



# **Hamlet of Baker Lake Community Energy Plan**

*Vision, Goals, and Implementation*

April 1, 2024



## Executive Summary

In 2023, the Hamlet of Baker Lake initiated the development of a Community Energy Plan with support from Natural Resources Canada's Indigenous Off-Diesel Initiative. The document provides an in-depth look at the community's history, geography, climate, and renewable energy potential. It analyzes the community's current energy consumption and forecasts future energy demand. The document also conveys the community's goal of developing an integrated network of community-owned renewable energy infrastructure systems. The document establishes a phased strategic action plan for developing progressively more complex clean energy projects to achieve this.

The assessment of Baker Lake's renewable energy potential reveals a strong solar, wind, and hydroelectric power capacity to support sustainable energy projects. In-depth analysis highlights the region's consistent solar exposure during the summer, steady wind patterns throughout the year, and reliable water flows, forming a robust foundation for renewable energy initiatives. This groundwork facilitates the shift towards a more sustainable energy mix. It aligns with strategic goals to reduce fossil fuel dependency, emphasizing the practical and strategic importance of leveraging local natural resources for clean energy production.

Given the municipality's limited budget for clean energy projects, realizing renewable energy projects in Baker Lake hinges on securing financial support from federal and territorial governments. The municipality plans to pursue federal funding to create a Climate Action Coordinator role within the community to navigate these financial constraints. This position will be responsible for undertaking tasks such as leading community-wide energy education campaigns and developing funding proposals for clean energy projects. This work will adhere to the goals identified in the community energy plan.

Community members were advised of their right to free, prior, and informed consent as enshrined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), of which Canada is a party, and which empowers Indigenous Peoples to give or withhold consent for projects that affect their lands, territories, and resources. Community members immediately expressed their right to self-determination in a Just Transition. Members stressed honouring Inuit societal values, ensuring responsible environmental stewardship, and generating local economic development and employment opportunities through direct community ownership of renewable energy infrastructure. Accordingly, the following vision statement was developed to enshrine the community's vision in perpetuity:

*"Baker Lake will actively develop its clean energy resources while adhering to the community's vision of honouring Inuit Societal Values, ensuring responsible stewardship of the environment, and enhancing local economic development and job creation through direct community ownership of renewable energy infrastructure."*



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## 1. Preface

### 1.1 Background

To facilitate a transition to a sustainable energy future, the federal government launched a \$20 million initiative in 2019 to reduce the dependency on diesel fuel in remote Indigenous communities. This initiative, known as the Indigenous Off-Diesel Initiative (IODI), is spearheaded by Natural Resources Canada, and was developed in collaboration with Indigenous Clean Energy (ICE) and the Pembina Institute. Its primary goal is to support rural and remote Indigenous communities across Canada in transitioning from diesel to renewable energy and energy-efficient solutions, promoting sustainability, reducing greenhouse gas emissions, and enhancing energy security and independence for these communities.

The IODI forms part of a broader federal commitment to assist Indigenous communities in their clean energy transitions, emphasizing the need for financial assistance, technical guidance, and capacity-building measures. These efforts are designed to empower communities to develop and implement their clean energy projects, aligning with their environmental values and cultural practices. This initiative encourages Indigenous communities to create sustainable, self-reliant energy systems.

In 2022, the Hamlet of Baker Lake, with support from the IODI, initiated the development of a Community Energy Plan. This plan aims to identify a pathway towards energy sovereignty, reduce environmental impact, and support local economic development through direct ownership of renewable energy infrastructure. These objectives were identified through an extensive community consultation process wherein community members and stakeholder groups were offered many opportunities to discuss their vision for their clean energy future.

### 1.2 Community Energy Plans

A Community Energy Plan (CEP) is a planning document that supports a community in establishing long-term strategic clean energy priorities. These priorities are established through extensive consultation and collaboration with community members and stakeholder groups and represent the direction the community has decided to take to achieve its clean energy vision. One significant benefit of producing a CEP is that it is uncoupled from local politics. It ensures that the community's clean energy vision remains consistent even during changes in local government.

The community's energy landscape is analyzed to explore how energy is produced and utilized. This analysis also determines what actions can be taken to improve how it generates, distributes, stores, conserves, and evolves its energy resources over time. A strategic plan is developed to identify clean energy projects that can positively affect a community's environmental impact, improve health and wellness, create economic opportunities and jobs, support energy sovereignty and security, etc.



### **1.3 Inuit Qaujimajatuqangit and Inuit Societal Values**

Inuit Qaujimajatuqangit, or Inuit traditional knowledge, is a body of accumulated knowledge of the environment and our interrelationship with the elements, animals, people, and family. It is an ideology that forms the backbone of Inuit society and is captured in the following Inuit Societal Values:

**Inuuqatigiitsiarniq:** Respecting others, relationships, and caring for people.

**Tunnganarniq:** Fostering good spirit by being open, welcoming, and inclusive.

**Pijitsirniq:** Serving and providing for family and community.

**Aajiiqatigiinni:** Decision-making through discussion and consensus.

**Pijariuqsarniq:** Developing skills through observation, mentoring, practice, and effort.

**Ikajuqtigiinni:** Working together for a common cause.

**Qanuqtuurniq:** Being innovative and resourceful.

**Avatittinnik Kamatsiarniq:** Respect and care for the land, animals, and environment.

### **1.4 Intended Use and Assumptions**

The intended use of this document is to support the Hamlet of Baker Lake in accessing external funding to strategically develop its renewable energy resources through the development of community-owned clean energy infrastructure and projects.

This Hamlet of Baker Lake has committed to reviewing and updating this document every five years to ensure the community's vision is upheld and projects remain relevant to access funding resources.

Certain assumptions and conditions were established early in the development process as follows:

- All data was the most recent version provided by the Government of Nunavut (GN), or its subsidiaries.
- All heating, generation, and transportation assessments and projections were made using data provided by the Government of Nunavut, or its subsidiaries.
- All energy assumptions are made by directly converting raw energy from fuel sources into joules. Therefore, conversion losses are not considered in any capacity for this document, for example, losses present in energy generation through combustion.
- Heating data for buildings was only available for some government-owned assets and did not reflect the actual heating energy landscape of the community and was therefore excluded from the analysis.



## 2. Community Profile

### **2.1 Geography and Population**

Nestled within Nunavut's Kivalliq region, Baker Lake, known as Qamani'tuaq, translates to "Where the river widens" in Inuktitut, highlighting its unique geographical setting. The community is accessible by air throughout the year and by sea during brief summer periods. It is distinguished by its location at the mouth of the Thelon River, approximately 320 kilometres west of Hudson Bay. The lake itself is the basin for the Thelon River, and the Kazan River, two Canada heritage rivers. As Nunavut's sole inland community, it stands out not just for its geographic isolation but also for its unique cultural in-land culture.

The 2021 Canadian Census noted a slight dip in population to 2,061 from 2,069 in 2016, yet this minor change belies the community's vibrant social and cultural tapestry, home to eleven distinct Inuit groups. This melting pot of Inuit culture is further enriched by a dynamic local economy, abundant wildlife that includes caribou, muskox, wolves, and foxes, and a thriving arts scene, particularly noted for its Inuit artistry.

### **2.2 Ancestry**

Residents of Baker Lake can trace their lineage back to a handful of distinct Inuit groups that inhabited vast expanses between the Kivalliq and Kitikmeot regions of Nunavut prior to colonization. Today, residents of Baker Lake can trace their lineage back to groups such as the:

- Ahiarmiut: Groups from the Ennadai Lake and Back River area.
- Akilirmiut: Groups from the Akiliniq Hills and the Thelon River area.
- Hanningajurmiut: Groups from the Garry Lake area.
- Harvaqtuurmiut: Groups from the Kazan River area.
- Hauniqturmiut: Groups from Whale Cove, Sandy Point, and Arviat area.
- Illuilirmiut: Groups from the Adelaide Peninsula, Chantrey Inlet area.
- Kihlirmiut: Groups from the Bathurst Inlet to Cambridge Bay area.
- Natsilingmiut: Groups from the Taloyoak, Kugaaruk, and Repulse Bay area.
- Paallirmiut: Groups from the Baker Lake to Arviat area.
- Qairirmiut: Groups from the Chesterfield Inlet to Whale Cove area.
- Utkuhiksalingmiut: Groups from the Back River and Gjoa Haven area.



## **2.3 History**

In 1761, the lake on which the community is located was given its English name. William Christopher, a ship captain in the Hudson's Bay Company, named the lake after Sir William Baker, the 11th Governor of the Hudson's Bay Company. Throughout the 1800s, Inuit began increasingly interacting with European and American settlers as part of the whaling and fur trade.

In 1913, the Northwest Company relocated its original trading post from Uqpiktujuq to its current location by dog team and sled. The trading post served as a gathering point, with Anglican and Catholic missionaries entering the area in the early 1920s. The Royal Mounted Police, active in the area since the 1920s, established a permanent detachment in 1931. In 1957, a small hospital was built to serve the local population, quickly followed by the community's first school in 1958.

In the early 1970s, the community participated in a landmark indigenous rights court case when Baker Lake residents disputed companies' right to mine on their lands. The dispute served as a crucial legal case for Indigenous land rights in Canada and helped to set the stage for the negotiation of the Nunavut Land Claims Agreement. The court case also helped establish a baseline for companies' engagement with communities, Inuit organizations, and the territory.

In the early 2000s, the community approved constructing and commercial mining the territory's first goldmine. The Meadowbank gold mine, operated by Agnico Eagle Mines, opened in 2011 and has contributed to the community's continued growth. Baker Lake is rich in culture, arts, wildlife, and mineral resources today.

## **2.4 Local Economy**

Local economic activity is derived primarily from government services and mining. However, construction, traditional harvesting, tourism, and arts contribute to a sizable portion of the local economy.

The territorial government is a significant source of employment within the community. It employs residents across various regional offices, schools, and the territory's utility, headquartered in the community. The Hamlet of Baker Lake is also a significant employer as it provides critical municipal services to residents.

The Meadowbank Gold Mine, operated by Agnico Eagle, is the largest private employer in the community. It began commercial production in 2010 and has been an essential source of employment for residents. The mine employs Inuit from across the territory and provides training opportunities to residents to progress into professional or trade-based careers.





