

Rethinking energy purchase agreement rates in Nunavut

InterGroup study recommendations to QEC would increase revenues for renewable energy projects

by Emily He | January 2024

Summary

Nunavut's utility (the Qulliq Energy Corporation (QEC)), the Government of Nunavut, and the Government of Canada have an opportunity to accelerate renewable energy development in the territory through improving economic incentives, as shown by a 2021 study, *Specialized Pricing Strategy for Renewable Energy Suppliers to QEC*. The Pembina Institute has produced this backgrounder to summarize and amplify InterGroup study findings as QEC finalizes its Independent Power Producer (IPP) Program, anticipated for late 2023. Key findings are as follows.

1. Update energy purchase agreement (EPA), aka power purchase agreement, rates to include the benefits of renewable energy: operations and maintenance savings on diesel generators, avoided government subsidies for diesel, and social and external benefits. Currently, EPA rates are only based on avoided diesel fuel costs.
2. Increase EPA rates for Inuit-owned projects.
3. Distribute EPA cost burdens among QEC, the Government of Nunavut, and the federal government to avoid impacts on consumer electricity rates.

These changes would ultimately result in a territory-wide EPA rate of \$0.402/kWh with an adder for Inuit ownership of \$0.04/kWh to \$0.08/kWh. Of this, QEC, and hence QEC's ratepayers, would only pay direct offset costs from reducing diesel consumption, totalling around \$0.27/kWh. The remaining cost per kWh would be covered by territorial and/or federal contributions. In comparison, the current Commercial and Institutional Power Production PPA price based on the avoided cost of fuel alone is \$0.248/kWh. Updating pricing structures to reflect these findings would increase revenues for renewable energy projects in Nunavut by approximately 62%, an essential motivator for incentivising investment and achieving financial viability for implementing more renewables in Nunavut.

Independent power production policies in Nunavut

Community-level and Indigenous-led action on renewable energy is building momentum in Nunavut. Despite growing interest on the part of business owners, communities, and project developers, renewable energy development is slowed by a number of challenges — key among them delays to Nunavut’s IPP policy and energy purchase pricing.

As of summer 2023, renewable energy developers in Nunavut have two avenues for entering into partnership agreements with the territorial utility, Qulliq Energy Corporation (QEC): the Commercial and Institutional Power Production (CIPP) Program¹, designed for projects tied to existing commercial and institutional customers, and the yet-to-be finalized² Independent Power Producer (IPP) Program³ for community-scale renewable energy systems. While, in theory, each of these avenues is meant to support renewable energy advancement, the on-the-ground practice reveals a different outcome: unattractive CIPP terms plus delays in the finalization of the IPP policy have resulted in little uptake and have presented barriers to renewable energy development in the territory. These policy and program gaps — as well as their consequential impact on clean energy development within the territory — emphasize that meeting the future energy needs of Nunavut’s growing population while also tackling climate change and the decarbonization of Nunavut’s energy systems will require a well-designed IPP policy.

Addressing these barriers to renewable energy development requires QEC and the Government of Nunavut to adjust their rate setting policy such that it encourages the accelerated uptake of sorely needed renewable energy projects. Energy purchase agreement (EPA), aka power purchase agreement (PPA)⁴, rates are an especially critical issue area that QEC and territorial and federal governments can take immediate action on. This issue is emphasized by the territory’s energy regulator, the Utility Rates Review Council (URRC), which found QEC’s current practices for basing rates “solely on the avoided cost of fuel to be insufficient to

¹ Qulliq Energy Corporation, “Commercial and Institutional Power Producer Program.” <https://www.qec.nu.ca/customer-care/generating-power/commercial-and-institutional-power-producer-program>

² The IPP Program received interim ministerial approval in September 2022 and is currently accepting applications from Inuit-owned organizations and hamlets. The IPP Program was originally anticipated to be finalized by late 2023.

³ Qulliq Energy Corporation, “Independent Power Producer Program.” <https://www.qec.nu.ca/customer-care/generating-power/independent-power-producer-program>

⁴ This backgrounder utilizes the term “energy purchase agreement (EPA)” acknowledging that in different regions, communities, and professional circles, the term “power purchase agreement (PPA)” may be used to denote the same type of contract.

encourage the development of renewable generation in Nunavut.”⁵ To meet its mandate of “respond[ing] to a range of energy use and conservation issues within Nunavut, including alternative energy sources,”⁶ QEC must carefully evaluate the changes necessary to ensure its policies are fair and support increased renewable energy implementation in remote communities across the territory.

