

Colombia s photovoltaic power generation capacity





Overview

As of 2023, Colombia's renewable electricity generation capacity was 14.3 GW. Most of this capacity is . is growing fast, and in 2023 accounted for about 5% of the renewable capacity, up from almost zero five years earlier. The country has significant wind and solar resources that remain largely unexploited. According to a study by the World Bank's (ESMAP), exploiting the country's significant wind pot.

Colombia had 1.35 GW of operational PV capacity and 699.4 MW in testing at the end of March 2025, bringing the country's total installed PV capacity to 2.05 GW, according to data from XM Colombia, operator of the National Interconnected System (SIN) and administrator of the Wholesale Energy Market (MEM).How much electricity does Colombia produce?

Colombia's installed electric power generation capacity currently stands at 17,771 MW, with hydro accounting for 68 percent, gas and coal-fired power plants accounting for 31 percent, and the remaining one percent from wind and solar units. The country's energy matrix is clean but highly dependent on climatic conditions to generate hydro power.

Will Colombia's utility-scale solar PV capacity increase over the 2020-22 period?

Colombia's utility-scale solar PV capacity additions are expected to increase more over the 2020-22 period than they did in 2019. Two auctions (for energy and reliability) combined will bring online almost 500 MW of utility-scale PV.

Does Colombia have solar power?

In the first renewable energy auction for the country, over 1 GW of wind power was awarded in 2019 for a 15-year power purchase agreement from 2022. Colombia has significant solar power resources because of its location in the equatorial zone, but the country sits in a complex region of the Andes where climatic conditions vary.

Does Colombia need more power generation capacity?

As a result, Colombia has encouraged development of more non-hydroelectric



electricity generation capacity, with a goal of at least 20% shares for both coal-fueled and gas-fueled power generation. Colombia is planning to increase its thermal generation capacity to 50% of its total capacity by 2010.

How much wind power does Colombia have?

Colombia has an estimated theoretical wind power potential of 21 GW just in the Guajira Department —enough to generate sufficient power to meet the national demand almost twice over. However, the country only has an installed capacity of 19.5 MW of wind energy, tapping only 0.4% of its theoretical wind potential.

What is the electricity sector in Colombia?

The Colombian electricity sector is comprised of both the National Interconnected System (SIN) and several isolated local systems in the Non-Interconnected Zones (ZNI), where electrical services are provided by small-scale independent systems.



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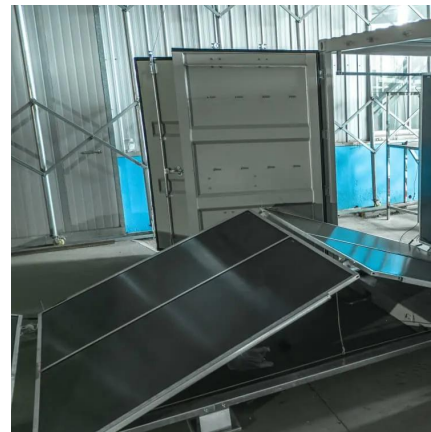


Participation in the energy matrix of renewable projects in Colombia

By 2025, the country plans to activate 22 new renewable energy projects, which will add 697 megawatts to installed capacity and represent 15% of Colombia's electricity generation . This ...

Renewable energy in Colombia

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