



Sustainability action · Project Renewable Energy and Energy Efficiency

Dora II Geothermal Plant, Turkey

A 9.5 MWe geothermal power plant in Turkey generates emission-free electricity and contributes to the development of an innovative renewable energy technology.

Project

The project consists of the construction of a geothermal power plant with an installed capacity of 9.5 MWe. The annual electricity generation is estimated to be 70,000 MWh. Geothermal heat is brought to the surface through geothermal generation wells. The project relies on a binary cycle system. The fluid obtained from the geothermal wells transmits temperature to another fluid (n-pentane) with a lower evaporation temperature.

The hot water emanating from the heat converter is not used in energy generation, it is re-injected to the wells in a closed cycle. The organic gas in the secondary cycle propels the turbine. The system is environmentally friendly. Non-condensable gases are captured into pipelines and used as industrial gas outside of the plant. The project owner is a Turkish electricity generation company named Menderes Geothermal Elektrik Uretim A.S..

It is very active in local support activities in the social and the economic domain. This is the first geothermal power plant developed in Turkey to receive the Gold Standard certification. This proves its positive impact on the climate, the people and the environment.



Location

The project is located in Aydın Province, in Southwestern Turkey, in the Aegean region. Geothermal drilling is taking place in the geothermal field “Menderes Graben”, a sparsely populated region, on the Southern hillside of the Aydın Mountains.