Compare Traditional Solar and Traditional Wind Turbines with the Bluenergy Solarwind™

Systems Needed to Produce 5 kW, for a Large Home or Office using 45 kWhrs/day Electricity ($150/month)

	TRADITIONAL SOLAR	TRADITIONAL WIND TURBINE	BLUENERGY SOLARWIND™ TURBINE
Technology	Converts sunlight to electricity in solar cells mounted in panel arrays on roofs, the ground or "tracker racks" that follow the optimal angle of the sun. Inverter delivers solar currents as 120/240 VAC	Wind turns traditional "windmill" blades on horizontal axis mounted on tower. Blades turn generator producing electricity. Inverter delivers generated electricity as 120/240 VAC	Wind turns the 5 kW Bluenergy Solarwind™ Turbine's "double-helix designed" curved wind vanes mounted on a vertical axis and covered with solar cells double-sealed in clear film. Electricity produced by both turning generator and solar cells is merged in an enclosed inverter and delivered as 120/240 VAC.
Footprint	~ 35 150-Watt solar panels cover ~ 500 square feet on the ground or roof. Installation angle determines productivity, (6'-10' high), or if using sun tracking arrays, requires tracker rack, poles, and concrete base (12-15' high).	Horizontal 3-blade propeller requires a 60' to 140' high high tower with 3-5 sets of guyed wires, requiring a dedicated 2-5,000 square-foot area.	The Solarwind™ is self-contained in only 60 square feet. The 5 kW model is 18' tall and 6' wide including turbine, generator and inverter.
Approximate Cost & Production	$9-10/Watt installed or **$50,000**. Produces **720** kWhrs/month. (5kW x 6 hrs x 24 days/mo = 720 kWhrs/mo)	$5-6/Watt installed or **$30,000**. Produces **840** kWhrs/month. (av. mean speed 12mph @4kW x 7 hrs x 30 days/mo = 840 kWhrs/mo)	$7/Watt installed or **$35,000**. Produces **1,100** kWhrs/month. (av. mean speed 12mph @3kW x 9 hrs x 30 days/mo = 810 kWhrs/mo from wind + 2 kW x 6.5 hrs x 24 days/mo = 312 kWhrs/mo from sun)
Aesthetic & Environmental Considerations	 Industrial in appearance and occupies valuable land.	 Dominates physical setting, not urban-friendly, produces varying noise levels, and is potentially harmful to birds.	 Dramatic, organic design is an architectural and artistic statement. Scalable size and design elegance enhance rural, residential and urban settings. Silent, harmonious and safe for plant, animal and human life.
Production Limitations	No night or overcast production. Diminished with seasonal day-length variations. In sunny New Mexico, production averages 6 hours per clear day, about 24 days per month: **~ 22 %** production time (capacity) factor.	No generation below 7-10 mph wind speed and must be shut down above 45 mph to avoid damage. In breezy New Mexico, production time averages 7 hours per day: **~ 29 %** production time (capacity) factor.	Generator starts at 4 mph with no upper wind speed limit; power rated > 90 mph. Generates with no sun in a breeze, day or night, or with sun on calm sunny days. Solar and wind power is additive and cumulative 24/7: **~ 37 %** production time (capacity) factor.
Installation & Maintenance	Complex installation of arrays on ground or rooftop with added installation of separate charge controller and inverter to connect to electrical system. Periodic cleaning advised, generally maintenance free.	Complex installation at 60' to 140' requiring 3-5 sets of guyed wires, heavy equipment and crew for installation. Added installation of inverter. Significant, regular maintenance required at height of blades or generator, or complicated tilt-down of tower required.	Recommended installation on ground requires minimal equipment and crew (no crane), with generator and inverter mounted and sealed in a single 6' diameter base. Ready to interconnect into building or net-meter into electrical grid. Minimal, easy maintenance.
Unsubsidized Kilowatt Hour Cost Projection (lifecycle = 25 years, no batteries, including purchase, installation and maintenance)	Total cost: **$50,000.** Projected Total System Output: **~ 216,000 kWhrs**. 1 kWhr cost averages: **23 ¢ / kWhr**.	Total cost (including replacing one generator): **$48,000.** Projected Total System Output: **~ 252,000 kWhrs**. 1 kWhr cost averages: **19 ¢ / kWhr**.	Total cost (including replacing one small generator): **$42,000.** Projected Total System Output: **~ 330,000 kWhrs**. 1 kWhr cost averages: **13 ¢ / kWhr**.

Bluenergy® Elegance in Motion ... Powered by Art

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