

Implementation of Renewable Energy Technologies in Rural Africa

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Abstract : Africa enjoys some of the best solar radiation levels in the world averaging between 4-6 kWh/m²/day for most of the year and the global economic and political conditions that tend to make African countries more dependent on their own energy resources have caused growing interest in wanting renewable energy based technologies. However to-date, implementation of Modern Energy Technologies in Africa is still very low especially the use of solar conversion technologies. It was initially speculated that the low uptake of solar technology in Africa was associated with the continent's high poverty levels and limitations in technical capacity as well as awareness. Nonetheless, this is not an academic based speculation and the exact reasons for this low trend in technology adoption are unclear and require further investigation. This paper presents literature review and analysis relating to the techno-economic feasibility of solar photovoltaic power generation in Africa. The literature review would include the following four main categories: design methods, techno-economic feasibility of solar photovoltaic power generation, performance evaluations of various systems, Then it looks at the role of policy and potential future of technological development of photovoltaic (PV) by exploring the impact of alternative policy instruments and technology cost reductions on the financial viability of investing solar photovoltaic (PV) in Africa.

Keywords : Africa Solar Potential, policy, photovoltaic, technologies

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