## **2.5 Buildings and Housing**

The most common types of structures in the community are public housing units. These units are owned by the Government of Nunavut (GN) and overseen through the Nunavut Housing Corporation (NHC). The NHC mandate is to create, coordinate, and administer housing programs to provide fair access to affordable housing options to families and individuals in Nunavut. The NHC partners with the Local Housing Authority (LHA) to support administration, finance, program delivery, and maintenance.

According to the 2021 census, there are 661 private dwellings in Baker Lake, with approximately 87% being identified as residential, 4% being recognized as commercial or institutional, and 65 10% being unspecified buildings. Most buildings in the community are between 30 and 50 years old and are in critical need of repair. There is currently a focused effort to construct new buildings as part of Nunavut 3000, which is a territorial commitment to build 3000 various housing units across the territory, of which 176 are allocated for Baker Lake.

Most new construction is focused on building governmental office space and public housing developments, with most residential buildings being public housing units managed by the NHC and LHA. The most common types of residential buildings are single-detached and row-housing, with more current trends focusing on row-housing and apartment-style construction to accommodate more families economically.

All structures in Nunavut are constructed to meet the National Building Code of Canada. Under Canada's constitution, provinces and territories can regulate new construction and safety systems in existing buildings. While national codes (Building, Fire, Plumbing, and Energy Codes) are prepared centrally under the Canadian Commission on Building and Fire Codes, adoption and enforcement are the responsibility of the provincial and territorial authorities having jurisdiction.

Nunavut has yet to adapt the National Building Code to meet its unique environmental requirements. Consequently, new construction projects are required to adhere to the national building code, which may be as effectively for addressing the exceptional geographic and climatic circumstances of operating in an arctic environment. The territorial government has made efforts to produce a set of guidelines and recommendations for higher-performance construction. There are some energy efficient developments within the territory, however, most construction projects do not meet high performance energy standards.



## 2.6 Local Government and Services

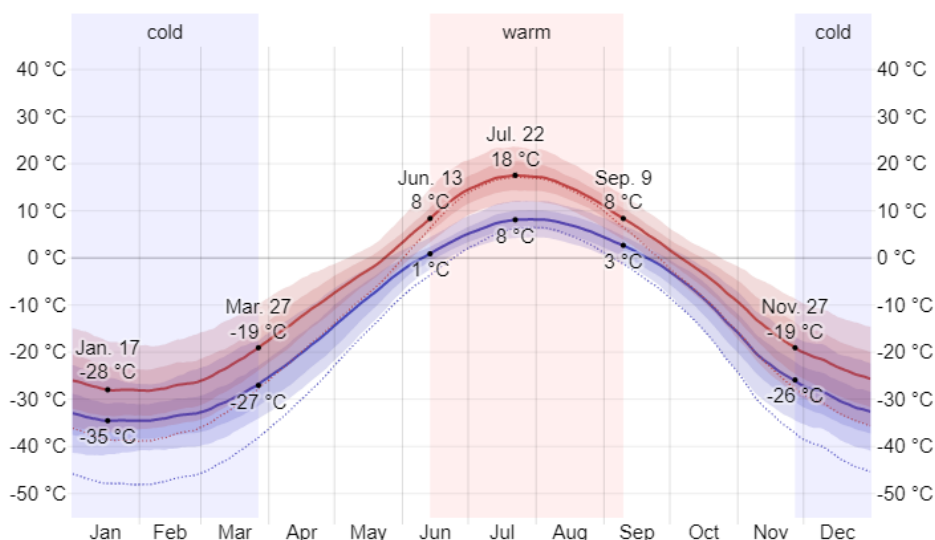
In 1977, the community of Baker Lake was incorporated as a hamlet. It is considered by the territory to be a municipality and has the right to self-government within the laws of Nunavut. Municipalities are responsible for providing services that would best be managed locally, such as water delivery, waste management, by-law enforcement, recreation programming, etc. These activities are organized into functional portfolios and are overseen by the hamlet council via a robust committee system. The municipality is funded primarily through territorial allotments. However, it generates a portion of its revenue through service fees for water delivery and waste disposal and the collection of property tax.

The strategic direction of the municipality is determined by its mayor and town council. In addition to their regular duties, town councillors oversee portfolios related to areas of importance within the municipality, such as finance, recreation, wellness, elders, and youth. The daily operation of the municipality is overseen by its Senior Administrative Officer (SAO) and accompanying administrative group, who are responsible for ensuring that the municipality and its functional divisions are managed effectively.

## 2.7 Climate

In general, temperatures fluctuate between season peaks of -35 °C to eighteen °C. The summer season lasts for approximately three months, from early June to early September, with an average daily elevated temperature above 8 °C. The hottest month is July, with an average high of 17 °C. Shoulder seasons see cooler temperatures with increased cloud and sporadic precipitation being typical. Winters are long, frigid, snowy, and windy, with the community being well known for its intense, prolonged blizzard events.

Average High and Low Temperature (2014-2023)





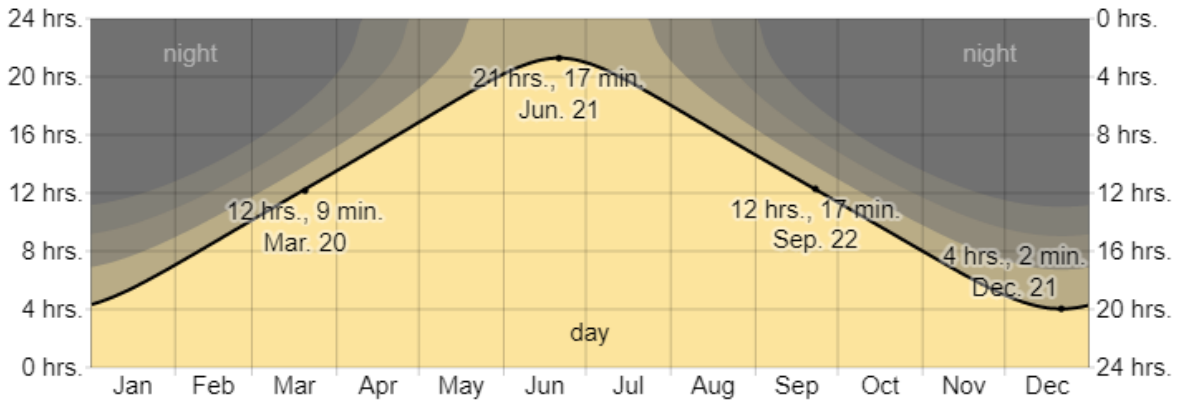
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## Sunlight Hours

The length of the day varies significantly over the course of the year. For example, in 2021, the shortest day was December 21, with 4 hours of daylight; the longest day was June 21, with 21 hours of daylight.

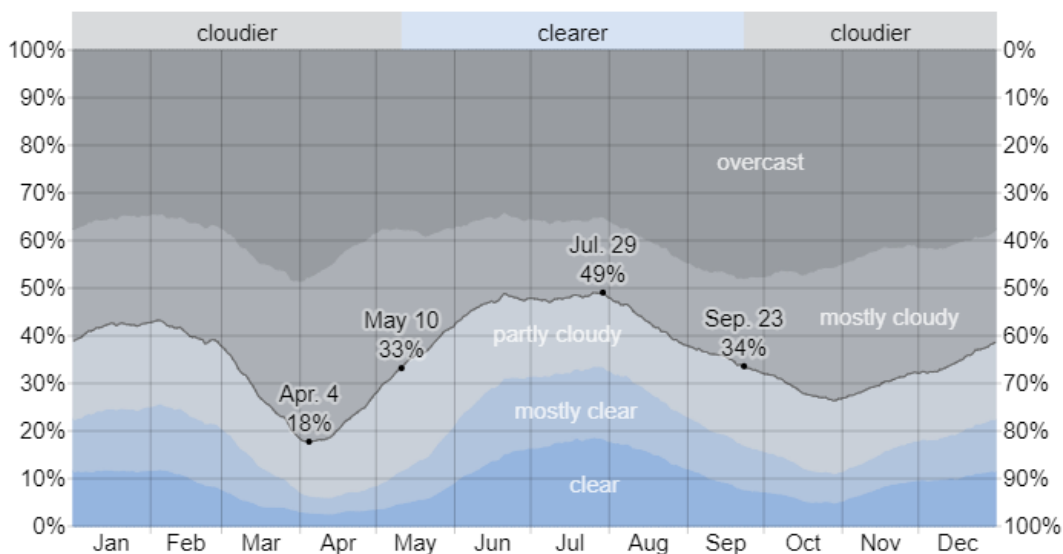
Average Hours of Daylight (2014-2023)



## Cloud Coverage

The average percentage of the sky covered by clouds experiences significant seasonal variation over the year. The clearer part of the year begins in early May and lasts for approximately four months, ending in early September. The clearest month of the year is typically July, during which, on average, the sky is clear 48% of the time. The cloudier part of the year begins in late September and lasts for approximately eight months, ending around in early May. The cloudiest month of the year is usually April, during which, on average, the sky is overcast or mostly cloudy 79% of the time.

