Wind energy assessment considering wind speed correlation in Malaysia

Abstract

Renewable energy is the current trend of energy sourcing. Numerous scientists, inventors, and engineers are working hard to harness renewable energy. The application of renewable energy is very wide; it can be as small as lighting an LED bulb or as large as generating the electricity of a town or even a country. Wind energy plays an important role in the context of electricity generation. Wind energy is highly dependent on the wind speed at a wind site. Wind prediction is necessary for a wind energy assessment of a potential wind farm. In this study, the wind energy assessment is based on wind prediction using the Mycielski algorithm and *K*-means clustering in Kudat, Malaysia. The predicted results are analysed using Weibull analysis to obtain the most probable wind speed. From the results of this study, *K*-means clustering is more accurate in prediction when compared with the Mycielski algorithm. The most probable wind in Kudat is sufficient to operate the wind turbines.