NIRB Application for Screening #126496

Hilamiut: Wind and Solar Resource Assessment Project - Kugaaruk

Application Type: New

Project Type: Scientific Research

Application Date: Monday, September 14, 2026

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

Project Proponent:

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

DETAILS

Non-technical project proposal description

English: The Kitikmeot Wind and Solar Resource Assessment Project (Hilamiut) is a regional initiative designed to accelerate the development of community-scale renewable energy projects in Kugluktuk, Cambridge Bay, Gjoa Haven, and Kugaaruk. The project will collect bankable-quality wind and solar resource data and support Inuit-led renewable energy development.This application relates specifically to the first phase of the project in Kugaaruk. It consists of the installation and operation of temporary wind resource measurement equipment from October 2026 to October 2028. The project is a scientific research and resource assessment initiative only; no permanent renewable energy infrastructure is proposed.The temporary monitoring station will be located at an unused site within Kugaaruk municipal boundaries and will have a footprint of approximately 45 metres by 35 metres. It will include a ground-based LiDAR system, two sea containers housing monitoring equipment and power systems, six solar photovoltaic panels, four micro wind turbines, a methanol fuel cell system, a lead-acid battery system, communications equipment, temporary anchoring systems, and associated cabling.Construction is planned for September 2026 and will use existing access routes to minimize disturbance. During operation, the station will function autonomously and require periodic inspections and maintenance by a trained local technician.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.Construction and operation are expected to result in only minor, temporary ground disturbance. No water withdrawals are required, and no wastewater will be generated. At the end of the measurement campaign, all temporary infrastructure and waste materials will be removed, disturbed areas will be stabilized, and the site will be restored as closely as practical to its pre-project condition.

