

# Philippines Renewable Energy Market, By Type (Hydroelectric Power, Wind Power, Bioenergy, Solar Energy, and Geothermal Energy) and End Use (Residential, Commercial, Industrial, and Others), By Region, Competition, Forecast and Opportunities, 2028

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# **Abstracts**

The Philippines Renewable Energy Market, valued at USD 1.41 Billion in 2022, is poised for robust growth in the forecast period, with an anticipated Compound Annual Growth Rate (CAGR) of 1.20% through 2028. Renewable energy encompasses energy sources that are naturally replenished and sustainable over time, distinct from finite fossil fuels. It harnesses abundant resources like sunlight, wind, water, and organic matter, leveraging Earth's natural processes to produce usable power without depleting finite reserves or causing lasting environmental harm.

Solar energy captures sunlight via photovoltaic cells or solar thermal systems to generate electricity or heat. Wind energy harnesses kinetic energy from moving air through wind turbines, converting it into electrical power. Hydropower uses the gravitational force of flowing water to turn turbines and produce electricity. Biomass energy derives from organic materials like wood, crop residues, and waste, either burned or converted into biofuels for energy production. Geothermal energy taps Earth's internal heat, using underground steam or hot water to generate power. Renewable energy technologies offer multiple benefits, including reduced greenhouse gas emissions, improved air quality, and reduced dependence on fossil fuels. As technology advances and economies of scale improve, renewable energy plays a pivotal role in the global shift towards a more sustainable and resilient energy future.



# **Key Market Drivers**

Drivers Shaping the Philippines' Renewable Energy Market

The Philippines' renewable energy market is influenced by various drivers that contribute to the growth, development, and adoption of clean and sustainable energy sources. These key drivers are shaping the renewable energy landscape in the Philippines:

- 1. Energy Security and Independence: The Philippines aims to reduce its dependence on imported fossil fuels, enhancing energy security and mitigating the impact of volatile global fuel prices.
- 2. Environmental Sustainability: The country is committed to reducing greenhouse gas emissions and addressing climate change. Renewable energy sources produce fewer emissions, aligning with international climate goals.
- 3. Government Policies and Incentives: The Philippine government has instituted policies, such as the Renewable Energy Act of 2008, feed-in tariffs (FiTs), and incentives, to attract investments in renewable energy projects, creating a favorable regulatory and financial environment.
- 4. Feed-in Tariffs (FiTs) and Guaranteed Rates: The FiT system guarantees fixed rates for renewable energy-generated electricity, providing financial stability for investors and developers and encouraging project development.
- 5. Abundant Renewable Resources: The Philippines boasts plentiful renewable energy resources, including solar, wind, hydro, geothermal, and biomass, contributing to a diverse and sustainable energy mix.
- 6. Rural Electrification and Energy Access: Off-grid and decentralized renewable energy solutions are essential for providing electricity to remote and underserved areas, improving the quality of life for communities lacking reliable power access.
- 7. Economic Development and Job Creation: Renewable energy projects drive economic growth by creating jobs in construction, operation, and maintenance, supporting local economies and communities.
- 8. Technological Advancements: Ongoing advancements in renewable energy



technologies, energy storage, and smart grid systems enhance efficiency, affordability, and viability for widespread deployment.

- 9. Corporate Social Responsibility: Many businesses and industries in the Philippines embrace renewable energy as part of their sustainability and corporate social responsibility initiatives.
- 10. International Commitments: The Philippines' participation in international agreements and initiatives promotes renewable energy development and environmental sustainability.
- 11. Public Awareness and Support: Growing public awareness of renewable energy benefits and increasing demand for clean energy sources contribute to market expansion.
- 12. Diversification of Energy Mix: A diverse energy mix that includes renewables enhances energy resilience and reduces the risk of supply disruptions.

Supportive policies and Regulations are Likely to Propel the Market

The Philippines has implemented various supportive government policies and measures to drive the growth and development of its renewable energy market. These policies aim to attract investments, promote sustainability, and address energy security challenges. There are some key supportive government policies for the Philippines' renewable energy market drivers:

Renewable Energy Act of 2008 (RA 9513): This landmark legislation provides the overall framework for the promotion and development of renewable energy in the Philippines. It outlines the incentives, mechanisms, and guidelines for the generation, utilization, and commercialization of renewable energy sources.

Feed-in Tariff (FiT) System: The FiT system guarantees fixed rates for renewable energy producers, offering long-term contracts with guaranteed payments. This policy provides financial security to investors and encourages the development of renewable energy projects.

Renewable Portfolio Standards (RPS): The RPS requires electricity suppliers to source a specific portion of their energy from renewable sources. This policy stimulates demand for renewable energy and encourages the diversification of the energy mix.



