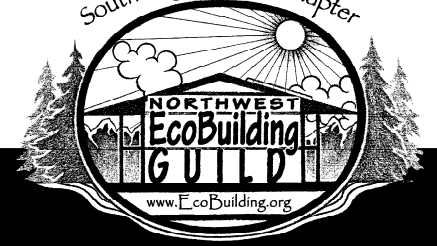




Northwest EcoBuilding Guild

Building practices that foster health, conservation and long-term economic vitality.

South Puget Sound Chapter



Renewable Energy Solutions

SOLAR PHOTOVOLTAIC DESIGN & INSTALLATION CLASS

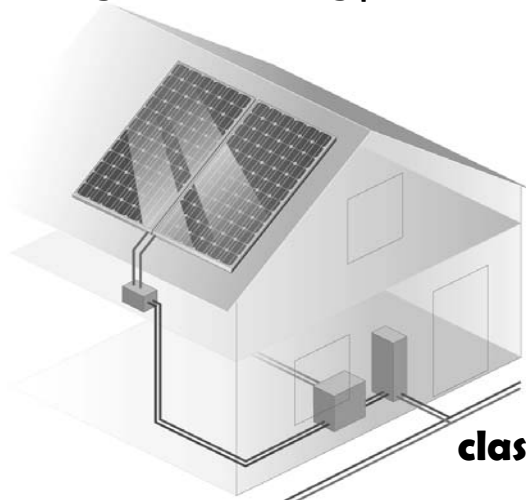
Presented by: **Kirk Haffner, M.S.** South Sound Solar

The 3 day class will present how to design, and install residential-sized, code compliant, battery-less and battery-based grid-tied Photovoltaic systems and will provide a basic overview of PV systems including; system components, site analysis, PV module criteria, mounting solutions, safety, and commissioning. Participants will learn the fundamentals of sizing a grid-tied system, banks, wire sizing and grounding.

Includes a hands-on opportunity to install a 1.6 kw grid-tied PV system.

Class participants will be able to:

- Perform power and energy calculations
- Diagram an array in series and parallel configurations
- Obtain and apply module specifications and equipment specification
- Determine module performance and array performance
- Size a grid-tied system including the inverter, array & wiring
- Size a grid-tied battery-based system for emergency power
- Compare system types, battery pros & cons, sizing and safety
- Understand commissioning/decommissioning and safety hazards
- Determine acceptable voltage drop for system circuits
- Perform detailed site analysis utilizing commercially available tools to determine sun angles and shading potential



Space is Limited!
Pre-Register by June 14th!!

June 18th-20th

8am—5pm

(Classroom portion 8am-Noon & Hands-on Installation Training 1pm-5pm)

Location TBA

\$250 Registration Fee (No Host Lunch)

Interested persons send inquiry to:

classreg.ecobuilding@gmail.com or call **(360) 754-6152**

Brought to you in cooperation with:



Kirk Haffner is an experienced PV installer. This class is not certified by any agency or institute. We are simply providing an opportunity for interested persons to learn the basic concepts of residential PV design and installation.

For more information about the NW EcoBuilding Guild, please visit: <http://sps.ecobuilding.org>