Average Cloud Coverage (2014-2023)





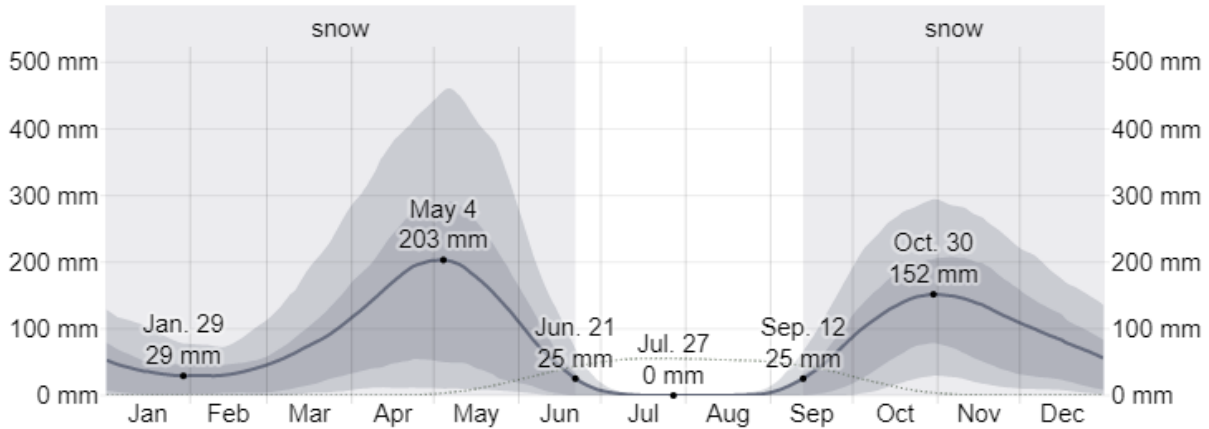
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## Snow and Rain

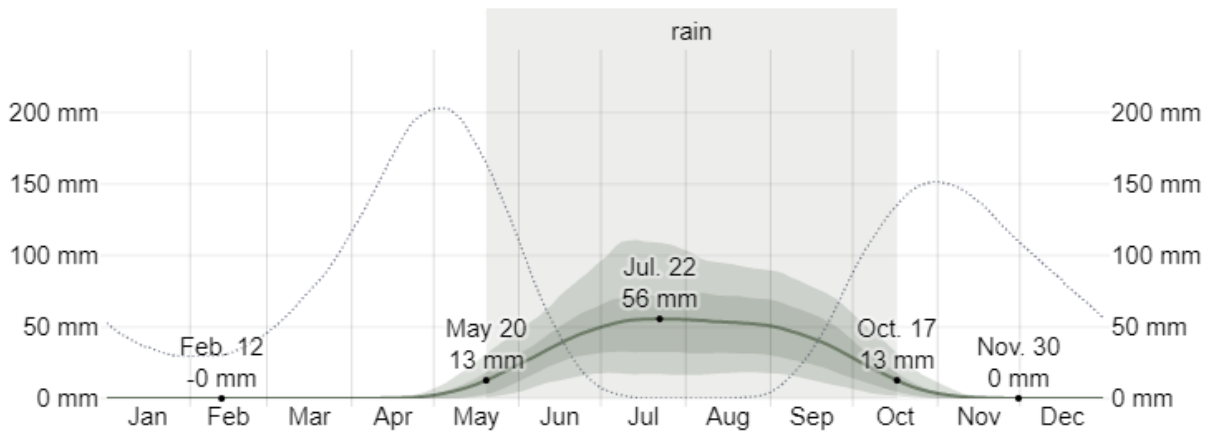
The chance of precipitation varies throughout the year. However, snow is the most usual form of precipitation, with the snowy period typically spanning from September to June.

Average Monthly Snowfall (2014-2023)



The summer months are quite dry. However, the community experiences periods of rain that can persist for several days at a time. The rainy period of the year spans from May to October.

Average Monthly Rainfall (2014-2023)





### 3. Energy Profile

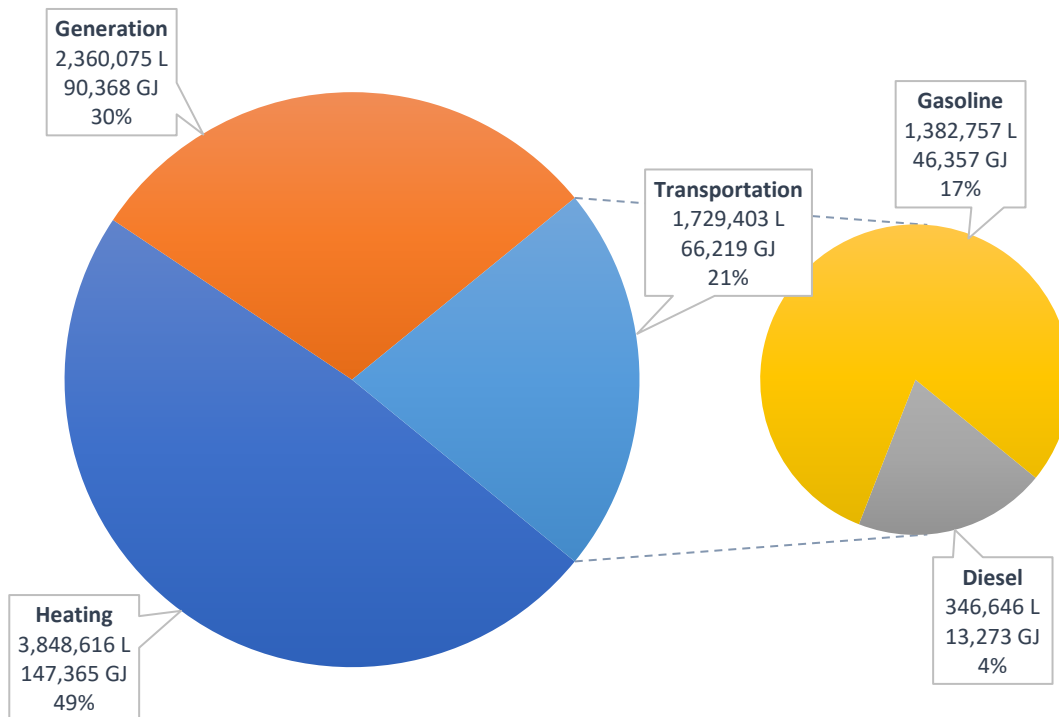
#### **3.1 Energy Landscape**

Like all communities in Nunavut, Baker Lake's energy supply is produced by burning fossil fuels. The three most widely utilized fossil fuels are diesel, heating oil, automotive diesel, and gasoline. There is also comparatively minor usage of other fuels for recreational use, such as propane, kerosene, and naphtha.

Fossil fuels are imported from southern Canada as part of a broader marine-based effort to deliver critical supplies and goods to communities across the territory during the short summer months. Most fuel is stored in large tanks, known as tank farms, which enable the community to access fuel throughout the year.

In 2019, the community consumed approximately 7,938,094 L of fossil fuels to produce heat, generate electricity, and enable transportation. This resulted in the consumption of roughly 303,952 GJ of energy and the production of approximately 25,115 tonnes of CO<sub>2</sub>.

2019 Baker Lake Annual Fuel Consumption by Usage (Litres)



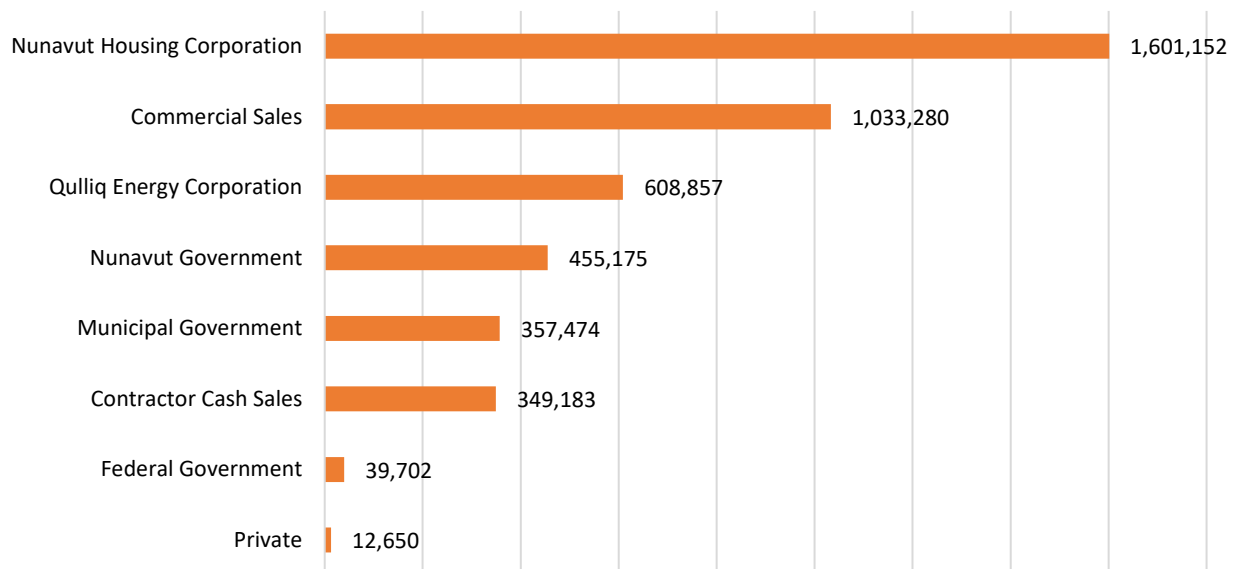


### Heating

In 2019, the community consumed approximately 3,848,616 L (49%) of fuel to heat buildings. This resulted in the consumption of roughly 147,365 GJ of energy and the production of roughly 11,469 tonnes of CO<sub>2</sub>. On average, each building consumed 221 GJ of heating energy and released seventeen tonnes of CO<sub>2</sub> into the environment.

Most of the energy used to produce heat was used to heat public housing units and commercial businesses. The following data illustrated where heating fuel was utilized:

2019 Heating Fuel Consumption by Client Group (Litres)



### Generation

The Qulliq Energy Corporation (QEC) operates a standalone power plant that supplies Baker Lake's electricity. The facility was constructed in 2005 and is expected to operate for approximately 40 years. The power plant contains four diesel generators with a total installed capacity of 3550 kW and an installed firm capacity of 2450 kW.

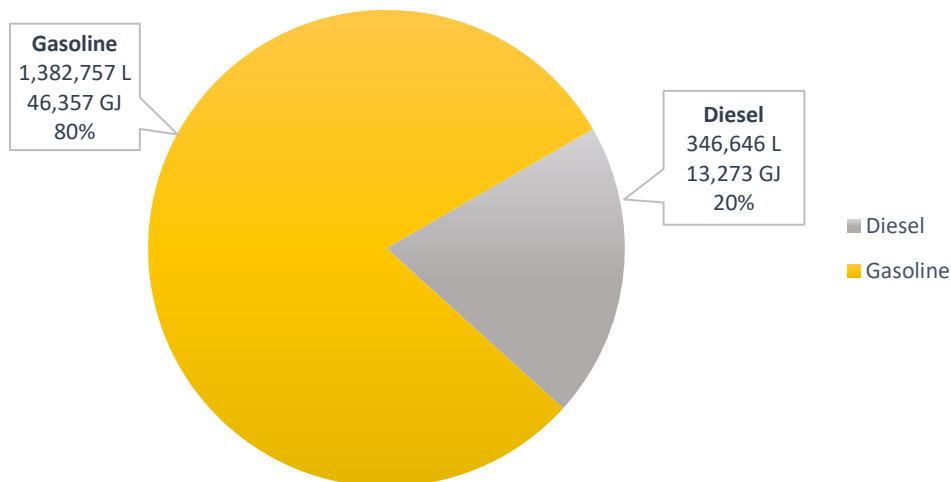
In 2020, peak load reached 1992 kW, and annual generation was 9104 MWh. That year, the power plant consumed approximately 2,360,075 L of diesel fuel. This resulted in the consumption of roughly 90,368 GJ of energy and the production of roughly 8,236 tonnes of CO<sub>2</sub>.



