



NIRB Application for Screening #126496

Hilamiut: Wind and Solar Resource Assessment Project - Kugaaruk

Application Type: New

Project Type: Scientific Research

Application Date: Thursday, September 17, 2026

Period of operation: from 2026-10-01 to 2028-10-01

Project Proponent: Tom Rutherford
Aurora Energy Solutions
47 Natic Street P.O. Box 2343
Cambridge Bay Nunavut X0B 0C0
Nunavut
Phone Number:: (867) 391-1206, Fax Number::

Total Person days: 38

Operations Phase: from 2026-09-15 to 2026-09-30

Operations Phase: from 2026-10-01 to 2028-10-01

Closure Phase: from 2028-10-01 to 2028-10-31

Post-Closure Phase: from to

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Project Site	Equipment installation	Municipal	The site is within the municipal boundaries and currently unused. Discussions with Hamlet staff did not identify any previous land use.	N/A	Project is located approximately 8 km away from the Hamlet of Kugaaruk and 7 km from the airport

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Kugaarjuk	Matt O'Halloran	Hamlet of Kugaaruk	2026-08-19
Kugaarjuk	Community wide engagement	Hamlet of Kugaaruk	2025-11-25
Kugaarjuk	Pauli Illuitok	Hamlet of Kugaaruk	2024-05-29

Authorizations

Indicate the areas in which the project is located:

Kitikmeot

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Other	Hamlet Land Use Approval	Applied, Decision Pending		
Nunavut Research Institute	Research license from NRI	Not Yet Applied		

Project transportation types

Transportation Type	Proposed Use	Length of Use
Air	Flight for 2 staff to Kugaaruk to install the equipment	
Land	Pick-up truck for transportation to the site during equipment installation. Use of ATV/truck/snowmobile for operation and maintenance.	

Project accomodation types

Community

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
LiDAR Unit	1	0.9 m × 0.9 m	Light Detection and Ranging system to collect high-quality wind resource data for renewable energy planning. The system uses a Class 1 eye-safe laser to remotely measure wind speed and direction at multiple heights ranging from approximately 10 metres to 300 metres above ground level.
Solar Panels	6	2.4x1.1 m	Solar photovoltaic (PV) panels will form part of the power supply system for the monitoring station.
Micro Wind Turbine	4	2 m	The micro wind turbines will form part of the power supply system for the monitoring station.
Sea Containers	2	20 feet	Two temporary sea containers will be installed on site to house electrical and communications equipment and the power supply systems
Galvanized steel platform	1	1 m high	Support for LiDAR equipment

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Other	fuel	10	60	600	Liters	Methanol fuel cells
Gasoline	fuel	1	60	60	Liters	Snowmobile/ATV/Truck to and from site

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0	No water required	No water required

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Researching	Other, General waste	10 empty fuel cartridges	Disposed of like regular plastic	None
Equipment installation	Other, General Construction waste	Negligible	Waste will be disposed of in a manner that complies with local regulatory guidelines.	All temporary infrastructure will be removed at the end of the project

Environmental Impacts:

The temporary project footprint is approximately 45 m × 35 m. Construction and operation activities are expected to result in only minor, temporary ground disturbance. No water withdrawals are required. No wastewater will be generated. The project has been intentionally located away from community drinking water sources. Construction noise will be temporary and limited to installation activities. Operational noise from the micro wind turbines is expected to be minimal. The turbine design includes vibration-dampening features within the tail assembly to prevent tail vibration, which is a common source of noise in small wind turbines, thus minimizing potential acoustic effects on the surrounding environment. The project will utilize a methanol fuel cell with approximately 600 litres of fuel stored on site in sealed manufacturer-approved cartridges. Cartridges will be stored within a secondary containment system. Fuel handling procedures will follow the project Spill Prevention and Response Plan. The project will generate very little waste during operations. Construction waste will be removed from the site and disposed of at approved facilities. All temporary infrastructure will be removed at the end of the project. Empty fuel cartridges will be disposed of like regular plastic.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

Description of Existing Environment: Physical Environment

Flat, rocky ground; away from water sources; broadly supported by stakeholders and community at large.

Description of Existing Environment: Biological Environment

No significant wildlife, harvesting or known archaeological conflicts were identified for the site during the 2025 engagement

Description of Existing Environment: Socio-economic Environment

Site is located within municipal boundaries and has a small footprint. Several individuals have been identified in the community to support with routine operation and maintenance activity.

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

Community feedback directly influenced the final site selection. The selected site avoids important drinking water sources, provides year-round access, minimizes interference with community activities, and is located outside known harvesting, archaeological, and culturally significant areas.

