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Geothermal Water in Lebanon: An Alternative Energy Source

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ABSTRACT

Recently, demand for energy has been increased worldwide, notably in the view of high economic value and competi-tion of fossil fuel, as well as the negative impact of fuel consumption through carbon release, and thus the consequences on human health and environment. Various aspects of energy sources into Earth ' s crust have been discovered and utilized. Geothermal energy is one aspect of these sources where they have been well pronounced in many countries and proved to be a potential energy source for the future needs. Lebanon, the country with rare natural energy, the renewable energy sources are almost ignored and there is only limited utilization of hydro-power, wind and solar energy, whilst oil imports occupy a substantial portion for energy use. Yet, geothermal energy has not raised and no concern has been given to this renewable source. Meanwhile, there are several indicators showing the existence of geothermal water in different regions in Lebanon. They almost occur where basalt rocks are exposed. This was evidenced whether from water in drilled wells or from various discharging springs, as well as indications of thermal water was observed also in many localities along the Lebanese coastal water. This study shows the available information in this respect, considering the occurrence of geothermal water in Lebanon as an alternative energy source. Thus four major geothermal domains were recognized. The study introduces detailed characterization on the existing aspects of geothermal water and inducing its hydrologic regime and mechanism of groundwater heating. It would be a reconnaissance stage that may help applying further detailed assessment.

KEYWORDS

Hot Water, Springs, Alternative Source, Lebanon

Cite this paper

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References

[1] AEC, American Energy Commission, 2006. http://www1. eere.energy.gov/geothermal/history.html

[2] A. Houri, "Re-newable Energy Sources in Lebanon: Practical Applications," ISESCO Science and Technology Vision, Vol. 1, 2005, pp. 65-68.

[3] A. Shaban, "Geological Prospects for Uranium Deposits in Lebanon," Environmental Hydrology Journal, Vol. 16, Paper 12, 2008.

[4] GLA, "Status and Potentials of Re-newable Energy Technologies in Lebanon and the Region (Egypt, Jordan, Palestine, Syria)," Desk Study Complied by Green Line Association, 2007.

[5] A. Shaban, "The Geo-Thermal Energy in Lebanon," Te- chnical Report (In Arabic), CNRS, 2009, p. 10.

[6] ALMEE, "State of Energy in Lebanon," Association libanaise pour la maitrise de l ' energi at l ' environnement, 2005. http://www.Almee.org/pdf/state%20of%20the20% ener-gy%20Lebanon.pdf

[7] LCNRS, Lebanese National Council for Scientific Research, "Thermal Infrared Survey to Detect Submarine Springs along the Lebanese Coast," Technical Report, 1999, p. 33.

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[8] Z. Beydoun, “Petroleum Prospects of Lebanon: Reevaluation,” American Association of Petroleum Geologists, Vol. 61, No. 1, 1977, pp. 43-64.

[9] L. Dubertret, “Carte géologique de la Syrie et du Liban au 1/200000me,” 21 feuilles avec notices explicatrices, Ministère des Travaux Publics, L ’ imprimerie Catholique, Beyrouth, 1955, p. 74.

[10] G. Bahati and F. Natukunda, “Status of Geothermal Ex- ploration and Development in Uganda,”