

Low-enthalpy geothermal resources for electricity production: A demand-side management study for intelligent communities - DTU Orbit (09/11/2017)

Low-enthalpy geothermal resources for electricity production: A demand-side management study for intelligent communities

The geological conditions in Greece contributed to the creation of important low-enthalpy geothermal energy resources (LEGERs). The resources are divided into low, medium and high enthalpy, or temperature, based on criteria that are generally based on the energy content of the fluid. LEGERs are those sources of the hot water whose temperature is between 25 and 100°C, which are used for heating residences and in the agricultural or industrial sector. The investigation for the exploitation of low-enthalpy geothermal fluids, which began around 1980, intensified in the last two decades. The low-enthalpy geothermal potential in Greece is rather significant as most of the geothermal fields have been found in regions with favourable developmental conditions, and it seems that they do not present serious environmental or technical exploitation problems. LEGER areas are abundant in Greece, mainly in the eastern and northern part of the country, as well as in many of the Aegean Islands. The aim of this work is to review the options for managing wind load by using low-enthalpy geothermal energy for electricity (through heat pump utilisation) according to the local energy demand.

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