

THE OMNIDIRECTIONAL WIND TURBINE

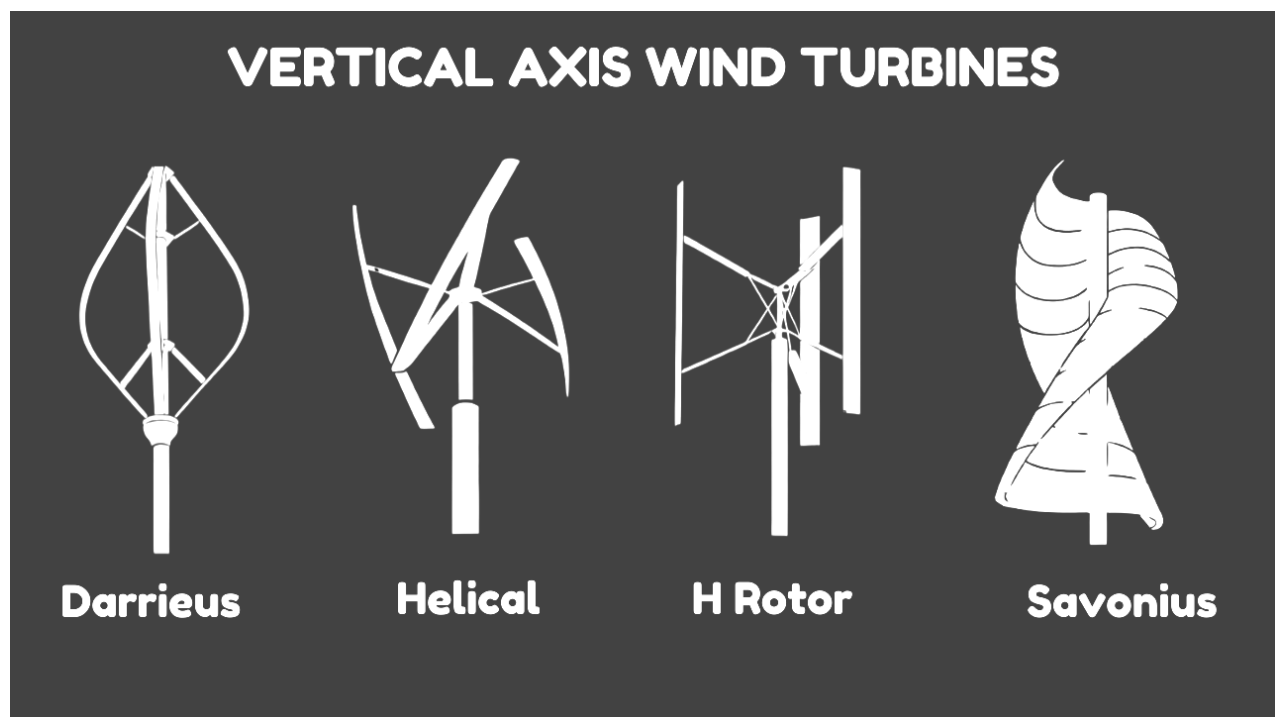




VERTICAL AXIS WIND TURBINE VAWT

A vertical-axis wind turbine (VAWT) is a type of wind turbine where the rotor is set in transverse axis to the wind while the main components are located at the base of the turbine.

TYPE OF VAWT



ECOATER VAWT

With reference to the existing study on VAWT as shown animate above we were able to achieve a break through in designing a completely new Design by keeping the basic principles same and adding more in design that will enhance the performance of the machine more in a such way that it harvest more energy than any other VAWT in same situation.