### Transportation

In 2019, the community consumed approximately 1,729,403 L (21%) of fuel to enable transportation. Of that, 1,382,757 L (80%) was gasoline, and 346,646 L (20%) was automotive diesel. This resulted in the consumption of approximately 66,219 GJ of energy and the production of approximately 5,144 tonnes of CO<sub>2</sub>.

2019 Baker Lake Annual Fuel Consumption by Fuel Type (Litres)



Usage of fuels can be divided into two sections: consumer-use and industrial/commercial-use. Most consumer-use vehicles utilize gasoline as a fuel source and are owned by residents or companies. These vehicles are primarily passenger vehicles but include snowmobiles, all-terrain vehicles, side by sides, boats, etc.

Most industrial/commercial-use vehicles utilize automotive diesel and are owned by either local businesses, the municipal government, or the territorial government. These vehicles include water and sewer trucks, semi-trailer trucks, bulldozers, loaders, graders, etc.



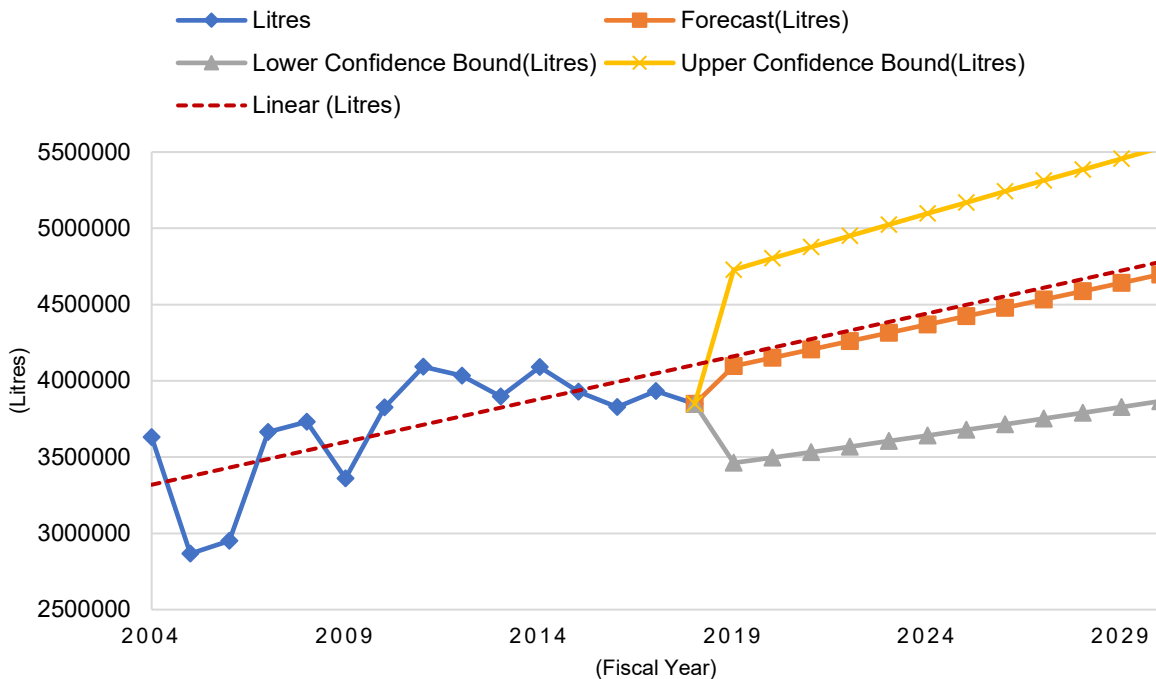
### 3.2 Energy Forecasting

The following energy forecasts are out to March 31, 2030. They were generated by analyzing existing heating, generation, and transportation data to determine trends. Projections cannot account for unknown variables resulting from changes to capital planning, major infrastructure projects, or other factors, such as those that may arise as part of the community’s mining activity.

#### Heating

Historical heating oil sales data indicates that sales growth is increasing. While seasonal fluctuations in ambient temperature play a significant role in fuel sales, estimates show heating oil sales rising at an average rate of 1.26%. This could be caused by a steady increase in birth rate, as Nunavut has Canada's fastest per capita rate of population growth. It could also be partly due to regional emigration resulting from the operation of the Meadowbank gold mine. As such, it can be assumed that heating load will continue to increase as the community grows.

Heating Oil Growth Projections to (FY2004-2030)



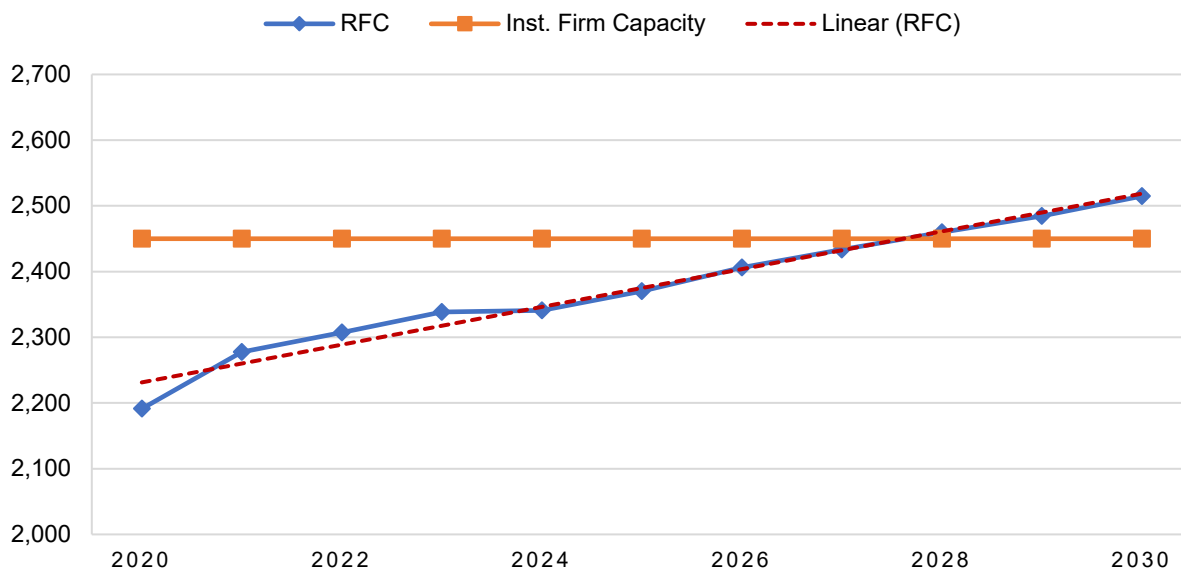




## Generation

The Baker Lake power plant has an installed capacity of 3550 kW and an installed firm capacity of 2450 kW. The community's current peak load for 2020 was 1992 kW. QEC monitors energy demand data and conducts load forecasts to determine when capacity upgrades may be required. The QEC predicts a steady upward trend in power generation demand as the community grows. Current projections to 2030 indicate that the Baker Lake power plant will be capable of meeting the projected demands in the near and medium-term, and a capacity increase will occur around 2027.

Required Firm Capacity vs. Installed Firm Capacity (Kw)



The Hamlet of Baker Lake has installed a 134 kW DC solar array on the roof of the local community hall. It has registered this installation with QEC's Commercial and Institutional Power Producer (CIPP) program, which enables the community to sell all the energy it produces at its installation back to QEC at an agreed rate. The community has started receiving revenue for this installation.

The QEC has also developed a Net Metering Program, enabling homeowners to install energy capture devices on their property and sell energy back to QEC for an agreed rate. Homeowners must apply for approval to the QEC before installing their system to ensure the system will not have an adverse impact on the local grid.

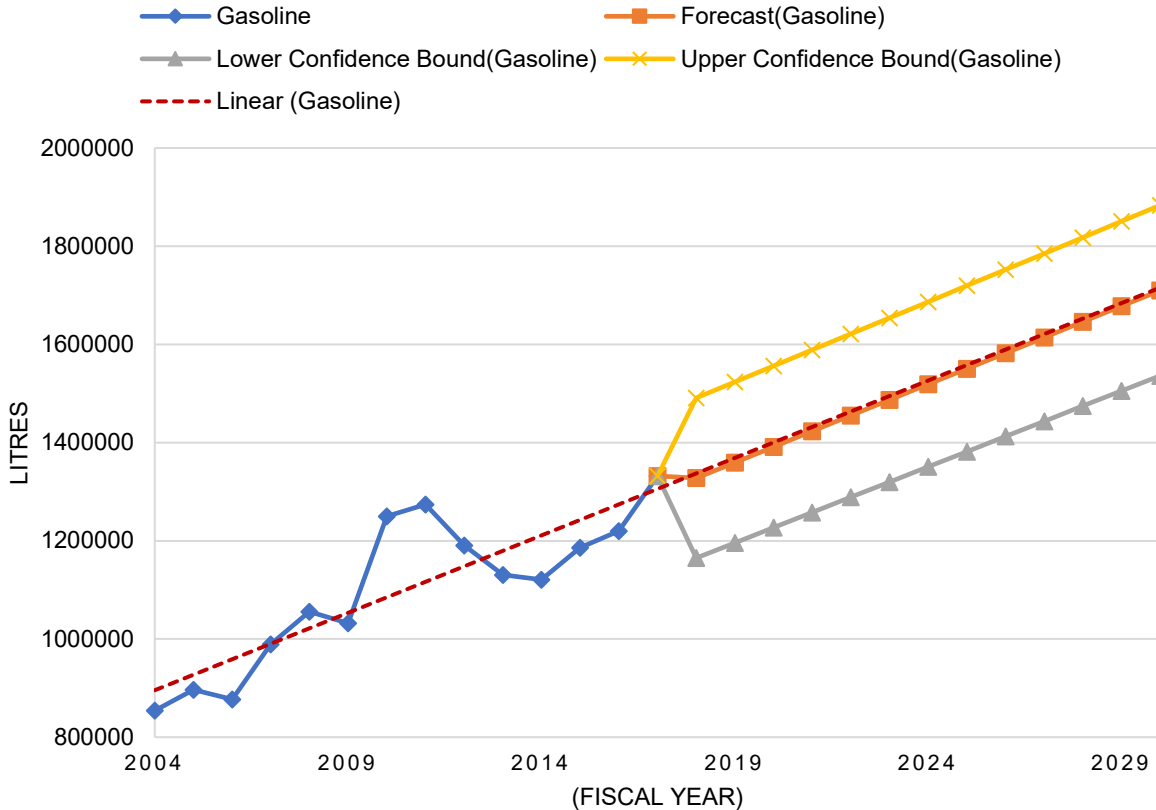
Finally, the QEC is currently developing an Independent Power Producer Program (IPP), which will enable producers outside of the utility to generate electrical power and sell it directly to QEC. The Corporation anticipates paying IPPs up to the avoided cost of diesel – the maximum price that QEC can pay without raising electricity rates. However, this rate is not yet confirmed and may be subject to change.



