

ROMANIA AND GEOTHERMAL ENERGY: AN UNCONVENTIONAL, CLEAN AND RENEWABLE ENERGY SOURCE

Valentin-Paul TUDORACHE¹, Niculae-Napoleon ANTONESCU²

Rezumat: *Energia geotermală este energia termică generată și stocată în Pământ. Apa și/sau aburul transportă energia geotermală la suprafața Pământului. Variabilitatea temperaturii în ceea ce privește adâncimea scoarței terestre este cunoscută sub numele de gradient geotermic. Căldura naturală a miezului Pământului se datorează diferitelor procese fizice și chimice care apar în interior.*

În funcție de caracteristicile sale, energia geotermală poate fi utilizată în scopuri de încălzire și răcire sau poate fi valorificată pentru a genera electricitate curată.

Abstract: *Geothermal energy is thermal energy generated and stored in the Earth. Water and/or steam carry the geothermal energy to the Earth's surface. Temperature variability in the depth of the earth's crust is known as the geothermal gradient. The natural heat of the Earth's core is due to the various physical and chemical processes that occur inside. Depending on its characteristics, geothermal energy can be used for heating and cooling purposes or be harnessed to generate clean electricity.*

Keywords: geothermal energy, geothermal gradient, thermal energy, clean and renewable resource, the Earth.

DOI <https://doi.org/10.56082/annalsarscieng.2022.1.5>

1. Introduction

Geothermal resources lie in abundance beneath our feet, waiting to be exploited. At present, geothermal energy is a practically inexhaustible energy source and, until now, it has not been sufficiently studied and exploited.

The paper aims to highlight the possibilities of harnessing the geothermal energy potential in the development of the country (geothermal projects offer all the benefits to contribute, without pollution, to the development of the country; facilities in remote locations can exceed quality standards of life, bringing distance

¹ Associate Professor PhD. Eng. Dipl. at Petroleum-Gas University of Ploiesti, Boulevard Bucharest, no. 39, code 100680, Ploiesti, Prahova, Romania, and, Vice-President of A.G.I.R. Prahova branch. (e-mail: valentin.tudorache@yahoo.com, valentin.tudorache@upg-ploiesti.ro)

² Professor PhD. Eng. PhD.H.C at Petroleum-Gas University of Ploiesti, Boulevard Bucharest, no. 39, code 100680, Ploiesti, Prahova, Romania, Honorary Rector at Petroleum-Gas University of Ploiesti, Honorary Member Academy of Romanian Scientists and Honor Member of the Academy for Technical Sciences of Romania (e-mail: nnantonescu34@gmail.com, nnantonescu@upg-ploiesti.ro)
