



# **ᓄᓇᓂᓯ ᐃᓇᑎᓕᓴᓐᓂᓄᓐ ᑲᑎᓴᓐᓯᓕᑎᑭᓐ ᐅᓐᓯᓐᓂᓄᓐ ᓯᓯᓐᓴᓴᓐᓴᓐ #126496**

## **Hilamiut: Wind and Solar Resource Assessment Project - Kugaaruk**

|                                   |                                                                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ᐅᓐᓯᓐᓂᓄᓐᓴᓐᓴᓐ<br/>ᓐᓴᓄᐃᓐᓂᓐᓴᓐ:</b> | New                                                                                                                                                        |
| <b>ᐱᓕᓴᓐᓴᓴᓐᓴᓐᓴᓐ<br/>ᓐᓴᓄᐃᓐᓂᓐᓴᓐ:</b> | Scientific Research                                                                                                                                        |
| <b>ᐅᓐᓴᓐ<br/>ᐅᓐᓯᓐᓂᓄᓐᓴᓐᓴᓐ:</b>      | Thursday, September 17, 2026                                                                                                                               |
| <b>Period of operation:</b>       | from 2026-10-01 to 2028-10-01                                                                                                                              |
| <b>ᐱᓕᓴᓐᓴᓴᓐᓴᓐᓴᓐ:</b>               | Tom Rutherford<br>Aurora Energy Solutions<br>47 Natic Street P.O. Box 2343<br>Cambridge Bay Nunavut X0B 0C0<br>Nunavut<br>ᐅᓐᓴᓐᓴᓐᓴᓐ: (867) 391-1206, ᓴᓴᓐᓴᓐ: |

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ᖃᓪᓗᓴᓂᓐᓂᓐ: The Kitikmeot Wind and Solar Resource Assessment Project (Hilamiit) 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.

▷ ΔΑΝΩΣ: N/A

[illegible]

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

Λ Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Σ Τ Υ Φ Χ Ψ Ω

[illegible][illegible]

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|--------------|---------------------------|--------------------|-----------------------------|
| djᖅᗩᖅ        | Matt O’Halloran           | Hamlet of Kugaaruk | 2026-08-19                  |
| djᖅᗩᖅ        | Community wide engagement | Hamlet of Kugaaruk | 2025-11-25                  |
| djᖅᗩᖅ        | Pauli Illuitok            | Hamlet of Kugaaruk | 2024-05-29                  |

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[illegible][illegible]

$\Delta L^{\zeta_b} \triangleleft \zeta_b \triangleright \dot{L}^{\zeta_b} \zeta_b$

| ᐅᓪᓂ ᐱᐱᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ | ᐅᓪᓂ ᐱᐱᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ | ᐱᐅᓪᓂ ᐱᐱᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ ᐱᐅᓪᓂ |
|-------------------------|-------------------------|--------------------------|
| 0                       | No water required       | No water required        |

$$\Delta^b C d \zeta \rho \Delta^c \sigma^{\zeta b}$$

$\triangleleft \triangleleft \nabla \triangleright C \dot{\sigma}^C \tau^C \triangleleft^b \tau^{\zeta^b} C \triangleright \gamma L \zeta^C$

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

[illegible]

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

[illegible]

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

[illegible]

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

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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

$\mathbb{A}^b \mathbb{C} \triangleright \sigma^a \tau^c \triangleleft \mathbb{B} \Gamma \triangleright \mathbb{C} \dot{\sigma}^c \mathbb{D}^c \triangleleft \mathbb{D}^b \mathbb{C} \triangleright \gamma \mathbb{L} \gamma^c$

| 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                                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

$$(P = \langle b \rangle \dot{a} p n \dot{a} \dot{a}^c, N = \langle b \rangle \dot{a} n \dot{a} \dot{a}^c \langle \dot{a} \dot{a} n \dot{a} \dot{a}^c \rangle \dot{a} \dot{a}^c, M = \langle b \rangle \dot{a} n \dot{a} \dot{a}^c \langle \dot{a} \dot{a} n \dot{a} \dot{a}^c \rangle \dot{a} \dot{a}^c, U = \dot{a} \dot{a} \dot{a} \dot{a}^c \dot{a} \dot{a}^c)$$

|   |         |              |
|---|---------|--------------|
| 1 | polygon | Project Site |
|---|---------|--------------|