

Estimating the Potential of Solar Energy: A Moroccan Case Study

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Abstract : The problem of global climate change is becoming more and more serious. Therefore, there is a growing interest in renewable energy sources to minimize the impact of this phenomenon. Environmental policies are changing in different countries, including Morocco, with a greater focus on the integration and development of renewable energy projects. The purpose of this paper is to evaluate the potential of solar power plants in Morocco based on two technologies: concentrated solar power (CSP) and photovoltaics (PV). In order to perform an accurate search, we must follow a certain method to select the correct criteria. Four selection criteria were retained: climate, topography, location, and water resources. Analytic Hierarchy Process (AHP) was used to calculate the weight/importance of each criterion. Once obtained, weights are applied to the map for each criterion to produce a final ranking that ranks regions according to their potential. The results show that Morocco has strong potential for both technologies, especially in the southern region. Finally, this work is the first in the field to include the whole of Morocco in the study area.

Keywords : PV, Csp, solar energy, GIS

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