

## Wind Energy Potential of Southern Sindh, Pakistan for Power Generation

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**Abstract :** A study has been carried out to see the prospect of wind power potential of southern Sindh namely Karachi, Hawksbay, Norriabad, Hyderabad, Ketibander and Shahbander using local wind speed data. The monthly average wind speed for these area ranges from 4.5m/sec to 8.5m/sec at 30m height from ground. Extractable wind power, wind energy and Weibull parameter for above mentioned areas have been examined. Furthermore, the power output using fast and slow wind machine using different blade diameter along with the 4Kw and 20 Kw aero-generator were examined to see the possible use for deep well pumping and electricity supply to remote villages. The analysis reveals that in this wind corridor of southern Sindh Hawksbay, Ketibander and Shahbander belongs to wind power class-3 Hyderabad and Nooriabad belongs to wind power class-5 and Karachi belongs to wind power class-2. The result shows that the that higher wind speed values occur between June till August. It was found that considering maximum wind speed location, Hawksbay, Norriabad are the best location for setting up wind machines for power generation.

**Keywords :** wind energy generation, Southern Sindh, seasonal change, Weibull parameter, wind machines

**Conference Title :** ICAREES 2019 : International Conference on Application of Renewable Energy and Environmental Sustainability

**Conference Location :** New York, United States

**Conference Dates :** April 22-23, 2019