

Micro-hydro Capabilities

Gardner Energy has been designing and installing micro-hydro systems for the past 18 years and has installed 20 micro hydro systems in the intermountain west. Micro hydro power, just like solar power, can be designed for grid-tie with net metering, off-grid and grid-tie with battery backup. Micro hydro systems are typically designed to meet the customer's needs even though at times the potential exists to generate far more power than is needed. Because hydropower operates 24 hours a day a small system can provide enough energy for residential or small commercial customers.

Case Study:

Susan Raymond, Hotchkiss, Colorado

- 7.6 kW grid-tie hydroelectric system (no batteries)
- 135 feet of net head
- 108-710 gpm

The hydroelectric system uses two separate turbine and generators each with four inlet nozzles. The owner has a water right for continuous flow during the irrigation season to operate 3 pivot irrigation systems. Excess water not being used for irrigation is automatically diverted to the hydroelectric system. Automatic pressure sensing control valves on turbine nozzles open and close to maintain maximum system pressure depending on variable flow available. The hydro building is located 600 feet from the electrical interconnection net metering point.

