

# Wind Energy Application

**Ipfi Nemudzivhadi**

Lecturer, School of Mechanical Engineering  
Faculty of Engineering and Built Environment  
University of Johannesburg  
Doornfontein Campus, Johannesburg, South Africa  
[Ipfi.siaga@gmail.com](mailto:Ipfi.siaga@gmail.com); [inemudzivhadi@uj.ac.za](mailto:inemudzivhadi@uj.ac.za)

## Abstract

Kinetic energy is the energy of motion; accelerating an object from all positions to a specific velocity takes energy, and the object maintains the energy if the speed remains constant (The Global Wind Council, 2016). When the object decelerates, that energy from its motion can be moved in different ways; this energy is another form of generating electricity. The wind is a perfect, free, and promptly accessible renewable energy source. Every day, around the globe, wind turbines are catching the wind's capacity and changing over it to electricity. This source of intensity assumes an undeniably significant part in the manner in which we control our world. A wind turbine is a gadget that converts kinetic energy from the wind into electricity and the sharp edges of a wind turbine turn somewhere in the range of 13 and 20 cycles for every minute, contingent upon their innovation, at a consistent or variable velocity, where the velocity of the rotor fluctuates in connection to the velocity of the wind to achieve a greater efficiency (Chang et al, 2022). The article plans to analyze the significance of one renewable source of energy, which is wind energy. Investigation regarding what wind energy is about, how wind is generated, how it functions and what are the capacities incorporated into it will be outlined into detail. This will give a superior comprehension into the use of wind and how might it be utilized as a source of energy. As a result, this renewable energy contains advantages as well as disadvantages that might need to be evaluated by the implementer beforehand.

## Keywords

renewable energy, wind turbine, wind energy, electricity