

## Executive Summary

The proposed Anuriqjuak Nukkiksautiit Project (the Project) is led by Nunavut Nukkiksautiit Corporation (NNC), with support from the Hamlet of Sanikiluaq. The Project is proposing to install wind turbines and a battery energy storage system (BESS) to be integrated with the community's electrical grid reducing the Hamlet's reliance on diesel fuel for electricity.

NNC is a wholly-owned subsidiary of Qikiqtaaluk Corporation (QC), the Regional Inuit Development Corporation for the Qikiqtani Region. NNC is a 100 percent Inuit owned clean energy developer established in 2018.

During QC's Regional Tour in 2015, Sanikiluaq showed interest in renewable energy. QC's business development arm, Qikiqtaaluk Business Development Corporation (QBDC), and NNC started working with the Hamlet in 2016 to look at renewable energy options. Ultimately a community-scale renewable energy project that would displace a high percentage of the community's use of diesel fuel for electricity generation was desired.

After a series of assessments including a feasibility study and Business Case, wind data collection and modelling, a bankable wind resource assessment and a Front-End Engineering and Design (FEED) study, the proposed Anuriqjuak Nukkiksautiit Project was established. The proposed Project includes:

- Installation and operation of up to ten wind turbines with a combined installed capacity of up to 1,000 kW located about 4.5 km south of the Sanikiluaq Airport
- Upgrading an existing community trail to the Project site access road
- Installation of a 5 km transmission line corridor that closely aligns with the access road when possible
- A microgrid controller platform
- BESS near the Qulliq Energy Corporation (QEC) power plant in town

The proposed Project is expected to generate about 50 percent of the community's electricity demand. The wind energy will be sold to the QEC for integration into the local electrical grid through an Independent Power Purchase arrangement. Community participation and financial benefits is of critical importance to the Project. NNC completed a study to explore a variety of benefit sharing models for renewable energy projects. A Nunavut tailored framework was developed that assesses the local community's capacity to work within the different benefit sharing mechanisms and bear the associated risk and liability. The Community Enhancement Fund model was identified as the recommended approach for the proposed Project, whereby the project developer NNC, retains all risk and liability for the project assets while ensuring the community retains fair financial benefit throughout the Project's operational life. The Community

Enhancement Fund is guided by local individuals within the community and can be used for local projects and developments as desired by the community.

The Project is on schedule for the project planning and preparation phase, including design development, to be completed in 2022-23. It is anticipated construction will start in 2023 pending regulatory approvals including the Nunavut Planning Commission (NPC) and the Nunavut Impact Review Board (NIRB) authorizations, a Power Purchase Agreement (PPA) with QEC, and other permits such as a development permit, Nunavut Water Board (NWB) water license for potential water crossings, and electrical permits. Local labour and participation will be maximized where possible during the construction phase and training will be provided. It is anticipated up to 15 local jobs will be created during construction. Project construction is anticipated to be completed in 2024, should construction commence in 2023. The Project is anticipated to have a minimum 20-year operational phase, with the goal that it can be extended for the permanent energy solution with regular maintenance and necessary equipment replacements. It is anticipated up to three local jobs will be created during the project operations including local operators, and maintenance technicians. At the end of the operational phase, decisions will be made regarding continuing operations of the wind site with the current turbines if still functional, new or refurbished turbines, and/or other equipment or dismantling the operation and returning the site to its original condition using modern technologies to accomplish this objective.

Public and stakeholder engagement has been integrated in all project phases including early project planning starting from project conceptualization. As an Inuit-led and governed development, of utmost importance to the Project is safeguarding the well-being, values, and priorities of Sanikiluarmiut. The Nunavut Agreement has guided the engagement process to ensure Sanikiluarmiut participation in decision-making concerning the use of their land and local resources. A Stakeholder Engagement Plan has been developed which responds to the requests for accessible and continuous project updates which was identified by residents and local stakeholders during early project engagements.

