



DESIGN and IMPLEMENTENTON OF RENEWABLE ENERGY (WIND ENERGY)

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Renewable Energy



INTRODUCTION

- ❖ Renewable Energy "any sustainable energy source that comes from natural environment."
- ❖ Some aspects of renewable energy
- ❖ It exists perpetually and is abundant in the environment
- ❖ Ready to be harnessed, inexhaustible
- ❖ It is a clean alternative to fossil fuels
- ❖ "energy that is derived from natural processes that are replenished constantly"



TYPE OF RENEWABLE ENERGY

❖ Tidal Energy



Wind Energy



❖ Solar Energy



Wave Energy



WIND ENERGY



WIND ENERGY

- ❖ Wind power is good renewable, clean and free source of energy for power production
- ❖ Reduce dependence on fossil fuels including imported oils
- ❖ Reduce emission of greenhouse gas and other pollutant
- ❖ One major concern is the noise – can be improved



WIND TURBINES

Small Turbines

- ❖ Local electrical grids may not be able to handle the large electrical output from a large turbine, so smaller turbines may be more suitable.
- ❖ High costs for foundations for large turbines may not be economical in some areas.



WIND TURBINES

Large Turbines

- ❖ Able to deliver electricity at lower cost than smaller turbines, because foundation costs, planning costs, etc. are independent of size.



- ❖ In areas where it is difficult to find sites, one large turbine on a tall tower uses the wind extremely efficiently.



TYPE OF WIND TURBINES

❖ Horizontal axis



Vertical axis



ADVANTAGE OF WIND ENERGY

- ❖ Wind energy is cost competitive with other fuel sources
- ❖ Wind energy is an inexhaustible renewable energy source
- ❖ Wind turbines do not consume water
- ❖ Wind energy is clean
- ❖ Wind energy systems have low operating costs



DISADVANTAGE OF WIND ENERGY

- ❖ Poor Electricity Production
- ❖ It is Dependent on the Availability of Wind
- ❖ The Speed of the Blowing Wind Has to Be Right
- ❖ The Energy that is Produced Can't Be Stored in Large Scale
- ❖ The Turbines has Noise
- ❖ The Amount of Wind that Blows Is Unpredictable

