

2022-2025 Energy Action Plan Development

Pembina Institute comments and recommendations

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Recommendation summary

- Increase opportunities for Indigenous and community leadership in the clean energy transition by:
 - Supporting the development of community-led community energy plans
 - Actively developing partnerships and supporting Indigenous-led energy projects
 - Implementing a formalized, government-backed IPP policy with favourable and accurate rates
- Ramp up emissions reduction plans to track with federal and international GHG reduction commitments
- Approach the clean energy transition as an economic opportunity

Discussion and recommendations

What actions and initiatives from the 2019-2022 Energy Action Plan should the GNWT keep in the next Action Plan, and why?

Strategic Objective 1: Work together to find solutions

Action/initiative from 2019-2022 Energy Action Plan	Reason for Keeping
Continue to involve and engage communities on energy projects	Many communities in the NWT have yet to complete a community energy plan that is driven and championed by and for the community. Successful community energy plan creation and implementation are key for ensuring community support for energy projects. There are many examples to draw from on for successfully
Energy Mentorship for Community Reps	
Support the development and implementation of community energy plans	

	supporting communities to develop holistic energy plans.
Undertake education, energy literacy, curriculum development and outreach initiatives	Education and outreach should be done not just within school districts but on larger scales in the community and higher education institutions. Local technicians need to be equipped with the necessary skills to implement the planned energy projects. Education and training initiatives should be focused on building community capacity for energy audits, energy management, project management, and skilled trades.
Support community-based energy projects by providing technical support to help communities advance renewable energy and energy saving projects	Building local technical capacity should be a longer-term goal such that external support is only needed in limited capacities. In the short term, NTPC and AEA should continue to support community-driven projects.
Implement a new application based Government GHG Fund to support government energy efficiency, renewable and alternative energy projects	The current funding should be extended past its current March 2024 deadline.

Strategic Objective 2: Reduce greenhouse gas emissions from electricity generation in diesel communities by 25%

All existing plans under this objective should be continued such that GHG emissions from diesel reduction are further reduced. The GNWT should consider increasing the GHG emissions reduction targets from 25% to 40% to stay aligned with the federal government's 2030 Emission Reduction Plan.

Strategic Objective 3: The GNWT will reduce emissions from transportation by 10% on a per person basis

Action/initiative from 2019-2022 Energy Action Plan	Reason for Keeping
Implementing GNWT fleet management and efficiency improvements for vehicles, heavy equipment and marine fleet through the Government Energy Fund	GNWT fleet upgrades, especially dual fuel hydrogen-diesel combustion engines and electrification on hydro grids to support EVs are the most straightforward method of reducing territorial transportation emissions.
Initiate a rebate program for low or zero emissions vehicles and charging stations in hydro communities	EV adoption in the NWT has been limited so far. Rebates are needed continuously until EV penetration reaches target levels.

Assess the feasibility and complete Zero-Emission Vehicle Transport Corridor NWT Boarder to Yellowknife	Already done/in progress.
Assess the status of LNG and biofuels for transportation in the NWT context, including availability, price, long-term storage and cold weather stability	This should also be done for marine transportation – blends should not be overlooked if pure biofuel fuel switching is temperature prohibitive.
Work at the national level to ensure that renewable fuel standards are applicable to the North	Bilateral discussions should continue to ensure that the Clean Fuel Standard and other vehicle standards are feasible for implementation in the NWT.
Work at the national level to improve vehicle efficiency standards	
Support Industrial vehicle efficiency and retrofits through the Commercial and Industrial Energy Fund	

Strategic Objectives 4 and 5: Increase the Share of renewable energy used for Community heat to 40% by 2030 Increase commercial, residential and Institutional building energy efficiency by 15% over 2015 levels by 2030

All building energy efficiency and retrofit programs should continue to be offered to address demand side reduction to avoid load growth constraints. Funding should be allocated to measures that have been most effective at reducing demand and have had the highest uptake in the implementation of the last Energy Action Plan. Further thoughts for some actions have been given in the South Slave Heating Electrification study conducted by Pembina. High efficiency wood stove implementation should be a primary focus for diesel communities where electrification is not feasible.

Strategy 6: A Longer Term Vision: Develop the NWT’s energy potential, address industry emissions, and do our part to meet national climate change objectives.

