

## ABSTRACT

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Wind is an energi that includes very cheap and easy to get especially if it is in the highlands. Lots of benefits that we get from this energi one of them utilized using wind power tools. This generator tool is very helpful to provide electrical energi for the area that has no electricity *input* let alone that has a considerable wind speed. This wind power tool has several main components such as generator, wind turbine charge controller, battery, and *Inverter*. The generator has a first-stage role of generating electricity. The generator will spin because it is connected to a rotating propeller in the wind. Then wind turbine charge controller has the role of the second stage of controlling the incoming electric current from the generator to the battery to always be stable so as not to make the battery quickly damaged. Another function of the wind turbine charge controller is to convert the AC current from the generator to DC current so that the electrical energi generated by the generator can be stored on the battery. The battery works in the third stage of accommodating the energi that has been converted from AC to DC by a wind turbine charge controller. Then the last stage is the fourth stage that is using *Inverter*. The *Inverter* serves to convert DC current into AC so that the electrical energi that is accommodated by the battery can be used for household electronic devices as in general. Of all these things, we can see there is a change of kinetic energi into electrical energi.

*Keywords: Vertical Axis Wind Turbine, Generator, Inverter, Battery, microcontroller.*