EASTERN MEDITERRANEAN UNIVERSITY

DEPARTMENT OF MECHANICAL ENGINEERING

GIROMILL VERTICAL AXIS WIND TURBINE

GREEN ENERGY

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EMU

PRODUCT DESCRIPTION

Design of an affordable, low cost of maintenance Giromill vertical axis wind turbine with cheap, available and easily accessible materials. Some of which are gotten from scrap. The project is manufactured at the EMU Mechanical workshop, the blades are made of pvc plastic and the rest of the parts are mainly metal.

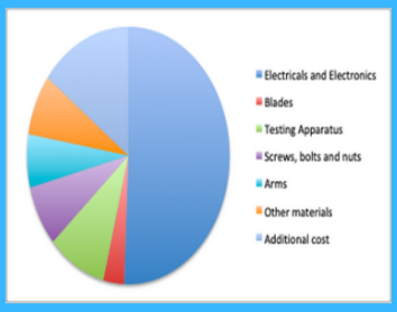
OBJECTIVE

- Design a cost effective wind turbine.
- Design using local available materials.
- Design for ease of assembly.

MISSION STATEMENT

- Increasing demands for energy and green engineering is leading to an increase in generation of renewable energy.

COST ANALYSIS



The expected budget set by the team was $600. while the total amount spent was $300

ACTUAL DESIGN

RECTIFIER CIRCUIT

The rectifier circuit converts AC to DC, and protects the battery from overload

PROJECT AIM

Our project aim is for our wind turbine to generate a significant amount of power that will be able to light up a little LED light bulb within the wind speed range of 1-5 m/s2.

COMPONENTS

MECHANICAL

- PVC Blades
- Galvanized steel;
- Support plate
- Base structure
- Connector
- Arms/Axis
- Screws
- Bolts and nuts

ELECTRICALS

- Generator
- Rectifier
- Battery
- Resistor
- Electrical wiring

PRODUCT FEATURES

- Self Start
- Stable in heavy winds
- Power a light bulb
- Easy to use and do maintenance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