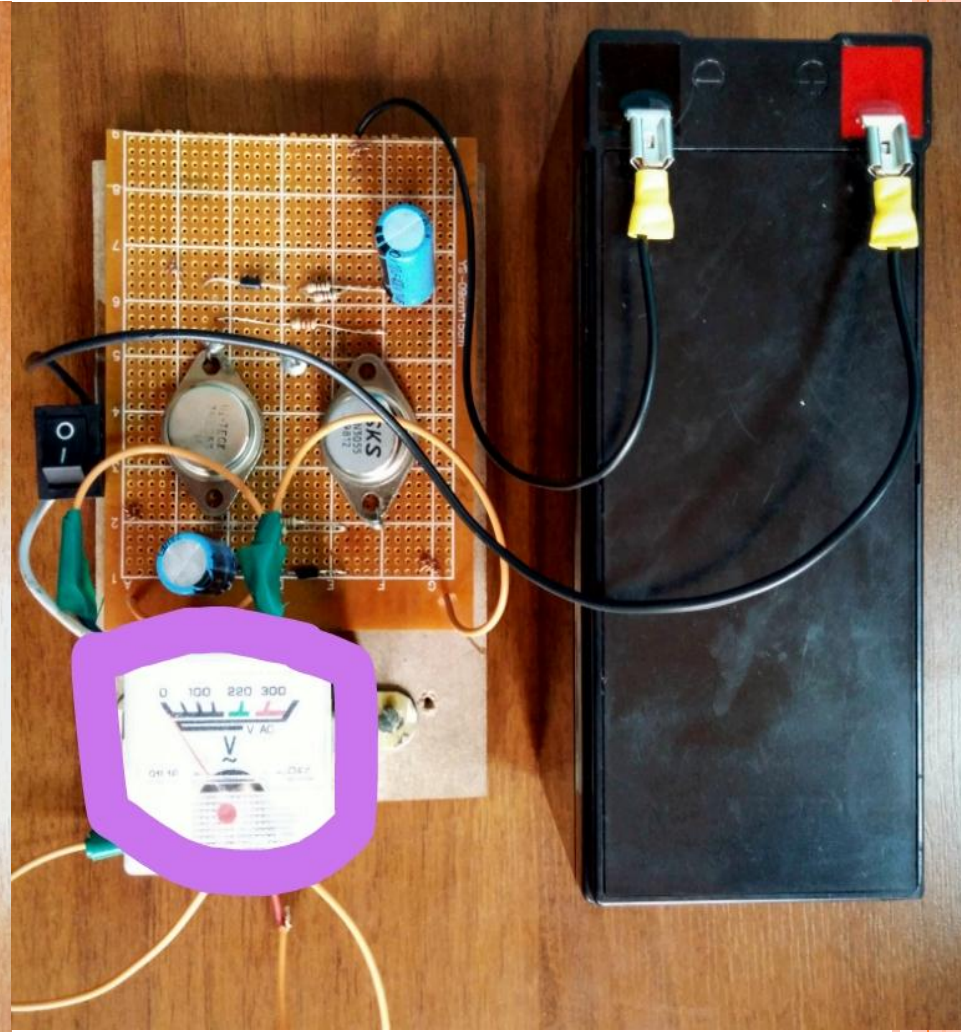
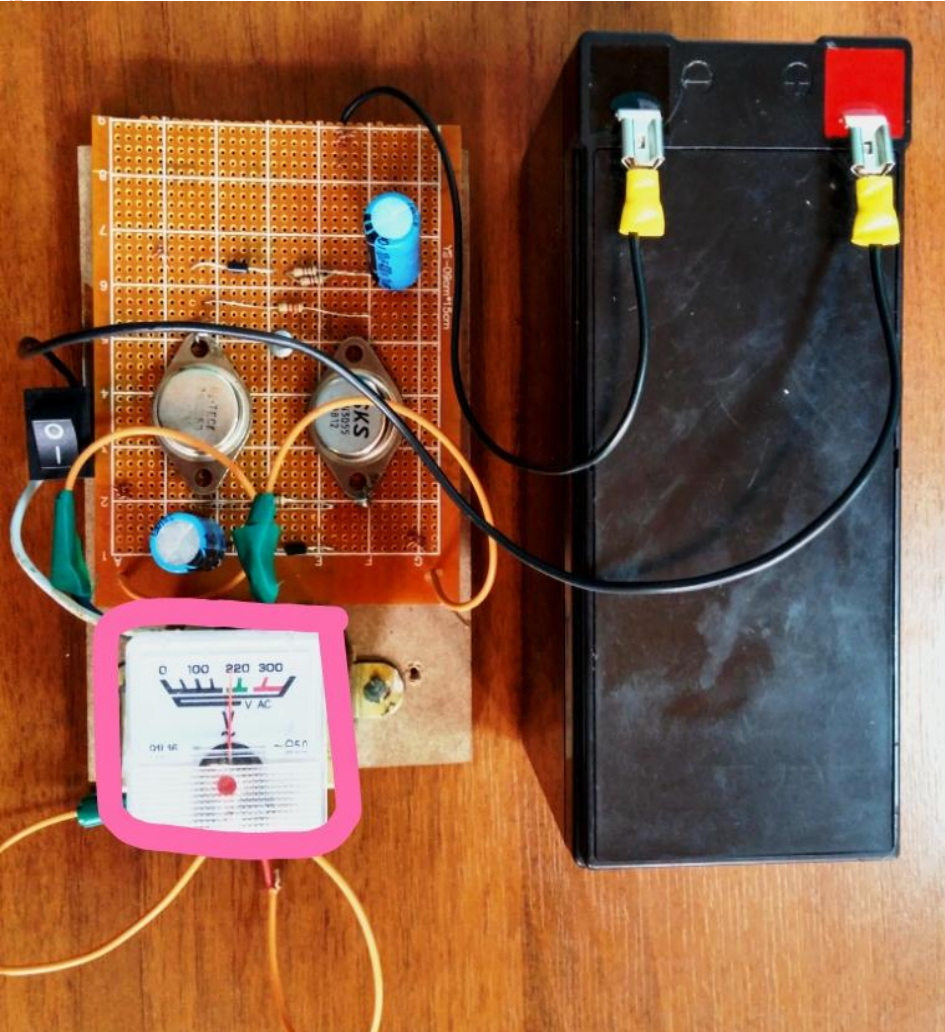