**Transportation**

Historical gasoline sales data indicates that sales growth is increasing. Estimates show that gasoline sales are rising at an average rate of 3.73% per year. One driver of this upward trend is increased consumer vehicle purchases resulting from those community members employed at the Meadowbank gold mine. It can be reasonably assumed that gasoline sales will continue to rise with sustained population growth and increases in disposable income.

Gasoline Growth Projections to (FY2004-2030)



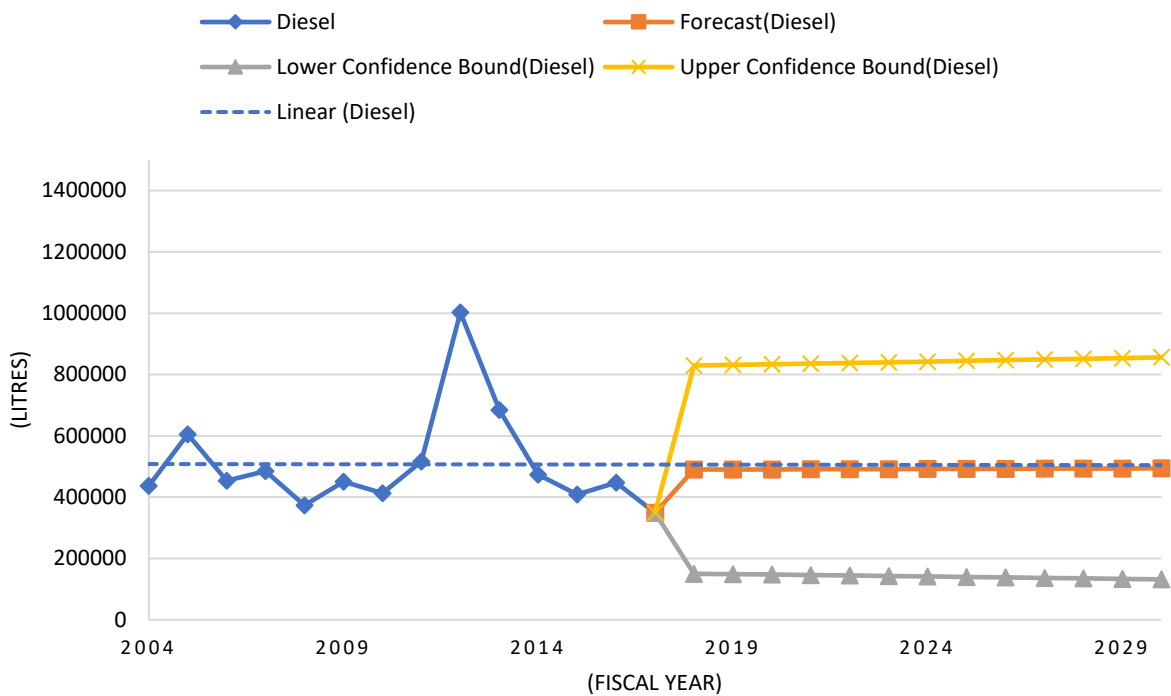


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Historical automotive diesel sales data indicates that sales growth is flat. While automotive diesel sales saw a significant increase during the initial years of the construction of the Meadowbank gold mine, diesel sales have since decreased dramatically and have stabilized with little growth, if any, forecasted for the future. Automotive diesel is primarily used for commercial and industrial vehicles owned by local businesses, the municipal government, and the territorial government. These groups do not purchase more commercial/industrial vehicles than necessary to conduct operations. As a result, vehicles are cycled in and out of service without net increases to their respective fleets. As such, it is anticipated that diesel sales will remain static.

## Motive Diesel Growth Projections to (FY2004-2030)





## 4. Community Energy Vision

### 4.1 Community Engagement

Extensive community engagement was achieved through strategically planned events to foster productive, informative dialogue within targeted and non-targeted groups, promoting collaboration and participation among different community organizations and demographic groups. These events served as pivotal platforms for interaction, allowing for a comprehensive exchange of ideas and insights, thereby enhancing the overall impact of the engagement efforts. Engagement events included the following:

- **Expert Panel Discussion:** In November 2022, in advance of in-person community engagement, a panel of subject matter experts from the construction, energy, and economic development sectors met to discuss how renewable energy projects have the potential to produce positive community-wide impacts. Panel members represented northern and indigenous organizations such as the Arctic Renewables Society, ArchTech, Nunavut Economic Developers Association, Sakku Investments Group, and Six Nations of the Grand River Development Corporation. Items discussed included deep energy retrofits, municipal solar and wind generation, independent power production, power purchase agreements, training and development, and job creation. Experts were advised that discussions should be non-technical to ensure the discussion was accessible to all community members watching the event. Community members were also encouraged to ask questions and share their opinions on social media.
- **Public Consultation:** In February 2023, a team of subject matter experts flew to the community to host public community engagement sessions scheduled at the local community hall. The subject matter experts represented individuals working in the renewable energy space including the Arctic Renewable Society, Nunavut Climate Change Secretariat, and ArchTech. Advertisement campaigns ran on websites, social media, local radio, and through print media. The event attracted primarily an adult audience, with coffee, tea, and refreshments available during the entire event. Discussions focussed primarily on demonstrating scale models of established renewable generation technologies such as solar, wind, hydrogen, and battery energy storage – including a demonstration of a hydrogen fuel cell storage technology. The session consisted of adults discussing clean energy technologies, with over three hours of open discussion related to technology, scalability, installation, finances, etc.
- **Youth Engagement:** In February 2023 the same group of subject matter experts hosted an engagement event at the local high school. The team collaborated with the high school administrators to schedule an afternoon event where students (Grades 6 to 12) could explore a simplified, integrated renewable energy system consisting of wind, solar, hydrogen, and a battery energy storage system. Students were rotated on 30-minute cycles where they could observe the system while it was in operation, ask questions about



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the system's renewable energy, and discuss what they envisioned for their community's future clean energy transition.

- **Local Radio Discussion:** In March 2023, A radio show was hosted that focussed on topics the community showed interest in during the expert panel discussion. The event was also meant to provide community members unable to attend the online event with an opportunity to hear how community energy projects could positively impact communities. As with the expert panel discussion, a question period was provided to encourage community members to ask questions and voice their opinions.
- **Online Questionnaire:** In April 2023, an online questionnaire was presented to community members as part of the online marketing campaign. The questionnaire focused on gauging public opinion on what types of community energy projects they were interested in seeing—questions focused on deep energy retrofits, community-scale solar and wind generation, and independent power production.

The Hamlet of Baker Lake emphasizes the importance of direct community engagement for the success of its energy plan. It commits to regularly updating this plan every five years, ensuring it remains relevant and aligned with the community's vision and needs. This approach demonstrates Baker Lake's dedication to meaningful engagement and its intention to adapt and respond to community feedback for sustainable development.



## 4.2 Community Vision, Goals, and Objectives

During the engagement process, community members engaged in extensive meaningful dialogue about their vision for a clean energy future and Just Transition. Discussions were rich and varied, with three main themes consistently emerging across engagement sessions:

1. **Honouring Inuit Societal Values:** Community members expressed a desire to ensure that all clean energy projects and initiatives respected the territory's Inuit Societal Values:
  - i. **Inuuqatigiitsiarniq:** Respecting others, relationships and caring for people.
  - ii. **Tunnganarniq:** Fostering good spirit by being open, welcoming, and inclusive.
  - iii. **Pijitsirniq:** Serving and providing for family and/or community.
  - iv. **Aajiqatigiinni:** Decision-making through discussion and consensus.
  - v. **Pijariuqsarniq:** Skill development through observation, mentoring, and practice.
  - vi. **Ikajuqtigiinni:** Working together for a common cause.
  - vii. **Qanuqtuurniq:** Being innovative and resourceful.
  - viii. **Avatittinnik Kamatsiarniq:** Respect and care for the land, animals, and the environment.
  
2. **Ensuring Positive Environmental Stewardship:** Community members emphasized the importance of ensuring that all clean energy projects and initiatives worked to reduce their environmental footprint measurably and meaningfully. This shared sentiment underscores the community's dedication to definitively preserve the integrity of their land, water, and wildlife, marking environmental conservation as a top priority in their Just Transition efforts. This approach aligns with their deeper values of living in harmony with nature while actively seeking solutions and respecting and caring for the land, animals, and environment.
  
3. **Generating Local Economic Development through Direct Ownership:** Community members strongly advocated for maintaining local control over renewable energy assets, emphasizing the significance of fostering local economic advancement and generating employment opportunities. Their feedback reflected a broader discontent with the outcomes of previous developments, which they felt failed to deliver meaningful and sustained benefits to the community. This sentiment underscored a collective aspiration for future projects to contribute to the community's overall well-being directly, ensuring that such initiatives' economic and social impacts are both significant and palpable.

Hamlet has also committed to reducing its dependence on traditional heating fuels in existing and new buildings. They recognized that achieving these goals would involve significant strategic planning and external financial support to enable research, planning, and implementation of energy-efficient solutions to reduce fossil fuel consumption in current and future buildings.



### **4.3 Community Vision Statement**

The community's journey towards a sustainable and clean energy future is deeply intertwined with its cultural values and environmental ethos. Engaging in comprehensive dialogues, residents emphasized the importance of integrating Inuit Societal Values into all aspects of clean energy projects. This foundational approach respects and nurtures the community's social fabric, ensuring initiatives are inclusive, respectful, and beneficial to all members.