Net Metering Program: The Net Metering program allows consumers with renewable energy installations, such as rooftop solar panels, to offset their electricity consumption by feeding excess energy back into the grid. This promotes distributed generation and encourages consumers to invest in renewable energy.

Green Energy Option Program (GEOP): The GEOP empowers electricity consumers to choose renewable energy sources as their preferred energy supply. It allows customers to opt for renewable energy at a specific portion of their electricity consumption.

Priority Projects List: The Department of Energy (DOE) maintains a Priority Projects List to guide investments and facilitate the development of renewable energy projects, ensuring alignment with national energy goals.

Tax Incentives and Duty-Free Importation: Renewable energy projects registered under the Board of Investments (BOI) enjoy various fiscal incentives, including income tax holidays, duty-free importation of equipment, and exemption from local taxes.

Accelerated Depreciation of Renewable Energy Equipment: Businesses engaged in renewable energy projects benefit from accelerated depreciation rates for their equipment, reducing taxable income.

Strategic Environmental Plan (SEP) and Special Zones: Certain areas designated as SEPs and special economic zones provide incentives for renewable energy projects, encouraging sustainable development in these regions.

Green Bonds and Financing Support: The government has explored mechanisms like green bonds and financial support through development banks to facilitate renewable energy investments and project development.

Renewable Energy Roadmap: The DOE has formulated a Renewable Energy Roadmap that outlines strategies and targets for renewable energy capacity expansion, technology development, and policy implementation.

International Commitments and Partnerships: The Philippines' participation in international agreements and partnerships, such as the Paris Agreement and ASEAN initiatives, underscores its commitment to renewable energy development and sustainability.



# **Key Market Challenges**

The Philippines' renewable energy market faces several challenges that can impact its growth and development. These challenges range from technical and regulatory issues to financial and environmental concerns. Here are some key challenges for the Philippines' renewable energy market:

Intermittency and Grid Integration: The intermittent nature of renewable energy sources, such as solar and wind, poses challenges for grid stability and integration. Balancing supply and demand while accommodating fluctuations in generation requires advanced grid infrastructure and energy storage solutions.

Energy Storage Infrastructure: Lack of widespread energy storage infrastructure limits the ability to store excess renewable energy during peak production periods and release it during periods of high demand. Energy storage is crucial for managing variability and ensuring a stable power supply.

Policy and Regulatory Uncertainty: Inconsistent policies, changing regulations, and bureaucratic hurdles can deter investments in renewable energy projects. Clear and stable regulatory frameworks are essential to provide investor confidence and long-term planning.

Project Financing: Securing financing for renewable energy projects can be challenging due to high upfront costs and perceived risks. Access to affordable financing and investment incentives is crucial for project development.

Land Use and Permitting: Identifying suitable sites for renewable energy projects and obtaining permits can be time-consuming and complex. Balancing land use for energy development with environmental and community considerations is a challenge.

Transmission and Distribution Infrastructure: Inadequate transmission and distribution infrastructure can hinder the efficient transfer of renewable energy from production centers to demand centers. Upgrades are needed to accommodate increased renewable energy capacity.

Dependence on Coal and Fossil Fuels: The Philippines still heavily relies on coal and fossil fuels for its energy needs. Transitioning away from these sources requires a comprehensive strategy and commitment to renewable energy.



Technical Capacity and Workforce Development: Building a skilled workforce with expertise in renewable energy technology, project development, and maintenance is essential for a successful transition to cleaner energy sources.

Competition with Conventional Energy: In some cases, renewable energy may face competition with subsidized conventional energy sources, making it challenging for renewables to compete on price alone.

Public Awareness and Acceptance: Raising public awareness about the benefits of renewable energy and addressing potential misconceptions is vital for fostering support and engagement in the transition.

Environmental and Social Considerations: Large-scale renewable energy projects, such as hydropower, can have environmental and social impacts that need to be carefully managed and mitigated.

Global Economic Factors: External factors, such as economic downturns or fluctuations in global energy markets, can impact investment decisions and financing availability for renewable energy projects.

Segmental Insights

Solar Energy Insights

The Solar Energy segment established its dominance in the renewables energy market in 2022 and is projected to maintain its position throughout the forecast period. The Philippines has a high solar irradiance level, particularly in its southern regions. This makes solar energy an attractive option for both utility-scale and distributed energy generation. Solar irradiance maps show that the country receives ample solar radiation, which can be harnessed for electricity production through photovoltaic (PV) technology. The Philippines has experienced significant growth in solar energy installations over the past decade. Numerous solar farms, commercial installations, and residential rooftop systems have been deployed. Solar energy capacity has been added to the national grid through various projects, contributing to the diversification of the energy mix. The government has implemented policies and incentives to encourage solar energy adoption. The Net Metering program, for instance, allows consumers to install solar panels and feed excess electricity back to the grid. The Green Energy Option Program (GEOP) empowers consumers to choose solar energy as their preferred energy source. Solar energy generation produces minimal greenhouse gas emissions and contributes



to reducing the Philippines' carbon footprint, aligning with climate goals. Solar mini-grids and off-grid solar systems have been deployed to provide electricity to remote and underserved areas, improving energy access and quality of life.