FEATURES OF ECO-WIND-VAWT

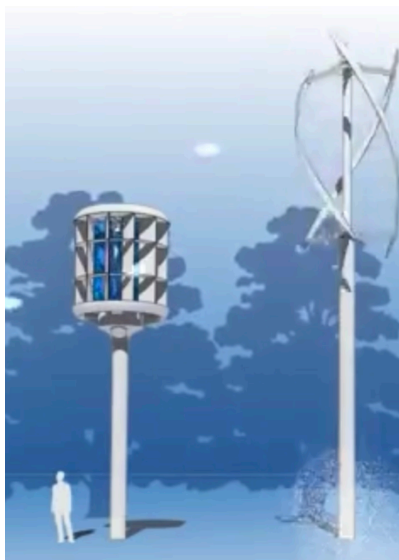


OMNIDIRECTIONAL AIR FLOW

- The stator vanes are added to increase the swept area by directing the air flow onto the blades to reach maximum potential.
- The innovative stator configuration the wind turbine is fully independent from the wind direction 360°.
- Hence the setup is enabling it as omnidirectional without any yaw mechanism

DESIGN

- The aerodynamic concept, turned into a solid and attractive product with following advantages



ECO- FRIENDLY DESIGN

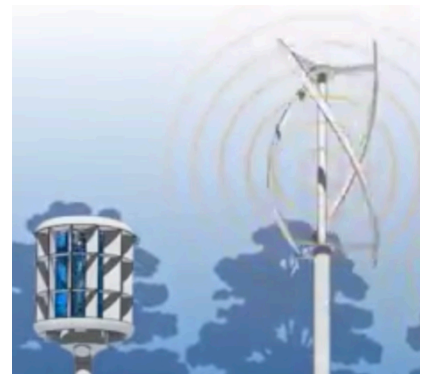
- The turbine adaptable to its surroundings and blends with the environment.
- As there are no rotating parts exposed directly hence, the turbine is safe for humans, birds and wildlife.

Small installation footprint

- The design permits to harvest more in less area so the footprint the Eco-Wind-VAWT less than others

NOISE POLLUTION PROOF

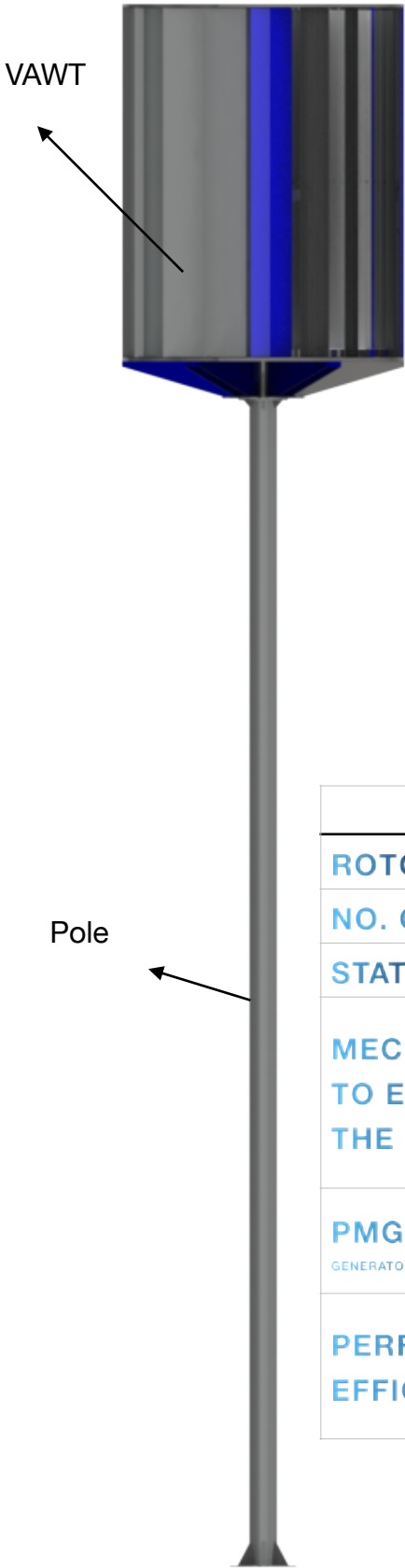
- With its extremely low sound emissions the turbine can even be installed in urban areas.
- With its low cut-in wind speed it provides the most sustainable energy output.



