

PHOTOVOLTAIC PLANT (POWER 995.72 KW) NAPOLI

The plant is a grid-connected system, which is located on the roof of the hangar no. 1 of the International Airport Capodichino in Naples, in the Municipality of Casoria; after the cleaning and the waterproofing of the roof (pitched on a slight slope) 4.526 panels (Innovo Solar TEM 220P models with a nominal power of 220 W each) were installed on steel rail supports. The power of the entire system is therefore equal to 995.72 kW, with an average production around 1.2 GWh/y.

The installation of the photovoltaic power plant was only possible after a period of experimentation carried out in collaboration with the Department of Technical Physics of the University of Palermo, in order to evaluate the potential degree of glare against aircraft during takeoff, landing and circling. The results of the tests performed have led to selection and installation of modules whose protective crystal has an internal roughness to reduce any phenomenon of reflection of incident sunlight. Photovoltaic modules are connected to the national distribution network in three-phase medium voltage; two generators Copernicus TL-SF-200 Astrid model and two generators Copernicus TL-SF-250 Astrid model were installed, in order to ensure a maximum power of 1 MW.

The installation and proper management of the photovoltaic 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 230 TOE (tons of oil equivalent) per year, while a reduction in greenhouse gas emissions of approximately 620 tons of CO₂ each year was calculated.

DESIGN DATA

Private client

New Energy S.p.A.

Tasks assigned and carried out

Final design, construction management and safety coordination

Total cost € 3.350.000,00

Location International Airport Capodichino (NA)

UTM Coord. (Zone 33S) 441,345 E - 4,526,640 N

Area of intervention 15.000 m²

Commissioning and start-up 2011

Construction period May - December 2010

TECHNICAL DATA

System type Partially integrated

Type of PV modules

Polycrystalline silicon modules

Number of installed panels

4.526

Occupied area about 7.700 m²

Rated power of the individual panel 220 Wp

Total installed power 995.72 kWp

Average annual energy produced 1.2 GWh

4 three-phase inverter, 900 kW total (2 x 200 kW + 2 x 250 kW)