Moreover, the community's commitment to environmental stewardship and reducing carbon footprint is clear. They aim to transition to clean energy solutions that not only respect but actively protect their natural surroundings. This dedication to preserving their land, water, and wildlife through sustainable practices reflects a profound connection to their environment.

The drive towards local economic empowerment through direct community ownership of renewable energy projects is a testament to Baker Lake's vision for self-sufficiency and sustainable economic development. By advocating for local control over these initiatives, the community seeks to ensure that the economic benefits, including job creation and economic growth, remain within the community. This approach addresses past concerns over inadequate benefits from external developments, underscoring a future where clean energy supports the community's well-being and economic resilience.

Through the engagement process, the community has crafted a comprehensive vision that champions a Just Transition to energy sovereignty, deeply rooted in respecting Inuit Societal Values, fostering environmental stewardship, and ensuring community ownership of renewable energy infrastructure to promote local economic development and job creation. This vision is meant to guide existing and future community leadership in developing the community's clean energy resources, irrespective of politics. Accordingly, the following vision statement was developed to enshrine the community's vision in perpetuity:

*"Baker Lake will actively develop its clean energy resources while adhering to the community's vision of honouring Inuit Societal Values, ensuring responsible stewardship of the environment, and enhancing local economic development and job creation through direct community ownership of renewable energy infrastructure."*



## 5. Renewable Resources

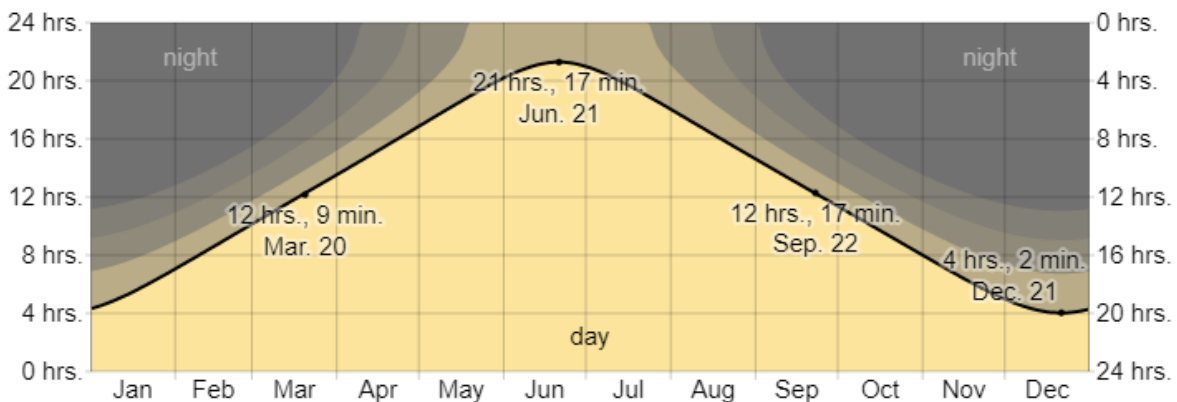
All electricity in Nunavut is produced by burning diesel. While diesel generator sets are well-established and reliable technologies, burning diesel has the inherent affects of release carbon into the environment. Air pollution, greenhouse gas emissions, and fuel spills are implications of diesel consumption.

Renewable energy generation systems offer an environmentally friendly alternative to producing electricity. Renewable energy is derived from naturally occurring and self-replenishing processes such as solar, wind, and water resources. These renewable sources of power generation reduce the amount of pollution and greenhouse gas emissions we deposit into our environment and can reduce our reliance on imported fossil fuels.

### 5.1 Solar

The length of the day at Baker Lake Airport varies significantly over the year. In 2022, the shortest day is December 21, with 4 hours and 2 minutes of daylight; the longest day is June 21, with 21 hours and 17 minutes of daylight. The earliest sunrise is at 2:47 a.m. on June 20, and the latest sunrise is 7 hours, 35 minutes later at 10:22 a.m. on December 24. The earliest sunset is at 2:22 p.m. on December 18, and the latest sunset is 9 hours, 42 minutes later at 12:04 a.m. on June 21.

**Hours of Daylight and Twilight (2014-2023)**







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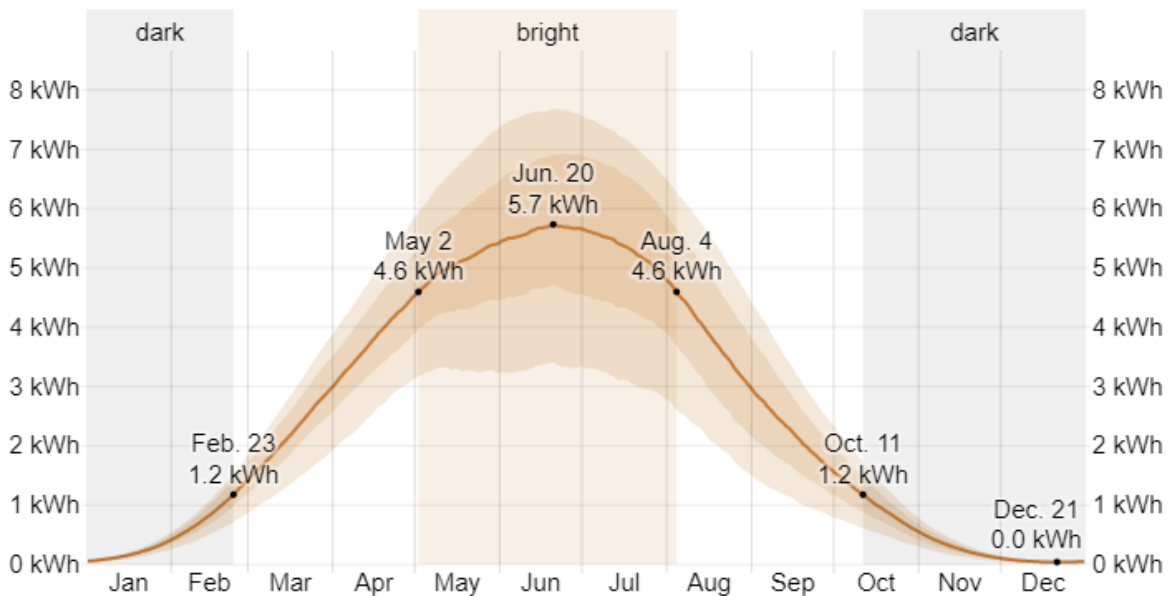
This section discusses the total daily incident shortwave solar energy reaching the surface of the ground over a wide area, taking complete account of seasonal variations in the length of the day, the elevation of the Sun above the horizon, and absorption by clouds other atmospheric constituents. Shortwave radiation includes visible light and ultraviolet radiation.

The average daily incident shortwave solar energy experiences extreme seasonal variation over the year.

The brighter period of the year lasts for 3.1 months, from May 2 to August 4, with an average daily incident shortwave energy per square meter above 4.6 kWh. The brightest month of the year at Baker Lake Airport is June, with an average of 5.6 kWh.

The darker period of the year lasts for 4.4 months, from October 11 to February 23, with an average daily incident shortwave energy per square meter below 1.2 kWh. The darkest month of the year at Baker Lake Airport is December, with an average of 0.1 kWh.

**Average Daily Incident Shortwave Solar Energy (2014-2023)**





## **5.2 Wind**

In 2016, the QEC commissioned a territory-wide wind study to assess the viability of wind power generation in all twenty-five communities in Nunavut. The study resulted in a shortlist of the top five potential communities where wind energy could potentially be used to generate energy. Baker Lake was identified as one of the top five communities with sufficient wind resources to generate power.

In 2019 a comprehensive renewable study was conducted by the World Wildlife Fund (WWF). The study laid out viable renewable generation scenarios for all twenty-five communities in Nunavut. It highlighted the best types of renewable projects per area and different ratios of renewable-to-diesel generation. Once again, Baker Lake was identified as one of the best locations for wind generation.

In 2022, with federal funding from Natural Resources Canada, Kivalliq Alternative Energy, a joint venture between the Kivalliq Inuit Association and Vancouver-based Northern Energy Capital, conducted a wind turbine feasibility study in Baker Lake. The study utilized Sound Detection and Ranging (SODAR) technology to measure windspeed over a test area. A presentation was made to the hamlet council in 2024 demonstrating wind to be a feasible source of renewable energy for the community.

## **5.3 Hydroelectric**

Baker Lake is the only community in the territory located on a freshwater body. It is home to a tremendous freshwater resource that is fed by several major river systems, including the Kazan River and Thelon River systems, spanning 1000km and 900 km.

If the community were to develop a surplus of renewable energy generation, the community could serve as a production and distribution hub for green hydrogen to neighboring communities by utilizing outgoing shipments of the annual sealift. Further engagement with the broader community should be conducted to determine the appetite for such a project.

Provided the community was in favor of a hydrogen generation project, a feasibility analysis and water resource assessment would need to be undertaken. The feasibility analysis would need to focus on determining if it is economically feasible to install enough renewable energy generation to result in a favourable return on the sale of hydrogen. The water resource assessment would need to focus what water source is most appropriate to utilize, water treatment requirements for an electrolyzer feed, what the energy demand was for that treatment, and what volumes would be required to meet a specified fuel production level.



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### 5.4 Geothermal

In 2018, the QEC conducted a geothermal pre-feasibility study of communities around the territory to determine if geothermal energy production was feasible. The study found that the geothermal potential in Nunavut was low compared to other provinces and territories. Further, the study found that any geothermal development would need to occur at or near the isolated communities, as there is no transmission infrastructure to support energy transfer. Further research in this area could be beneficial but would require significant investment.



## 6. Current Projects

### **6.1 Community Hall Solar Array**

The Hamlet of Baker Lake installed a 134 kW DC solar array on the roof of the local community hall. The array was developed in conjunction with QEC's CIPP program, which enables the community to sell all the energy it produces back to QEC at a negotiated rate.

### **6.2 Net-Zero Build**

A local developer is building the territory's first net-zero building in Baker Lake. The project is intended to demonstrate that it is possible to construct affordable, efficient, and resilient net-zero buildings in Nunavut. The building will undergo one year of post-construction performance analysis. The findings will be collected by a third-party federal research agency and compiled into a public report outlining the building's overall performance characteristics. The report will be provided to GN's Climate Change Secretariat, where it will be used to demonstrate to policymakers the social, economic, and environmental benefits of constructing high-performance buildings.

