

VERNE

ENERGY SOLUTIONS

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2021 OUTLOOK

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# Introduction

**T**he sustainable energy industry made a resounding statement in 2020 that despite a global pandemic the likes of which have never been seen, and amidst economic recessions, an energy transition is on its way. The clean energy industry remained relatively resilient throughout the global turmoil, while technologies such as coal may have begun the downward path to pre-Industrial Revolution levels of energy mix share.

Globally, clean energy recorded declining costs, while nations committed to decarbonization pathways in the power industry. Regional trends have also pointed towards a sustainable, decarbonized power sector, which bodes well for renewable energy supply chains. Under the second phase of the ASEAN Plan of Action for Energy Cooperation (APAEC) 2021-2025, ASEAN governments have put forth a five-year sustainability plan which includes increased renewable capacity in member nations.

While the current Administration's "Build Build Build" infrastructure program has slowed down from the effects of a poor Covid-19 response, energy demand is still projected to increase at an average annual rate of 4.6%. We foresee power demand to rebound strongly in the medium-term as these infrastructure projects mature and the government's Total Electrification Programme (TEP) which targets 100% electrification by 2022 approach completion.

Sustainable energy momentum, particularly in wind and solar, may drive increased penetration in the Philippine energy industry, in line with projected demand growth. Four major trends in the energy industry discussed further in this document may accelerate the uptake of sustainable energy in the country, leading to an overall optimistic 2021 outlook.

# 01 Solar technology continues to provide a strong economic option.

**R**enewable energy, primarily solar, will continue to increase in capacity, driven by competitive prices, regulatory support, and increasingly ambitious climate targets by both the private and public sectors. Last year, the International Energy Agency (IEA) announced that solar provided the “cheapest electricity in history” [2]. **We foresee the Levelized Cost of Energy (LCOE) of renewable energy to continue on its downward trajectory,** especially as supply chains within the Southeast Asia region continue to become established. Active governance around the world in the face of climate change and covid-19 could be a catalyst to drive increased renewable development.

Regulatory support will be a key driver towards increased activity in the renewable energy sector. The National Renewable Energy Board (NREB) officially transmitted the National Renewable Energy Plan 2020 - 2040 to the Department of Energy (DOE), a significant update to the previous plan which was largely dismissed by the DOE. However, there has been significant momentum

towards acceptance of the provisions of this NREP following the DOE’s moratorium on greenfield coal plants. Secretary Alfonso Cusi has also cited results contained in the NREP in various ASEAN meetings. While formal approval of the NREP is still pending, this should increase the ease of doing business within the renewable industry, which has been a longstanding barrier to renewable deployment [3].

**Residential and commercial demand will continue to increase at a steady clip** while grid resilience remains an issue in Luzon. This may shift consumer values towards the stability offered by renewable energy, especially coupled with the newly implemented Green Energy Option Program [4].

We foresee **utility-scale solar deployments also increasing,** prompted by finance entrants, as investors around the world continue to enhance and diversify their portfolios with renewable assets. The long-term sustainability and steady cash flows provide strong incentives for capital allocation.

# 02 Energy Efficiency takes off as the sustainable energy avenue of choice.

**T**he oft-neglected pillar of sustainable energy finally assumes its mantle on the energy agenda as mandates by the Department of Energy were codified into the Energy Efficiency and Conservation Act. Commercial and industrial entities still reeling from a hard-hitting 2020 will be looking to cut costs and expenses wherever they can, and energy as typically the third-largest expense looks to provide significant financial returns.

The Board of Investments has also included energy efficiency (EE) projects in the Investment Priorities Plan (IPP) [5]. EE now benefits from significant tax incentives, further increasing its financial appeal. Energy Service Companies (ESCOs) and third-party providers (TPP) have begun to expand their offerings in the country, showcasing an active market for EE services.

**While the incentive program should attract significant EE investments in the country, widescale uptake of EE among commercial and industry assets will be dependent on enforcement of mandates by the DOE.**

The April 15 deadline for submission of the Energy Consumption Report

(ECCR) should be closely monitored, as this will give a clearer indication of how stringent these new mandates are. A strong signal by the Department of Energy will further increase the amount of EE projects, as entities begin to undergo compliance measures.