Action/initiative from 2019-2022 Energy Action Plan	Reason for Keeping
Exploring Partnership and Emerging Technologies	Alternatives to fossil fuel reliant equipment are especially needed as exemptions for carbon pricing are possibly no longer feasible under the revised federal carbon pricing backstop.
Further the South Slave to North Slave Transmission Interconnect	If supported by local and Indigenous communities and if supported by a good business case, hydro

NTPC Hydro Asset Overhauls	expansion and interconnection can unlock electrification opportunities for further GHG reductions.
Hydro and Transmission Development	
Seek opportunities to replace diesel with liquefied natural gas for heating and electricity	If this is to be implemented, the GNWT should first conduct a life-cycle assessment on the upstream emissions / methane leakage of sourced liquefied natural gas to ensure GHG emissions are substantially lower than diesel for electricity and/or heat.

How could the GNWT improve the current actions and initiatives?

The 2019-22 Energy Action Plan (EAP) was expected to address 11% of the NWT’s total emissions reduction target of 517,000 tonnes by 2030.¹ The Government of the Northwest Territories needs to ramp up their initiatives – if each EAP reflects the 2019-22 plan, only 40% of the emissions reduction target will be met by 2030.

Actions should be driven on the community level where possible and with continuous community involvement and engagement, far beyond the duty to consult and free, prior and informed consent. The GNWT should set a goal for each NWT community to have their own energy plan with targets and have plans for periodic updates and renewal of each CEP. The GNWT should fund community representatives to establish energy plans as community energy plans are most effective when created and managed by a community representative.

It is paramount that the GNWT demonstrate leadership in supporting Indigenous-led energy projects. The number of energy projects being implemented does not reflect the opportunity or need to reduce diesel reliance in every NWT community. To increase this, the GNWT must actively support Indigenous-led project development and emphasize partnerships like with the Aklavik VSG-solar project. The Energy Action plan should have concrete undertakings to increase opportunities for Indigenous proponents looking to develop clean energy projects in addition to supporting and funding community positions focused on community clean energy transition plans.

The clean energy transition in the NWT should be viewed as an economic opportunity rather than a challenge – the NWT should look to and convene with leading jurisdictions that are providing more holistic support for community energy planning and implementation to leverage lessons learned. The Yukon’s clean growth plan, “Our Clean Future: A Yukon strategy for climate change, energy and green economy” has a goal of building a green economy in the territory, something that should be explored more for the NWT – even with the understanding

¹ Government of Northwest Territories, *2030 Energy Strategy Energy Action Plan Report* (2019), 4. https://www.inf.gov.nt.ca/sites/inf/files/resources/7468_energy_action_plan_2019_final_web.pdf

and appreciation for the different economies. This, along with the other actions in the updated Action Plan, should be implemented with support from the federal government where possible.

What new project or action could the GNWT initiate in the 2022-2025 Energy Action Plan to reduce emissions, help stabilize the cost of energy, and maintain energy security in the North?

Strategic Objective 1: Work together to find solutions

New Energy Action	Justification
Develop a framework for creating community energy plans - work with existing communities to identify key steps and partners from other remote Indigenous communities to increase knowledge sharing across jurisdictions.	Rather than building community energy plans from the ground up, a CEP framework would allow for more efficient plan development.
Create more opportunities for youth in energy programs.	Whether this is in the form of youth outreach or creating specific internship opportunities, youth in the GNWT need opportunities to actively participate in the territory's energy transition.
Implement a formalized, government-backed Independent Power Producer policy with favourable and accurate rates that provides opportunities for Indigenous individuals and communities to develop their own renewable energy projects.	Clarity on community partnerships and formal IPP policies is important to support Indigenous ownership and/or partnerships in developing renewable energy projects to decarbonize diesel-reliant communities.

