

## ABSTRACT

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Currently, the development of wind energy in Indonesia is still relatively low but has enormous potential. One of the reasons is because the average wind speed in the territory of Indonesia is classified as low wind speed, which is ranging from 10,8 km/h to 18 km/h, making it difficult to produce electrical energy on a large scale. One of the problems with the wind turbine is that it requires a wind speed that is high enough to produce electrical energy for a home scale. An alternative solution that can be done to solve this problem is to make a vertical wind turbine that can move at low wind speeds. The system that has been implemented consists of several components, namely a vertical wind turbine, a DC motor, a battery and a cut-off sequence. When the turbine is driven by the wind, the turbine will drive the dc motor, then the motor generates electricity and charges the battery, when the battery is fully charged, the charging will be decided by the cutoff circuit. The results show that the system can charge the battery quite well but it takes a long time. For this reason, in this community service, a wind power plant using a vertical axis will be applied for lighting small-scale households for remote areas in the hope that it can be useful for community houses that have not been supplied with electricity from PLN.

Keywords: vertical axis windmill.