

## CASE STUDY

# Naghtaneqed School Solar Project



“The final installation reflects Hakai’s continued commitment to good workmanship and to the client needs, with a well organized installation that was on time and on budget”.

DAN LEBLANC, FALCON ENGINEERING



## OVERVIEW

Naghtaneqed Elementary Junior Secondary School is located in Nemaiah Valley, approximately three hours southwest from Williams Lake. In a remote area far from the electrical grid, this school enrolls about twenty students of Chilcotin First Nations ancestry in Kindergarten through Grade 10. Chilcotin Language is taught as the second language and there is a strong focus on integrating cultural teachings and activities throughout the curriculum.

For over thirty years, diesel electric generators have been the sole source of energy to the school; a reality for most remote communities and one that introduces noise and pollution to the school yard. And at one time the school curriculum had to be curtailed in order to meet budget constraints – a steep cost attributed directly to the high cost of energy. The community and parents rallied to gain support from the administrators, who responded to this call and supplied funding to build a hybrid energy system with a high penetration of solar energy.

**1-888-604-3128**

info@hakaienergysolutions.com

PO Box 1236 | Cumberland BC V0R 1S0 | Canada



hakaienergysolutions.com



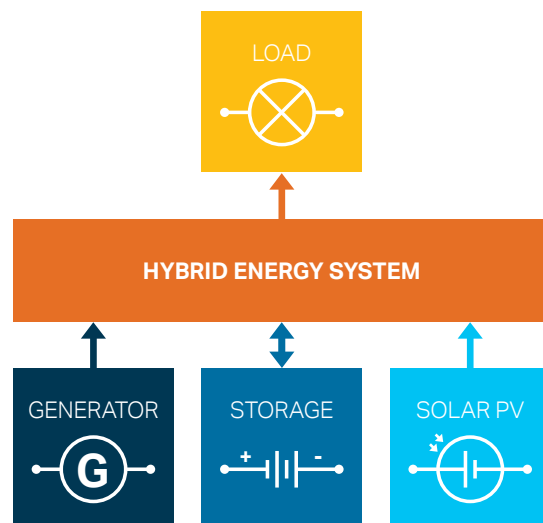
HAKAI Energy Solutions is dedicated to working with communities to develop energy systems that are sustainable and cost effective while providing reliable power year-round.

## SYSTEM SPECIFICATIONS

Location	Nemaiah Valley, Cariboo Region BC
Commissioning Date	October, 2020
System Type	Micro-grid
Photovoltaics	140 x 360W monocrystalline bifacial
Inverters	1 x CORE1 50 kW, 6 x SI 6048-US
Storage	18 x 6.6 kWh Lithium (LFP) batteries

## SYSTEM PERFORMANCE HIGHLIGHTS

Annual photovoltaic energy generation	60,000 kWh
Renewable energy generation proportion	44%
Reduction in diesel fuel consumption by generator	38,400 L/ yr.
Annual genset run time reduction	6,900 hrs.
Lifetime reductions in CO2 emissions over 25 yrs	2,534,000 kg (equivalent to 19,500,000 km driven by a car)
Awards	Clean Energy BC 2019 Community Improvement Award



In July of 2019, the School District invested in a hybrid energy system that integrated solar energy production, advanced energy storage and an expandable inverter platform. Utilizing 140 high-output solar PV panels, a battery energy storage system and a hybrid of inverter technology types, this system was designed to offset diesel consumption by reducing generator operation by 6900 hours each year, an 80% reduction. It is anticipated that the school district will recoup its investment in 7.5 years through a reduction of fuel consumption of approximately 38,400 L every year, plus generator maintenance and replacement cost avoidance.