

Recommendations on Qulliq Energy Corporation's CIPP policy application

Pembina Institute submission

July 15, 2020

Summary of recommendations

It is encouraging to see the Qulliq Energy Corporation (QEC) commercial institutional power production (CIPP) application to the Utility Rates Review Council (URRC), as many renewable energy projects in Nunavut are still waiting for a robust policy framework that supports the transition to a cleaner sources of energy.

It is the Pembina Institute's opinion that the proposed policy will do little to encourage renewable energy uptake for commercial and institutional customers in Nunavut. The policy lacks details and several statements do not appear to meet the stated mandate of QEC: *"The need for a long-term approach that prioritizes and maximizes the benefits of moving to renewable energy and decreasing QEC's dependency on diesel fuel, all while still providing safe, reliable and affordable electricity"*.

The current policy design prioritizes and protects QEC in many ways and as outlined, the policy takes a minimum approach to offering a pricing mechanism and will likely not spur renewable energy development. The proposed policy seems to be designed such that it safeguards any increase in electricity costs to customers, but will likely result in economic savings to both QEC and the Government of Nunavut (who provide subsidy support) where these savings should be maximized and provided to renewable energy proponents.

At a minimum, power purchase agreement (PPA) rates should be specific to communities, as diesel energy costs vary between Nunavut's 25 communities. This should be done to foster equity between communities and renewable energy proponents developing projects. We also recommend that 100% of cost increases in diesel fuel prices should be passed on to the PPA rate (as opposed to 50% as outlined in the policy proposal), potential decreases in PPA rates in relation to diesel price decreases should be removed from the policy, and the 20% cap on PPA rate increase should be removed.

The PPA rate offering needs to increase from the suggested \$0.25 per kWh to a minimum starting point of \$0.40 per kWh, and should take into account savings on diesel subsidies while recognizing the additional social, health, and environmental benefits renewable energy systems can offer.

A strengthened policy will facilitate more Inuit-led energy projects, while increasing the uptake of renewable energy projects.

Pembina encourages more engagement and collaboration in addressing this policy and QEC's upcoming utility-scale IPP policy. As part of our policy work in the Indigenous Off-Diesel Initiative, we would be pleased to be involved in ongoing stakeholder sessions, to support a more transparent and inclusive process to find solutions, where innovative steps can be implemented that will result in renewable energy uptake driven by strong policy.

Context

The Utility Rates Review Council (URRC) of Nunavut has invited feedback from interested parties on the Qulliq Energy Corporation (QEC) May 2020 Commercial Institutional Power Production (CIPP) policy¹ application for approval. The proposed policy includes an outline on pricing structure options and recommendations to the URRC.

The Pembina Institute (Pembina) is thankful for the opportunity to comment on QEC's CIPP policy submission. We believe that a robust and strong policy is critical in supporting remote communities to transition from being fossil fuel dependent towards renewable sources of energy. In this submission, we provide our perspectives on the CIPP policy design proposed by QEC. Specifically, we comment on the ability of QEC's application to fundamentally meet the mandate set by QEC in developing this policy:

“The need for a long-term approach that prioritizes and maximizes the benefits of moving to renewable energy and decreasing QEC's dependency on diesel fuel, all while still providing safe, reliable and affordable electricity.”

We also share our views and perspectives on how this policy will increase the uptake of renewable energy projects, while taking into account possible synergies between stakeholders in order to make clean energy projects financially viable for renewable energy proponents.

This submission revisits our March 2019 submission to QEC on how to develop effective and strong policy,² and offers recommendations for consideration by the URCC as the CIPP application moves forward.

Our response and review of this CIPP policy is also guided by the role Pembina is providing in the federal government's Indigenous Off-Diesel Initiative³ – identifying and encouraging effective policies, good policy design, programs and regulations that support remote Indigenous communities in developing renewable energy and diesel reduction projects. This is

¹ Qulliq Energy Corporation, *Commercial Institutional Power Production Policy* (2020). https://www.qec.nu.ca/sites/default/files/cipp_pricing_structure_application_050620_final_eng.pdf

² Pembina Institute, *Comments on Qulliq Energy Corporation's proposed IPP policy* (2019). <https://www.pembina.org/pub/qulliq-ipp-policy>

³ Natural Resources Canada, “Indigenous Off-Diesel Initiative.” <https://impact.canada.ca/en/challenges/off-diesel>

part of the work Pembina does as a non-profit environmental charity working on advancing clean energy policy across Canada.

