

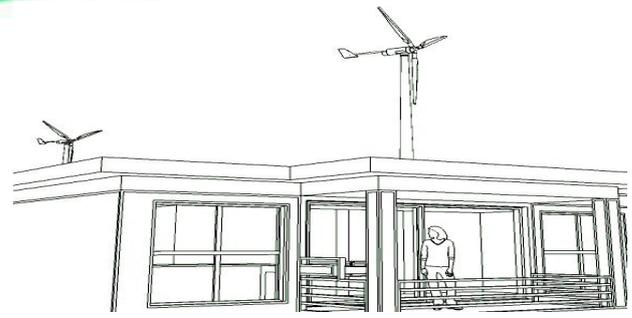


WindSun Solutions Limited
be green...

WINDMILL



Global warming, melting ice-burbs, depleting natural resources, polluting air... For the solution of many such life threatening problems and for a Greener Tomorrow, we the **WindSun Solutions Limited** have aligned our vision with the policies & initiatives of the Government of India's Ministry of New & Renewable Energy for generating electricity using renewable sources like wind.



2. It can **complement** the **primary/ main power** and can save up-to 50% on average electricity bills.

3. Apart from contributing to daily usage, our windmills can even provide *power back-up* in the events of power failure and can be helpful in **Disaster Management** in the times of natural calamities. It can supply power uninterruptedly for considerable long hours than any other means conventional sources like Generator, UPS and Invertors etc.

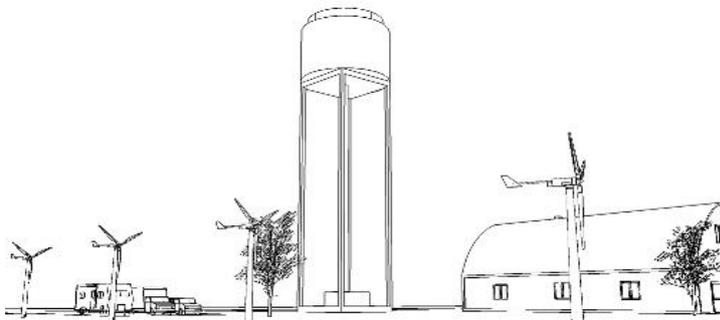
4. Even at the places which are not power deficient, our SWS GE13 can complement the primary/ main source of electricity intelligently and automatically. While statutory Disaster Management Equipments like inverter/ UPS / fire safety apparatus are used **ONLY** at the time of emergency, GE13 can be useful at the time of disaster or power failure as well as in the day-to-day routine and leads to reduction in the electricity bill from the first day of its operation. This speeds up the Return on Investment.

5. The cost of power produced by windmill more or less remains constant, so one can even save on the cost of inflation in energy up-to 1%

Though the Wind is in abundance and there were/ are already many solutions available to tap this vast energy, yet it took us almost half a decade of R&D to create our windmills that can run and produce consistent power economically at relative low average **wind speed** so that it can be used by the mass.

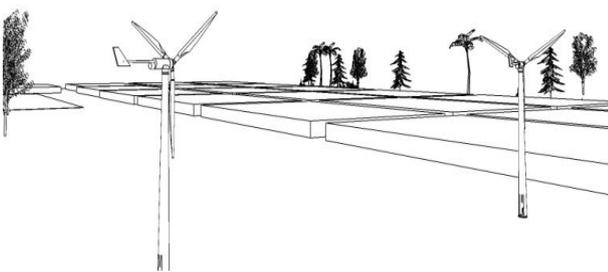
Our **SWS** - **S**mall **W**indmill **S**olution like GE13 (Green Energy, 1300W) can produce up-to one Unit of power every hour and has following main advantages:

1. It can be installed anywhere, **rooftops** of Government, Commercial, Residential buildings or remote baron lands or even on the road dividers etc.

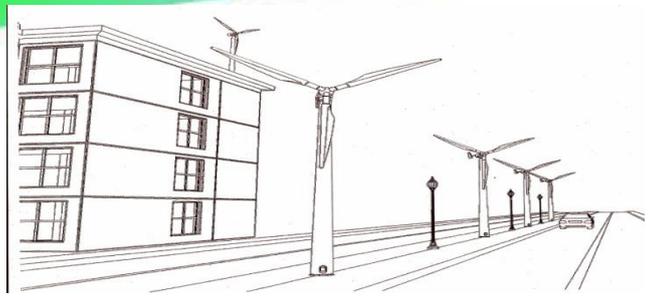


to 3% per year for the electricity produced from non-renewable sources.

6. Energy produced from a windmill is entitled for CARBON CREDITS (reduces around .42Kg of carbon dioxide per Kilowatt Hour)
7. Buyers with the Business Income can get 80% Accelerated Depreciation on the investment in the Income Tax under the IT section 32 rule (5) in the first year itself.
8. Our windmills can also be customized to suit the power requirement also for the color and design. This can add spark in terms of esthetics.
9. The unique design of the blades will act as a distinct landmark for the building or can be used as a signboard /advertisement hoarding Etc.



10. Considering GE13 are required to be installed in the vicinity of the common people, lot of precautions has been taken care.



