

Colombia Renewable Energy - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 95 pages | Mordor Intelligence

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Report description:

The Colombia Renewable Energy Market is expected to register a CAGR of greater than 2.6% during the forecast period.

The market was negatively impacted by COVID-19 in 2020. Presently the market has now reached pre-pandemic levels.

Key Highlights

- Over the long term, factors such as supportive government policies and efforts to meet the rising power demand using renewable energy sources are expected to contribute to the market's growth significantly.
- On the other hand, factors like unfavorable climatic conditions and the use of other conventional energy sources, such as coal and natural gas, are a few restraining factors for the Colombia renewable energy market.
- Nevertheless, the country has great potential for renewable energy-based electricity generation. The growing focus on clean energy to reduce power generation from fossil fuels is expected to offer essential investment opportunities for local companies within the country.

Colombia Renewable Energy Market Trends

Solar Energy is Expected to have Significant Growth in the Market

- The solar energy segment is likely to hold the largest market share during the forecast period, owing to the declining costs of solar modules and the versatility of these systems for various applications, like electricity generation, water heating, etc.

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- As of 2021, the country generated 184 MW of energy through solar power, which is significantly higher than the 86 MW generated in 2020. Also, solar installation remains out of reach for many households in the country. However, in rural areas where access to subsidies lessens, the total CAPEX required to switch to solar to lower their electricity bills is one of the significant factors aiding this segment's growth. As a result, rooftop solar development is likely to be faster among the high-income residential segment, which has higher electricity bills and the purchasing power to install arrays.
- As of 2021, the El Paso solar plant was the largest solar plant built in the country, with around 86.2 MW of total solar PV capacity. The facility, located in the northern part of Colombia, alone accounts for a significant percentage of the country's installed solar capacity. Further, El Paso can produce approximately 176 GWh each year, meeting the annual energy needs of a large number of Colombians while avoiding the annual CO2 emission of roughly 100,000 tons.
- Moreover, in May 2022, the Enel Colombia subsidiary of Enel SpA had 70% completed La Loma solar farm project in Colombia. The company is building a 187-MW (direct current) plant in the department of Cesar. The solar plant has 400 thousand modules mounted on the 437-hectare site. The solar farm will generate some 420 GWh of power per year. Enel Green Power installed 121,300 panels and injected the first power into the grid in February 2022.
- Owing to the above points and the recent developments, the solar energy segment is expected to dominate the Colombia renewable energy market during the forecast period.

Wind Energy Generation Witnessing Significant Growth

- The country is strong in wind energy generation. The wind energy segment will likely hold the largest market share during the forecast period since the country has witnessed increasing wind energy installations in recent years.
- The La Guajira and other nearby areas have the perfect conditions for investors interested in wind energy production. Due to its geographical location, the La Guajira Peninsula has the potential for wind generation of 18 GW, enough to cover the national demand twice. The department of La Guajira stands out for its high natural resources in this area (estimated at 21 GW of capacity).
- Winds in La Guajira have been classified as Class 7 (over ten m/s), making it a high-speed wind region. It has been estimated that Colombia has a wind power potential of 21,000 MW in the Guajira region, which would be enough to generate enough power to meet the Colombian power demand twice. The Jeparachi wind farm was the first operational wind farm in the country, commissioned in 2004.
- The Unit of Mining and Energetic Planning (UPME) has a goal to increase the contribution of non-conventional renewable energy sources to approximately 10% of the country's total installed capacity in the coming years. Wind power projects, 18 in total, have secured rights for 2,531 MW, which is expected to come by the end of 2022.
- Colombia's total wind power installed capacity was 18 MW in 2021. In the coming year, the wind power installed capacity is expected to grow gradually, with new wind power projects coming up in Colombia to meet their energy needs.
- Moreover, in August 2022, The Colombian Ministry of Mining and Energy launched the country's first offshore wind lease round and expects to grant permits for the use of marine areas in the second half of 2023. This, in turn, culminates in the growth of the country's wind energy market during the forecast period.
- Owing to the above points and recent developments, wind energy is expected to witness significant growth during the forecast period.

Colombia Renewable Energy Industry Overview

The Colombia renewable energy market is moderately consolidated. Some of the major companies (in no particular order) include Celsia SAESP, DNV GL AS, Enel Green Power SpA, Ventus Ingenieria S.R.L, and EDP Renovaveis SA.

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Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

1 INTRODUCTION

1.1 Scope of the Study

1.2 Market Definition

1.3 Study Assumptions

2 EXECUTIVE SUMMARY

3 RESEARCH METHODOLOGY

4 MARKET OVERVIEW

4.1 Introduction

4.2 Renewable Energy Mix, 2021

4.3 Installed Capacity and Forecast in GW Till 2027

4.4 Recent Trends and Developments

4.5 Government Policies and Regulations

4.6 Market Dynamics

4.6.1 Drivers

4.6.2 Restraints

4.7 Supply Chain Analysis

4.8 PESTLE Analysis

5 MARKET SEGMENTATION

5.1 Type

5.1.1 Hydropower

5.1.2 Bioenergy

5.1.3 Other Renewables

6 COMPETITIVE LANDSCAPE

6.1 Mergers and Acquisitions, Joint Ventures, Collaborations, and Agreements

6.2 Strategies Adopted by Leading Players

6.3 Company Profiles

6.3.1 Celsia SAESP

6.3.2 DNV GL AS

6.3.3 Enel Green Power SpA

6.3.4 EDP Renovaveis SA

6.3.5 Ventus Ingenieria S.R.L

7 MARKET OPPORTUNITIES AND FUTURE TRENDS

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