

FOR MORE INFORMATION

Alessandra Costa

Marketing & Communication Manager

press@turboden.it

Tel. +39 030.3552001

PRESS RELEASE

The 380th TURBODEN ORC PLANT IS A GEOTHERMAL ONE FOR EL SALVADOR

*Turboden integrates the existing Berlin flash geothermal complex with its
ORC binary plant designed to produce up to 8 MWe **

Turboden signed an agreement with La Geo for the supply of an ORC geothermal power plant in El Salvador, at Berlín Geothermal Field. The plant is designed to produce up to 8 MWe.

LaGeo is a geothermal development company, active in the development and exploitation of geothermal resources in El Salvador. As of today, LaGeo contributes to 24% of the electricity need in El Salvador, where geothermal has been one of the main sources of electricity since the mid-1970s. Today the total installed capacity by LaGeo from geothermal resources in the country is 204 MWe, (Ahuachapán 95 MWe, Berlin 109 MWe) representing about 15% of total installed capacity in the country.

During 2003-2007, a third single flash condensing unit went on line (for about 44 MWe) along with a pumping station to reinject the hot brine. In order to improve the whole thermal efficiency of the complex, a first binary unit was commissioned in 2007 as bottoming stage.

Turboden ORC unit will operate with the hot separated brine from a group of wells, without requiring extra drilling, recovering heat at 172°C before reinjection. Reinjection temperature has been selected in order to avoid super saturation of silica in the geothermal brine. This new bottoming plant will further contribute to the country's renewable base-load generation, increasing the savings of CO₂ emissions.

Mr. Paolo Bertuzzi, Turboden CEO, states: "There are about 5 GWe of operating single flash plants in the world. With this new project we see a big potential for our Company to integrate its technology with existing geothermal plants, making them more efficient, with no additional drilling required. This first plant in Central America is a great result for us, after the successful start-up of the 14 MWe Lightning Dock unit in New Mexico."

Turboden, a Mitsubishi Heavy Industries company, is an Italian firm and a global leader in the design, manufacture and maintenance of Organic Rankine Cycle (ORC) systems up to 20 MWe, highly suitable for distributed power generation. ORC systems can generate electric and thermal power exploiting multiple sources, such as renewables (biomass, geothermal energy, solar energy), traditional fuels and waste heat from industrial processes, waste incinerators, engines or gas turbines. www.turboden.com

La Geo is a geothermal development company, dedicated to the production of electricity using the geothermal resources of the country. Their commitment to the economic development of the country has prompted them to investigate new geothermal fields in San Vicente in the department of San Vicente and Chinameca in the department of San Miguel, actions that provide a low-cost energy supply. They also work additionally to develop new energy projects with renewable resources, in order to help meet the growing demand for electricity in the country.

***Organic Rankine Cycle:** The Rankine Cycle is a thermodynamic cycle that converts heat into work. The heat is supplied to a closed loop, which typically uses water as working fluid. The Organic Rankine Cycle's principle is based on a turbogenerator working as a conventional steam turbine to transform thermal energy into mechanical energy and finally into electric energy through an electrical generator. Instead of generating steam from water, the ORC-system vaporizes an organic fluid, characterized by a molecular mass higher than that of water, which leads to a slower rotation of the turbine, lower pressures and no erosion of the metal parts and blades.