



PRESS RELEASE

SENER, ACCIONA and TSK take part in the inauguration of NOORo I, presided over by King Mohammed VI of Morocco

Ouarzazate (Morocco), February 4, 2016 - On February 4, the inauguration of the thermosolar plant NOORo I took place in Ouarzazate, within the NOORo solar complex, which, once completed, will be the largest on the planet. The event was presided over by King Mohammed VI of Morocco, and brought together political representatives and executives from the constructor companies, among them the President of [SENER's engineering and construction group](#), Jorge Sendagorta, accompanied by the Project Manager of NOORo I at SENER, Verónica Rosello, and the representative of the Steering Committee of NOORo I, Santiago García, also from SENER; the Vice President of ACCIONA, Juan Ignacio Entrecanales, and the General Manager of the Industrial Department of ACCIONA Infrastructures, Ramón Jiménez; and the President of TSK, Sabino García, the General Manager of TSK, Francisco Martín, and the TSK Thermosolar Director, Andrés Cuesta.

SENER, ACCIONA and TSK make up the construction consortium with the turnkey contract, or EPC, for NOORo I, a high-efficiency modern power station. With 160 MWe of power and 3.5 hours of thermal storage it will supply 500 GWh of solar power per year, enough to meet the demands of 135,000 homes. NOORo I will avert annual emissions of 140,000 metric tons of CO₂ into the atmosphere.

In light of this, the Director of SENER's Solar Department, Miguel Domingo, pointed out that "for NOORo I, the 29th power station in the SENER pipeline of thermosolar projects, we were responsible for supplying critical technology such as the SENERtrough[®] parabolic trough collectors - designed and patented by SENER - and the molten salt storage system. This is a technological contribution that we are providing not just in NOORo I, but also in NOORo II and NOORo III, in addition to our part in the turnkey construction of the three plants, one of which includes a central tower with a molten salt receiver."

For his part, the Project Manager of the NOORo I EPC Consortium, Carlos A. Ledesma, from ACCIONA, declared: "the construction of this plant in Morocco has represented a major challenge for the country, the developers and the Spanish companies that have contributed our know-how to the construction and start-up of the facility. We are now in a position to say that this large-scale project has been successfully completed after several months of hard work, overcoming many logistical and technical problems that have tested the professionalism of our joint venture, highlighting the fact that we are a leading company in the performance of this kind of technology."

Furthermore, the General Manager of TSK's Energy and Industrial Plants Division, Francisco Martín, highlighted the excellent job the construction consortium led by TSK performed, which allowed the NOORo I power station to start commercial operations just 31 months after the works began. He also asserted that "for us at TSK there rests no doubt that our involvement in the global management of the project and in the design, construction and commissioning; our supplying of the distributed control system, of various pieces of electrical equipment, of the high-voltage line and of the water treatment plant, not to mention the electrical assembly and the I&C, have all been major contributing factors towards the success achieved."

In addition to NOORo I, SENER is a participant in the other two thermosolar phases of the project, NOORo II and NOORo III, in the same turnkey construction consortium. The three thermosolar plants

Further information:



are to provide a total of 510 MWe of power. All of them will be equipped with thermal storage systems, enabling them to continue to produce electricity in the absence of solar radiation. As a matter of fact, the time with the greatest demand for power in Morocco is nightfall, so the integration of these facilities in the Moroccan electricity system will be one of optimal efficiency. Altogether, they will avert annual emissions of 470,000 metric tons of CO₂ into the atmosphere.

It is important to highlight that local input to the project is totaling as much as 30% of the construction work, as the constructor companies, including SENER, are strongly committed to the Ouarzazate community and to the Kingdom of Morocco; both workers and suppliers from the area are being employed, and have been ever since the start of the NOORo I first phase.

Following NOORo I, SENER is now beginning the works on NOORo II, which is rated at 200 MWe and has molten salts storage capacity, and in which SENER's second generation of parabolic troughs - the [SENERtrough®-2](#) system - are being installed, as they are in NOORo III, rated at 150 MWe. In contrast to the others, this plant will have a central tower with heliostats and a salt receiver, in the same configuration as that successfully applied by SENER at [Gemasolar](#), in Seville (Spain). NOORo III, which is seven times larger, is the natural evolution from this pioneering facility and will include advances such as a larger heliostat, designed and manufactured by SENER.

