

Low Price DIY type Wind Turbine for Developing Countries & Free Phone Charging Service

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INTRODUCTION

In developing countries, people are restricted their activity time because of no light from blackout of electricity. The blackout is usually more than half days, and they cannot do any activities to produce goods in that time. There are some little solutions from appropriate technologies, such as a Liter of Light, supplies particular environment to do activities, but basically the people needs electric energy that can converted every ways they need to use.

THEORY & METHOD

To produce useful amount of energy from wind, the turbine is designed as horizontal axis type. And, blade design was aerodynamically optimized, and every parts are composed of frame structure without using any particular tools. The wind winder is composed of DIY kits from laser-cut plywood, aluminum pipes, magnets, and coils. To minimize the price and adapt local area, consumers have to build their own supporter and some minor parts by using local materials that can be found easily everywhere, such as lumber.

The wind winder project is currently proceeding, and the efficiency and stability is being improved more and more. Wind Winder Version 3.0 experimentally produced maximum 50W on the normal Korean and Nepali environmental conditions. The main theme of Wind Winder project is three below.

- Aerodynamically optimized efficient design
- Low-price to produce the products, minimize material cost and processing cost
- Easy to manufacture with hand, DIY system without using any tools or additional components

RESULT & CONCLUSION

Wind Winder project is basically started from producing electricity for lighting and phone charging freely in developing countries. It will help people in developing countries expand activity time in night time, and it also supplies some amount of electric energies they need, such as radio and television. Wind winder project is applied in many ways in not only developing countries, but it can also be converted to free-electricity service. Phone charging service on the road or at middle of cities can help people solving their disconnection by battery problems. Also, designing low price and DIY system can be applied to other mechanical devices, such as bicycle and many furniture. It will make every people can repair and recycle every devices and it can also be used for educational purpose to understand the principle of many mechanical devices.