**We foresee the energy efficiency supply chain to grow alongside projects and retrofits,** especially within the two major sources of energy usage: cooling and lighting. Across every case study conducted by Verne Energy, whether in the industrial, commercial, or public sectors, levels of inefficiency have been egregiously high. This provides a low-hanging fruit for both suppliers, ESCOs, and energy consumers that will be aggressively targeted in the mid-term.

# 03 The hydrogen economy remains in very early stages.

The hydrogen industry has gained significant momentum in the past year alone. As global efforts to combat the climate crisis increase, **hydrogen increasingly looks to be a promising option for industries** that have remained notoriously difficult to decarbonize such as steel production and public transport.

The European Union has made it a pivotal strategy towards decarbonization [6], focusing on greening hydrogen production, which is typically generated from fossil fuels. Their aim is not just for local or regional use, but to be a world-leader, especially since hydrogen can potentially act as a carrier for excess renewable energy generation.

The Philippines has only just begun exploring hydrogen as an option with the recent MOU [7] signed with Australia to assess the country's potential. Australia has also made recent strides towards a hydrogen economy, investing \$2.6 million in hydrogen microgrids [8] in underserved areas across the country.

Similarly, Korea and Japan have taken great strides in the race to

develop green hydrogen infrastructure, with Japan looking to replicate the LNG supply chain [9]. With a robust regional hydrogen supply chain continuing to be developed, the Philippines potential to enter a new market looks optimistic. **This could provide potential investment opportunities** in remote areas that have typically been difficult to bring to a globalized market.

However, the Philippines is still a long way away from actualizing any hydrogen technology or infrastructure, and we foresee this industry remaining within the exploratory stage for 2021. Mid-term, **investment opportunities should increase as global prices of green hydrogen drop**, particularly within the steel and cement manufacturing industries.

# 04 Coal begins its slow decline, with a parallel resurgence in geothermal.

**G**lobally, the coal industry has begun its slow decline into obscurity. As is a common theme across this Outlook, increasing climate commitments and decarbonization efforts have begun to actualize the true environmental and health costs that have been associated and historically ignored with the coal industry. A recent study in the Philippines showed that the cost of coal borne by the public amounted to Php 8.5 billion [10] in health issues.

The Department of Energy recently joined the transition away from coal, issuing a moratorium [11] on endorsements for greenfield coal-fired power plant projects, aiming to increase the sustainability of the Philippine power industry. However, 9 GW of additional coal capacity is still in the pipeline. **We foresee this capacity to continue on its rollout,** as incumbent developers remain bullish on these assets, despite the associated risks. Long-term, protectionist policies for coal will delay stranding of newer assets—however **aging coal-fired power plants will face increasing pressure** from emission standards and face significant risk of forced closure.

However, alternative routes for the coal industry exist and offer significant potential. Transitions from coal assets to geothermal have begun to take place, as both skilled labor and certain assets can be repurposed for geothermal use. Similarly, geothermal offers baseload generation, reducing technical issues for grid operators to balance supply and demand. Ancillary products such as lithium extraction from geothermal brine may offer promising returns in a decarbonized society that relies on lithium-ion batteries [12].

The Department of Energy issued a statement [13] late in 2020 allowing 100% foreign ownership in geothermal projects. This should offer a tantalizing signal to global investors, as geothermal potential remains high in the Philippines, but has been untapped and unexplored in decades. We foresee **geothermal exploration and interest to increase** significantly in 2021, with large-scale projects to materialize over the course of the next few years.

# Want to dive deeper?

Give us a call, and we would be glad to walk you down sustainable energy pathways.

Headquartered in Metro Manila, Verne operates and implements projects all over the Philippines. We specialize in all forms of sustainable energy, from renewables to energy efficiency.

Whether you're a private firm looking to reduce expenditures or a city government thinking about greening your city, we have ready solutions for all your energy needs. We bring extensive experience and professionalism to every case and customize our support to your individual needs and concerns.

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