



## **ROMA CAPITALE, ENEL GREEN POWER AND ENEA SIGN AN AGREEMENT TO BUILD A CONCENTRATED SOLAR POWER AND BIOMASS PLANT**

*The molten salts system will allow the plant to generate electricity in the absence of sunlight.*

*Locally produced biomass will also be transformed into biogas to integrate the supply from the solar power plant, and into biofuel to power urban public transport.*

**Rome, April 13<sup>th</sup>, 2012** – Today, Roma Capitale, Enel Green Power (EGP) and ENEA signed a memorandum of understanding at the Campidoglio for the testing and development of new technologies for generating zero-CO<sub>2</sub>-emissions electricity from renewable sources.

The agreement includes activities for the evaluation and study of the pilot scheme "CSP Roma - Filiera TR.E.BIO.S" (trigeneration using renewable energy sources: biomass and solar thermodynamics) proposed by ENEA, which has developed a chain of solar energy plants in Italy based on the concept of solar thermodynamics.

The plant will be built and managed by Enel Green Power, world leader in the development and management of renewable sources and technological innovation in the field of green energy, thanks to the commitment made by Roma Capitale through the signing of the Aalborg Charter, which involves making commitments and taking practical action at a local level for the sustainable development of urban areas, and the Covenant of Mayors launched by the EU Commission, aimed at reducing greenhouse gas emissions.

Trebios is a small-scale, modular, polygeneration concentrated solar power plant that will ensure the continuous production of electricity (1-5 MWe) and process steam, as well as integrate and, thus, enhance the renewable resources of sunlight and biomass that are widely available in the municipal area. This biomass will initially be treated with the process steam generated by the plant itself, to separate its components, firstly lignin, which can also be used in gaseous form in the auxiliary molten salts heater to support electricity generation in the absence of sunlight (for example on overcast days), providing about 40% of the total, then the cellulosic components, which are subjected to a fermentation process that produces ethanol, a fuel that can be used in internal combustion engines, contributing to sustainable public transport.

The plant will therefore be capable of generating electricity 24 hours a day, at night and on overcast days, with zero-CO<sub>2</sub>-emissions, from renewable sources only, including the prunings from the city's trees, which will be transformed into both electricity and biofuel for use in public transport vehicles.

Biomass may also be obtained from the vast farming and forestry resources available in what is Italy's largest municipality. The exploitation of this biomass "waste" could have a

major economic impact by significantly increasing the income of agri-businesses, giving a vital boost to enterprises previously dismissed as marginal.

The Trebios project marks an important stepping stone on the way to reducing CO<sub>2</sub> emissions and the environmental impact of urban mobility, a commitment already made by the Enel Group through the agreement signed with Roma Capitale and ACEA to develop a network of interoperable recharge points for electric vehicles.

ENEA the Italian National Agency for New Technologies, Energy and Sustainable Economic Development, developed the technology used by Enel to build the Archimede thermodynamic solar power plant, the first in the world to use molten salts as a thermal vector fluid and to integrate a combined gas cycle and a thermodynamic solar power plant in order to generate electricity.

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