### **6.3 Geothermal Bore Hole Study**

A geothermal borehole study explored the potential for geothermal energy development. This project, initiated to support future deep geothermal systems or shallow thermal energy storage, involves drilling in granitic rock to gather data on temperature gradients and thermal properties. It is part of a broader effort to assess geothermal feasibility across Nunavut, focusing on sustainable energy solutions for northern communities. Data is expected to be shared with the community soon.

### **6.4 Wind Study**

A wind study explored the feasibility of using wind turbines as an alternative energy source for the community. The study aims to offset reliance on diesel generators by exploring the potential of wind energy. The research involved using a sonic detection device to measure wind activity. Data is expected to be shared with the community soon.



## 7. Future Opportunities

Understanding potential future opportunities is essential for setting the community on a path to sustainable growth and long-term success. Such planning ensures Baker Lake can strategically navigate its transition to clean energy, leveraging emerging technologies and identifying opportunities for potential funding applications. The following list identifies emerging opportunities for investigation:

### **Community-Scale Energy Education Campaign:**

Launching a campaign to educate the community on the benefits of clean energy, increasing support for renewable projects. This initiative is critical for building a foundation of knowledge and support for future projects.

### **Community-Based Energy Efficiency Programs:**

Promoting energy efficiency across the community through hamlet-sponsored energy saving programs to reduce overall energy demand and show residents they can save money and live more comfortably.

### **Renewable Energy Project Feasibility Analysis:**

Conducting detailed analyses to identify the most viable renewable energy projects for Baker Lake. This step is crucial for prioritizing projects that align with community needs and resources.

### **Expand Existing Projects:**

Expanding the community's CIPP projects could further reduce municipal operating expenses and generate revenue, further supporting the community's energy transition.

### **Conduct Deep Energy Retrofits:**

Implementing comprehensive retrofits on municipal buildings to significantly reduce energy consumption. These retrofits will focus on mechanical systems, insulation, windows, doors, and the integration of energy capture devices.



**Energy Efficient Municipal Building:**

Constructing a high-performance municipal building will generate community interest in renewable capture systems and high-performance energy efficient building construction, thereby serving as a model for future sustainable municipal infrastructure.

**Develop Municipal High-Efficiency Building By-law:**

Establishing a by-law requiring new municipal buildings to meet high-performance standards, ensuring future constructions are energy-efficient and sustainable.

**Pursue Fuel Switching Pilot Project:**

Exploring a pilot project for switching an existing municipal building from diesel heating fuel to a combination of air source heat pumps and electric resistance water heating, could demonstrate an opportunity to not only reduce fossil fuel usage, but also revitalize existing building mechanical systems. Carryout in alignment with a deep energy retrofit of the facility for added benefit.

**Medium-Scale Project:**

Developing a medium-scale renewable energy project in alignment with QEC's IPP program, focusing on reducing diesel dependence and generating income for the Hamlet. A medium project will build experience and capacity.

**Large Scale Solar or Wind Project:**

Leveraging Baker Lake's potential for solar and wind energy, develop a large scale solar or wind project, ensuring the project includes a grid-forming battery for future renewable energy integration.

**Hydroelectric Project Exploration:**

Investigate the potential for hydroelectric run-of-river project as a long-term, sustainable energy solution for Baker Lake.

**Green Hydrogen Production Feasibility:**

Assessing the potential for producing green hydrogen as a clean energy carrier, leveraging excess renewable energy for storage and distribution.



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### **Clean Energy Workforce Development:**

Creating training and development programs to build local expertise in renewable energy technologies and sustainability practices.

### **Cultural and Eco-Tourism Development:**

Utilizing Baker Lake's commitment to clean energy and Inuit cultural heritage to promote tourism, generating economic opportunities.

### **Develop an Energy Independence and Security Strategy:**

As a long-term target, the municipality could develop an energy independence and security strategy. Developing a long-term vision for an interconnected network of diversified energy systems could prove to be very lucrative for the municipal government over the long term. By bringing on new renewable energy infrastructure through a phased growth strategy, the hamlet could slowly but steadily expand its energy portfolio and expand revenues accordingly.



## 8. Regulatory Considerations

The following are some of the regulatory, legislative, or program requirements that must be adhered to when conducting energy and housing projects.

### 8.1 Energy Supply Regulations

The *Qulliq Energy Corporation Act* establishes the QEC as the exclusive supplier of retail power in the territory. It states that no person other than the Corporation may engage in the retail supply of power in Nunavut, except under the authority of an exemption granted by the Minister. Such exemption may be granted to groups or individuals who generate their energy through renewable sources.

For this purpose, the QEC is developing the following programs:

- **Net Metering Program:** Enables residential customers and one municipal account per community to generate their electricity from renewable energy sources and integrate it into the corporation's grids.
- **Commercial and Institutional Power Producer (CIPP) Program:** QEC is developing a Commercial and Institutional Power Producers program specifically for existing commercial and institutional customers. The program will allow customers to generate renewable energy and sell all energy generated to QEC.
- **Independent Power Producer (IPP) Program:** QEC is developing the upcoming Independent Power Producer (IPP) program to allow producers outside of the utility to generate large or community scale electrical power from renewable energy systems to sell directly to QEC.

When preparing to initiate most future projects, the Hamlet, or its designate, will need to assess on a project-by-project basis what types of regulatory, legislative, or program requirements may impact the project and plan accordingly to ensure smooth execution.





## 8.2 Building Regulations

Safety Services provides information and services to the private and public sectors regarding regulatory safety in buildings, boiler, and gas installations, electrical, elevator, and fire safety. Services include plan reviews, on-site inspections, code consultations, fire department training and the enforcement of the relevant Acts and Regulations.

- **Office of the Chief Building Official (OCBO):** The OCBO provides information and services on construction regarding the Nunavut Building Code Act and Regulations requirements. All construction projects require a Building Permit. The Building Permit must be applied for and issued by the OCBO before any construction activity begins. Plans and detailed drawings showing the proposed work must be submitted with the building permit application. All fees must be paid in full before a building permit will be issued.
- **Office of the Chief Boiler and Gas Inspector (OCBGI):** The OCBGI provides information and services regarding permits, inspections, and registration for boiler, pressure vessel, and gas installations following the requirements of the Boiler and Pressure Vessel Act and Gas Protection Act and their regulations: Boiler and Pressure Vessel Regulations and Gas Protection Regulations.
  - **Note:** The Boiler and Pressure Vessel Act and Gas Protection Act are in the process of being repealed and replaced by the Technical Standards & Safety Act.
- **Office of the Chief Electrical Inspector (OCEI):** The OCEI provides information and services regarding plan reviews, permits, inspections, and registration for Electrical services. All electrical work shall be compliant with the Electrical Protection Act and Regulations requirements.
- **Office of the Chief Elevator Inspector (OCELI):** The OCELI provides information and services regarding plan reviews, permits, inspections, and registration for Elevators. All elevator work shall be compliant with the Technical Standards and Safety Act requirements.
- **Nunavut Fire Marshal's Office (NFMO):** The NFMO provides information and services regarding inspections, public fire education, fire department training, and fire investigations. Fire safety shall be compliant with the requirements of the Fire Safety Act.



## 9. Funding Opportunities

The following funding opportunities may assist the Hamlet in identifying and applying for funding to drive clean energy projects within the community:

Program	Organization	Program Type	Funder Type	Description
<a href="#">Indigenous Community Infrastructure Initiative</a>	Canada Infrastructure Bank	Infrastructure	Non-profit	Low-cost and long-term debt to Indigenous community-based projects across five priority areas: clean power, green infrastructure, public transit, broadband, and trade and transportation.
<a href="#">Affordable Housing Fund</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Long term, low-interest loans to help revitalize affordable housing.
<a href="#">Affordable Housing Fund: Renovation</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Low-interest loans and contributions to renovate and repair existing buildings for affordable housing.
<a href="#">Preservation Funding for community housing</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Financial assistance to help housing providers complete preservation activities related to the sustainability of existing community housing projects.
<a href="#">Rental Construction Financing Initiative</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Low-cost loans encouraging the construction of sustainable rental apartment projects across Canada.
<a href="#">Seed Funding</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Interest-free loans and/or non-repayable contributions to develop and preserve affordable housing.



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Program	Organization	Program Type	Funder Type	Description
<a href="#">Housing Internship for Indigenous Youth</a>	Canada Mortgage and Housing Corporation	Housing	Federal	On-the-job training in the housing industry for Indigenous youth.
<a href="#">Annual Expression of Interest</a>	Canadian Northern Economic Development Agency	Combined	Federal	Funding opportunities for new single or multi-year projects.
<a href="#">Inclusive Diversification and Economic Advancement in the North</a>	Canadian Northern Economic Development Agency	Combined	Federal	Funds foundational investments in economic infrastructure, sector development and capacity building to help position Northerners in the territories to take advantage of Canada's innovation economy.
<a href="#">Federal Community Housing Initiative</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Funding and support for housing providers and their low-income tenants.
<a href="#">Preservation Funding for community housing</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Financial assistance to help housing providers complete preservation activities related to the sustainability of existing community housing projects.
<a href="#">The Community Housing Transformation Centre</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Increasing the capacity and supporting efficient community housing.



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Program	Organization	Program Type	Funder Type	Description
<a href="#">Community-Based Tenant Initiative</a>	Canada Mortgage and Housing Corporation	Housing	Federal	provides contributions to support local organizations whose purpose is to assist people in housing need. The initiative supports tenants having access to information on housing options and better participating in housing decisions that affect them.
<a href="#">Lending Programs</a>	Canada Mortgage and Housing Corporation	Housing	Federal	Loans and contributions that support the National Housing Strategy.
<a href="#">Various Sectoral Impact Funding</a>	Community Housing Transformation Centre	Housing	Non-profit	Grants to community-housing providers, community-housing service providers and community organizations in the form of sectoral funding initiatives.
<a href="#">Community-Based Tenant Initiative</a>	Community Housing Transformation Centre	Housing	Non-profit	Grants to community-housing providers, community-housing service providers and community organizations in the form of community-based tenant funding initiatives.
<a href="#">Strategic Partnerships Initiative</a>	Indigenous Services Canada	Combined	Federal	The Strategic Partnerships Initiative (SPI) helps Indigenous communities participate in complex economic opportunities.
<a href="#">Climate Change Preparedness in the North Program</a>	Indigenous Services Canada	Combined	Federal	This program funds climate change adaptation projects in Yukon, Northwest Territories, Nunavut, Nunavik, and Nunatsiavut.



