

CASE STUDY



Calvert Island: 10 Years of Integrating Renewable Energy

Where:

Calvert Island
British Columbia, Canada

Supply:

An integrated renewable power system with
two Cummins 72 kW diesel generator sets

Purpose:

Create a completely integrated renewable energy microgrid



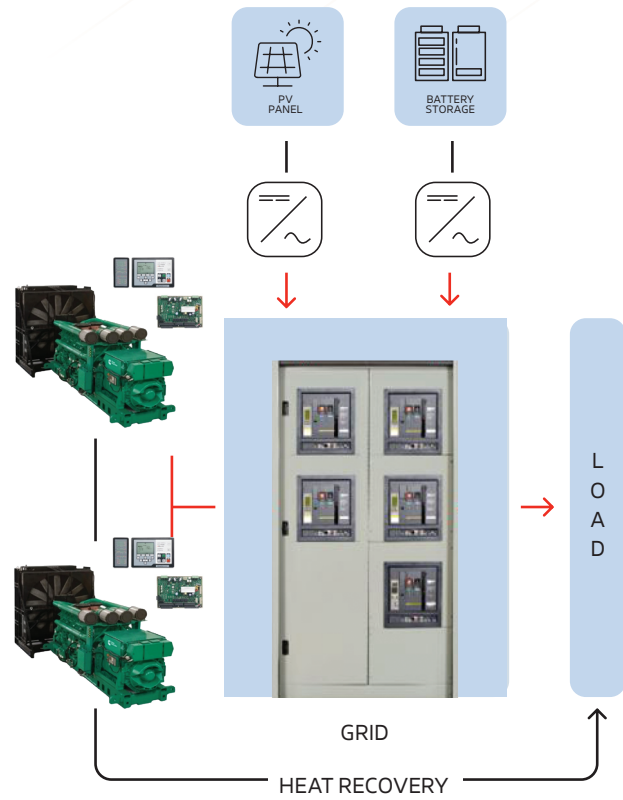
The design resulted in the station’s diesel consumption dropping to under 100 liters a day – an 83% decrease.

Over 400 kilometers north of Vancouver, British Columbia sits Calvert Island: a remote and stunning island with pristine white sand beaches, crystal blue waters and home to an environmental research station in need of 24/7 power.

Until 2011 the research station relied on prime power diesel generator sets burning up to 500 liters of diesel fuel daily. In addition, the generator sets were built by a patchwork of integrators that were not certified and did not meet inspection requirements. And, as energy consumption rose with increased guest capacity with the expansion of new on-site buildings, the founder of the environmental station began exploring ways to create a completely integrated renewable energy microgrid.

Hakai Energy Solutions, Inc. located in British Columbia, was commissioned to design a completely off-grid microgrid solution to provide renewable system integration on a large, commercial scale. The integrated renewable system was anchored by two of Cummins 72 kW diesel generator sets and included a three-phase modular inverter system, 50 kW PV panels and a robust battery storage system. The design resulted in the station’s diesel consumption dropping to under 100 liters a day, an 83% decrease, and implemented even further energy reduction by using a demand-side management and heat recovery programs generated from the gensets to supply heat to the station’s buildings.

This bold and groundbreaking journey succeeded in developing a fully integrated remote microgrid energy solution that has now been in operation for over 10 years and is not only economically rewarding but also achieves renewable integration for reliable and sustainable power.



“ It is hard to find a company that has the experience and integration capabilities like Cummins. From design, manufacturing, to service and support: it’s all there. Their well-thought-out and executed engineering matches our company’s philosophy of a deep commitment to reliable power. ”

Jason Jackson

Co-Founder and CEO
Hakai Energy Solutions, Inc.



Cummins Inc.
Box 3005
Columbus, IN 47202-3005
U.S.A.

cummins.com

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