

Mercury Cafe Sustainable Energy System.

The system is designed to supply up to 7100 watts of power through a combination of solar panels and wind turbines.

Currently, the two wind turbines generate 400 watts each, requiring only an 8 mile an hour wind to begin spinning. In high winds, they employ magnetic braking to keep them rotating at their optimal speed. This keeps power generation at its peak and prevents the turbines from vibrating and causing excessive noise.

36 solar panels produce 6300 watts. Solar panels employ no moving parts; photons strike the panels, transferring energy to electrons, generating electricity. This photo-voltaic reaction is based on the photo-electric effect discovered by Albert Einstein, winning him a Nobel prize and giving birth to quantum mechanics.



Photo-Voltaic Banks Produce Direct Current.



Wind Turbines Produce Direct Current.



Breaker Panel Allows Isolation of Photo-Voltaic Banks.



Wind Turbine Break Allows Shutdown of Wind Turbines.

Wind Turbines Feed Battery Charge Controller.

Photo-Voltaic Banks Feed Battery Charge Controller.



If Batteries Charged, DC Power Sent to Inverter.

If Batteries Need Charging, DC Power Sent to Batteries.



DC Power Enters Inverter.



If Power Grid is Up, Inverter Sends Power to Grid.



AC Power Leaves Inverter.

If Power Grid is Down, DC Power from Batteries Sent to Inverter.

If Grid is Down, Inverter Disconnects and Sends Power Directly to Cooler