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Program	Organization	Program Type	Funder Type	Description
<a href="#">Lands and Economic Development Services Program</a>	Indigenous Services Canada	Combined	Federal	Provides support to First Nation and Inuit Communities to assist with enhancing the economic development, land, and environmental capacity of communities and to support the establishment of the conditions for economic development to occur, increasing their participation in the economy.
<a href="#">Clean Energy for Rural and Remote Communities</a>	Natural Resources Canada	Energy Efficiency	Federal	Infrastructure investment for Indigenous communities.
<a href="#">Smart Renewables and Electrification Pathways Program</a>	Natural Resources Canada	Energy Efficiency	Federal	Assists Indigenous youth prepare for long-term employment in the housing industry.
<a href="#">Canada Greener Homes Grant</a>	Natural Resources Canada	Combined	Federal	Grants of up to \$5,000 to assist homeowners make energy efficiency retrofits to their homes.
<a href="#">Northern REACHE Program</a>	Crown-Indigenous Relations and Northern Affairs Canada	Energy Efficiency	Federal	Funds renewable energy and energy efficiency projects, and related capacity building and planning in Nunavut, Yukon, Northwest Territories, Nunavik, and Nunatsiavut.
<a href="#">Training &amp; Wage Subsidies for Environmental Jobs</a>	Environmental Careers Organization Canada	Energy Efficiency	Non-profit	Funding programs that assist employers attract new talent, while saving initial wage and training costs.



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Program	Organization	Program Type	Funder Type	Description
<a href="#">Green Municipal Fund</a>	Federation of Canadian Municipalities	Combined	Municipal	Assists municipalities implement innovative and proven sustainability practices in the areas of waste, water, land-use, energy, and transportation.
<a href="#">Catalyst 20/20</a>	Indigenous Clean Energy Social Enterprise	Capacity Building	Non-profit	A hands-on program designed to support Indigenous communities embarking on clean energy projects.
<a href="#">Community Opportunity Readiness Program</a>	Indigenous Services Canada	Economic Development	Federal	Provides project-based funding for First Nation and Inuit Communities for a range of activities to support communities' pursuit of economic opportunities.
<a href="#">The First Nation Infrastructure Fund</a>	Indigenous Services Canada	Combined Activities	Federal	Assists First Nations communities upgrade and increase public infrastructure to improve the quality of life and the environment in First Nations communities.
<a href="#">Investing in Canada Infrastructure Fund</a>	Infrastructure Canada	Deployment / Capital Projects	Federal	Intended to promote economic growth and jobs, support resilience and a low-carbon economy, and build inclusive communities.
<a href="#">Energy Advisor Recruitment, training, and mentorship</a>	Natural Resources Canada	Capacity Building	Federal	Program is intended to increase the diversity and representation of the existing energy advisor workforce



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Program	Organization	Program Type	Funder Type	Description
<a href="#">Green Jobs in Natural Resources</a>	Natural Resources Canada	Training/Employment	Federal	Provides wage subsidies to eligible employers across Canada to hire and mentor youth in the natural resources sector, including in energy, forestry, mining, earth science, and clean technology.
<a href="#">Home Renovation Program</a>	Nunavut Housing Corporation	Energy Efficiency	Territorial	Aids homeowners who wish to conduct major repairs, renovations, and additions to their home to cover cost related to repairs and/or renovation including materials, freight, and labour.



## 10. Phased Action Plan

Phase 1: Capacity Building and Feasibility Analysis	Project	Description	Timeframe
	Hire a Climate Action Coordinator	The Hamlet will identify and apply for funding to employ a CAC. It will focus primarily on identifying multi-year funding to ensure the position is secure. The incumbent will be responsible for activities such as conducting community energy education campaigns and applying for funding programs to conduct clean energy initiatives.	2024
	Community Energy Education Campaign	The CAC will be responsible for delivering community-scale energy education initiatives with the vision of providing community members with foundation-level knowledge on renewables, energy efficiency, and the overall social, economic, and environmental benefits of conducting energy projects.	2024
	Renewable Energy Project Feasibility Analysis	The CAC will identify suitable consultants for a renewable energy study. The study will focus on identifying feasible renewable energy projects for deployment to the community in the short, medium, and long term. The CAC will conduct the tendering process for RFP to Final Submission. The feasibility analysis will be made public and shared on the Hamlet's website to promote transparency.	2024-2025
	Conduct Energy Audits & Apply for Retrofit Funding	The CAC will identify strategic partnerships with groups like the Arctic Renewable Society (ARS) and NHC to fund energy audits of municipal and NHC buildings. Audits will serve as a foundation to apply for funding to conduct deep energy retrofits to improve the energy efficiency of existing buildings, primarily in reducing heating load but also through adding renewable capture systems.	2025-onwards





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Phase 2: Building Energy Efficiency	Project	Description	Timeframe
	Build Energy Efficient Municipal Building	Constructing a high-performance municipal building will generate community interest in renewable capture systems and high-performance energy-efficient building construction, thereby serving as a model for future sustainable municipal infrastructure.	2025-2026
	Pursue Fuel Switching Pilot Project	The CAC will seek funding to conduct a pilot project for switching an existing municipal building from diesel heating fuel to an improved alternative system, such as combined air source heat pumps and electric resistance water heating.	2025-onwards
	Develop Municipal High-Efficiency Building By-Law	Develop Municipal High-Efficiency Building By-law pending the success of the energy-efficient municipal building and fuel-switching pilot project. The Hamlet will explore the feasibility of developing a municipal by-law requiring new municipal buildings to meet high-performance construction standards. Such a by-law could result in long-term reductions in ongoing operational and maintenance-related expenses for all future municipal buildings.	2026-2027



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Phase 3: Medium-Scale Capacity Building	Project	Description	Timeframe
	<p>Additional CIPP Projects</p>	<p>Pending the results of the renewable energy study, the CAC will engage with the SAO and Council to identify high-consumption municipal buildings that could benefit from QEC's CIPP program to reduce O&amp;M expenditures. Examples could include the community freezer, six-bay garage, community garage, etc.</p>	<p>2025</p>
<p>Medium Scale Generation Project</p>	<p>It is developing a medium-scale renewable energy project in alignment with QEC's IPP program, focusing on reducing diesel dependence and generating income for the Hamlet. A medium project will build experience and capacity. The purpose of a medium-scale project will be to generate revenue streams that will be used to fund future clean energy initiatives.</p>	<p>2027</p>	



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Phase 4: Large-Scale Capacity Building	Project	Description	Timeframe
	Large Scale Solar/Wind Project	Leveraging Baker Lake's potential for solar and wind energy, develop a large-scale solar or wind project, ensuring the project includes a grid-forming battery for future renewable energy integration.	2029
	Hydroelectric Project Exploration	Investigate the potential for a hydroelectric run-of-river project as a long-term, sustainable energy solution for Baker Lake.	TBD
	Green Hydrogen Production Feasibility	Investigate the feasibility of producing green hydrogen for sale as a heavy shipping fuel. Redirect excess renewable energy to hydrogen production for distribution across the territory.	TBD



## 11. Final Thoughts

This document encapsulates Baker Lake's collective resolve and dedication toward initiating energy projects deeply rooted in Inuit societal values, responsible environmental stewardship, and the pursuit of economic development through direct ownership of renewable energy infrastructure. It outlines a strategic path to energy self-reliance, leveraging renewable energy technologies and underscoring the vital role of community participation and proprietorship in this journey. The essence of this plan is to incorporate community engagement comprehensively, ensuring the transition to renewable energy respects and actively integrates Indigenous knowledge and values.

At the heart of this initiative is an unwavering adherence to the principles of free, prior, and informed consent, along with the right to self-determination, as outlined in the United Nations Declaration of Indigenous Peoples. This guarantees that the community is the key driver, and not mere an observer, in its clean energy future. This methodology is in harmony with the ideals of a Just Transition, marking a precedent for how other Nunavut communities can address current and future energy demand requirements while also achieving energy sovereignty. This plan is a blueprint for a future where energy sovereignty, environmental conservation, and community benefits are directed toward the express benefit of the community and its members. It presents a replicable model, merging traditional principles with contemporary energy solutions to build robust sustainable communities.

The Baker Lake Community Energy Plan embodies a vision for the future that honours Inuit societal values, ensures responsible environmental stewardship, and generates local economic development and employment opportunities for community members through direct community ownership of renewable energy infrastructure. As Baker Lake progresses with the execution of this strategy, it charts a course for its energy independence and serves as a model for community ownership models across the territory.



## 12. Approval of Community Energy Plan

Whereas, the Hamlet of Baker Lake (hereinafter referred to as "the Hamlet") fully recognizes and holds in high esteem the forward-looking vision and collective wisdom of the community members of Baker Lake, acknowledging their crucial role in shaping a sustainable and vibrant future for our community;

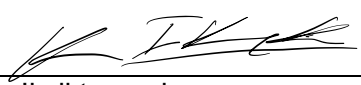

And whereas, the Hamlet is cognizant of the critical importance of transitioning towards a greener, more sustainable future, underscored by the community's shared aspiration for energy independence through the ownership and operation of renewable energy infrastructure.

Now, therefore, in light of these acknowledgments and with a deep sense of responsibility towards future generations, the Hamlet hereby commits itself to the Community Energy Plan herein described. This Plan is a declaration of our collective will to harness the power of renewable energy, fostering environmental stewardship, economic empowerment, and resilience within our community through community-led initiatives.

This document embodies our shared commitment to a sustainable energy future, paving the way for the implementation of renewable energy projects that not only protect our environment but also promote community ownership, local empowerment, and the prosperity of Baker Lake for years to come.

In witness whereof, the parties to this Plan have caused it to be executed by their duly authorized representatives, as a testament to our collective dedication to the principles of sustainability, community empowerment, and environmental stewardship, on the date last below written.

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 <hr/> Kevin Iksiktaaryuk <i>Mayor</i>	April 25, 2024 <hr/> Date
 <hr/> Sheldon Dorey <i>Senior Administrative Officer</i>	April 25, 2024 <hr/> Date