Report findings

The following findings are outlined within InterGroup Consultants 2021 study, *Specialized Pricing Strategy for Renewable Energy Suppliers to QEC*. These recommendations present actionable solutions QEC can take as it reevaluates the CIPP and IPP program purchase rates. The study also notes actions the territorial and federal governments could take to support renewable energy development in Nunavut.

- 1. Shift EPA rates from a purely avoided cost of diesel fuel model to one that includes non-fuel operations and maintenance (O&M) savings, government subsidies, and social and external benefits:**
 - a. **Avoided cost of diesel fuel:** These costs are already reflected in QEC’s EPA rate model and denote the direct diesel fuel cost savings to the utility from replacing diesel generation with an equivalent amount of renewable energy. InterGroup proposed a flat rate across the territory of \$0.250/kWh, as the fuel prices paid by the utility from the Government of Nunavut are fairly harmonized across the territory, despite actual delivery costs varying by community.
 - b. **Non-fuel O&M savings and avoided capital costs:** This refers to direct utility costs that would be avoided through the adoption of renewable energy, including non-fuel operating costs (e.g. plant operator salaries, generator set maintenance and overhauls, and maintenance of the power plant), and avoided investment in other utility diesel infrastructure. InterGroup’s proposed pricing structure reflects an associated EPA rate adder of \$0.020/kWh for non-fuel O&M savings. Although there are reductions to utility capital costs for diesel infrastructure, such as purchasing smaller gensets given reduced diesel load requirements after renewable generation is introduced, InterGroup found that these are not apparent in the short term, therefore they did not include any avoided capital costs in the proposed EPA rate.

⁵ InterGroup Consultants, *Specialized Pricing Strategy for Renewable Energy Suppliers to QEC* (2021). <https://www.assembly.nu.ca/sites/default/files/2023-05/QEC%20Pricing%20Strategy%20Renewable%20Energy%20-%20Final%20Report2305843009215668480.pdf>

⁶ Qulliq Energy Corporation, “President and Chief Executive Officer.” <https://www.qec.nu.ca/president-and-chief-executive-officer>

- c. **Government subsidies:** Given that the price paid by QEC for diesel fuel is subsidized by the Government of Nunavut, if QEC offsets diesel consumption due to renewable energy, the Government realizes savings on avoided diesel subsidy costs. Diesel subsidies in Nunavut include those applied to the customer, such as the Nunavut Electricity Subsidy Program, and those applied to the utility by the Petroleum Products Division (PPD), which is the Government of Nunavut body responsible for providing and selling fuel to QEC. Because EPA rates are based on utility cost savings, rather than customer ones, the InterGroup report focused on PPD savings due to renewable energy adoption, specifically that PPD costs to support electricity generation would reduce by \$0.032/kWh. As such, this saving was reflected as an adder to the proposed EPA rate.
 - d. **Social and external benefits:** Diesel reliance results in negative and costly health, environment, and climate impacts. These costs are reflected in the federal government's carbon price; however, the carbon pricing system currently exempts electricity generation in remote communities and thus does not impact QEC costs. If these costs were to be reflected in the EPA rate, InterGroup recommends that they be provided through federal funding — a carbon price of \$140/tonne of diesel CO₂ equivalent emissions would result in a EPA rate adder of approximately \$0.100/kWh. This would reflect the associated social and external benefits of reduced diesel consumption provided by renewable energy projects.
2. **Increase EPA rates for Inuit-owned projects:**
 The Government of Nunavut's Nunavummi Nangminiqagtunik Ikajuuti (NNI Policy) is aimed at increasing the presence of Inuit businesses, capacity building, and Inuit employment. Supporting Inuit-owned renewable energy projects through both the IPP and CIPP Programs is in alignment with the NNI Policy. Following NNI Policy practices, price adjustments typically range from 5%-25% (depending on the extent of Inuit and Nunavut labour and business location). InterGroup proposes that for a project that is 50% Inuit-owned, a social development support adder of \$0.040/kWh is applied (10% of the total proposed EPA rate of \$0.402/kWh). This would mean that a 100% Inuit-owned project would receive a \$0.080/kWh adder.
3. **Distribute EPA cost burdens among QEC, the Government of Nunavut, and the federal government to avoid electricity rate impacts:**
 The URRC stated that "QEC should enable the addition of renewable generation to its

