

A Worldwide Assessment of Geothermal Energy Policy: Systematic, Qualitative and Critical Literature Review

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Abstract : Globally, energy policy for geothermal development is addressed in different forms, depending on the economy, resources, country-development, environment aspects and technology access. Although some countries have established strong regulations and standards for geothermal exploration, exploitation and sustainable use at the policy level (government departments and institutions), others have discussed geothermal laws at legal levels (congress - a national legislative body of a country). Appropriate regulations are needed not only to meet local and international funding requirements but also to avoid speculation in the use of the geothermal resource. In this regards, this paper presents the results of a systematic, qualitative and critical literature review of geothermal energy policy worldwide addressing two scenarios: policy and legal levels. At first, literature is collected and classified from scientific and government sources regarding geothermal energy policy of the most advanced geothermal producing countries, including Iceland, New Zealand, Mexico, the USA, Central America, Italy, Japan, Philippines, Indonesia, Kenia, and Australia. This is followed by a systematic review of the literature aiming to know the best geothermal practices and what remains uncertain regarding geothermal policy implementation. This analysis is made considering the stages of geothermal production. Furthermore, a qualitative analysis is conducted comparing the findings across geothermal policies in the countries mentioned above. Then, a critical review aims to identify significant items in the field to be applied in countries with geothermal potential but with no or weak geothermal policies. Finally, patterns and relationships are detected, and conclusions are drawn.

Keywords : assessment, geothermal, energy policy, worldwide

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