

Wind Characterization of Baucau High Land

in the Period of Six Months: May - October 2019

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ABSTRACT

Currently there is a need to develop a renewable energy source, and wind energy is considered as one of the most sustainable renewable energy source. High cost of electricity in Timor Leste, has motivated this study to develop wind, solar and other renewable sources to be converted into the form of electricity. This study, aims to analyze the experimental data of wind characteristic namely speed, direction, daily profile and monthly profile for target location of Loilubu-Waidau at Baucau district high land.

The method that has been used is the research by means of direct measurements of wind speed and direction using an anemometer instrument and measurements were performed for six months May - October 2019. The experimental data obtained at the target location on site were analyzed and evaluated with the WRF (weather research and forecasting) data.

The results of this research shows that in the target location site of Loilubu-Waidau obtains an average wind speed for six months of 5.8 m/s, the predominant wind direction fluctuates between 90° from East to 180° in the South and the day time profile (day time: 06.00 to 18.00) the average wind speed of 6.5 m/s and in the night time (night time: 18.00 to 06.00) the average wind speed of 5.2 m/s.