

## A Review Paper on - Wind Turbine Power Car

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### ABSTRACT

Renewable energy is energy that is generated from natural processes that are continuously replenished. This includes sunlight, geothermal heat, wind, tides, water, and various forms of biomass. This energy cannot be exhausted and is constantly renewed. Creating Electricity from Wind to create electricity from wind the shaft of the turbine must be connected to a generator. The generator uses the turning motion of the shaft to rotate a rotor which has oppositely charge magnets and is surrounded by copper wire loops. Electromagnetic induction is created by the rotor spinning around the inside of the core, generating electricity. In this research the vehicle is design which uses the electricity produce by the wind turbine.

**Keywords:** Design, Wind Turbine, Renewable Energy, Vehicle, Electricity.

### I. INTRODUCTION

**Wind Powered Car:** Wind is one of the prominent sources of renewable energy. The wind powered car that converts wind power to electric energy which is a tram moves the vehicle. A wind powered car is, as the name tells, one which is solely powered by wind.

These cars work with the help of resistance provided by the wind. Operational noise level and space are other important design considerations. The wind turbines should have as little negative impact on the placement location as possible. Wind turbines are traditionally used in remote locations. This offers the additional

challenge of having to transport the power generated to the location wherein it will be utilized.

Fortunately, the wind turbine in this project is designed for use in high traffic areas where the demand for power is high. Wind powered vehicles work with the help of tail wind only i.e., the wind should be flowing in the same direction of the movement of the vehicle, or more technically a component of the force created by the wind should be in the same direction of the movement of the vehicle. Currently no designs are capable of moving on upwind.

In a wind driven turbine generator to recharge the batteries of an-electric vehicle the combination comprising a rotatable wind driven rotor means, said means being mounted upon a stationary vertical shaft, said' rotor means having a series of laterally disposed rotor blades approximately semicircular in cross-sectional configuration 'mounted for rotation on said shaft, a housing for enclosure of said rotor means, said housing being provided with one air inlet duct at the forward ; 'end thereof and an oppositely positioned air exit open in said housing being rotatable mounted with respect to the top of said electric vehicle. Wind vane means interconnected to the exterior of said housing to rotate said housing responsive to air 'current to constantly maintain said inlet opening facing the direction of air current, a generator, means within said housing, said generator means comprising a rotor winding. This version of the invention is concerned with the of Wind turbines for transportation devices.

More especially this version of the invention is designed to recharge the batteries in the electric cars or to provide electrical energy where needed.

## II. WORKING PRINCIPLE OF WIND TURBINE BLADE

A wind-powered car converts wind power into electric energy, thereby helping the car to move forward concept there's an intake valve selected on the roof to all the wind needed power the car. An alternator connects to the intake valve which converts the kinetic energy to electrical energy. This electrical energy is connected to a DC battery is the source of power to a controller. This controller converts him DC voltage to AC three

phase's voltage with the help of power diodes. Wind energy processing mechanics in wind energy powered card is used also to harness the wind.

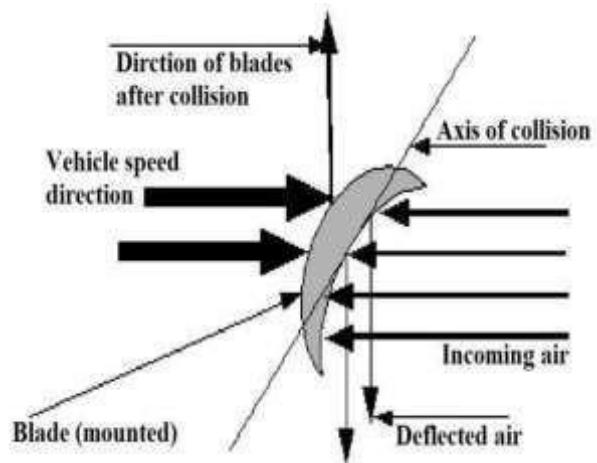


Fig. 1: Working Principle Of Wind Turbine Blade.