system without increasing the costs and rates for its other customers.”⁷ To do this, EPA rates should only reflect savings directly borne by QEC from increasing customer-owned renewable energy generation. However, to provide a price that fully reflects the full economic, social, and environmental benefits of renewable energy adoption, it is clear that other benefits noted above, such as reduced subsidy costs, social and external benefits, and Inuit ownership, must be included in EPA rates. InterGroup recommends that the body responsible for current cost mechanisms provide a top-up to QEC EPA rates. This in turn would require the Government of Nunavut to provide a top-up associated with PPD subsidy savings and Inuit-ownership and for the Government of Canada to reflect carbon price cost transfers. This would necessitate new mechanisms for this transfer of funds, in particular given current exemptions for electricity in remote communities from the carbon price.

These changes ultimately result in a territory-wide EPA rate of \$0.402/kWh with an adder for Inuit ownership of \$0.04/kWh to \$0.08/kWh (see Table 1). Of this, QEC, and hence QEC’s ratepayers, would only pay direct offset costs from reducing diesel consumption – this is the amount attributed to the avoided cost of diesel and any operations and maintenance savings from the renewables project, totalling around \$0.27/kWh. The remaining cost per kWh would be delivered through territorial or federal contributions.

Table 1. Summary of rate components

Component reflected in rate	InterGroup proposed rate (\$/kWh)	To be paid by
Avoided cost of diesel fuel	\$0.250	QEC ratepayers
Non-fuel O&M savings and avoided capital costs	\$0.020	QEC ratepayers
PPD subsidy allocation	\$0.032	Government of Nunavut
Social and external benefits	\$0.100	Government of Canada
Subtotal	\$0.402	
Inuit-ownership support adder	\$0.040 to \$0.080	Government of Nunavut

⁷ InterGroup Consultants, *Specialized Pricing Strategy for Renewable Energy Suppliers to QEC* (2021). <https://www.assembly.nu.ca/sites/default/files/2023-05/QEC%20Pricing%20Strategy%20Renewable%20Energy%20-%20Final%20Report2305843009215668480.pdf>

In comparison, the current CIPP PPA price proposed by QEC based on the avoided cost of fuel is \$0.248/kWh. Updating pricing structures to reflect InterGroup’s recommendation would increase revenues for renewable energy projects in Nunavut by approximately 62%.

What does this mean for Indigenous renewable energy projects in remote communities?

InterGroup’s study holistically looks at the economic case for renewable energy projects in remote communities. This has not been done in any other remote community jurisdiction in Canada. Previous studies, including those by the Pembina Institute,⁸ were conducted to inform this analysis, but this is the first directly commissioned by a utility. Current standard practice for EPA rate setting by utilities is to only factor in the avoided cost of diesel, as shown by research conducted in the Pembina Institute’s *Fair and Inclusive Rates* initiative. This research demonstrates that EPA rates can and should be significantly increased to reflect the full social, environmental, and economic benefits of implementing renewable energy in remote communities.

A persistent question posed by utilities looking to offer higher EPA rates is “How do we ensure customer electricity rates are not impacted?” This study poses a solution: territorial and federal governments provide top-ups to utility EPA rates while utilities ensure full cost accounting for avoided diesel, O&M, and infrastructure costs. This new approach has significant implications for EPA rates and the business case for implementing renewables in remote communities.

Similar studies must be conducted for other Canadian jurisdictions to demonstrate what EPA rates are possible. Federal, provincial, and territorial governments must collaborate with utilities in actualizing these mechanisms to unlock financial opportunities for Indigenous-owned renewable energy development in remote communities.

The Pembina Institute acknowledges that the work we steward and those we serve spans across many Nations. We respectfully acknowledge the space our organization is headquartered in as the traditional and ancestral territories of the Blackfoot Confederacy, comprised of the bands Siksika, Piikani, and Kainai, the Îyârhe Nakoda Nations, including the bands of Goodstoney, Chiniki, and Bearspaw, and the Tsuut’ina Dené. These Lands are also home to the Métis Nation of Alberta — Region 3 whose Peoples have deep relationships with the Land.

⁸ Pembina Institute, “RiRC Resources.” <https://www.pembina.org/rirc/resources?page=0&tags=nunavut>

These acknowledgements are some of the beginning steps on a journey of several generations. We share them in the spirit of truth, justice, reconciliation, and to contribute to a more equitable and inclusive future for all of society.