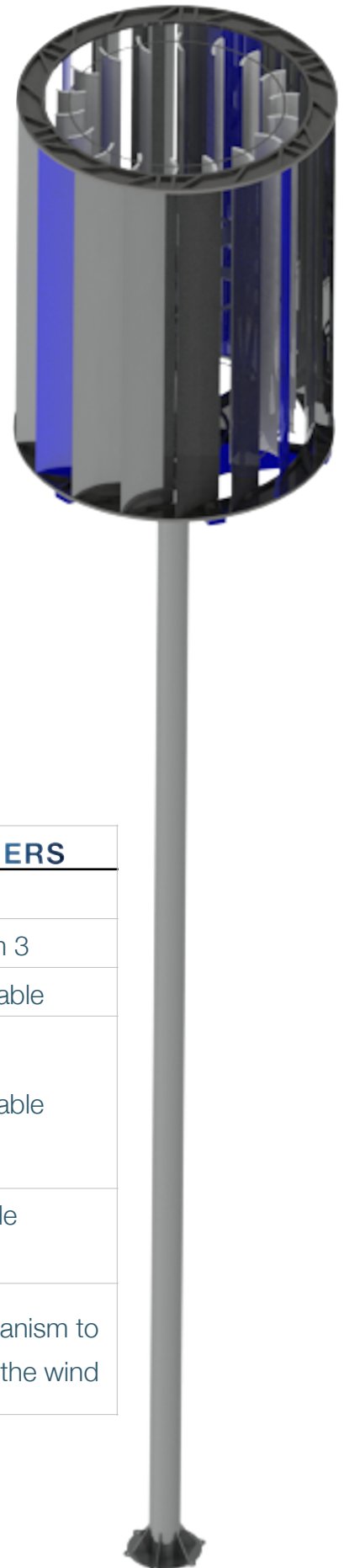
Technical Specifications

Model	<i>ECO-W2000</i>	<i>ECO-W1000</i>	<i>ECO-W500</i>
Wind Turbine type	<i>Vertical Axis wind turbine</i>		
Capacity	<i>2 Kw equivalent, Multiphase Multivoltage system 50VAC TO 400VAC three phase</i>	<i>1 Kw equivalent, Multiphase Multivoltage system 50VAC TO 400VAC three phase</i>	<i>0.5 Kw equivalent, Multiphase Multivoltage system 50VAC TO 400VAC three phase</i>
System Voltage	<i>12V, 24V, 48V (OFF GRID)</i>		
System Voltage	<i>50~380 (VAC (ON GRID)</i>		
Rated Power @ peak	<i>2000 watts</i>	<i>1000 watts</i>	<i>500watts</i>
Startup Wind Speed	<i>2 m/s</i>		
Cut In Wind Speed	<i>2.5 m/s</i>		
Survival wind Speed	<i>50 m/s</i>		
Material	<i>Aluminium/Steel</i>		
Diameter Rotor	<i>1.1m-1.3m</i>	<i>1.1m-1.3m</i>	<i>0.6m-0.8m</i>
Height Rotor	<i>1.4m-1.8m</i>	<i>1.2m-1.4m</i>	<i>1.0m-1.2m</i>
Generator	<i>Brushless, - PMG</i>		
Warranty	<i>2 Years</i>		
Operational life	<i>10 Years</i>		
Weight in Kg	<i>~250</i>	<i>~120</i>	<i>~75</i>

ECO-WIND-VAWT



1. Lowest start-up speed of 2 m/s cut-off speed.
2. Robust & Bird friendly design as no exposed rotating parts.
3. Omnidirectional design so no extra yaw mechanism required.
4. Less noise and vibrations $< 55^* \text{ dB}$ between 7 m/s to 12 m/s.
5. Low in maintenance.
6. Generates equivalent more power than solar system in same space.
7. Optimised for hybrid solution* In grid with solar and existing energy solution



	ECOATER	OTHERS
ROTOR	High grade Aluminium	FRP
NO. OF BLADES	More than 3	Maximum 3
STATOR	MS Powder coated	Not Available
MECHANISM TO ENHANCE THE WIND	Available - so it can harvest more energy than others in same conditions	Not Available
PMG (PERMANENT MAGNET GENERATOR)	High grade Materials	Low grade Materials
PERFORMANCE EFFICIENCY	Design to harvest most from the wind velocity	No mechanism to enhance the wind