# Residential Insights

The residential segment established its dominance in the renewable energy market in 2022 and is projected to maintain its position during the upcoming years. Rooftop solar installations have gained popularity among homeowners as a way to generate their own electricity and reduce reliance on the grid. Homeowners are increasingly investing in energy-efficient appliances, LED lighting, and insulation to reduce energy consumption. High electricity costs in some regions motivate homeowners to invest in renewable energy solutions like solar panels, which can lead to long-term savings on electricity bills. Rooftop solar allows homeowners to generate their own electricity, reducing dependence on the grid and providing greater energy security. Growing awareness of environmental issues encourages homeowners to choose clean energy options to reduce their carbon footprint. Policies such as net metering and tax exemptions for solar equipment provide financial incentives for homeowners to adopt renewable energy. The residential segment's adoption of renewable energy is expected to continue growing as technology becomes more accessible, costs decrease, and awareness of environmental and financial benefits increases.

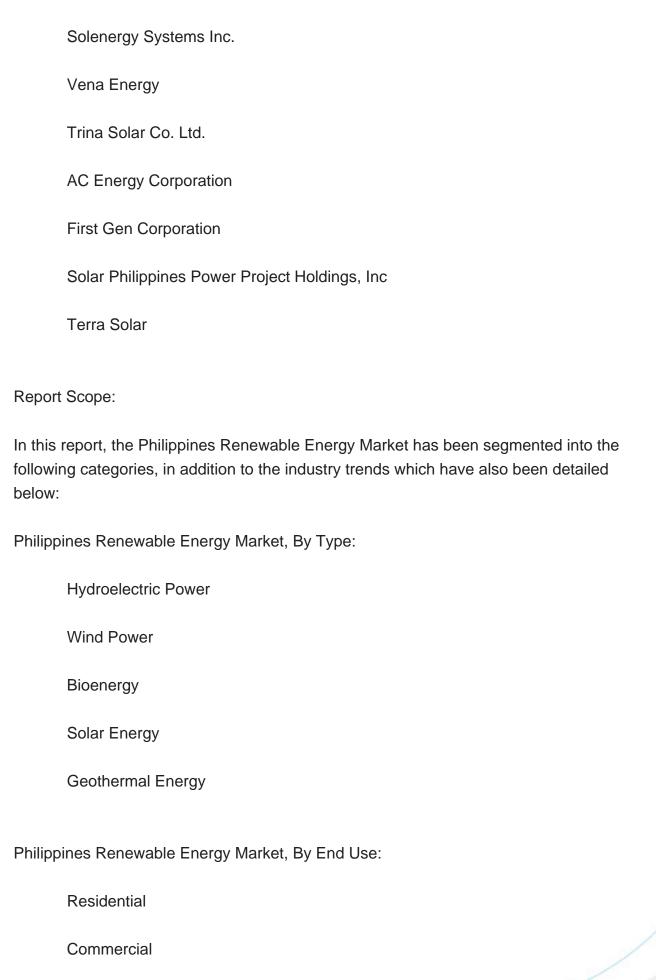
# Regional Insights

Luzon, the largest and most populous island, is a significant contributor to the Philippines' renewable energy capacity. The island has a substantial number of hydropower projects, particularly in the Cordillera region. Wind farms are operational in provinces such as Ilocos Norte and Nueva Ecija, taking advantage of the strong wind resources along the coastline. The second largest region is named Visayas. The Visayas region has been actively developing renewable energy projects to address energy security and supply challenges. Solar installations are widespread, and solar farms have been established in various provinces like Negros Occidental and Cebu. The region is home to some of the country's geothermal power plants, tapping into the natural heat of the Earth's interior.

Key Market Players

Solar Philippines Power Projects Holdings Inc.







|  | Industrial                    |
|--|-------------------------------|
|  | Others                        |
|  |                               |
| Philippines Renewable Energy Market, By Region:  |                               |
|  | National Capital Region (NCR) |
|  | Region IV - Southern Tagalog  |
|  | Region III - Central Luzon    |
|  | Region VII - Central Visayas  |
|  | Region I - Ilocos Region      |
|  | Rest of Philippines           |
| Competitive Landscape  |                               |
| Company Profiles: Detailed analysis of the major companies present in the Philippines Renewable Energy Market.                                     |                               |
| Available Customizations:  |                               |
| Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report: |                               |
| Company Information  |                               |
| Detailed analysis and profiling of additional market players (up to five).   |                               |



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