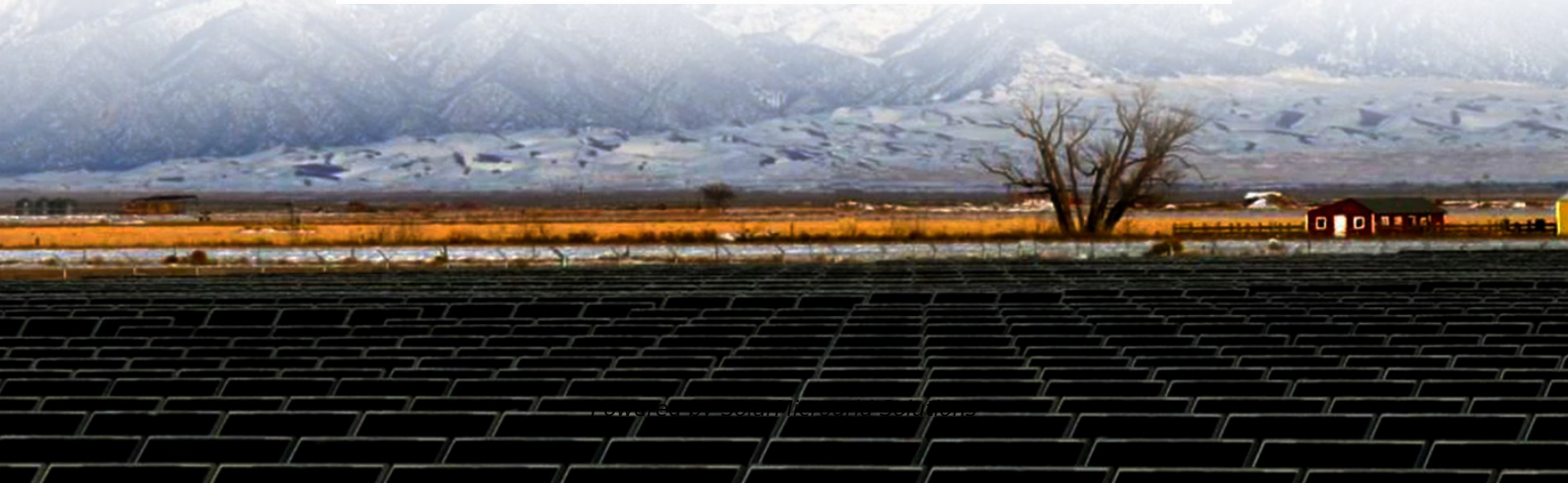


# **Photovoltaic power generation and energy storage applications in the Vatican**





## Overview

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Where does Pope Francis build a agrivoltaic plant?

With the Apostolic Letter “Fratello sole,” issued motu proprio, Pope Francis provides for the construction of an agrivoltaic plant in the extraterritorial zone of Santa Maria in Galeria, where Vatican Radio maintains antennas for digital broadcasting. By Christopher Wells.

What is the agrivoltaic system based on?

The agrivoltaic system to be built here is based on «Fratello Sole», a motu proprio that Pope Leo XIV issued to promote environmental responsibility within Vatican infrastructure. The project aims to meet the full energy needs of both the Vatican State and Vatican Radio using solar technology integrated with agricultural activity.

Who entrusted the construction of the agrivoltaic plant?

The construction of the agrivoltaic plant has been entrusted to the President of the Governorate of Vatican City State, Cardinal Fernando Vérgez Alzaga, LC; and the President of the Administration of the Patrimony of the Apostolic See, Archbishop Giordano Piccinotti, SDB.

What did Pope Francis say about agrivoltaic energy?

Citing Pope Francis’s «Laudato Si’», Gallagher reminded listeners that access to clean, renewable energy remains elusive for many across the globe, and that while progress has been made, systemic change is still slow. The agrivoltaic project is one of those “good practices” Pope Francis called for in his encyclical a decade ago.

How do Agrivoltaics work?

Agrivoltaics involves the dual use of land for solar energy production and agriculture. They are built with a series of solar panels that coexist with crops, livestock or both. Sometimes the solar arrays are situated on top of



greenhouses, interwoven among crops, or elevated plants. Where is the Vatican's solar installation located?

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Where is the agrivoltaic plant located?

The agrivoltaic plant is situated on the Holy See's property at Santa Maria di Galeria on the outskirts of Rome. The 1000+ acre site is a good match for the agrivoltaic plant, as it was already the location for Vatican Radio transmission facilities for digital broadcasting.



## Photovoltaic power generation and energy storage applications in t



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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 ...

