PHOTOVOLTAIC PLANT (POWER: 414 KW) IN CATANIA

The plant is a grid-connected system, and is located on the roof of an industrial building used for the treatment of municipal solid waste in Catania; after having designed and manufactured the specific steel structures of support to adapt to the type of coverage of the industrial building, 1.800 panels (InnovoSolar MET 230P models with a nominal power of 230 W each) were installed on special steel rails anchored to the above structures. The power of the entire system is therefore equal to 414.0 kWp, with an average energy production of about 642.000 kWh/y.
The installation of the photovoltaic power plant was only possible after a period of static verification carried out in collaboration with the manufacturer of prefabricated shed, to assess the maximum allowable overload above the roof.
The photovoltaic system is connected to the local distribution network at a voltage of 20 kV; two inverters (Friem Recon 330 model) were installed, in order to ensure a maximum 0.6 MW power.
The installation and proper management of the photovoltaic system allow big savings on traditional fuels and a reduction in emissions of greenhouse gases. The savings in terms of fossil fuels could be estimated in about 110 TOE (tons of oil equivalent) per year, while a reduction in greenhouse gas emissions of approximately 300 tons of CO_2 each year was calculated.

DESIGN DATA

Private client
SICULA TRASPORTI s.r.l.
Tasks assigned and carried out Final design, construction management and safety coordination
Total cost € 1.650.000,00
Location C.da Codavolpe, Vaccarizzo Area - Catania (CT)
UTM Coord. (Zone 33S) 505,376 E - 4,137,774 N
Area of intervention 10.500 m²
Construction period June - December 2010
Commissioning and start-up 2011

TECHNICAL DATA

System type: On building - Not integrated
Type of PV modules: Polycrystalline silicon modules
Number of installed panels: 1.800
Occupied area: about 2.970 m²
Rated power of the individual panel: 230 Wp
Total installed power: 414.00 kWp
Average annual energy produced: 641.7 MWh
Inverters installed: two three-phase inverters, 600 kW total