

PRESS RELEASE

The Noor Ouarzazate III central receiver solar plant with storage completes its reliability test

Ouarzazate (Morocco), 07 November 2018 - The consortium formed by the engineering and technology company <u>SENER</u> and SEPCO III has completed the reliability test for the 150-MW Noor Ouarzazate III thermoelectric solar plant. It is one more step in the start-up of the facility, which is nearing commercial operation and final delivery to the client.

With this reliability test, which ran for ten straight days, Noor Ouarzazate III has demonstrated its ability to output its rated power to the grid under changing weather conditions, and even after sunset, thanks to its molten salt storage system, which can continue to produce electricity in the absence of sunlight for 7.5 hours. Over these 10 days, the plant output over 13.2 GWh to the grid. Once operational, the plant will be able to generate enough electricity to power 120,000 homes, with no atmospheric emissions of CO_2 .

At Noor Ouarzazate III, SENER is responsible for the conceptual and basic engineering of the plant, the detail engineering and for supplying the equipment for the thermal storage system. It is also responsible for the engineering and the construction of the solar field and the molten salt receiver, and for the comprehensive start-up of the plant. This is the second plant with a central tower and molten-salt storage system designed and built by SENER, which also provided its own technology, the 7,400 HE54 heliostats that constitute the solar field, the solar tracking system, the high-power receiver, with more than 600 MW, and the integrated control system for the receiver and the solar field. This plant is one of the first in the world to apply this configuration on a commercial scale.

Noor Ouarzazate III is part of the Noor solar complex, the largest on the planet, located in Ouarzazate (Morocco) and run by MASEN. In the aforementioned megaproject, SENER is part of the turnkey building consortium for the Noor Ourzazate I and Noor Ouarzazate II plants, both of which feature SENERtrough® cylindrical-parabolic trough technology, and Noor Ourzazate III, with advanced innovations with respect to those applied in Gemasolar, a plant designed and built by SENER which was the first in the world in commercial operartion to rely on a central tower receiver and molten salt storage technology.

About SENER

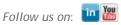
SENER is a private engineering and technology business group founded in 1956. Its aim is to offer its clients the most advanced technological solutions and to achieve international recognition based on its independence and commitment to innovation and quality. SENER has more than 2,500 professionals across its centres in Algeria, Argentina, Brazil, South Korea, Canada, Colombia, Chile, China, the United Arab Emirates, Spain, the United States, Morocco, Mexico, Poland, Portugal, the United Kingdom and South Africa. The group's operating revenue exceeded 766 million Euros (2017 data).

SENER brings together its own Aerospace and Engineering and Construction activities with industrial holdings in companies working in the field of Energy & Environment. In Aerospace, SENER has more than 50 years of experience and it is a first-rate international supplier in Space, Defense and Aeronautics. In Engineering and Construction, SENER has become a leading company worldwide in the Infrastructure and Transport; Renewables, Power, Oil & Gas; and Marine sectors.

Further information:



SENER has become a technology leader worldwide in the concentrated solar power (CSP) sector, both in the number of projects in its portfolio and because of the technological solutions it has developed. In total, SENER has been involved in 29 solar plants, most of them turnkey projects, in Spain, the USA, South Africa, and Morocco, which together represent an installed capacity of more than 2,000 MWe and CO_2 savings of more than one million tons annually.



Further information: