

Does Antigua & Barbuda have a solar system?

It is important to note that there is no battery storage system currently deployed in Antigua and Barbuda, hence the solar systems can only generate electricity during the day when sunlight is available. This makes it indispensable for the heavy fuel oil generators to cover the entire load during evening hours.

Does Antigua & Barbuda have a power system?

This is considering solar, wind, and storage, and not considering hydrogen. Includes hydrogen electrolyser, storage and fuel cell for power-to-hydrogen and hydrogen-to-power. The current power system of Antigua and Barbuda is highly dominated by fossil fuel generation, with only a 3.55% renewable energy share.

What is the share of solar PV & wind in Antigua & Barbuda?

In the previous scenario, a larger share of generation was coming from solar PV, while with the deployment of EVs we see a more even share between solar PV and wind. Almost 50% of the total load of Antigua and Barbuda is being met by the solar arrays, while around 46% is covered by the wind turbines.

Which energy source is most dominant in Antigua and Barbuda?

From the figure, it is also clear that the HOMER optimisation has estimated solar energy to be the more dominant source of electricity in Antigua and Barbuda to serve most of the load. The dominance of solar PV in meeting most of the total load in this scenario is clearer when observing the installed capacity by technology in Figure 21.

How much energy does Antigua & Barbuda use per year?

Based on the information provided by the Government of Antigua and Barbuda, the average household consumes just over 3 000 kilowatt-hours per year (kWh/year) or 8.25 kWh/day. Based on this, it was estimated that a 3 kW solar PV system with battery storage would be added on the rooftop of each household.

Will Antigua and Barbuda increase its share of renewables?

The current power system is widely dominated by fossil fuel generation, and with the plans in place as of 2020, the renewable share would merely increase to 9%. To significantly increase its share of renewables, Antigua and Barbuda should follow the pathway of the optimal system scenario outlined in the Roadmap.

As the name suggests, this scenario represents a 100% renewable energy power system but without considering green hydrogen production. This scenario was selected to show that there is a possibility to achieve the ambitious target set by the Government of Antigua and Barbuda with just solar and wind energy.

Antigua and Barbuda receive high levels of solar irradiation (GHI) of 5.8 kWh/m<sup>2</sup>/day and specific yield 4.8 kWh/kWp/day indicating a strong technical feasibility for solar in the country.<sup>5</sup> In 2021, 3.13% of the

country's power demand was met through RE sources.<sup>6</sup>

by the Government of Antigua and Barbuda, several renewable energy technologies have been analysed. The current power system of the country is widely dominated by conventional fossil fuel generation. Hence, multiple renewable energy options were explored. These include utility-scale solar photovoltaics (PV), distributed solar PV

The Green Barbuda project is a hybrid solar, batteries and back-up diesel project, featuring a hybrid PV plant with 720 kWp of solar panels connected to a 863 kWh battery. It is capable of fully meeting the island's current daytime energy demand.

With our partner GreenTech Solar - The Caribbean's Premier Renewable Energy Provider, ACT is dedicated to helping residential and commercial infrastructures in Antigua & Barbuda and other Caribbean islands achieve economic and environmental sustainability using renewable energy. ACT offers 3 types of renewable energy solutions - Solar ...

Five specific scenarios have been analysed, together with multiple renewable energy options including utility-scale solar photovoltaic (PV), distributed solar PV, utility-scale wind and green hydrogen. Meanwhile, electric vehicles (EVs) are considered for achieving a 100% renewable transport sector by 2040.

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Solar Antigua is at the forefront of renewable energy solutions, offering cutting-edge photovoltaic (PV) system technology. Our advanced systems are designed to maximize energy efficiency and reduce costs for our customers.

Solar Solutions is focused on providing the most innovative Solar, Battery, Wind, & Energy solutions in Antigua & Barbuda. Our mission is to lead economic and environmental sustainability in Antigua & Barbuda through clean energy transitions- with unrelenting passion, quality and a commitment to clients and community.

We have partnered with the industry specialists to deliver the best-in-class solar energy solutions for residential and commercial infrastructures in Antigua & Barbuda. Contact us to get a quote or to know more about our Solar Energy solutions.

New Energy - Antigua & Barbuda. We DESIGN, supply and install solar systems to suit your requirements, we supply grid-tie, off-grid and hybrid PV systems for residential and commercial applications, Solar Water Heaters, Solar Pool Pumps & Heaters, Solar Air Conditioners.

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