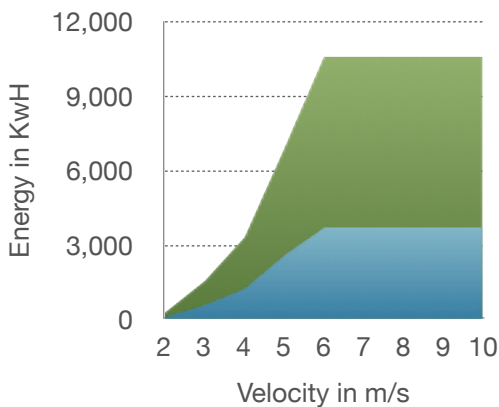
POWER GENERATION

- The Energy harvested in Kwh is calculated with following considerations
- Chart replicate the maximum possible power harvested at Min 6Hr to max 16Hrs of the wind speed
- Each Row gives Min And Max possible Kwh in a year
- Min hours of working is considered to be 6Hrs
- Max Hours of working is considered to be 16 Hrs

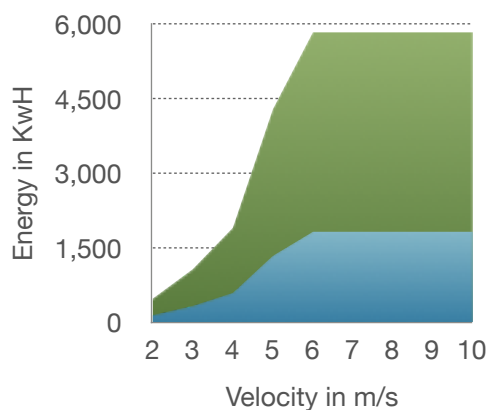
Power Chart*

Average wind speed in m/s	2KW		1KW		500 WATTS	
	Min Energy production in KWh	Max Energy production in KWh	Min Energy production in KWh	Max Energy production in KWh	Min Energy production in KWh	Max Energy production in KWh
2	103	275	151	482	81	250
3	580	1547	336	1075	168	548
4	1238	3300	596	1907	302	954
5	2578	6875	1341	4292	680	2130
6	3690	10560	1825	5840	1096	2920
7	3690	10560	1825	5840	1096	2920
8	3690	10560	1825	5840	1096	2920
9	3690	10560	1825	5840	1096	2920
10	3690	10560	1825	5840	1096	2920

