

## Evaluation of Alternative Energy Sources for Energy Production in Turkey

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**Abstract :** In parallel with the population growth rate, the need of human being for energy sources in the world is gradually increasing incessant. The addition of this situation that demand for energy will be busier in the future, industrialization, the rise in living standards and technological developments, especially in developing countries. Alternative energy sources have aroused interest due to reasons such as serious environmental issues that were caused by fossil energy sources, potentially decreasing reserves, different social, political and economic problems caused by dependency on source providing countries and price instability. Especially in developed countries as European countries and also U.S.A particularly, alternative energy sources such as wind, geothermal, solar and biomass energy, hydrolic and hydrogen have been utilized in different forms, especially in electricity production. It includes a review of technical and environmental factors for energy sources that are potential replacements for fossil fuels and examines their fitness to supply the energy for a high standard of living on a worldwide basis. Despite all developments, fossil energy sources have been overwhelmingly used all around the world in primary energy sources consumption and they will outnumber other energy sources in the short term. Today, parallel to population growth and economy in Turkey, energy sources consumption is increasingly continuing. On one side, Turkey, currently 80% dependent on energy providing countries, has been heavily conducting fossil energy sources raw material quest within its own borders in order to lower the percentage, and the other side, there have been many researches for exploring potential of alternative energy sources and utilization. This case will lead to both a decrease in foreign energy dependency and a variety of energy sources. This study showed the current energy potential of Turkey and presents historical development of these energy sources and their share in electricity production. The research also seeked for answers to arguments that if the potential can be sufficient in the future. As a result of this study, it was concluded that observed geothermal energy, particularly active tectonic regions of Turkey, to have an alternative energy potential could be considered to be valuable on bass wind and solar energy.

**Keywords :** alternative energy sources, energy productions, hydroenergy, solar energy, wind energy

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