CASE STUDY

1MW PV PLANT REVAMPING

SUNGROW INVERTER
SG500MX

Location
Buseto Palizzolo (TP) Sicily, IT

Open field PV plant 21,000 sqm
4116 PV modules

Revamping with SG500MX
Sungrow inverters

Payback time:
< 18 months

Annual total production 2017:
1,4MWh

CHALLENGE

Due to one of the inverters installed, the original PV plant was subject to numerous interruptions of the power supply, resulting in major production losses affecting the total annual performance.

SOLUTION

The faulty inverter was replaced with the SG500MX of similar specifications on the AC side allowing to maintain the original configuration and not having to change the medium voltage part which remained unchanged. Now, two central inverters work simultaneously on the system, the original brand and the new Sungrow solution, both of which are 500 kW in size.

BENEFIT

From the day the plant was reactivated in April 2017, production increased by 13% compared to the same period of the previous year. In addition, the Sungrow inverter produced 8% more power than the competitor product installed side-by-side and connected by the identical PV configuration.
DECRITION

The photovoltaic generator is mounted on fixed structures with 4,166 60-cell polycrystalline modules with a performance of 240Wp at a 30° incline - perfectly south-facing. The inverter was replaced using a simple self-propelled lift, starting with the removal of the concrete cab's roof. Using the same crane, the old inverter was removed, an opening for the installation of the ventilation grille was drilled in the wall of the cabin and the new SG500MX was lowered from the top. Design and implementation of all the revamping activities have been performed as a collaboration between Sungrow and Gildemeister energy solutions.

Once the cab roof had been repositioned and the ventilation lids protected with a rain cover, the new inverter was connected on both DC and AC sides. The efficient process ended with the installation of the ventilation conveyor between the inverters & grids and the subsequent commissioning phase. The inverter swap demanded on-sitework for about a week, however with a downtime of less than two days.

Sungrow Power Supply Co., Ltd (“Sungrow”) is a global leading inverter solution supplier for renewables with over 68 GW installed worldwide as of June 2018. Founded in 1997, Sungrow is a leader in the research and development of solar inverters, with the largest dedicated R&D team in the industry and a broad product portfolio offering PV inverter solutions and energy storage systems for utility-scale, commercial, and residential applications, as well as internationally recognized floating PV plant solutions. Sungrow EMEA's headquarters is based in Munich, Germany, with local subsidiaries in Italy, Spain, France, UK, Turkey (Representative Bureau) and UAE. The Company has shipped more than 5 GW of PV and Storage products to key markets in the region, mostly in the utility-scale segment.

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