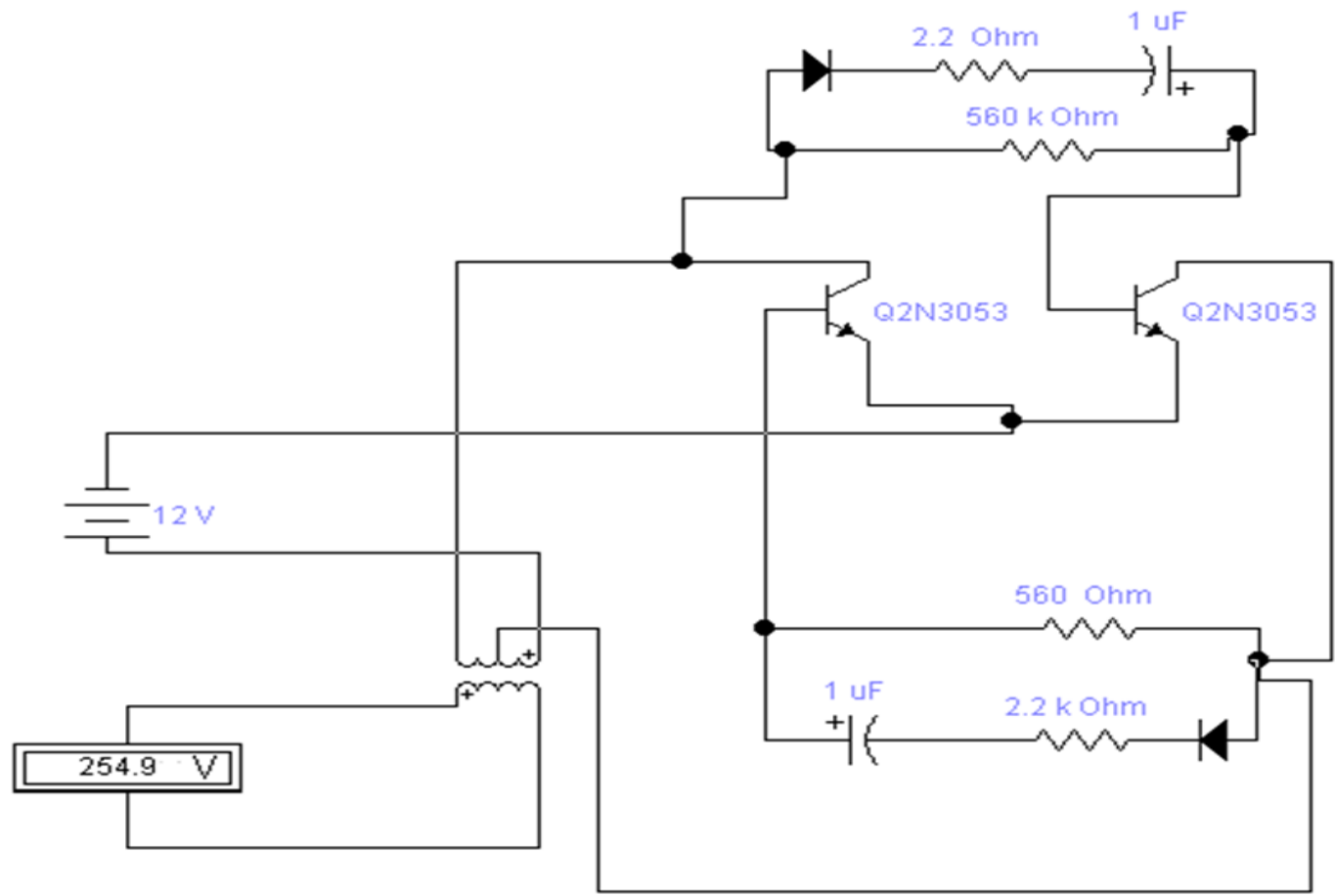
ELECTRICAL PART

Inverter CCT Convert the DC voltage to
AC voltage

(ON)

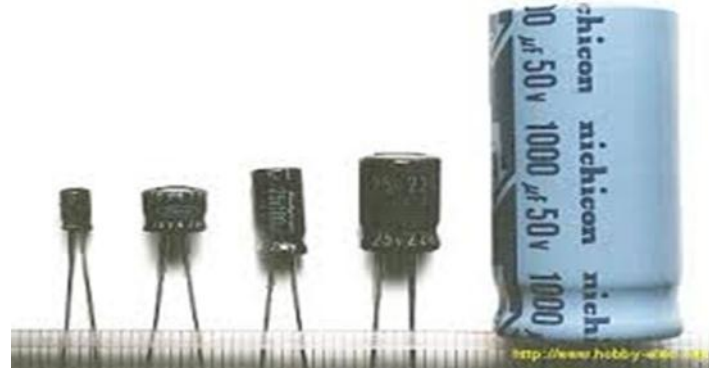
(OFF)







center tap transformer



capacitance



Resister



Dry cell battery





Dc Motor

Advantages

- *Low Initial Cost
- *Long Life
- *High Efficiency
- *No Fossil Fuels



Mechanical parts



Blades

- ❑ We have in our project that manufactures turbine blades locally using a tube made of strong, light plastic weight diameter material (4 inch) and a length (1.35 meters) and we relied on measuring the length of the blades turban on what males in the sources account, which stipulates that the length of the blade one o'clock = length Flipper Background for Turbine.
- ❑ The deviation is a diagonal angle and have been relying on our project Angle (35) in order to play this angle streamlined air to plunge toward the bottom of the flipper by bending in the existing pipeline.