French: N/A

Inuktitut: ᑖᓐᓇ ᕿᑎᖅᒥᐅᑦ ᐊᓄᕆ ᐊᒻᒪ ᓯᕿᓂᖅᒧᑦ ᐱᖃᕐᓂᖅ ᖃᐅᔨᓴᖅᓂᖓ ᐱᓕᕆᐊᖅ (ᓯᓚᒥᐅᑦ) ᑖᓐᓇ ᓄᓇᓕᑦ ᐊᕕᒃᓯᒪᓂᖓᓂ ᐱᒋᐊᕈᑦ ᓴᓇᑦᔪᓯᒃᓴᓕᐊᖅ ᐱᔭᕋᑭᑦᓂᖓᓄᑦ ᐱᕙᓕᐊᑎᑦᓂᑦ ᓄᓇᓕᒃᓂ-ᐊᖏᑎᒋᔪᖅ ᐊᑐᒃᑲᓐᓂᕈᖕᓇᖅᑐᑦ ᐃᑯᒪᓕᐅᕈᑎᑦ ᐱᓕᕆᐊᖑᔪᑦ ᑕᒪᑯᓇᓂ ᖁᕐᓗᖅᑐᖅ, ᐃᖃᓗᒃᑐᑦᑎᐊᖅ, ᐅᖅᓱᖅᑑᖅ, ᐊᒻᒪ ᑰᒑᕈᒃ. ᑖᓐᓇ ᐱᓕᕆᐊᖅ ᑲᑎᑎᕆᓂᐊᖅ ᐊᑐᖅᑕᐅᑦᑎᐊᕈᓐᓇᖅᑐᓂᒃ ᐊᓄᕆ ᐊᒻᒪ ᓯᕿᓂᖅ ᐱᖃᖅᓂᑦ ᑐᓴᒃᓴᑦ ᐊᒻᒪ ᐃᑲᔪᖅᓂᖏ ᐃᓄᐃᑦ-ᓯᕗᓕᖅᓂᑦ ᐊᑐᑦᕿᒃᑕᕈᓐᓇᖅᑐᑦ ᐃᑯᒪᑦ ᐱᕙᓕᐊᓂᑦ.ᐅᓇ ᑐᒃᓯᕋᐅᑦ ᑐᕋᖓᔪᖅ ᑕᐃᓯᒪᔪᒧᑦ ᓯᕗᓪᓕᖅ ᑐᒃᓕᕆᒃᓂᑦ ᐱᓕᕆᐊᖑᔪᒧᑦ ᑕᒡᕙᓂ ᑰᒑᕈᒃᒥ. ᑖᓐᓇ ᐃᓚᓕᒃ ᐃᓕᐅᖃᖅᓂᖏ ᐊᒻᒪ ᐊᐅᓚᓂᖏ ᐊᑐᒃᑲᐃᓇᖅᑐᑦ ᐊᓄᕆ ᐱᖃᖅᓂᖅ ᐆᒃᑐᕋᖅᓂᑦ ᓴᓇᓪᔨᑎᑦ ᑕᒡᕙᖓ ᐋᒃᑑᐱᕆ 2026 ᑕᒡᑐᖓ ᐋᒃᑑᐱᕆ 2028. ᑖᓐᓇ ᐱᓕᕆᐊᖅ ᖃᐅᔨᓴᐅᑦ ᖃᐅᔨᓴᐃᓂᖅ ᐊᒻᒪ ᐱᖃᖅᓂᑦ ᓇᓗᓇᐃᖅᑐᖅᓂᑦ ᐱᒋᐊᕈᑦ ᑭᓯᐊᓂᒃ; ᐊᑐᐃᓇᖏᑦᑐᖅ ᐊᑐᑦᕿᒃᑕᖅᓂᑦ ᐃᑯᒪᑦ ᐱᓕᕆᑦᔪᑎᑦ ᐆᒃᑐᑕᐅᔪᖅ.ᑖᓐᓇ ᐊᑐᑲᐃᓇᖅᓂᖅ ᒥᐊᓂᖅᓯᕕᒃ ᐃᓂᖃᖅᓂᐊᖅ ᐊᒻᒪ ᐊᑐᖅᓯᒪᖏᑦᓂᖅ ᐊᑐᖅᓯᒪᖏᑦᑐᒥ ᐃᓂᖓ ᐃᓗᐊᓂ ᑰᒑᕈᒃ ᓄᓇᓕᖓᑭᒃᓕᖏ ᑐᑉᓕᕋᖅᓂᐊᑦ ᒥᒃᓵᓂ 45 ᒦᑕᑦ ᑕᒃᑯᖓ 35 ᒦᑕᑦ. ᐃᓚᖃᖅᓂᐊᖅ ᓄᓇᒥᑦᓂᖓ LiDAR (ᖃᐅᒪᓂᖅ ᓇᓗᓇᐃᖅᑐᑦ ᐊᒻᒪ ᑎᑭᑦᑐᙵᖅᓂᖓ) ᐱᓕᕆᑦᔪᑦ, ᒪᕐᕈᒃ ᑕᕆᐅᖅᒥ ᐳᕆᔭᐅᔪᑦ ᐃᒡᓗᖏ ᒥᐊᓂᖅᓯᑦᔪᑎᑦ ᓴᓇᕐᕈᑎᑦ ᐊᒻᒪ ᐃᑯᓯᑦ ᐱᓕᕆᑦᔪᑎᑦ, ᐊᖅᕕᓂᓕᑦ ᓯᕿᓂᖅᒧᑦ ᓱᐊᖓᒃᓴᐅᑎᑦ ᑐᓐᖓᕙᑦ, ᓯᑕᒪᑦ ᒥᑭᔪᑦ ᐊᓄᕆᒧᑦ ᑲᐃᕙᑦᔪᑎᑦ, ᑖᓐᓇ ᐃᒃᑮᓴᑎᑦ ᐅᖅᓱᖅᕙᑦ ᐱᓕᕆᑦᔪᑎᑦ, ᑖᓐᓇ ᓕᐊᑦ-ᐃᒪᖅᑕᖓ ᐋᑐᓕᑦ ᐱᓕᕆᑦᔪᑎᑦ, ᑐᓴᐅᒪᑦᔪᑎᑦ ᓴᓇᕐᕈᑎᑦ, ᐊᑐᒃᑲᐃᓇᖅᑐᖅ ᑭᓴᖅᓯᒪᑦᔪᑦ ᐱᓕᕆᑦᔪᑦᑎᑦ, ᐊᒻᒪ ᐱᖃᑕᐃ ᐊᕐᕕᔭᐃᑦ.