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How will a solar plant benefit the Vatican? The Pope has given full authority to two special Commissioners to supervise the plant's construction, ensuring that the project is carried out ...

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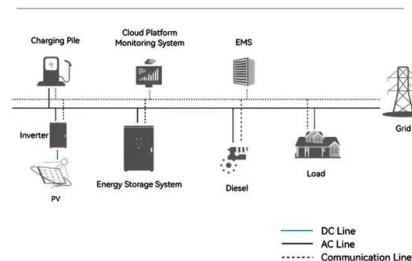


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### System Topology



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The 'green' revolution initiated by Francis and accelerated by Leo XIV will make the Vatican the world's first zero-emissions state within a year. During a visit to Ponte Galeria ...

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Distributed, grid-connected solar photovoltaic (PV) power poses a unique set of benefits and challenges. In distributed solar applications, small PV systems (5-25 kilowatts [kW]) generate ...

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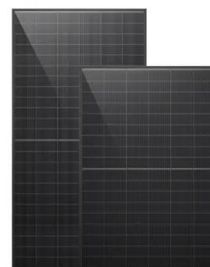
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The construction of the agrivoltaic plant has been entrusted to the President of the Governorate of Vatican City State, Cardinal Fernando Véregez Alzaga, LC; and the President ...

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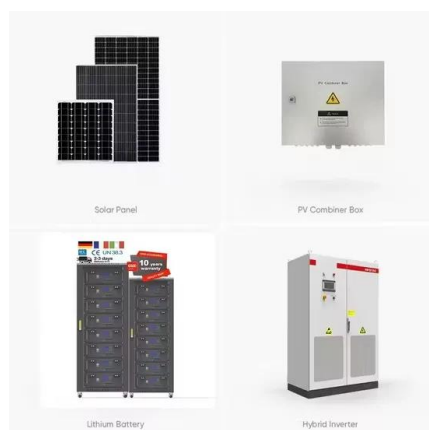
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## The Vatican's Green Revolution How Photovoltaic Energy Storage ...

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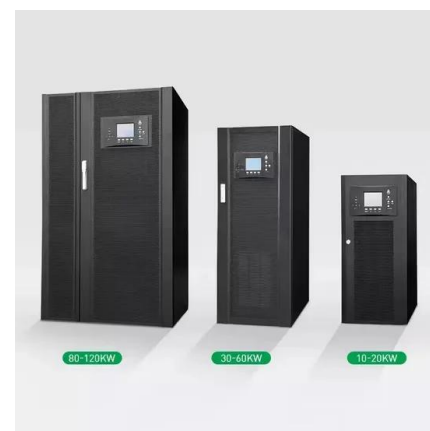
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## High tech meets historic - solar energy in the Vatican

Thanks to our detailed planning and implementation of the project, the successful installation of the solar system on the roof of the Nervi Hall demonstrates how leading-edge technology can ...

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## Renewable energy and protection of the ecosystem

The idea was to offer land owners the possibility of renting their properties to install photovoltaic panels, while still maintaining their main agricultural activity. The first benefits of ...

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## Feasibility study of energy storage options for photovoltaic

Energy storage is an emerging solution to mitigate the intermittency of solar photovoltaic (PV) power generation and includes several technologies that could also be ...

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## Distributed photovoltaic generation and energy storage systems: ...

This work presents a review of energy storage and redistribution associated with photovoltaic energy, proposing a distributed micro-generation complex connected to the ...

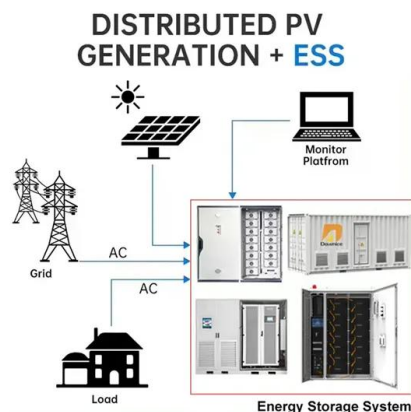
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## Vatican City now runs fully on solar power « Euro Weekly News

On May 29, 2025, the Vatican City officially transitioned to solar power, marking a significant shift in the European energy landscape. The heart of this change is located at ...

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## Vatican City Is Now Powered By Solar

By installing solar panels in our 42 parish churches, the diocese will try to avoid 191 metric tons of carbon dioxide emissions over the next 25 years through the generation of ...

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## Overview on hybrid solar photovoltaic-electrical energy storage

Moreover, extensive research on hybrid photovoltaic-electrical energy storage systems is analyzed and discussed based on the adopted optimization criteria for improving ...

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