Note: It is Pembina's understanding that QEC's *avoided cost of diesel* (terminology used by QEC in their proposed CIPP policy) equates to Pembina's *marginal cost of diesel* — referring to the full cost of diesel fuel (including transportation costs, taxes) converted to a kWh of electricity considering generator efficiency. It is not clear what costs are included in QEC's *avoided cost of diesel*. In this paper, when Pembina references *marginal cost of energy*, this includes the full costs of diesel fuel. For a full description of the terminology Pembina uses, please refer to our backgrounder *The True Cost of Energy in Remote Communities*.⁴

Guiding principles of this review

Our comments are guided by the following principles and considerations:

- **Diesel dependency in Nunavut is high** — Our recent Diesel Reduction Progress in Remote Communities report estimated that Nunavut is currently 99% dependent on diesel fuel for energy (the highest diesel dependency of all provinces and territories in Canada); approximately 54 million litres of diesel per year is burned for electricity production and 145 million litres per year for heat production.⁵ This situation exposes the territory to dependency on energy supply chains, high energy costs and environmental vulnerabilities which is exacerbated by rapid ongoing climate changes in the region. With such high diesel dependency, renewable energy uptake and diesel reduction efforts in Nunavut require extensive support, including innovative and bold action from QEC and all levels of government.
- **Innovation, leadership and collaboration are needed to tackle diesel dependency** — Reducing diesel dependency in Nunavut is challenging because different stakeholders have various energy solution philosophies that have to be analyzed via a collaborative approach in order to support the fundamental shift of how energy is supplied and delivered in the region. With the impacts northern and Indigenous Peoples are facing with climate change and the imperative to address ongoing fossil fuel dependency, inaction and lack of substantive progress is no longer acceptable. Without bold action and leadership, status quo in Nunavut will continue. A CIPP policy is but one tool to support the adoption and increase the uptake of renewable energy; QEC, URRC, the

⁴ Pembina Institute, *The True Cost of Energy in Remote Communities* (2019). <https://www.pembina.org/pub/diesel-true-cost>

⁵ Pembina Institute, *Diesel Reduction Progress in Remote Communities* (2020). <https://www.pembina.org/pub/diesel-reduction-progress-remote-communities>

Nunavut Government and NTI should all work together to develop solutions that will spur renewable energy development.

- **Renewable energy rates need to go beyond the marginal cost of diesel energy** – Rates awarded for renewable energy generation must take into consideration not just the landed fuel cost of diesel, but also the economic savings of reduced operation and maintenance on diesel energy systems, in conjunction with the non-standard economic benefits of renewables including the environmental, health and social benefits of shifting away from diesel. The status quo of equating the marginal cost of diesel to the value of renewable energy is not acceptable in a time where a significant reduction in diesel must be achieved and there are material advantages and benefits evident from an energy system built on renewable technologies.

Review of QEC's proposed CIPP policy

Overall, it is encouraging to see QEC's CIPP application to the URRC, as many renewable energy projects in Nunavut are still awaiting a robust policy framework that supports the transition to a cleaner and more sustainable source of energy. However, it is Pembina's opinion that apart from a very few specific design points in the CIPP policy, this application to the URRC will do little to encourage renewable energy uptake for commercial and institutional customers. The proposed CIPP policy risks not fulfilling the mandate outlined by QEC – if applied as is, it would not unlock opportunities for renewable energy or help optimize and capture the benefits of a clean energy transition in Nunavut, nor would it likely decrease dependency on diesel fuel.

Our main critiques of the proposed CIPP policy are:

- **The PPA rate design prioritizes and protects QEC** – The policy protects and prevents any cost increase to QEC and even favours QEC in the event of diesel fuel increases. In particular, only 50% of that cost increase is offered in the increased PPA rate. On the counter, if the diesel fuel price decreases, the PPA rate decreases the full amount.⁶ We view this unbalanced approach as unfair. Further, QEC has not provided a justification for this imbalance of deducting 100% of fuel cost decreases and only offering 50% of fuel cost increases. By not passing on 100% of the diesel fuel increase, QEC will retain some cost savings when fuel prices increase. In our opinion, this is not respecting the mandate of “maximiz(ing) the benefits of moving to renewable energy”. It is more common for PPA rates to increase throughout the lifetime of the contract,

⁶ The only exception to this is that the original floor price offered for the PPA rate will be honoured, which is a very valid and positive aspect to maintain security and assurance for project proponents.

often tied to inflation; from Pembina’s knowledge, reducing PPA rates if diesel fuel prices decrease is not common practice and is detrimental to a good PPA policy design.

- **The PPA rate is tied to average diesel fuel costs that do not reflect the conditions in most Nunavut communities** — The proposed \$0.25 per kWh appears to be the weighted average cost of diesel fuel across all Nunavut communities. Many of the other 25 remote communities in Nunavut have higher delivery and fuel costs and hence, higher associated costs of energy. Community-specific diesel fuel cost data is available to QEC. Offering this territory-wide flat PPA rate based only on an average diesel energy cost will be a disadvantage to many renewable project proponents in areas where diesel fuel costs, and hence project development costs, are higher. This will likely lead to projects not being built in communities where diesel fuel costs are higher than \$0.25 per kWh because the PPA price offered will be too low to justify project economics. The REINDEER program⁷ in Ontario, a HydroOne Remote Communities IPP-like policy, offers PPA rates specific to each remote community in northern Ontario because transportation costs vary so widely. These PPA rates range from \$0.258 per kWh to \$0.691 per kWh.
- **The PPA design is based on a misleading claim that “rates to consumers cannot go up”** — QEC states that any PPA rate offered through the CIPP policy cannot be higher than the marginal cost of energy so that customer electricity rates do not increase. This is a misleading statement; it is not uncommon for electricity rates to increase. They do so when diesel fuel or operating costs by QEC go up, and increased electricity rates are applied to the URRC through a General Rate Application every four years. Stating that consumer electricity rates may not increase with the addition of renewables is an opinion position, rather than a regulatory restriction. Pembina understands the sensitivity around increasing electricity rates and the need to ensure rates stay affordable, but stating rates are restricted from increasing is misleading. There are policy options to consider if there is risk to QEC that a higher PPA rate offered may increase the overall electricity rates in the territories.
- **The PPA rate is based on diesel fuel costs only** — The starting PPA rate is tied to the average weighted diesel fuel cost only (QEC’s term *avoided cost of fuel*). It is unclear whether the actual composition of the \$0.25 per kWh includes transportation costs or other costs (taxes, etc.) born by QEC. This low PPA rate will make project economics challenging and likely leave most renewable energy proponents seeking additional funding to develop their respective projects. Project economics will be even more

⁷ HydroOne, “REINDEER Guidelines,” 2020.

<https://www.hydroone.com/abouthydroone/CorporateInformation/Documents/2020%20Hydro%20One%20Remote%20Communities%20Inc%20REINDEER%20Guidelines.pdf>

challenging in more remote and isolated communities where transportation costs will be high.