## III. LITERATURE REVIEW

<sup>[1]</sup> The present version of the invention, Which Will be described in greater details herein after, relates to the of power sources operated by batteries and by Wind turbines to deliver clean and green electrical energy to electric cars and electrical transportation devices; Who's batteries can be charged by Wind turbines as the vehicle moves along, or be used in other Ways for other purposes. <sup>[2]</sup> In this case the batteries would be the main source of power and as the vehicle drives the Wind turbine would supply the charge for the batteries. <sup>[3]</sup> According to a typical embodiment the vehicle would contain batteries or battery packs Wired to desired volts and amps and an appropriate charger and an electric motor optional transmission and drive train and Wind turbine, or other versions within the scope of the invention. Existing electric vehicles could also be

<p>converted to this principle. [4] In order that the detailed description of the invention may be better understood and that the present contribution to the art can be more fully appreciated, additional features of the invention will be described hereinafter. It should be appreciated by those skilled in the art that the conception and disclosed specific method and structures may be readily utilized as a basis for modifying or designing other structures for carrying out the same purpose of the present invention. It should be realized by those skilled in the art that such equivalent methods and structures do not depart from the spirit and scope of the invention. [5] In this respect, before explaining at least one embodiment of the invention in detail it is to be understood that the invention is not limited in its application to the detail of construction and to the Arrangement of the components set forth in the following description or illustrated in the drawings. [6] The invention is capable of other embodiments and of being practiced and carried out in various Ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.</p>	<p>(1.) Generation of electrical power by a wind turbine for charging moving electric cars.</p>	<p>Gideon Quartey. (JOURNAL: Vol.4, No.3)</p>	<p>The wind turbine is appropriately designed to extract maximum amount of energy from the wind to power the electric car. Through the theoretical calculation on the power generated from the wind, a significant amount of electrical power (about 3.26 kW) is restored to the batteries when the car is moving at a speed of 120 km/h.</p>
	<p>(2.) Design and implementation of vehicle mounted wind turbine.</p>	<p>Rabiul Awal,Muzamil Jusoh,S.A.Al junid (JOURNAL: Vol.10, No.19)</p>	<p>In conclusion, with proper design step VMWT can be an efficient source of small scale electricity for domestic and Portable purposes. In this work VMWT is used to harvest wind energy only. However, a hybrid energy harvesting system for vehicle is our future agenda.</p>

TITLE	AUTHOR	CONCLUSION

#### IV. BRIEF SUMMARY

The purpose of the invention is to capture energy in Wind draft generated by high speed moving vehicles on roadway. When vehicle moves at high speed, lots energy is used to push away air in its Way. By setting up Wind turbines on road

side and middle of road, some portions of the wasted energy can be re-captured.

The main features of the present invention are to provide two types of Wind turbine apparatuses; one type is for road side which sits along the side of a roadway; another type is for road centre which is installed along at traffic divider line at middle of a roadway. A road centre Wind turbine apparatus that is able to capture Wind draft in opposite directions on each side of a road. The road centre Wind turbine apparatus has two air conduits, one for each side of road. Both conduits extend horizontally along road Way. Each conduit has an inlet opening, an outlet opening and middle opening. The inlet opening opens toward the opposite direction of roadway traffic on its side.

The present version of the invention, Which Will be described in greater details herein after, relates to the end of power sources operated by batteries and by Wind turbines to deliver clean and green electrical energy to electric cars and electrical transportation devices; Who's batteries can be charged by Wind turbines as the vehicle moves along, or be used in other Ways for other purposes. In this case the batteries would be the main source of power and as the vehicle drives the Wind turbine would supply the charge for the batteries.

According to a typical embodiment the vehicle would contain batteries or battery packs Wired to desired volts and amps and an appropriate charger and an electric motor optional transmission and drive train and Wind turbine, or other versions within the scope of the invention. Existing electric vehicles could also be converted to this principle

In order that the detailed description of the invention may be better understood and that the

present contribution to the art can be more fully appreciated, additional features of the invention will be described hereinafter.

## V. CONCLUSION

Wind powered electric vehicle with wireless RF technology and provided realistic opportunity for system optimization and green transportation. This technical improvement together with the need for high performance wind energy based moving of vehicles created faster, more accurate and more intelligent and advanced power control algorithms. The Electric vehicle or Robot was powered using the wind energy.

## VI. REFERENCES

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