Blades

The turbine blade base

An important part which the turbine blades to prove it and to link these blades birth of electricity generation and we have this rule manufacture of light thanks to the iron plus (+) and length (25.) cm



The turbine blade base



Generating base

this part of the turbine and the job is to load generating DC power and installed it with the rudder (flipper background) of the turbine so that our industry this rule of iron in the form of three-star and a length of half a meter of each hand to increase balance and build for the column installer them was the use of the main column measure (3inch) Used in the construction of water transmission lines and, of course, all be of iron.



Rudder (rear flipper)

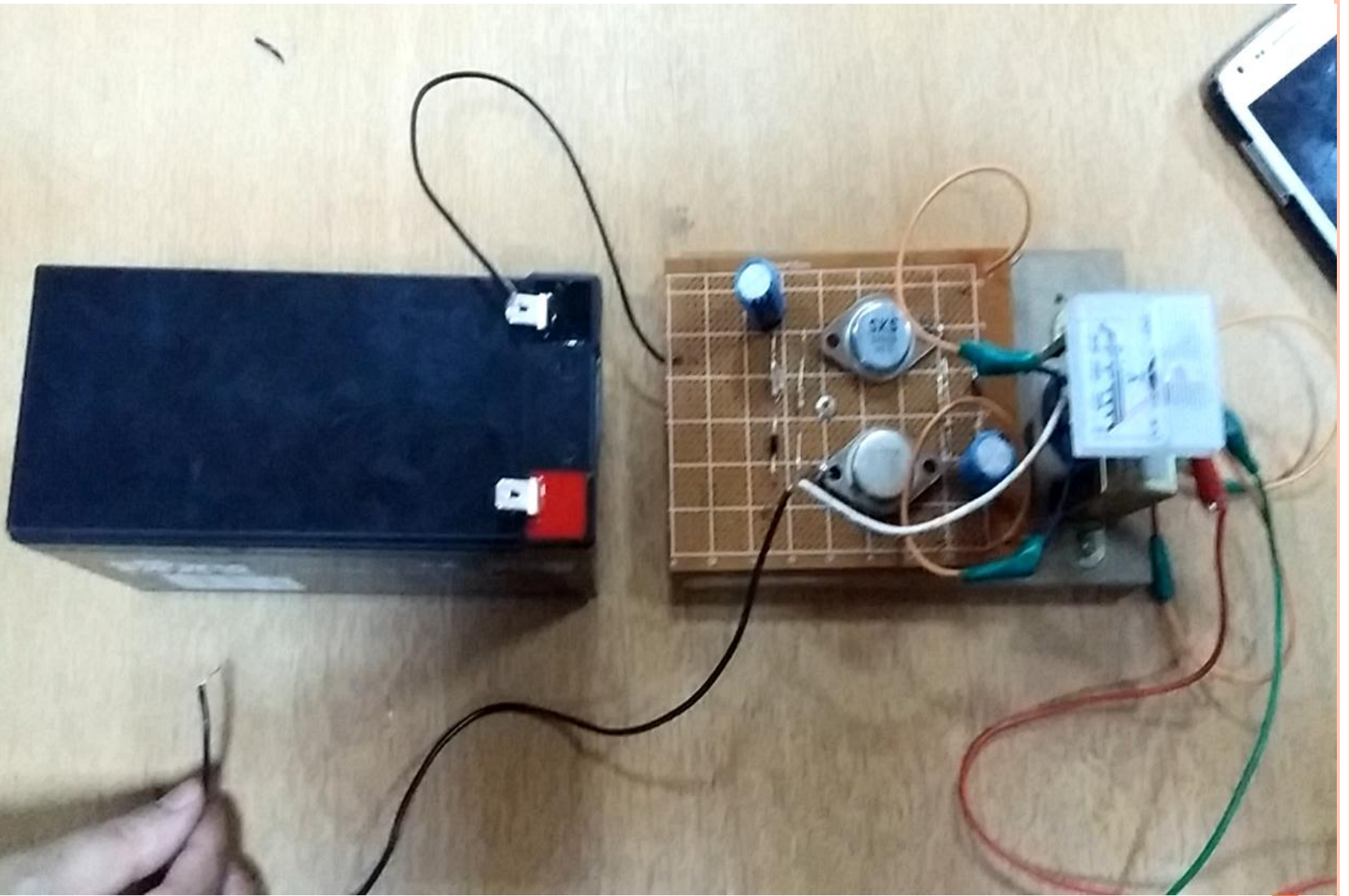
An important part in the turbine industry and in our project, we manufacture this rudder to guide the turbine coming downwind from the point of emitted and in designer this have canceled spin control, which is a that control the turbine-mail device monitors the direction of emission of the wind through the sensors Air which in turn determine the direction of the wind and then there are the control panels you rotate the turbine downwind



Rudder (rear flipper)







THANK YOU FOR YOU ATTENTION

Thank You