- **The PPA rate only reflects the marginal cost of energy and does not consider savings from renewable energy integration** — Well-designed renewable energy systems integrated with diesel generators should result in lower generator operational time and therefore lower operations and maintenance (O&M) costs to QEC. These cost savings should be passed on to PPA proponents and be reflected through an increase in the PPA rate. As the policy currently stands, any O&M savings from decreased diesel system usage would benefit QEC. This does not align with its own mandate of “maximiz(ing) the benefits of moving to renewable energy.” Information obtained from QEC’s 2018-19 General Rate Application⁸ shows that the Cost of Service (CoS) of QEC electricity provisioning is around \$0.75 per kWh⁹, with approximately half (43%) of these costs being fuel cost alone. With this information, and the knowledge that leading jurisdictions and other utilities are starting to offer PPA rates 10% to 20% higher than marginal costs¹⁰, it is Pembina’s position that a minimum starting PPA rate should be around \$0.40 per kWh. Adding on community-specific cost data, the minimum starting PPA rate should be even higher for the majority of remote communities in Nunavut, where transportation costs are high.
- **Subsidy savings are not included in PPA rate** — It is well understood that electricity pricing in Nunavut is subsidized — a report in 2017 by IISD¹¹ reported that \$60.5 million is spent subsidizing diesel energy. A high percentage of this subsidy is provided by the Government of Nunavut (through the Petroleum Products Division). If electricity is generated from renewable infrastructures that QEC does not need to maintain, the subsidies needed for diesel energy to bring the cost of energy down from the CoS to QEC customer rates are not needed and represent a cost savings (to the Government of Nunavut). These cost savings could be added to the CIPP pricing structure to support and attract more renewable energy project development in the territory. At this time, an estimate of electricity subsidies has not been made but enough information is available to make a reasonable recommendation in the near term.

⁸ Qulliq Energy Corporation, “2018-2019 General Rate Application,” October 2017 (Table 4.1)

⁹ \$0.75 / kWh is based on internal analysis of information in the General Rate Application

¹⁰ Example of EPA rate with Old Crow, Yukon, stated in Pembina Institute, “Power Shift in Remote Communities”, July 2019

¹¹ World Wildlife Fund Canada, *Costing Energy and Fossil Fuel Subsidies in Nunavut: A mapping exercise*, prepared by the International Institute for Sustainable Development (2017). <https://www.iisd.org/library/costing-energy-fossil-fuel-subsidies-nunavut-mapping-exercise>

- **No economic considerations were given to other factors and the benefits that will be realized** — As mentioned above, there are no considerations in the PPA rate for the other benefits renewable energy systems bring — specifically, the O&M savings from reduced diesel system usage. But other benefits can be realized including environmental benefits from reduced negative localized environmental impacts from diesel combustion (diesel spills into land and water, contaminated site cleanup, particulate matter and diesel exhaust emissions); local and global benefits from the reduction of carbon-based fuel burning (climate change); health benefits from reduced local air pollution (asthma); and the reduction of negative social impacts from continued reliance on diesel fuel. Renewable energy credits (RECs) are sometimes included in PPA rates; when utilities purchase electricity from renewable electricity, the utilities own the right to the REC by paying an additional premium in the PPA rate. This is a strategy used by some utilities to increase the PPA rate to recognize the environmental benefits. These RECs could then potentially be sold in a voluntary REC or offset market.

Although QEC does not bear most of these costs, communities are impacted by local environmental, health and societal costs, and these costs are paid for in some way by their governments or society at large (e.g. through taxes to support federal diesel spill contaminated site cleanup). There are a few leading examples where utilities and governments have negotiated “social adders” of 5% to 10% on top of the PPA price to recognize the benefits of renewables and the long-term reduction of diesel dependence.¹² Other research has also been done that quantifies and recognizes the social benefits of transitioning to renewable energy.¹³ Increasing a PPA rate to include these non-utility economic benefits will require collaboration from various levels of government.

- **The 20% cap on PPA price increase is unfair** — The stated 20% maximum increase (over the 25-year lifetime of the project) that a PPA rate can accrue is limiting and will challenge project economics. It is highly probable that diesel energy costs will increase more than 20% over 25 years, yet under this proposal, any diesel energy costs beyond the 20% cap would once again financially favour QEC, who would not pass these savings

¹² Whitesand First Nation in northern Ontario is an example where a significant “socio-economic adder” was included. Through a directive from the Ontario government, an economic development adder of \$0.184 per kWh of electricity was added to the base PPA rate (\$0.257 per kWh of electricity produced with an escalation percentage over the 20 years of the project) to recognize the economic and social benefits the transition to renewables and development of a wood pellet facility will have for the community. This resulted in a total PPA price of \$0.442 per kWh.

