



Brussels, 14 November 2017

PRESS RELEASE: Successful completion of the “Optimised Microturbine Solar Power System” – OMSoP project

A successful demonstration of the Optimised Microturbine Solar Power system technology development carried out within the OMSOP project has been completed at the facilities of ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development) in Casaccia, Rome.

The European Commission has recognised the potential role of concentrated solar power (CSP) in Europe’s low carbon energy goals, also acknowledging the challenges associated with the technology, such as the necessary improvements in predictability and dispatchability of CSP plants. These challenges were addressed in the OMSoP project, with a system aimed at making the CSP more robust, reliable, cost effective and more suitable for hybridisation.

The overall objective of the OMSoP project was to provide and demonstrate technical solutions for the use of state-of-the-art CSP system coupled to micro gas turbines (MGT) to produce electricity. The system was designed with a modular approach, capable of producing electricity up to 30kW per unit for domestic and small commercial applications. For larger energy needs, the units can be stacked by virtue of their modular nature.

The market study, which also took place within the project, has shown that the market for the OMSoP technology is extremely wide due to the adaptability and versatility of the system, which is able to produce heat and power assisted by biofuel or conventional fuels if needed. The OMSoP technology will be a new player in the market, which is competitive, flexible and can offer features that other direct competitors do not have. It covers a gap in the market where CSP for large system is not economic in the small scale.

The main challenge to overcome during the project was the development of the system components and overall system design and integration. A new micro gas turbine with a novel control strategy has been designed and built in order to operate with a wide variation of solar irradiation during the day and in different weather conditions around the year. A new solar receiver has been developed, being able to operate with a temperature up to 800°C. Other challenges to overcome were related both to the mechanical and electrical integration.

The OMSoP project was funded under the EU’s 7th Framework Programme for Research and Development, and its consortium, coordinated by the City, University of London, brought together 8 organisations from 5 European countries, representing a well-balanced mix of industry and academic institutions. The participants were City, University of London (UK), Roma TRE University (Italy), ENEA (Italy), KTH (Sweden), Compower AB (Sweden), INNOVA (Italy), University of Seville (Spain) and ETN (Belgium).

New video of the project is available on the [OMSoP website](#).



Project Details

Project number: FP7-308952

Duration: 1 February 2013 - 31 July 2017

Budget: 5.8M euros (EU contribution 4.2M euros)

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