

SolarInnovate Energy Solutions

Vatican Solar Photovoltaic Energy Storage



Overview

In a move that blends spiritual stewardship with pragmatic climate action, the Holy See has received Italian government approval to transform its 1,000-acre Santa Maria Galeria estate into a 430-hectare solar farm—enough to supply all of Vatican City's electricity and certify the micro-state as the world's first carbon-neutral sovereign. Does the Vatican have solar power?

While not yet fully powered by renewables, the Vatican has steadily expanded its solar infrastructure since 2008: over 2,394 photovoltaic panels—many atop the Paul VI Audience Hall—already generate around 300 MWh of electricity annually.

Why did Acea install a solar energy system in Vatican City?

This project was carried out by ACEA, an Italian utility company, which installed systems to meet all of the Vatican's energy demands. What makes this significant is not the size, but that Vatican City is only 0.49km², and there was no loud campaign, no press tour, just action set in stone and implemented.

Will the Vatican build a solar plant in 2024?

In 2024, the Vatican announced a new solar plant to be built on Church-owned land outside Rome, positioning the city-state to become the eighth country in the world to run entirely on renewable electricity. The project will also include agricultural activity, creating an "agrivoltaic" site that combines solar energy production with farming.

How will the Vatican's new energy system work?

According to the Vatican's press office, the installation will apply the most advanced solutions currently available, balancing clean energy generation with the preservation of agricultural use, the region's hydrogeological stability, and the protection of its cultural and archaeological heritage (ZENIT News / Rome, 08.01.2025).-

Will Vatican City become a fully solar-powered state in 2025?

By May 29th, 2025, that vision was fulfilled, and the Vatican City became one of the only fully solar-powered states in the world, setting a clear precedent on how belief and sustainability can align.

Does the Vatican have a low-energy lighting system?

The Vatican has introduced low-energy lighting systems; over 100,000 LED lights have replaced older fixtures, cutting energy consumption by up to 90% while protecting delicate frescoes from heat exposure. Villa Barberini, Pontifical Gardens at Castel Gandolfo: Photo by Sonse - Villa Barberini Pontifical Gardens, Castel Gandolfo, CC BY 2.0,

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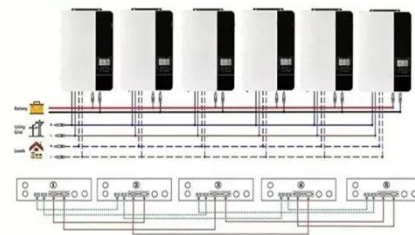
New Vatican solar plant reaches for 100% renewable goal

Jul 1, 2024 · Following Pope Francis's announcement of a new solar plant, Vatican City is on track to become the eighth country in the world to generate 100% of its electricity from renewable ...

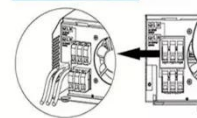
Vatican Secures Vast Solar Estate To Become First Carbon ...

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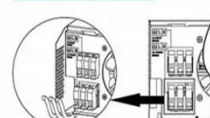
Parallel (Parallel operation up to 6 unit (only with battery connected))



AC input wires



AC output wires



ESS



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