ᓴᓇᓂᖓ ᐸᕐᓇᒃᑕᐅᔪᖅ ᑕᒡᕙᖓ ᓯᑎᐱᕆ 2026 ᐊᒻᒪ ᐊᑐᖅᓂᐊᖅᑕᖏ ᒫᓇ ᑎᑭᑦᑕᖅᓂᖏ ᐊᐅᓚᕆᐊᑦ ᒥᒃᓯᓯᒪᓇᓱᒃᓱᒋᑦ ᐅᓚᐱᓴᖅᓂᖏ. ᐊᑐᖅᑎᑦᓗᒍ ᐊᐅᓚᓂᖓ, ᑖᓐᓇ ᓴᓇᕕᒃ ᐊᓯᖅᖏᑦᓗᓂ ᐊᒻᒪ ᐱᔭᕆᐊᓕᒃ ᖁᑎᒃᑯᑦ ᖃᐅᔨᓴᖅᓂᖓ ᐊᒻᒪ ᐋᕿᐅᒪᓂᖓ ᐃᓕᓴᖅᓯᒪᔪᒥᑦ ᐱᑦᑯᓯᓕᕆᔨᒥᑦ.ᓄᓇᓕᒃᓂ ᐅᖃᐅᓯᖏ ᑐᕋᓪᓚᕆᒃᑖᑦ ᖃᓄᕆᑎᑕᖏ ᑭᖑᓪᓕᖅ ᓴᓇᕕᒃ ᑎᒃᑯᐊᖅᑕᐅᓂᖅ. ᑖᓐᓇ ᑎᒃᑯᐊᖅᑕᐅᓂᖓ ᓴᓇᕕᒃ ᐱᑦᑕᐃᓕᑕᐅᔪᖅ ᐊᑐᒪᕆᒃᑐᓄᑦ ᐃᒥᒐᐅᔪᖕᓇᖅᑐᑦ ᐃᒪᖃᖅᓂᖏᑦ, ᐱᖃᖅᑎᑕᖓ ᐊᕋᒍᒧᑦ ᑎᑭᑦᑕᖅᓂᖓ, ᒥᒃᓯᒋᐊᖅᓯᒪᓂᖏ ᐅᓚᐱᓴᖅᓂᖏ ᓄᓇᓕᒃᓄᑦ ᐱᓕᕆᐊᖏᑦ, ᐊᒻᒪ ᐃᓂᖓ ᓯᓚᑎᖓᓂ ᖃᐅᔨᒪᔭᐅᔪᑦ ᐊᖑᓇᓱᒃᕕᑦ, ᐃᓂᑐᖅᓕᑐᖃᑦ, ᐊᒻᒪ ᐃᓕᑦᖁᓯᓕᖁᑎᓄᑦ ᐊᖏᔪᒥᒃ ᐃᓂᖏᑦ.ᓴᓇᓂᖓ ᐊᒻᒪ ᐊᐅᓚᑕᐅᓂᖓ ᓂᕆᐅᒋᔭᐅᔪᑦ ᐱᑦᔪᑕᐅᓂᑦ ᑭᓯᐊᓂᒃ ᒥᑭᔪᒥᒃ, ᐊᑐᒃᑲᐃᓇᖅᑐᒃᓴᑦ ᒪᓂᖃᒥ ᐅᓚᐱᓴᖅᓂᑦ. ᐃᒥᖅᑕᖅᓂᖅ ᐊᑐᕆᐊᖃᖏᑦᑐᖅ, ᐱᑕᖃᖏᑦᑐᖅ ᐊᒃᑕᑯᑦ ᐃᒪᐃᑦ ᐊᒃᑕᑯᓕᐅᖅᓂᐊᖏᑦᑐᑦ. ᐃᓱᖓᓂ ᑖᓐᓇ ᐆᒃᑐᕋᐃᓂᖅ ᐱᓇᓱᒃᓂᖏ, ᑕᒪᐃᑕ ᐊᑐᒃᑲᐃᓇᖅᑐᑦ ᐱᓕᕆᑦᔪᑎᑦ ᐊᒻᒪ ᐊᒃᑕᑯᑦ ᓱᓇᑦ ᐊᓯᕙᖅᑕᐅᓂᐊᑦ, ᐅᓚᐱᓴᖅᓂᖏ ᐃᓂᖏ ᓱᓂᐊᓚᖏᑦᑐᑦ, ᐊᒻᒪ ᓴᓇᕕᒃ ᐅᑎᖅᑎᑕᐅᓂᐊᖅ ᐅᒥᒃᑎᖅᓂᖓᓂ ᐱᑦᑎᐊᕋ)ᒃᓗᒍ ᓯᕗᐊᓂ ᐱᓕᕆᐊᖅ ᐃᓕᖁᓯᕋᓗᐊᖓᑎᑦ.

Inuinnaqtun: N/A

Personnel

Personnel on site: 1

Days on site: 38

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		

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
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
Researching	Other, General waste	10 empty fuel cartridges	Disposed of like regular plastic	None

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