

A Detail Analysis of Solar Energy Potential of Provinces of Pakistan for Power Generation

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Abstract : Solar energy potential of Capital city Islamabad and five major cities Peshawar, Lahore, Multan, Quetta and Karachi have been analyzed by using sun shine hour data of the area. Global and diffused solar radiation on horizontal surfaces has been assessed to see the feasibility of solar energy utilization. The result obtained shows 70% direct and 30% diffuse solar radiation for five cities throughout the year except Karachi which shows large variation in direct and diffuse component of solar radiation 57% direct and 43% diffuse in the month of July and August. The cloudiness index were also calculated which lies between 60 to 70% for all the cities except for Karachi which shows 37% clear sky in monsoon month July and August. All the cities show high solar potential throughout the year except Karachi which shows low solar potential during July and August months.

Keywords : global and diffuse solar radiations, Pakistan, power generation, solar potential, sunshine hour

Conference Title : ICREFS 2019 : International Conference on Renewable Energy Forecasting and Storage

Conference Location : New York, United States

Conference Dates : October 08-09, 2019