

# Solar & Wind Hybrid Power System

Hybrid Power System Test Facility at Alpha in Bellingham, WA



**The Alpha HPS test facility features a 7.5kW wind turbine mounted on a 100' lattice tower with a fully integrated Hybrid Power System (HPS). The HPS skid houses a 1,320W solar array, 533Ah 48V battery bank, 5kW AlphaGen and DC Power Plant housing all power management electronics and controls.**

Alpha Energy's HPS's are engineered to compensate for larger power load requirements or obstructed weather conditions like cloud cover or low sun exposure. While solar power is a highly reliable power source, including other sources like wind, generators and battery banks adds reliability when the sun is not out. Wind turbines can operate 24/7 depending on wind conditions, and generators or a battery bank can supplement additional power needs in nighttime hours, while getting recharged during peak sun hours.

Initially installed in Spring 2010, the Alpha HPS will serve as a test and demonstration site. Future additions will include expanded solar capacity and a solar vehicle charging station.

## System Specifications

System Power:	191kW
PV Array:	(1,092) 175 modules
Solar Inverters:	(2) 82kW inverters, (2) 13kW inverters
Data Monitoring Software:	Portable web monitoring, data logging, weather monitoring and auto alerts
Warranty:	20 year O&M, 10 year inverter and 10 year racking warranty

One of the nation's leading developers of turnkey photovoltaic systems for commercial, institutional and remote applications, Alpha Energy is recognized as a market innovator in packaging renewable energy technologies.



# Progression Photos

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Alpha integrated solar and wind Hybrid Power System



Comprehensive design, engineering and installation capabilities



7.5kW wind turbine generates energy in winds as little as 8MPH



Experienced Alpha installers



Onsite project management



Construction complete in less than two weeks



1,320W Hybrid Power System with solar, generator and battery power



Visible from the street, highlighting renewable energy commitment