Cumulative Effects

None expected

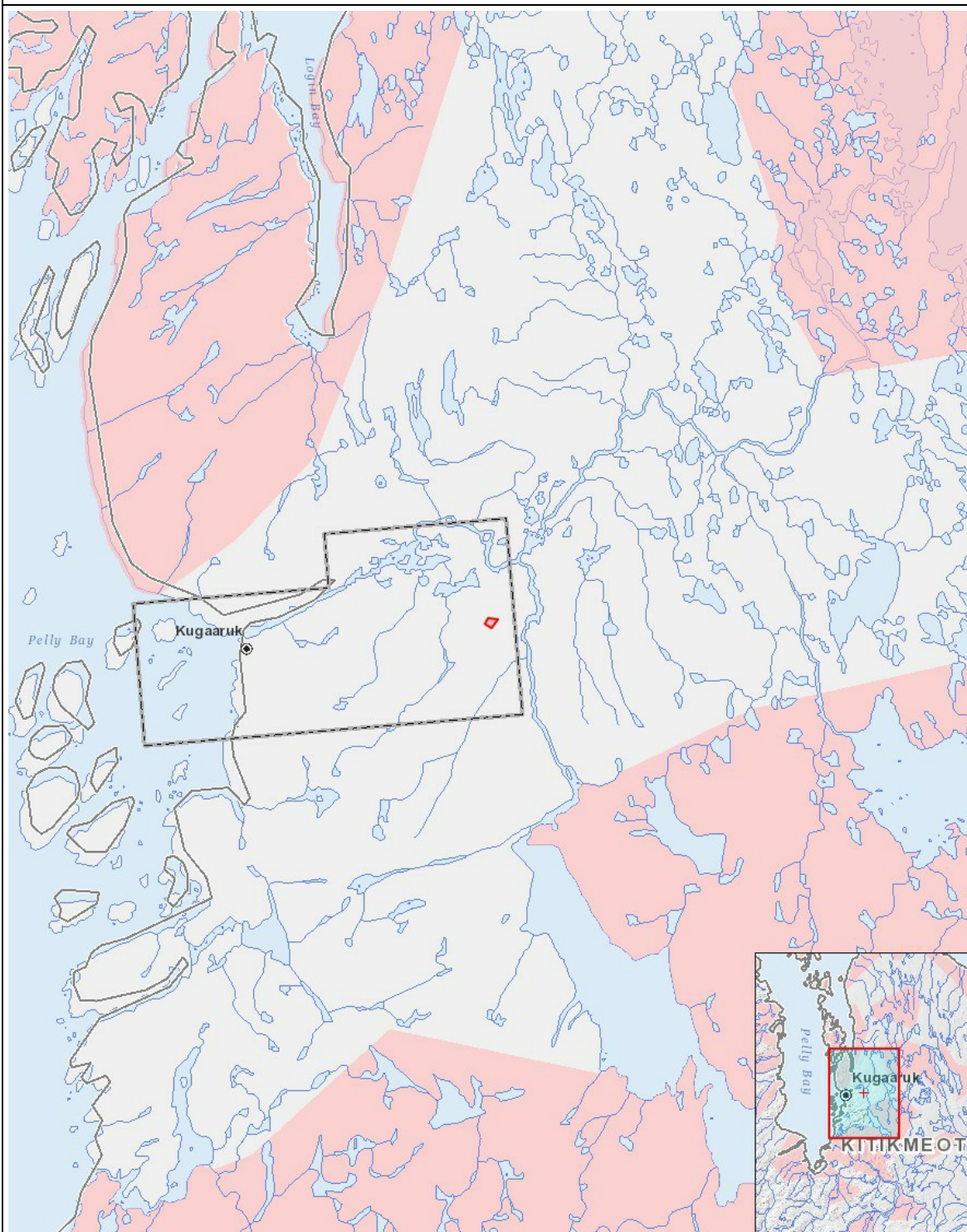
Impacts

Identification of Environmental Impacts

	PHYSICAL																								BIOLOGICAL										SOCIO-ECONOMIC									
	Designated environmental areas																								Vegetation										Human health									
	Ground stability																								Wildlife, including habitat and migration patterns										Community infrastructure									
	Permafrost																								Birds, including habitat and migration patterns										Human health									
	Hydrology / Limnology																								Aquatic species, incl. habitat and migration/spawning										Human health									
	Water quality																								Wildlife protected areas										Human health									
	Climate conditions																								Wildlife, including habitat and migration patterns										Human health									
	Eskers and other unique or fragile landscapes																								Wildlife, including habitat and migration patterns										Human health									
	Surface and bedrock geology																								Wildlife, including habitat and migration patterns										Human health									
	Sediment and soil quality																								Wildlife, including habitat and migration patterns										Human health									
	Tidal processes and bathymetry																								Wildlife, including habitat and migration patterns										Human health									
	Air quality																								Wildlife, including habitat and migration patterns										Human health									
	Noise levels																								Wildlife, including habitat and migration patterns										Human health									
	Vegetation																								Wildlife, including habitat and migration patterns										Human health									
	Wildlife, including habitat and migration patterns																								Wildlife, including habitat and migration patterns										Human health									
	Birds, including habitat and migration patterns																								Wildlife, including habitat and migration patterns										Human health									
	Aquatic species, incl. habitat and migration/spawning																								Wildlife, including habitat and migration patterns										Human health									
	Wildlife protected areas																								Wildlife, including habitat and migration patterns										Human health									
	SOCIO-ECONOMIC																								Wildlife, including habitat and migration patterns										Human health									
	Archaeological and cultural historic sites																								Wildlife, including habitat and migration patterns										Human health									
	Employment																								Wildlife, including habitat and migration patterns										Human health									
	Community wellness																								Wildlife, including habitat and migration patterns										Human health									
	Community infrastructure																								Wildlife, including habitat and migration patterns										Human health									
	Human health																								Wildlife, including habitat and migration patterns										Human health									
Construction																																												
Equipment installation		-	-	-	-	-	-	-	M	-	-	-	M		M	-	-	-	-		-	P	-	P	-																			
Operation																																												
Equipment installation		-	-	-	-	-	-	-	-	-	-	-	M		-	-	-	-	-		-	P	-	P	-																			
Decommissioning																																												
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-																			

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polygon	Project Site
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