SENER expects to complete the works and commissioning of these two last thermosolar phases of the NOORo complex by the end of 2017.

About SENER

SENER is a private engineering and technology group founded in 1956. It seeks to offer its clients the most advanced technological solutions and enjoys international recognition, thanks to its independence and its commitment to innovation and quality. SENER has a workforce of nearly 6,000 professionals at its facilities in Algeria, Argentina, Brazil, Chile, China, Colombia, Japan, Mexico, Poland, Portugal, South Korea, Spain, the United Arab Emirates, the United Kingdom, and the United States. The group's turnover exceeds €1.305 billion (2014 data).

In total, SENER has performed work on 29 thermosolar plants, the majority of which have been turnkey constructions, in Spain, the USA, South Africa and Morocco, representing over 2,000 MWe of installed capacity and a saving of more than a million metric tons of CO₂, all of which confirms the company's position as a leader in thermosolar energy, for both the number of projects in its pipeline and the technological solutions it creates. Some of its past works have been true technological milestones, for example Gemasolar and Valle 1 and Valle 2 in Spain, and the NOORo complex in Morocco, where SENER is part of the construction consortium for NOORo I, NOORo II and NOORo III.



In 2016, [SENER is celebrating its 60th anniversary](#) with a long track record of projects, international experience and a team comprised of thousands of professionals who are the co-creators of the innovations that have marked its past and will shape its future.

Follow us:  

About ACCIONA

ACCIONA is one of the main Spanish corporations, with operations in infrastructure, energy, water and services in over 30 countries. Its motto, "Pioneers in development and sustainability", reflects its commitment in all of its activities to contribute to economic growth, social progress and environmental protection, a commitment that has been recognized with inclusion in the sustainability indexes Dow Jones (DJSI) and FTSE4Good. ACCIONA is quoted on the IBEX-35 index, boasts a workforce of around 33,000 professionals, and in 2014 achieved sales totaling 6.5 billion euros.

ACCIONA is one of the world's principal operators in renewable energy, being the owner of 8,500 MW of installed capacity and a turnkey provider of power generation facilities based on thermosolar, photovoltaic and wind energy technologies. In the field of thermosolar power, it has built over a dozen plants and operates 315 MW in the USA and Spain. Among the projects on which it is currently working, NOORo I in Morocco and Bokpoort in South Africa are key examples.

www.acciona.es

Further information:

Oihana Casas. Communications Office. SENER. Tel. (+34) 91 807 73 18 / (+34) 679 31 40 85 www.sener-group.com



About TSK

TSK is a global company specializing in the execution of turnkey projects and the delivery of technological solutions, bringing its own technology to various different industrial sectors such as electrical infrastructure, industrial plants, conventional and renewable power stations, water treatment plants and facilities for the storage and handling of raw materials. Currently it is executing projects in over 30 countries and will publish a sales figure for 2015 in the region of 800 million euros.

TSK has accumulated extensive experience in the engineering, construction, assembly and commissioning of power stations involving open cycle and combined cycle technologies, cogeneration, wind farms, geothermal energy, thermosolar and photovoltaic plants, hydroelectric and biomass plants, and is involved in projects in various categories that altogether surpass 10,000 MW of installed capacity. In the field of renewable energy, TSK is currently one of the main technological influences in the solar sector, involved in a total of 12 thermosolar plants with over 700 MW installed capacity, and responsible for over 50 photovoltaic plants, with a total installed capacity of more than 600 MW. Such projects include the Kuraymat power station in Egypt - the world's first ever hybrid plant - the construction in Morocco of a 160 MW plant for the largest solar complex ever, and a 260 MW photovoltaic plant in Dubai, all of which reinforce its international technological leadership in this sector.

Further information:

Oihana Casas. Communications Office. SENER. Tel. (+34) 91 807 73 18 / (+34) 679 31 40 85 www.sener-group.com