¹³ Gwich'in Council International, *Diverging from Diesel* (2017).
https://gwichincouncil.com/sites/default/files/Diverging%20from%20Diesel%20-%20Technical%20Report_FINAL.pdf

on to renewable energy proponents. This 20% cap also does not respect the mandate of “maximiz(ing) the benefits of moving to renewable energy.”

- **There is limited guidance on renewable energy capacity sizing** – There is no information on eligible renewable energy systems, the total amount of renewable energy generation (both capacity (kW) and energy generation (kWh)) that could be considered under the CIPP policy. This creates uncertainty for proponents, who will have to do additional work due to the lack of transparency around this aspect of the policy. The IPP policy put out by the Yukon government is an example where the annual limits and available amount are regularly posted.¹⁴ This adds a level of transparency and clarity for renewable energy proponents interested in the CIPP policy.
- **There is no mention of incentives or priority for Inuit ownership** – The CIPP policy makes no recommendation on ensuring Inuit-owned renewable energy proponents are prioritized for CIPP applications.

Review of past recommendations

The following table summarizes a list of previous recommendations provided to QEC in our March 2019 submission, and whether or not the CIPP policy has taken these recommendations into consideration.

It has to be noted that since QEC’s overall IPP policy has been split into two parts (this CIPP policy and the larger utility-scale policy), not all previously shared recommendations are relevant to this CIPP policy.

Recommendation from original 2019 submission	Met by CIPP?	Notes
QEC’s IPP policy should offer proponents a rate that — at a minimum — takes into account avoided O&M and deferred capital (an <i>avoided cost</i> rate) on the diesel system	Not met.	PPA rate offered is low and based on an average weighted marginal cost of diesel energy
A social adder to account for the true costs of diesel energy should also be considered, with the federal government potentially providing innovative funding mechanisms and policies to support this shift.	Not considered.	No consideration for any social, health, or environmental benefits or other economic savings renewable energy would bring
End-of-life diesel infrastructure in communities should be replaced with	Unknown and not within scope of this CIPP policy.	

¹⁴ Government of Yukon, “Sell electricity as an Independent Power Producer.” <https://yukon.ca/en/doing-business/funding-and-support-business/sell-electricity-independent-power-producer>

technologies that better support the future integration of renewable energy		
Penetration limits and grid impacts for intermittent renewable energy projects proposed by IPPs should be considered on a case-by-case basis, based on good research and meaningful data.	No guidance on CIPP allowance or limits were provided.	Only a 7% limit penetration for net metering projects is provided by QEC and Pembina is unsure whether this also applies to CIPP policy.
An IPP policy for Nunavut should promote and prioritize projects that are directly led, owned and/or championed by Indigenous communities and/or businesses themselves, rather than by external third-party organizations. Alternatively, a partnership that includes an Indigenous community ownership component should be considered as a minimum.	No mention of prioritizing Inuit proponents for CIPP applications — this review assumes any commercial or institutional customer could apply.	
The IPP policy should also give due consideration for the potential of renewable energy projects to advance Indigenous communities' goals of self-governance and energy independence, and governments' goals of reconciliation	Based on this current policy design, it does not appear this CIPP policy will make meaningful contributions to these efforts.	
A standardized and transparent contract process for PPAs should be established, building from lessons learned in other jurisdictions over the past several years	Unknown — it is not outlined in the CIPP application.	

Overall recommendations

The following six recommendations are provided to the URRC and QEC as they advance the CIPP application for legislative approval in the fall of 2020.

- 1. Develop community-specific PPA rates** — As a minimum, PPA rates reflective of the marginal cost of diesel energy for each of Nunavut's 25 communities should be developed, where the marginal cost of diesel includes the fuel costs, transportation costs and all other costs associated with purchasing and delivering fuel to communities. This cost data should be readily available to QEC. This will provide a more realistic renewable energy price specific to each community in Nunavut, creating a fairer and more equitable CIPP policy. Again, the HydroOne Remotes REINDEER program is an excellent example of community-specific PPA rates.
- 2. The 100% diesel fuel cost increases should be passed on to renewable energy proponents** — As a minimum, 100% of the increase in diesel fuel costs to QEC should be transferred to renewable energy PPA rates, instead of the proposed 50%. This will create a

fairer and more equitable CIPP policy. Decreases to PPA rate if fuel prices decrease (understanding the floor price would be respected) is not recommended.

