Workshop Curriculum

Green-Go workshops teach participants basic knowledge and practical skillls that they then apply to address an identified need in the local community. Our philosophy of *LEARN, PRACTICE, APPLY,* AND *ENJOY* provides an instructional framework that builds knowledge sequentially, while simultaneously allowing participants to develop the necessary skills to put that knowledge to work in real-life applications.

LEARN*:* Upon completion of a Green-Go workshop, participants will have a ***basic*** understanding of:

- Electricity concepts (e.g., charge, watts, amps, volts, ohms, AC/DC current, series and parallel circuits);
- Electricity processes and laws (.e.g., photovoltaic effect, energy conversions, watt's law, ohm's law, W=VxA);
- Off-grid solar system components (e.g., component function, how components work);
- Off-grid solar system design and installation (e.g., sizing a simple system, how components fit and work together).
- Off-grid solar system maintenance (e.g, batteries, optimizing tilt angle/orientation, charge control – bulk, float, equalization);
- Electrical safety (e.g., procedural safety, install considerations, proper fusing, wire sizing, system grounding); and most importantly,
- How to assemble a solar panel from solar cells and readily obtainable everyday materials.
-

****Every effort is made to tailor and modify curriculum to meet individual and group needs and goals.*

PRACTICE: Green-Go Workshops use Mini-Lessons (20 to 30 minutes) to introduce knowledge and skills. Participants have ample opportunities to practice their knowledge and skills through hands-on, active learning, including:

- Configuring solar panels and batteries in different series and parallel circuits (using voltmeters to check and verify).
- Assessing the facilitys' solar-electric system using our sizing-calculator spreadsheet.
- Maximizing the facilitys'' energy production by calculating optimum tilt angles and directional orientation of solar panels.
- Performing routine maintenance on actual, in-use battery systems.

APPLY: Application is where we put our new-found skills to the test for a project that benefits the local community. Participants will *APPLY* what they've learned to:

- Design a modest solar-electric system for housing in Laguna San Ignacio.
- Install much needed energy system to bring light and power to a local resident's home .

ENJOY: Green-Go believes fun and joy are essential components of any learning process. In this manner, we build in significant "play-time" to our itinerary. Activities include, but are not limited to:

- Surfing (we have numerous longboards that can be borrowed to surf this world-famous point break); * Note: January is generally a slow time of year for waves. Nonetheless, good waves are possible any time of the year under the right conditions;
- Whalewatching (in Laguna San Ignacio, the world's largest concentration of "friendly whale"" behavior....they often come close enough to be touched and kissed!)
- Desert exploration (arrowhead and shark's teeth exploration);
- Exercise on the roof bring a yoga mat to our scenic viewing roof where we have a variety of exercise tools.
- Beachcombing (mile upon mile of deserted beaches);
- Fishing (excellent shore fishing for halibut and corvina);
- Mini-excursions by ATV or motorcycle; and
- Sailing.

Mini-Lesson Sequence

Mini-Lesson 1: Electrical Concepts

Practice1: Calculate voltage of different series and parallel configurations of facility battery banks and solar array and confirm with voltmeters.
Practice2: Begin soldering strings of solar cells in preparation for assembling solar panel.

Mini-Lesson 2: System Components/Maximizing PV-panel Efficiency (tilt angles and orientation).

Practice1: Assess and adjust facility solar array tilt angle and orientation as needed.

Mini-Lesson 3: Sizing Off-grid Solar Systems

Practice1: Perform an assessment of facility energy needs using sizing spreadsheet program.
Practice2: Use spreadsheet program to size system for actual installation in Laguna San Ignacio.

Mini-Lesson 4: Installation Basics
Practice1: Create a mini-schematic diagram for actual installation in Laguna San Ignacio.

Mini-Lesson 5: System Maintenance (batteries)
Practice1: Perform maintenance on facility batteries.