

## ABSTRAK

Kebutuhan akan energi semakin hari semakin meningkat seiring dengan bertambahnya jumlah penduduk, pertumbuhan ekonomi dan konsumsi energi yang sangat tinggi. Lebih dari 86% energi dunia saat ini berasal dari bahan bakar fosil. Sementara itu permintaan kebutuhan energi dunia semakin hari tumbuh secara pesat. Untuk meneruskan daya yang dihasilkan rotor ke *generator*, perlu sistem transmisi yang disesuaikan kebutuhan daya yang ditransmisikan turbin angin. Sistem transmisi daya dapat dikelompokkan menjadi tiga kelompok menurut rasio putaran masukan dan keluarannya yaitu *direct drive*, *speed reducing*, *speed increasing*. Peneliti sebelumnya menggunakan transmisi *direct drive* pada pengujian turbin angin yang dihasilkan mampu menyalakan lampu 3 watt. Metode yang dilakukan dengan penambahan sistem transmisi daya menggunakan roda gigi. Hasil menggunakan transmisi roda gigi poros *output* turbin mencapai 756 rpm dan mampu menyalakan lampu 15 Watt.

**Kata kunci:** turbin angin savonius, roda gigi, transmisi



## **ABSTRACT**

*Energy needs are increasingly increasing along with increasing population, economic growth and energy consumption is very high. More than 86% of the world's energy currently comes from fossil fuels. Meanwhile the demand for world energy needs is growing rapidly. To pass on the power generated by the rotor to the generator, a transmission system that needs to be adjusted to the power needs of the wind turbine is transmitted. Power transmission systems can be grouped into three groups according to their input and output rotation ratios, namely direct drive, speed reducing, speed increasing. Previous researchers used a direct drive transmission in testing the resulting wind turbine capable of lighting a 3 watt lamp. The method is done by adding a power transmission system using gears. The results of using a turbine shaft transmission gear output reached 756 rpm and were able to light a 15 Watt lamp.*

**Keywords:** *savonius wind turbine, gears, transmission*

