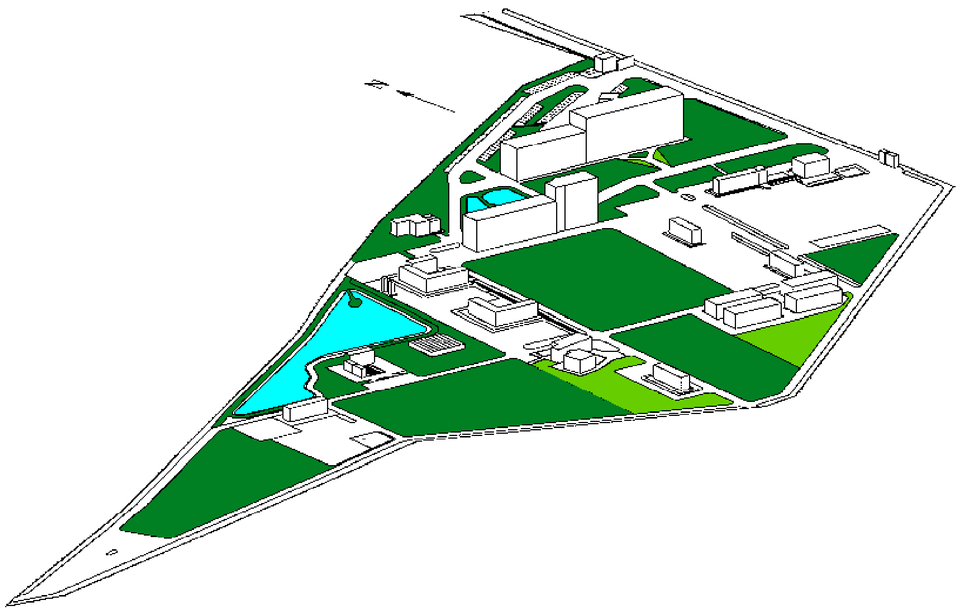
Enel

Enel is Italy's largest power company, and Europe's second listed utility by installed capacity. It produces, distributes and sells electricity and gas across Europe, North and Latin America.
Further to the acquisition of the Spanish utility Endesa, together with partner Acciona, Enel has now a presence in 22 countries with 75,500 MW of generating capacity (on 31st December 2007) and serves more than 50 million power and gas customers. The company has 73,500 employees and operates a wide range of hydroelectric, thermoelectric, nuclear, geothermal, wind-power and photovoltaic power stations. After having completed the sale of non – strategic assets, Enel is actively engaged in international expansion in the power and gas market.
In particular , with approximately 30,000 MW in plants using renewable energy resources (hydro, geothermal wind, solar and biomass) in Europe and the Americas, Enel is a world leader in the sector.
Enel is one of the European electric utilities with the longer-term experience in the field of PV, starting from the beginning of the 80's with the design and management of small stand-alone plants, continuing with the establishment in Catania (Sicily) of a test site for modules and systems characterization. Since 2002 Enel intensified the PV activities by the design, installation and monitoring of the 100 kW hybrid (PV-Diesel) Ginostra plant in the island of Stromboli, and by the design and installation of some hundreds grid-connected plants built in the frame of national PV deployment projects (PV roofs program, feed-in tariff programmes).
For the next five years (2008-2012) Enel is investing 7.4 billion euros for the development of renewable energy sources and for research and development of new environmental friendly technologies.
Since mid 2007 in the field of innovative PV, Enel is constructing in Catania an Advanced Solar Laboratory provided with indoor and outdoor testing facilities for determining the energy performance and assessing the reliability and durability of different typologies of innovative photovoltaic components. The general objectives of advanced laboratory are to

- Identify, characterize and optimize the most promising innovative technologies;
- Understand the key factors for the application of innovative technologies on large scale;
- Apply on large scale innovative PV systems already available at industrial level.

The laboratory includes a meteo-radiometric station, 2 portable spectral radiometers equipments (300 nm – 2200 nm), sun simulators for modules and cells, portable I-V testers with MPPT function, several four quadrant electronic loads with remote digital control, several Two – axis tracking bench for modules, cells and radiometers, 1 salt mist chamber, 2 temperature and humidity controlled test chambers, 1 U-V and rain chamber.
Enel is focussing its interest mainly in CPV systems coupled with high efficiency solar cells and in thin film systems. At present three CPV systems are already installed and grid connected in the Catania Advanced Solar Laboratory. The typologies under testing are two point focus systems coupled with triple junction cells and one low concentrating PV system with high efficiency Silicon cell.
Within Apollon project Enel will be mainly involved in WP 5 focussed on testing and performance evaluation of cell, module and arrays. Enel will collaborate with the WP5 leader and other participants in the definition of the testing methodologies for CPV modules and systems. In the frame of Apollon WP5 Enel will install and characterize in the Advanced Solar Laboratory first and second generation CPV prototypes based on point focus and mirror based spectra splitting technologies. The outcomes of Apollon project will be very useful for Enel to identify the most promising innovative and cost effective concentrating PV technologies. Moreover, Enel needs to understand the key factors for the application of the identified technologies on large scale.

Enel



Site plan of Advanced Solar Laboratory

Main office building of Advanced Solar Laboratory

CPV prototypes installed in Enel Advanced Solar Laboratory

CPV prototype installed in Enel Advanced Solar Laboratory

CPV prototypes installed in Enel Advanced Solar Laboratory