



Advanced Hybrid Turbine Structure for Efficient Power Generation

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ABSTRACT

As per the technical evolution and latest trends taken into consideration, we have effectively created a Advanced Hybrid Savonius Multi-Station Structure Inverter for Industrial and Home Application. This project uses a savonius structure which is very advanced and having efficiency greater than other turbines also this structure able to rotate multiple generators so that we can able to handle multiple power stations. vertical-axis wind turbine (VAWT), used for converting the force of the wind into torque on a rotating shaft. The turbine consists of a number of aerofoils, usually—but not always—vertically mounted on a rotating shaft or framework, either ground stationed or tethered in airborne systems. Now a day's power requirement is the biggest demand in the growing world. Since last decade we are using multiple turbines structure so accordingly we have succeed to move only one generator and one station but this structure succeed to rotate multiple generators. This project uses a axial wheel structure which is very advanced and having efficiency greater than other turbines also this structure able to rotate multiple generators so that we can able to handle multiple power stations. Savonius wind turbines are a type of vertical-axis wind turbine (VAWT), used for converting the force of the wind into torque on a rotating shaft. Now a day's power requirement is the biggest demand in the growing world. Since last decade we are using multiple turbines structure to move only one generator and one station but this structure succeed to rotate multiple generators and according having capability to move multiple stations.

I. INTRODUCTION

As per the technical evolution and technical trends taken into consideration so we have created a "Advanced Hybrid axial wheel structure and arm gear based effective Mechanical Structure for Multi-Station Optimized Power Generation. This system uses an advanced axial wheel structure hybrid turbine which will rotate over multiple natural resources water force, wind power and

related things having efficiency greater than aerodynamic turbine. The advancement of this turbine is that, this turbine rotate over different natural resources. The advantages of this project as compared to other system is that, on one single axial wheel structure unit we can able to rotate multiple power substation and other power station uses single turbine which will rotate only single generator. So power output is more efficient than that normal. This project we can able to implement

at industries, factories, agricultural areas, home, airport, hill station and artificial creations.

This is not a simple structure like simple turbine. This is advanced technical structure ie axial wheel structure created specially taken vision over multiple natural resources.

Axial wheel wind turbines are a type of vertical-axis wind turbine (VAWT), used for converting the force of the wind into torque on a rotating shaft. Now a day’s power requirement is the biggest demand in the growing world

II. CONCEPT

In this project with the help of natural available resources i.e. non-conventional energy source water, air, Water mud, stones and grains and using gravitation force here created a mechanism i.e. advanced turbine rotates.

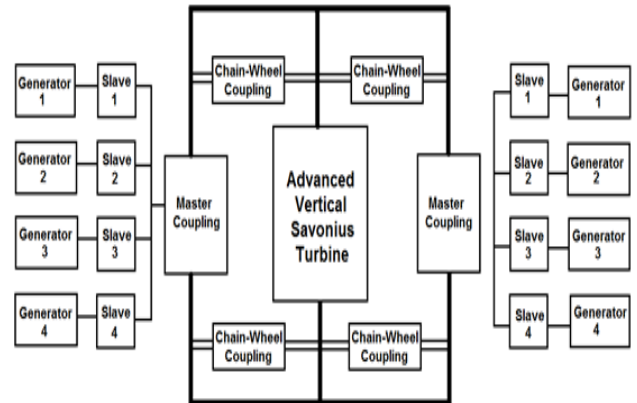
With the movement of this turbine accordingly main arm will rotate. There is coupling between Turbine and main arm so that we can replace this turbine efficiently without affecting the other system.

Main arm having 2 different mechanisms coupled with this and according to force transfer, within single rotation of turbine the arm and mechanism rotates no. of times

According to force transfer, within single rotation of turbine the main arm and mechanism rotates no. of times and with the single rotation of main arm sub arm rotates no of tines and finally with the single rotation of sub arm generator rotates no of times so effectively force transfer from Turbine to generator.

