

GEOHERMAL ENERGY ASSESSMENT OF ISTANBUL REGION USING PLAY FAIRWAY ANALYSIS

By

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ABSTRACT

The main subject of the study is deciding the most advantageous and suitable areas for utilizing geothermal energy and to provide the development of geothermal energy potential locations in İstanbul by combining various types of geospatial data (geothermal, geologic, topographic, etc.). While the study was being carried out, the data related to population distribution, heat flux, water resources, water and wastewater treatment plants for the city of Istanbul, on the European and Anatolian side, were collected from appropriate sources and used. Play-fairway analysis was selected as method. This method, in which the most advantageous and suitable areas are determined by combining various geo-spatial data in order to benefit from geothermal energy for the city of Istanbul, which has a dense population and high energy needs, is a method that can be applied when considering the location of Istanbul. In addition, during the execution of this study, the surfer program was used and used in detail. After combining all the data, it was observed that the most suitable regions were on the European side. The locations of these fields are On the European side 1) Northern part of Çatalca (due to high heat flux), 2) Silivri; coastal part (due to population), on Anatolian side: 3) around Tuzla.

Keywords: Istanbul, Play-fairway, geothermal energy, heat flow, population