



## **Initial assessment of public perception and acceptance of Geothermal Energy applications in Çanakkale, NW Turkey.**

Ziya Sedat Çetiner (1), Osman Çekiç (2), Can Ertekin (3), and Mesut Bakırcı (3)

(1) Çanakkale Onsekiz Mart University, Engineering Faculty, Geological Engineering Department, Terzioğlu Campus, Çanakkale, TURKEY (ziyac@comu.edu.tr), (2) Çanakkale Onsekiz Mart University, Education Faculty, Education Science Department, Çanakkale, TURKEY, (3) Çanakkale Onsekiz Mart University, Graduate School of Natural and Applied Sciences, Geological Engineering Department, Terzioğlu Campus, Çanakkale, TURKEY

Growing need of energy in global scale has resulted in increasing number of research and development of renewable energy technologies. Turkey, being very rich in the renewable energy resources, has recently paid special attention to accelerate utilization of these resources to reduce the carbon based energy cost. Among these, Geothermal Energy resources in the country, mainly utilized in district heating and balneological applications, has been shifted toward harvesting electric energy in the shed of recent incentives. While these developments are happening at the policy level, the knowledge and the perception of the public is important to shape the future policies and acceptance of such resources in daily life. In light of these developments, the aim of this study is to identify and analyze the public awareness and acceptance mechanisms for the successful deployment of future and ongoing geothermal investments in Çanakkale region of the Biga Peninsula using geological, social and economic constraints in a well-defined questionnaire.

The study employed a mixed method to explore the public perception. Mixed method studies involve qualitative and quantitative techniques and intends to explore an issue in-depth. Thus a sequential explanatory design was used to gather the public's perception. Exploratory design involves a qualitative study followed by a design of a quantitative survey and analysis. The researchers, first, interviewed 24 college students about their knowledge and perceptions of geothermal resources using a semi-structured interview protocol. The protocol comprised of 8 open ended questions. With the help of the literature and the qualitative survey results, an item database with 51 questions were constructed. The initial survey and the items then were sent to 5 experts. Following the expert review, the survey was given its final form and the item numbers were dropped to 34. Then this survey was applied to a group of 100 college students. The survey also include descriptive information, such as level of education, students' residence, gender, etc. It is important to note that the participants of the study were college students. This group was selected intentionally to explore the subject in depth, with the assumption that the college students might have more information about the energy resources than the general public.

The results were analyzed using descriptive statistics. The results provided that the students did not have enough knowledge about geothermal resources and their economic use in Turkey. The next steps will involve a factor analysis and expanding the survey to the general public. Some recommendations also included in the study to inform the public on the use of geothermal resources in energy sector.