



## Model 5100 TEGs offer continuous, reliable and uninterrupted power delivery



### The Challenge

Black Swan Energy required remote power for off-grid multi-well pad applications, approximately 150 kilometers Northwest of Fort St. John, British Columbia.

The site is equipped with photovoltaic (PV) solar panels proving difficult to maintain a continuous flow of uninterrupted power, due to the location and available daily sunlight. Solar global horizontal irradiance data from NASA shows the area receives almost six hours of full sun daily during the summer months, but less than one hour of sun daily during winter months. In addition to lack of sunlight, maintenance crews were tasked with clearing snow from PV panels on a regular basis.

A solar-only system would require six times the amount of solar panels during the winter season, to supply the same amount of power created during the summer season.

### The Solution

With Natural Gas readily available on site, two 100W thermoelectric generators (TEG Model 5100s) were installed at 13 sites becoming the primary source of power for the well pad with the PV array supplying a small charge to a battery bank.

TEGs offer a solid-state design ensuring trouble-free, reliable and unattended operation. Even during extreme weather events, power is dependably delivered where needed for Black Swan site operations.

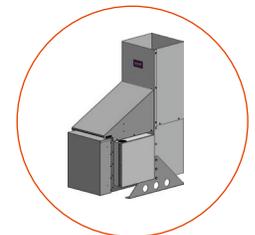
The Model 5100 TEGs power all electrical loads at the Black Swan multi-well facilities, including:

⚡ Radio

⚡ RTU

⚡ Instrumentation

⚡ Solenoids



“TEGs have been supplying uninterrupted power without any downtime since install. Reliability has never been an issue, setup is quick and efficient and the TEGs are easy to maintain.”

Ryan Belanger, Livewire Automation



**Product Summary**  
Model 5100 TEG



**Market**  
Upstream, well pad



**Location**  
150 km NW, Fort St, John  
British Columbia, Canada

*“A pure solar design wasn’t feasible as the remote location makes site access difficult and downtime is costly”.*

Bryan Lang, Black Swan Energy