



SIEMENS

The largest solar farm in Italy

How European Energy realizes this “green” ambition with SICAM applications Photovoltaic Plant Control and Photovoltaic Plant Monitoring

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After just one year of construction conducted during the COVID-19 pandemic, Troia solar farm in Apulia was connected to the grid in June 2020. The project marked the collaboration between European Energy, an independent power producer, and Siemens.

As an energy solution, Troia is intended to tackle climate change and is currently the largest solar farm in Italy with a capacity of 104 MW.

Transforming this goal into reality means having to overcome three main challenges. First, renewable integration requires grid code compliance with the transmission system operator (TSO) and distribution system operators (DSO). Second, this system harmonization also has to handle a vast site consisting of 1,500,000 square meters, which is subdivided into seven blocks, some up to 15 km apart. Third, the areas have different tariff systems with varying prices for infeed.

SICAM applications Photovoltaic Plant Control and Photovoltaic Plant Monitoring – the perfect intelligent zone controllers

To tackle the challenges, Photovoltaic Plant Control and Photovoltaic Plant Monitoring are installed to manage the photovoltaic plant of 104 MW and control 22 SINACON power inverters, in line with the grid code. Everything is linked to one single grid inter-connection point and monitored by different SICAM SCC interfaces. While the grid resiliency and stability are ensured, weather forecast data are also acquired to maximize the energy production. This results in 150,000 MWh of clean energy produced per year and 80,000 tons of CO₂ avoided annually. Consequently, the solar farm not only provides sufficient and green energy for about 50,000 households in the region, but also supports the local health and emergency infrastructure.



Troia energy site

Three key benefits for European Energy and the project configuration.

Plant resiliency and stability through interface monitoring and system automation

With Photovoltaic Plant Control and Photovoltaic Plant Monitoring, the resiliency of the energy system is secured by functionalities such as automated monitoring, SMS alarms and blackout detection. Based on the demand from the grid operator, a special feature referred to as "Q at Night" is set up to further strengthen grid stability, even without human intervention.

Energy production maximization

With its interface, Photovoltaic Plant Control and Photovoltaic Plant Monitoring enable the grid operator to obtain an overview from the tracked KPIs. Together with a weather station, the amount of potential energy produced is predicted, thus maximizing operations. As a result, the total solar plant with its seven areas can produce up to 150,000 MWh of green energy per year.

The solution to climate change

Thanks to the help of the Photovoltaic Plant Control and Photovoltaic Plant Monitoring, the vast photovoltaic plant is providing green energy to 50,000 households and saving 80,000 tons of CO2 per year. European Energy is one step closer to realize its goal of contributing to the global transition to a fossil-free society.



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