GE13 mainly consist of following:

1. **Generator:** The aero-generator of GE13 is a smart over-lap of PMG & conventional asynchronous silent-pole alternator. This indigenous design has been tested & certified for its performance by - Electrical Research and Development Association. ERDA is a research institution created by the Indian Electrical Industry and Governments of India. For more information visit www.ERDA.org
2. **Light weight blades:** Revolutionary, light weight, aerodynamic, horizontal axis design.
3. **Intelligent Electrical / Electronic controls:** Constant Voltage regulation for efficient charging, Automatic / manual change-over switch to toggle from inverter to grid and back, low dissipation pure sine wave 230 Volt inverter.
4. **Battery Containers** - This secures batteries from weather that leads to longer life of the batteries apart from making it safe for humans.

Let us create precedence; using Windmills can also inspire the aam-admi about the possibilities and the importance of renewable energy, by we being **eco-friendly**.

Description	Material	KG	Dimension
Generator Rated Power: 1.3 Kw, Maximum Power: 1.3Kw Over-lap of AC 3 Phase silent-pole asynchronous alternator and PMG generators.	Light weight Casted Aluminum Body. Powder Coated for rust protection.	70	Cylindrical Length 250, Diameter 275
Yaw	Mild Steal with Powder Coating.		Come Fitted with the Tower Structure.
Blade	Composite Material. Fiber Re- enforced Glass & Aluminum	04	1395 mm, Diameter ~ 2800 mm
Nose	Fiber Re- enforced Glass	0.9	160mm Diameter
Hub	Aluminum Powder Coated	2.5	
Structure	Specially designed light weight MS trusses/ towers. Sand Blasting and anticorrosion treatment for rust proofing and long life.	95	Tapper base 300*300 then 200* 200, Height 15 Ft
Tail	MS with Powder Coating	6	1.2 meters length.

- Start up Wind Speed:
0.5 m/s (1.12 mph)

-Cut-in Wind Speed:
2 m/s (4.48 mph)

-Rated Wind Speed:
8m/s (17.92 mph)

-Cut-Out Wind Speed:
5m/s (26.88 mph)

- 1 M/S=2.24 miles /hour.

- Over-Speed Protection:
Electrical Brakes Applied
Automatically through PLC.

-Temperature Range:
20 to +60 Deg. C / (-40 to
+140 Deg. F)

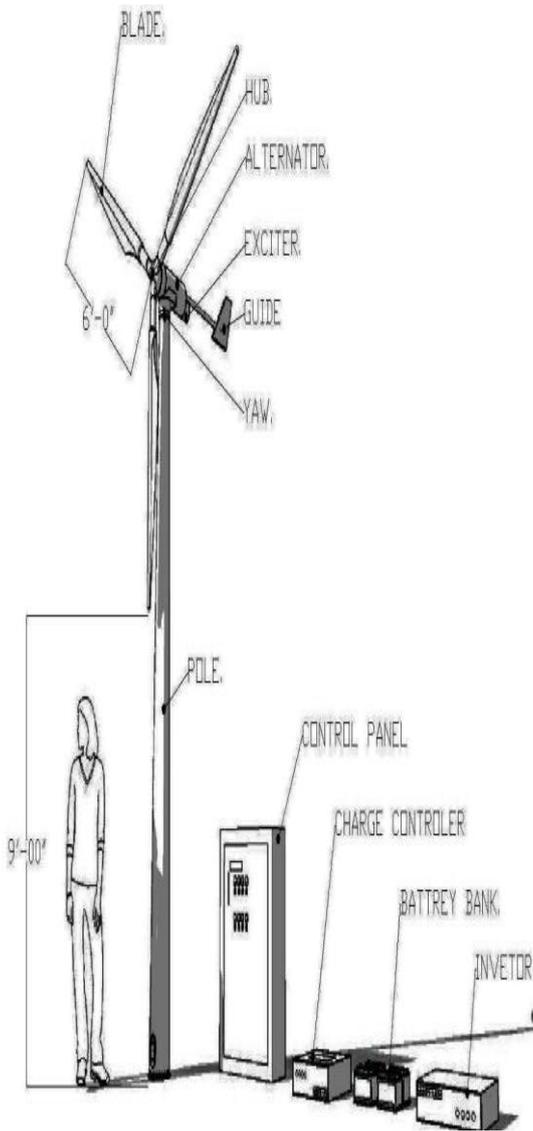
-IP 54 for protection from dust
water etc.

-Expected life of 10 years.

-Foundation requires just
900CubicMm of space on the
ground.

-Proven Horizontal Axis
designee.

-Designed to work at 440 RPM.
1.3Kw system produces with
resistive Load and 20 Ampere
current at 180 RPM while
battery is connected.



<i>Control/ Logical Panel</i>	<ol style="list-style-type: none"> 1. Dynamic Load Management for better efficiency. 2. Auto/ Manual Start and Stop/ Braking of Windmill. 3. Auto/Manual Changeover Switch for intelligent Toggling between Power from Windmill and the Primary Power. 4. DC energy meter - display the power used from windmill for charging the battery.
<i>Charge Controller</i>	<p>In-built in the control panel</p> <p>Variable 3 Phase AC to Constant DC voltage for Optimum Battery Charging.</p> <p>With Buck /Boost logic for speedier charging. Over and under voltage protection for longer battery life. Protects Generator from load electrical peak surges.</p>
<i>Battery</i>	<p>2 Volt, 600Ah, Deep Discharge, Thin Plate Cell with rack.</p>
<i>Inverter</i>	<p>24Volt DC to AC 230 Volt Single Phase, Pure Sine wave.</p>

* All rights for production and marketing of GE13 windmill are reserved with WindSun Solutions Limited (Aryan Software Solutions India Limited) and products features / specifications are subject to change.



WindSun Solutions Limited
be green..

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