That means within limited availability of Renewable or non-conventional energy source and with minimum rotation of turbine the generator rotates no of times which is the advantage of this system

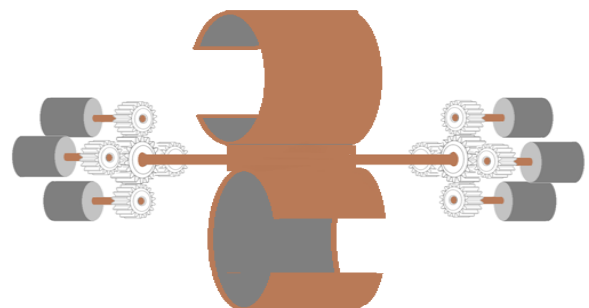
Block diagram



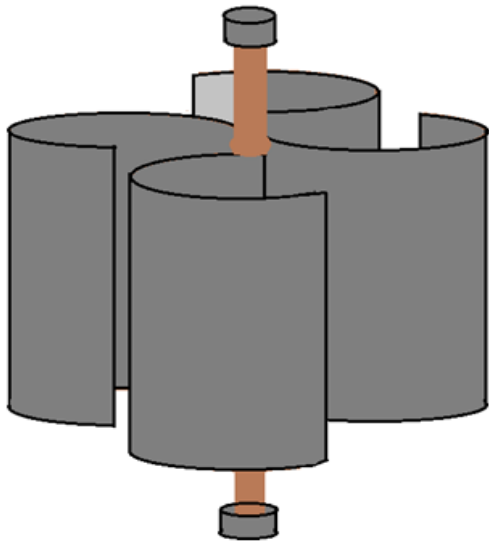
This structure having natural resources settlement and re-utilization capacity, that means this structure not only uses multiple resources i.e. wind power, water force and other but also settle them to reutilization so that this turbine rotate with more toque and able to create more output so that we can able to charge battery within minimum time.

This Project Consists of 4 different Units:

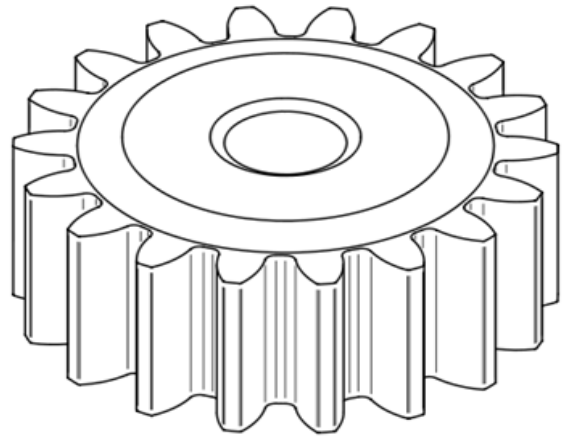
1. Savonius Unit/axial wheel.
2. Main Arm.
3. Sub ArmMulti-station
4. Generator Unit



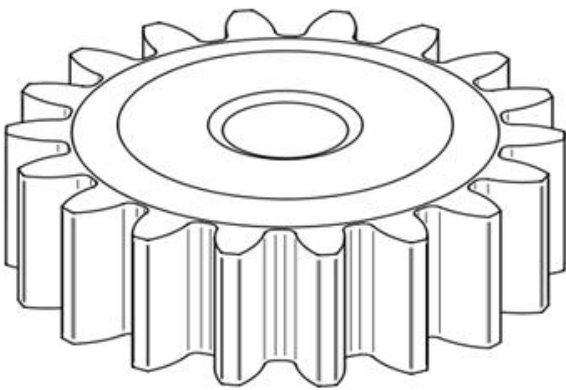
Main Savonius Assembly



Savonius Unit/axial wheel turbine



Main Arm



Sub arm



DC generator

Table 1. Component used

Components	quantity	Material Used
Panels	4	Chromium Coated Sheet
Savonius Panel	1	Chromium Coated Sheet and Mild Steel
Solid ROD	1	Mild Steel
SUB Arm	8	Mild Steel
Main ARM	2	Mild Steel
Generator Carrier	8	Mild Steel
Generators	8	Copper winding and Magnet
Support Angles	6	Iron
Grub Screw	32	Mild Steel

III. REFERENCES

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