



Oberhausen,  
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## **Further steam turbine generator set for solar power plant in Spain**

Special technological requirements fulfilled

**MAN Diesel & Turbo SE, Augsburg, manufacturer of large-bore diesel engines and turbomachinery, has received an order for the supply of a steam turbine generator set with a power output of 50 MW from the Spanish Guzman Energia S.I. The generator set is intended for installation in the 'Termosolar Guzmán' parabolic trough power plant which is currently under construction in the Andalusian Palma del Rio near the city of Cordoba and is planned to start generation of electricity in spring 2012. "This order is a confirmation of our company strategy to further expand our position on the growing market for regenerative applications," said Dr. Hans-O. Jeske, member of the Executive Board and CTO of MAN Diesel & Turbo.**

The two-casing reheat machine set will be designed and manufactured at the Oberhausen site of MAN Diesel & Turbo. The steam turbine as the core component of the energy generating process is specifically designed for use in a solar thermal power application. In addition to a short delivery period, the high thermal efficiency and the high overall efficiency which distinguish the MAN steam turbine train as the core component of the energy generating process were key factors in the award of this contract. The contract partner is a joint venture out of the experienced Spanish companies Iso, Espelsa, Abantia and Seridom.

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The modular system design of the machine train also meets the special technological requirements that the customer places on use of the steam turbine in the CSP (concentrated solar power) plant in Andalusia. This applies to the short start-up times as well as the frequent load changes due to meteorological changes.

MAN Diesel & Turbo has already developed and supplied the key turbine technology for several solar projects worldwide including a steam turbine with an electrical power output of 125 MW for a CSP plant in Abu Dhabi, which is currently the largest in the world.

In contrast to photovoltaics, trough-shaped mirrors bundle the sunrays in solar thermal energy production. These rays are directed to a receiver pipe in the focal line of the collector, where a thermal oil is heated to several hundred degrees Celsius. Steam is produced via a heat exchanger and transferred to a steam turbine which generates the electricity via a generator. Using the steam produced from solar heat, these turbines generate electricity without consuming resources or producing emissions.

#### About MAN Diesel & Turbo

MAN Diesel & Turbo SE, based in Augsburg, Germany, is the world's leading provider of large-bore diesel engines and turbomachinery for marine and stationary applications. It designs two-stroke and four-stroke engines that are manufactured both by the company and by its licensees. The engines have power outputs ranging from 450 kW to 87 MW. MAN Diesel & Turbo also designs and manufactures gas turbines of up to 50 MW, steam turbines of up to 150 MW and compressors with volume flows of up to 1.5 million m<sup>3</sup>/h and pressures of up to 1,000 bar. The product range is rounded off by turbochargers, CP propellers, gas engines and chemical reactors. MAN Diesel & Turbo's range of goods includes complete marine propulsion systems, turbomachinery units for the oil & gas as well as the process industries and turnkey power plants. Customers receive worldwide after-sales services marketed under the MAN PrimeServ brand. The company employs around 12,700 staff at more than 100 international sites, primarily in Germany, Denmark, France, Switzerland, the Czech Republic, Italy, India and China. MAN Diesel & Turbo is a company of the Power Engineering business area of MAN SE, which is listed on the DAX share index of the 30 leading companies in Germany.