

AN UPDATE FOR OUR SUPPORTERS AND PARTNERS

SOLAR REPORT

GALIANO CONSERVANCY ASSOCIATION

With your support, we have purchased and installed a 4.6 kW capacity solar energy system on the new Learning Centre classroom building. This renewable energy infrastructure will keep the building completely off-grid and serve as an action oriented teaching tool.

What brought us here

The campground is far from power lines along Porlier Pass Rd. This physical barrier, combined with the incredible educational value and ecological benefit of having renewable energy fully supporting this building led to a strong desire to keep it off the grid. Franklin Electric and Van Isle Water donated a solar powered pump and controller in 2014 to pump water from an on-site well uphill to a gravity feed system.

The right location, the right building

The campground area has excellent sun exposure and the classroom building will be used as a teaching and cooking facility, making it an ideal location to meet real needs and demonstrate sustainable power generation. The reconstructed building donated by Vaagen Fibre Canada was specifically situated to capture the most solar radiation. The recycled building now retrofitted with solar energy is a perfect example of reusing materials and giving new life to a building.

Community Interest

The Classroom Building is a significant off-grid building on Galiano powered by a solar system. With an increasing interest in the Galiano community in self-generated renewable energy, this is an exciting development. Over the last year there has been much interest around a group purchase of solar panels. This building serves as a demonstration facility not only for the many off-island participants of our education programs, but also for local residents. Donor Rudy North came in right as the first community order for panels went in. This allowed us to take advantage of that group order, which totaled 75 kW from Viridian Energy Coop.



TIMELINE AT A GLANCE

MARCH	COLLABORATIVE DESIGN AND PLANNING OF SOLAR SYSTEM BEGINS
APRIL	18 SOLAR PANELS PURCHASED AS PART OF COMMUNITY ORDER.
MAY	BATTERIES PURCHASED AND BROUGHT TO GALIANO.
JUNE	INSTALLATION COMPLETE AT CLASSROOM BUILDING.
JULY	FIRST INTENSIVE UNIVERSITY FIELD COURSE (UVIC) USES CLASSROOM BUILDING, JULY 3-11





Planning and Design

The planning and design of the system began in 2014 and was lead by a small committee of board members and volunteers. A special thanks to the design and installation team which included Terry Hoffman, Alan Doty, Ken Millard, Tom Mommsen and Erik Wilkinson.

The aim was to find a reliable system that optimized collection of solar radiation in winter months. There are two settings (angles) for the panels, to be adjusted between summer and winter. In winter the panels are at a steeper angle. A separate solar panel system runs the water pump to the building. A total of 18 panels cover the majority of the classroom building roof on the SW facing side. This is a 4.6 kW system, offering an estimated 8,000 kWh AC per year. The system will also run a large hot water heater, heating it with energy generated after the main batteries are charged.

Installation

The solar panels were installed on the building, with accompanying infrastructure (batteries, charge controller, inverter) by mid-June 2015. The system is up and functioning well, and this summer will offer the first season to test its functionality and capacity. Installation was supported by Power to the People from whom we also purchased the above components.



Integrating the system as a teaching tool

The off-grid classroom building is the cornerstone of a renewable energy demonstration and education strategy for the Galiano Learning Centre. Geared towards demonstrating viable options for a vibrant sustainable energy future, our goal is to showcase a variety of energy generation and storage options including wind, solar and micro-hydro. Demonstrations will be interactive and illustrate where power comes from and how we use it. From post-graduate engineering students working on new approaches to energy storage, to children watching the energy output increase on a panel as they angle reflectors toward it, the Learning Centre seeks to demystify energy capture and use and empower moving towards a responsible energy future.



THANK YOU.

**WITH YOUR CONTINUED SUPPORT, WE HAVE
ACCOMPLISHED MUCH IN THE PAST 4 MONTHS.**

