



# GLOBAL CASE STUDY

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**Solis C&I Grid-Tied PV Inverters**

Solis-125K-EHV-5G-US-PLUS



# CASE STUDY

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## HEDGEHOG CASE STUDY

### HAIDA GWAI

Empowering a Community: Canada's Haida Nation Partners with Hedgehog Technologies to Create Energy Independence

2.3MW Solar array and microgrid puts the Haida Nation on a Path to Resiliency

**Background:** Creating Energy Independence

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Haida Gwaii is an archipelago in British Columbia, inhabited by the people of the Haida Nation, which has been operating on 100% diesel fuel for its energy until very recently. As a result of the area's remote nature, the cost of transporting fuel to the islands – via ice roads, barges, or planes – has been significant; plus, the fuel itself has contributed to unwanted pollution throughout the area.





 Haida Gwaii, Canada  2.3 MW  Solis-(215-255)K-EHV-5G

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To increase energy independence, the solar array uses a custom off-grid battery energy storage system, "Nimba," that integrates advanced lithium-ion battery technology and intelligent energy management to ensure reliable power, even in low sunlight, while reducing greenhouse gas emissions.

#### Challenges: Preserving the Land and Meeting Regulations

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In order to conserve & protect surrounding old growth forests and unique wildlife, the installation of the system would need to be at Masset Airport in British Columbia, where the land has already been cleared for use. However, as a result, the project would be subject to stringent safety standards, set forth by local airspace authorities, Transport Canada and Nav Canada.

A reflectivity study was conducted to minimize solar glare affecting aircraft. Strict compliance with Transport Canada regulations was necessary to build the solar array at the airport.

The project avoided clearing 11 acres of old-growth forest, protecting endangered species like the Haida Gwaii slug and Northern goshawk. It also reduced diesel fuel usage, cutting over 33,000 tons of greenhouse gases over the solar farm's 20-year lifespan.



**Solution:** Local Expertise Meets Global Success

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British Columbia-based, Hedgehog Technologies (Hedgehog), was tapped by the Haida Nation for its expertise in ensuring successful installations in the region. Hedgehog began the process by consulting and engaging the community and its leaders, getting to know their needs, and gaining better understanding the cultural significance of the project. The Haida Nation formed an energy company called Til Yahda Energy to complete and maintain the project.

A non-traditional procurement approach prioritized hiring local Haida workers and ensuring skills training for long-term sustainability. This model was endorsed by Haida leadership and focused on community involvement over short-term cost savings.

Hedgehog opted for a 2.3 MW ground-mount solar microgrid system, powered by Solis inverters, with a total number of panels being approximately 4,600. The system itself is designed to be expandable to handle up to 4MW, ultimately enabling a 100% renewable energy model down the line.

Solis was ultimately chosen for its ability to meet community power demand and withstand the infamously cold climate; Solis solutions are designed to perform under all weather conditions, including the harshest snow/rain, and in temperatures down to -25C. Every Solis inverter features high quality NEMA 4X (IP66) aluminum enclosures. Plus, Solis technology is perfectly compatible with high-powered bi-facial modules, enabling better energy yield down the road.

Finally, Solis' string-level monitoring, flexibility, automatic alerts and rapid shutdown are just a few of the features that helped Hedgehog meet the standards demands of Transport Canada and Nav Canada and secure funding.

“Going with Solis technology is a no-brainer. Their design flexibility gave us the ability to easily meet power demands, while their proven reliability, and broad range of international standards compliance, gave us confidence in a safe, long-term performance. Plus, Solis' standard compliance with the ability to withstand harsh weather environments makes them the perfect candidate to positively impact First Nation communities in Canada. We look forward to choosing Solis again in the future.”

—— Michael Wrinch, Hedgehog Technologies

### Community Benefits: A More Resilient Land for All

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For the beginning, the project respected Haida cultural events and traditions, with flexible schedules during significant community activities like totem pole raisings and funerals, enhancing community ownership and integration.

The Haida First Nation people of the region are now able to reduce their reduction on diesel fuel costs by 10% (600,000) liters, annually. The system is set to help save the community and provide ROI in just 10 years.

### Other benefits include:

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- Opportunities for skills training & increasing local jobs
- Fewer greenhouse gas emissions & pollution
- Increased farming possibilities & food sovereignty
- The ability to produce near-net power

Moreover, because, the system is expandable, the community plans on going 100% renewable in the next few years, which will lead to complete energy independence for the Haida Nation. The solar array fosters economic growth, provides ongoing employment opportunities, and positions the Haida Nation for future energy expansion (up to 4 MW), promoting economic resilience and environmental stewardship.

### System Overview

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- Ontario, Canada
- 2.3 MW
- Solis Inverters



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