

ABSTRACT OF THESIS

Possibilities of promoting the use of solar photovoltaic electrical energy in Kenya and Hungary to reduce energy prices and carbon dioxide emissions.

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Burning of fossil fuels to generate electrical energy is accompanied by emission of carbon dioxide, a greenhouse gas associated with climatic change and global warming. To limit negative impacts of burning fossil fuels, nations of the world are shifting from fossil fuels to renewable energies driven economy. The aim of this thesis was to investigate possibilities of promoting the use of solar photovoltaic electrical energy in Kenya and Hungary for reduced energy cost and carbon dioxide emissions. This entailed investigation of selected literatures and databases on the current use levels for solar photovoltaic energy in the two countries. It was notable that despite the high solar potential in the two countries, it has barely been exploited. A review of legal policies and regulation influencing exploitation of photovoltaic energy in the two countries was done. Technological background review was carried out to assess current technological barriers limiting exploitation. Finally, a statistical background review with the help of questionnaires was carried out to investigate the general public on the attitude toward solar energy, environmental protection and conservation, and challenges in the use of solar photovoltaic energy. The reviews brought out challenges in solar electrical energy use which could be classified as global or specific to an individual country. Inefficient battery storage for solar energy for example is a global challenge. Extra high cost and presence of counterfeit solar equipment in the market is a challenge particularly in Kenya. This is despite government regulations exempting import duty and value added tax on solar equipment. Recommendation of this research is the Kenyan government to take charge in controlling market prices for solar equipment to ensure suppliers don't exploit customers despite exemption from import duty. Also, to implement the regulation requiring all player in the solar industry to be registered in order to minimize cases of counterfeit goods and substandard services. For the Hungarian situation, I recommend the government to adopt favorable policies, such as making permitting procedure simple and short, financial assistance to prospective

investors and easing the tax burden. These policies have been adopted by various EU countries like Germany and Denmark and are doing significantly well in solar photovoltaic energy exploitation.