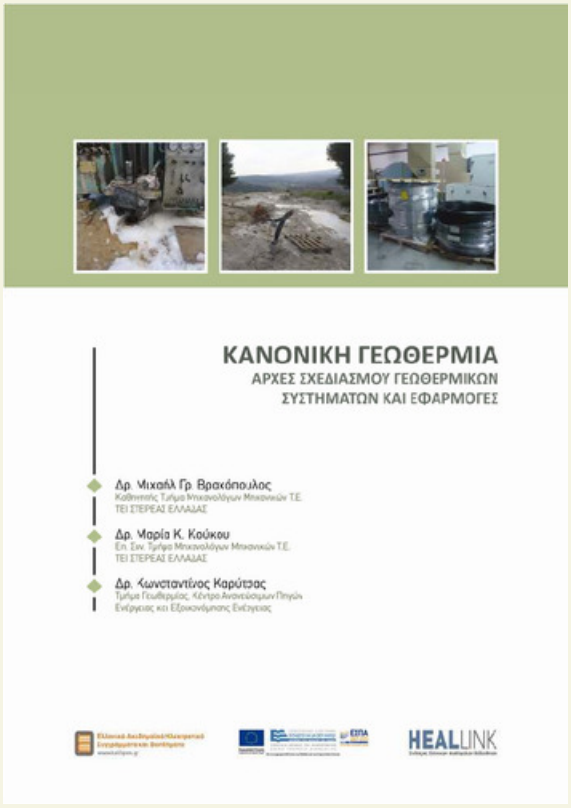


# METADATA

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**Abstract**

This book was completed according to the specifications set. It contains nine chapters described below. Chapter 1 gives an introduction to the terminology of geothermal energy, the types of geothermal fields, the potential uses and its advantages and disadvantages. In Chapter 2, basic geology data are given and reference is made to the basic technologies for exploiting normal geothermy. Chapter 3 presents the working principle and key parts of heat pumps. Reference is made to the methodology for calculating the efficiency of heating and cooling loads and the identification of other features based on existing standards following by a presentation of Geothermal Heat Pumps. Chapter 4 presents the vertical geothermal systems with calculations for the required length of geothermal heat exchangers. It also shows the classification into categories and provides information on their construction. Chapter 5 provides information on closed circuit horizontal geothermal installations and calculation methods. Alternative types of horizontal geothermal exchangers are presented with information on their construction. Chapter 6 presents the open-circuit geothermal systems using surface water or ground water as a heat source - cooling and waste disposal sites / return water. Reference is made to hydrogeology data and their design methodology is presented. Chapter 7 summarizes the methodology followed for the design of such facilities, with emphasis on good practice in regulations and standards. In Chapter 8 typical applications related to normal geothermal utilization projects in Greece are presented. Finally, Chapter 9 shows an example of geothermal installation calculations, which is based on the analysis and design guidelines of the methodology presented.

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