The Project site options were established in collaboration with the public and community stakeholders. The optimal site was determined based on the areas identified by the community, restricted zones, existing roads and trails, environmentally sensitive areas, topographic considerations, and traditional land use in the area. The community has approved the final site. The site is within the municipal boundaries on unsurveyed land which is administered by the Commissioner of Nunavut. As part of the proposed Project, the site will be surveyed and titled to the Hamlet.

Biophysical surveys including bird, vegetation, aquatic, and wetland surveys commenced in 2019. Despite the COVID-19 pandemic, all but one survey was completed. The outstanding survey will be completed in summer 2022. The surveys integrated local participation. A biophysical impact assessment was completed to assess the potential impact the Project may have on the valued

ecosystem components (VECs) of the biophysical environment. The assessment recommended mitigation measures for any potential residual effect. These mitigation measures will be integrated with the project execution during construction and operations. The results of the impact assessment indicate that there are no significant impacts expected on the biophysical environment.

Socio-economic surveys were conducted to determine the potential impacts of the Project on the valued socio-economic components (VSECs). Engagements and interviews with the public and local stakeholders took place starting in 2016 and all concerns and issues raised were considered in the socio-economic impact assessment. A variety of engagement methods were utilized including public meetings, one-on-one interviews, radio call-in shows, and social media forums. Both the positive and negative impacts were assessed, and enhancement and mitigation measures recommended. These enhancement and mitigation measures were integrated with the Project Execution Plan and many are already implemented. The results of the socio-economic impact assessment indicate that there are no significant impacts expected on the socio-economic environment.

Monitoring plans were or will be developed to monitor the residual impacts of the Project on the various VECs and VSECs. A Wildlife Monitoring Plan and a Socio-Economic Monitoring Plan are to be developed, along with additional monitoring plans as the design development progresses.

There are several other developments occurring in Sanikiluaq. This includes several infrastructure projects within the core community area, a Territorial Park, and a protected area. Cumulative impacts were assessed to determine the effect of the Project, in conjunction with other projects and activities, that could impact the VECs or VSECs. Results of the assessment determined that there are no anticipated cumulative impacts on the VECs or potential cumulative negative impacts on the community wellness VSEC. This is caused by an increase in southern workers in the community for the Proposed project and another construction project during a short window of time. The cumulative impact assessment determined that it will not have a significant residual impact and it will be monitored as part of the socio-economic monitoring plan.

The Project is inherently sustainable as it utilizes a sustainable energy source to provide clean energy to Sanikiluaq reducing the community's reliance on diesel fuel for electricity. A sustainability assessment was conducted to assess the Project against community identified sustainability goals. The results of the sustainability assessment demonstrate how social, economic, cultural, and environmental sustainability are considered through all phases of the Project's development.

The proposed Project will make a true and meaningful impact on reducing Sanikiluaq's carbon emissions and reliance on diesel fuel. It will also bring many local benefits such as creating local employment and economic benefits. Execution of the proposed Project will be a catalyst for other community-scale projects across the Region and the Territory. Being an Inuit-led and Inuit-owned

project, it will demonstrate how to maximize local community benefits. With the integration of battery energy storage and a microgrid controller it will demonstrate how these community-scale renewable energy projects can be safely integrated with the local electrical grid. The battery and micro-grid controller will enhance the grid by stabilizing the delivery of electricity to the community while keeping the diesel generators turned off whenever the wind turbine generators can meet the demand. This allows the diesel generators to act as back-up generators, which greatly enhances the energy security and reliability for the hamlet, reduces outage frequency and offers redundancy for protection against the risk of equipment failure.

Nunavut needs to transition from diesel to sustainable energy systems. Renewable energy generation not only makes environmental sense, but also provides economic opportunities for Inuit. Establishing community-scale renewable energy projects with battery energy storage, such as the proposed Project, will provide long-lasting economic, environmental, and social benefits locally, regionally, and territory-wide.