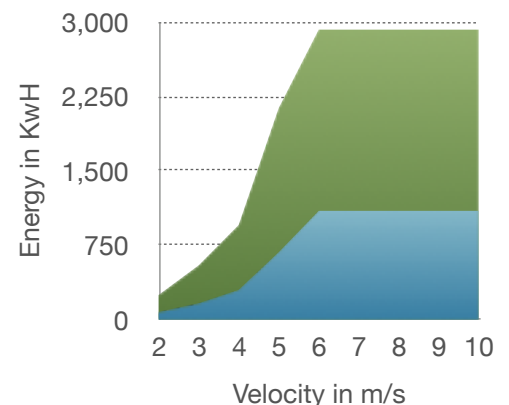
Min Max
2KW



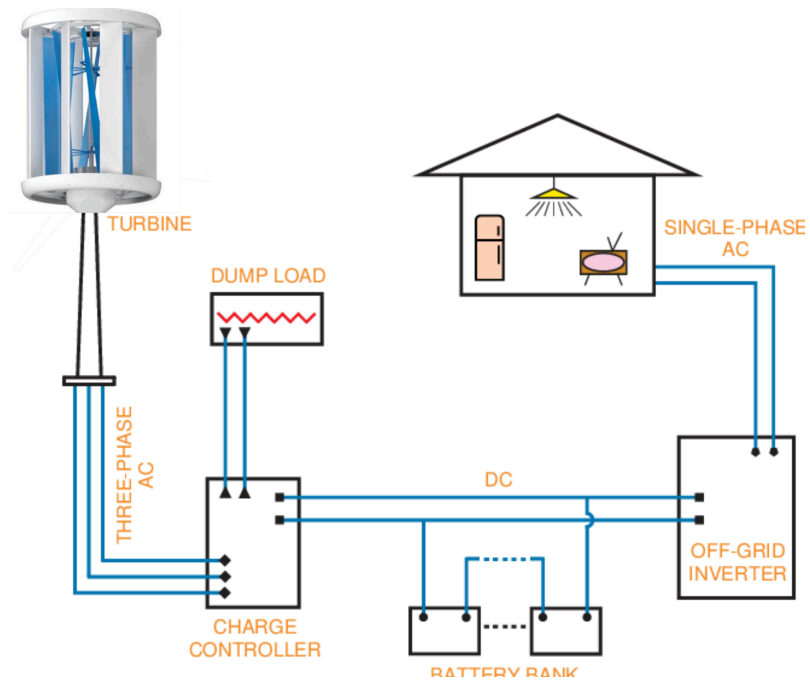
Min Max
1KW



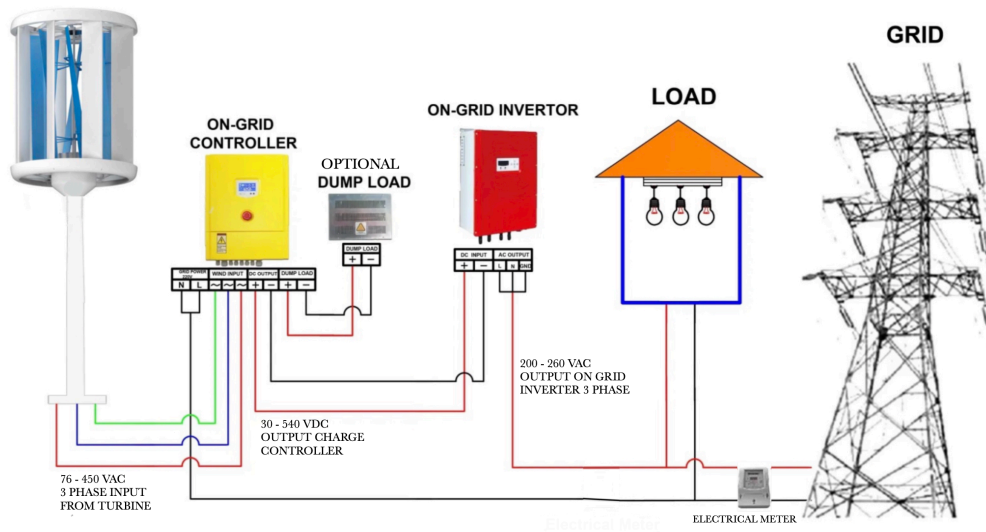
Min Max
500 WATTS



OFF-GRID SETUP SINGLE UNIT



ON-GRID SETUP SINGLE UNIT



Vertical Axis Wind Turbine On grid system *Please note all the images are for reference purpose only and actual product may vary from the image shown above*

ABOUT US

EcoAter Technologies is a organisation with vision to contribute around 5% (250Mw) in the India's net zero pledge. They include a promise for India to get 50% of its energy from renewable resources by 2030.

India had "clearly put the ball in the court of the developed world" by announcing 500 gigawatts (GW) of non-fossil electricity capacity, half of energy from renewables, a reduction of emissions by one billion tonnes and emissions intensity of the GDP by 45% by 2030

Mission, To develop a innovative ecosystem which will harvest renewable energy in micro level and sustain it through out the nation and create a role model for others to follow.

Ref - <https://www.bbc.com/news/world-asia-india-59125143>

TEAM



SACHIN ARKE
CO-FOUNDER

- Design & CAD
- Product Development
- Business Development
- Strategy decision in product and business portfolio
- Marketing & sales



PRASHANT DHAKNE
CO-FOUNDER

- Operations & vendor development
- Product Development
- Business Development
- Strategy decision in product and business portfolio
- Marketing & sales strategy