehicle Advisory Board**. Some notable features include mandatory parking spots for EVs, “green routes” in cities, and a percentage of government fleets to be converted to EVs.

Despite this, we foresee actual infrastructure and investment in the industry to be minimal in the short-term. High EV costs and power prices may continue to dissuade potential EV owners. **Oil-based inertia in the country should continue, with minimal progress made on transport electrification in the short- to mid-term. Long-term however, the Philippines’ potential to join in the battery supply-chain is significant, with considerable nickel reserves.**

Tailwinds for Wind?



The Philippines' potential for wind power has long been recognized—with large swathes of land with good to excellent wind potential. **Among countries in the region, the Philippines has the highest potential in wind resources and has long been poised to be a regional leader in wind energy.** While wind development has been negligible in the past decade, recent interest may be the beginnings of momentum in the industry.

In 2021, construction of several onshore wind farms began, such as the **160 MW project in Ilocos Norte** by AC Energy and the **75.6 MW project in Aklan** by Wpd AG. Earlier this year, investor interest in offshore energy also increased. A **1.2 GW offshore wind project in Oriental Mindoro** secured an energy service contract, led by The Blue Circle and Cleantech Global Renewables, Inc. Iberdola similarly signed an agreement with Swiss group Stream Invest Holding AG and Philippine-led Triconti ECC Renewables to enter five (5) offshore wind projects in the **Guimaras Strait,**

Frontera, Aparri Bay, and San Miguel Bay. The five projects will total almost **3.5 GW** in capacity.

While the National Renewable Energy Plan has set a target of 35% of RE in the generation mix by 2030, several regulatory bottlenecks still exist. Technology-neutral auctions, lengthy permitting processes, and convoluted bidding arrangements are all deterrents to further wind development. Lastly, current transmission bottlenecks also continue to slow down growth in the industry.

While systemic barriers continue to persist, **we foresee continued momentum and investment in the wind sector, albeit slowly.** There is still room for much optimism however, as dedicated policy for wind could launch developments and investor interest, setting up the country to be a regional leader in the technology.



Nuclear remains in limbo

In March of this year, President Duterte signed an Executive Order to include nuclear energy in the country's power mix. This includes an investigation into the **potential re-opening of the Bataan Nuclear Power Plant (BNPP)**, built in 1984 but mothballed due to the ousting of dictator Ferdinand E. Marcos.

Nuclear energy provides a potential source of cheap, carbon-free energy, a strong option for Philippine consumers who face seasonal blackouts and one of the highest electricity prices in Asia. Nuclear also provides an alternative to the country's heavy reliance on coal baseload power, and a pathway to retiring older plants. However, nuclear as an option is strongly opposed by several stakeholders, which will remain a barrier to future developments.

Key to any developments for nuclear power in the country will be the succeeding administration's agenda. Current election frontrunners

Ferdinand Marcos Jr. and Sara Duterte-Carpio, the children of both the aforementioned dictator Marcos and President Duterte, have vowed to pursue "at least one nuclear power plant" should they win the upcoming elections in May.

We foresee the future of nuclear power in the country to remain stalled due to heavy public opposition.

However, a Marcos-led administration will heavily influence the potential re-opening of the BNPP. New nuclear developments seem highly unlikely at this juncture, with little investor interest.



Solar explores other options

Utility-scale solar in the Philippines has been stagnant, despite rapid uptake elsewhere in the wider region. This has been mostly attributed to many of the same barriers previously mentioned in the wind industry. Lengthy permitting processes, poor transparency, and inadequate transmission infrastructure all contribute to laggard growth. **Residential and commercial installations however have experienced steady growth, with smaller installations benefitting from the net-metering program. However, soft costs remain high in the industry, particularly for customer acquisition.**

With solar now providing some of the cheapest power available in the market, the global solar industry is now looking into **new configurations**. Floating installations, community solar, microgrids, and solar plus storage configurations have all begun to see rapid upticks worldwide. We foresee some of these emerging business

models seeing success in the Philippines, particularly **microgrids and storage configurations.**

Microgrids recently gained regulatory support with the recent enactment of **R.A. 11646 or the Microgrids Systems Act**, although financial incentives are lacking. Community solar is currently lacking any enabling policies, and we don't foresee this implemented in the country in the short to mid-term.

Microgrids and solar plus storage configurations offer **increased resiliency from energy market shocks, whether geopolitically or climate-induced.** This added resiliency is continuing to be highly valued in the market and may induce further growth. **We foresee microgrid developments to grow primarily through behind-the-meter configurations to avoid regulatory red-tape in the short-term, with larger developments to gather investments in the short to mid-term.**

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**“Civilization never recedes; the law of
necessity ever forces it onwards.”**

– Jules Verne

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