

Design and Fabrication Vertical Axis Wind Turbine

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Abstract: *This project aim of utilizing this wind energy in most effective manner to get the maximum electric output, and therefore we selected highway as our installation site where we can take the advantage of the moving vehicles on both the sides of the road. In the present work, turbine is design and fabricated as per the specifications, the blades used are semi-circular shape and are connected to the disc which is connected to shaft. Shaft is then coupled with pulley with the help of bearing, and then pulley is connected to the alternator, which generates the power. The power developed is stored in battery and then can be used for street light, signal or toll. In this project a small model has been created for testing purpose. This project also aims for maximum output with minimum cost indulges, so that the government can think over this project and can implement this type of vertical axis wind turbine on highways at low cost.*

Keywords: Vertical axis wind turbine, design, fabrication.

REFERENCES

- [1]. <http://en.wikipedia.org/>
- [2]. https://www.ijera.com/special_issue/NCERT-Nov-2015/156161.pdf
- [3]. Niranjana.S.J, “Power Generation by Vertical Axis Wind Turbine”, International Journal of Emerging Research in Management & Technology ISSN: 2278-9359, Volume-4, Issue-7, 2015.
- [4]. PiyushGulve, Dr. S.B.Barve, “Design and Construction of Vertical Axis Wind Turbine”, International Journal of Mechanical Engineering and Technology (IJMET), ISSN 0976 – 6340, volume: 5, Issue: 10, 148-155, 2014.
- [5]. KunduruAkhil Reddy, KalyanDagamoori, ArimalaParamasivamSruthi, SaiApurva.N,Nimmala Naga Maha Lakshmi Naidu, A.Vamsi Krishna Reddy, Beri Rajesh, KudaKiran Kumar, ChithaluriShivasri, SumamaYaqub Ali, “A Brief Research, Study, Design and Analysis on Wind turbine”, International journal of modern Engineering research(IJMER), ISSN: 2249–6645, volume: 5, Issue: 10, 5- 30, 2015.
- [6]. https://www.researchgate.net/publication/273918470_Future_Scope_of_Wind_Energy_in_India
- [7]. Sukanta Roy, Ujjwal K. Saha. “Review on the numerical investigation into de design and development of Savonius wind rotors”. Indian Institute of Technology Guwahati. India (2013).
- [8]. IRJET-V7I8382.pdf
- [9]. Vertical Axis Wind Turbine : Block Diagram, Working & Its Applications (elprocus.com)