3. **The 20% cap on PPA rate increase should be removed** — There should be no cap on the price increase for the PPA rate when diesel fuel costs increase, so that renewable energy proponents receive full economic value and all cost savings from QEC are passed on.
4. **PPA rate offered should be increased significantly** — As mentioned, the current PPA rate offered is low and will not strengthen the business case behind these renewable energy projects. Offering a PPA rate tied only to the marginal cost of diesel ignores all the other direct and indirect savings that can be realized. In situations with low PPA rates and high project development costs in remote communities, project proponents typically seek grant or equity funding to complement the PPA rate. However, this creates double dependency on external revenue sources (long-term revenue from the PPA agreement and then additional capital or grant funding), increases project complexity, lengthens timelines for project development, and increases risk to proponent.

An absolute minimum starting PPA rate of \$0.40 per kWh that is based on O&M savings must be considered if an average PPA rate is to be used. Further, economic considerations, economic savings from subsidies and other benefits renewable energy brings must also be studied and included to increase beyond the suggested minimum rate of \$0.40 per kWh. In doing so, QEC would truly be satisfying the mandate of “maximiz(ing) the benefits of moving to renewable energy.” RECs could be considered as a way to increase the PPA rate and recognize the environmental benefits of renewable energy.

5. **PPA rates should include an energy storage component** — Not discussed yet, but PPA rate should account for whether the renewable energy system includes a battery energy storage (BES) component and if so, provide an additional allowance in the PPA rate for this (a BES “adder”). The integration of a BES facilitates alignment between demand fluctuations and intermittency of the renewables, providing grid stability and adding operational certainty for QEC. This should be reflected in the PPA rate as more capital would be needed to include a BES component in a renewables-based energy system.
6. **Ensure grid reliability for projects** — The CIPP policy must be clear in outlining the need for a grid impact study and who is responsible for completing this work. A good CIPP policy design would not put all the onus on the renewable energy proponent, but would explore collaborative options to carry out this responsibility.

Conclusion

Pembina is thankful for the opportunity to provide comments in QEC’s CIPP policy. Properly designed policy that will ensure increased uptake of renewable energy in Nunavut and will benefit all parties involved is possible. We recognize the complexity of developing this policy

specifically in a jurisdiction where energy costs are already high and heavily subsidized. Hence, Pembina calls for bold actions to develop a robust policy that will accelerate and increase renewable energy uptake in Nunavut. We are convinced that a strong energy policy will facilitate more Inuit-led energy projects — a benefit which should also be captured in the proposed CIPP policy along with QEC’s mandate of “*a long-term approach that prioritizes and maximizes the benefits of moving to renewable energy*”. There is a concern that QEC’s CIPP policy, as it currently stands, will miss the mark and not achieve the goals set forth. We do not wish to see time, effort and money invested in a policy that does not produce significant and long-term results for communities in Nunavut.

Collectively, the feedback provided herein requires meaningful collaborations between stakeholders and practitioners to develop a fair and equitable CIPP policy that truly supports renewable energy uptake in the territory.

Finally, considering Pembina’s role in the Indigenous Off-Diesel Initiative and our organization’s policy work across Canada, we would be pleased to be further involved in ongoing stakeholder sessions and to support a more transparent and engaging process to find solutions involving all parties, where innovative steps can be implemented that will result in renewable energy uptake driven by good policy. This is not just important for this CIPP policy but also critical for the upcoming utility-scale IPP policy. Without significant improvements to QEC’s application to the URRC, there is a concern that little progress will be made on diesel reduction efforts in Nunavut which currently has the highest diesel dependency of all territorial jurisdictions and provinces in Canada.

Contacts

Dave Lovekin
Director, Renewables in Remote
Communities
Pembina Institute
250.634.0846
davel@pembina.org

Marvin Quitaras
Senior Analyst, Renewables in Remote
Communities
Pembina Institute
778.966.9058
marvinq@pembina.org