

Solar Energy Statistics: Trend Analysis with Reference to India

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Abstract

India has high prospects for solar power generation. India lies in the tropical belt and receives solar radiations for longer hours in a day. To meet the increasing demands of power consumption solar power can fulfil India's energy needs with little efforts to turn it into electricity in a cost-efficient way. Solar generation plays prominent role in economic and sustainable development of our country as it is renewable and green source of energy. National Solar Mission is such initiatives taken by the Indian government which promotes sustainable development with energy security challenges. In this paper the linear and exponential regression analysis on time series data from time duration 2013-14 to 2019-20 was carried out. The linear and exponential regression models for solar power generation were fitted. The exponential regression model was found to be good fit.

Keywords: Solar radiation, solar power generation, linear regression, exponential regression, time series analysis.