Strategic Objective 2: Reduce greenhouse gas emissions from electricity generation in diesel communities by 25%

New Energy Action	Justification
Increase GHG emission reduction targets to 40%	Territorial GHG reduction targets need to be aligned with federal and international GHG reduction commitments.
Reduce emissions intensity of diesel gensets by efficiency improvements and emissions control technologies.	Further details are provided in Pembina's paper, Reducing emissions from diesel generators in remote communities .
Reevaluate renewable diesel and biodiesel blend costs against other emissions reduction measures rather than against the cost of diesel.	Renewable diesel and biodiesel are both currently more expensive than fossil fuel diesel; however, they may be more economical than other emissions reductions measures. As such, the

	<p>average \$/tonne emissions reduction cost in the NWT should be used as a threshold for financial feasibility rather than \$/L diesel prices.</p> <p>Although biodiesel was not evaluated in detail in Assessing the Use of Liquid Biofuels in the Northwest Territories, blends for use in stationary applications may be suitable and not have the same cold flow restrictions. Using biodiesel in warmer months while using lower blend percentages in colder months may also be feasible for achieving emissions reductions while avoiding limitations.</p>
<p>Assess the age and condition of NTPC's existing diesel fleet and identify generators that are close to end of life. Prior to replacement with one:one sizes, renewable and battery integration should be evaluated to reduce diesel capacity.</p>	<p>A fleet-wide assessment will enable the territory and NTPC to better plan for refurbishment and replacement. It will also make integrating renewables/storage and possibly reducing emissions more economical over the long term.</p>
<p>Implement a formalized, government-backed Independent Power Producer policy with favorable and accurate rates that provides opportunities for Indigenous individuals and communities to develop their own renewable energy projects.</p>	<p>Clarity on community partnerships and formal IPP policies is important to support Indigenous ownership and/or partnerships in developing renewable energy projects to decarbonize diesel-reliant communities.</p>

Strategic Objective 3: The GNWT will reduce emissions from transportation by 10% on a per person basis

New Energy Action	Justification
<p>Establish EV vehicle adoption and charging infrastructure plans for each hydro community in the NWT.</p>	<p>Community or regional plans are important for load planning but also to better quantify the impacts of vehicle electrification on GNWT's GHG commitments. The uptake of EVs is also contingent on sufficient charging infrastructure in the territory.</p>

Strategic Objectives 4 and 5: Increase the Share of renewable energy used for Community heat to 40% by 2030 Increase commercial, residential and Institutional building energy efficiency by 15% over 2015 levels by 2030

New Energy Action	Justification
<p>Incentives for apartment and commercial buildings to perform energy audits.</p>	<p>Most energy audits, at least in the South Slave, have only been done for single unit residential or occasionally multiplexes. Energy audits for apartment and commercial buildings should be</p>

	undertaken to best identify efficiency improvement opportunities.
Perform energy audits for all high consumption GNWT buildings.	Energy audits are key to creating energy management and reduction plans for buildings over their lifecycle. Audits are crucial for selecting and appropriately designing retrofit measures.
Deep retrofits for all GNWT and Housing Corporation buildings, followed by heating electrification in hydro communities and biomass heating in non-hydro communities.	Deep retrofits should be undertaken after energy audits but before electrification/biomass heating to ensure equipment is right-sized and hence most cost effective. In addition to increasing access to energy efficiency for NWT residents from incentives, the GNWT needs to undertake extensive initiatives to reduce energy consumption in their own buildings. Deep retrofits, such as increasing insulation and lowering air leakage, can significantly reduce the energy required to heat the building regardless of the heating system or fuel. In addition to cost savings, buildings with an improved thermal envelope have better comfort and indoor air quality.
Reduce capital barriers - PAYS/PACE.	Pay-As-You-Save (PAYS) and Property-Assessed-Clean-Energy (PACE) programs lower capital cost barriers while still being financially self-sustaining if designed properly. More details are provided in Pembina's reports, From diesel dependency to energy empowerment and Property Assessed Clean Energy in Canada .
Reduce application complexity and applicability requirements for programs.	A critical aspect to program uptake is ensuring that programs are accessible to applicants with minimal complexity – restrictive application requirements resulted in 85% of housing program applications being denied between 2006 and 2020 in Tuktoyaktuk .

Strategy 6: A Longer Term Vision: Develop the NWT's energy potential, address industry emissions, and do our part to meet national climate change objectives.

New Energy Action	Justification
Build a plan to support the green economy in the NWT.	The clean energy transition across Canada is gaining momentum and accelerating in implementation. The GNWT needs to examine the new economic opportunities that are emerging as clean growth continues.

What is the most important energy issue currently affecting your community? How could it be addressed?

N/A

Conclusion

Thank you for the opportunity to provide written comments on the GNWT's 2022-2025 Energy Action Plan Development. We look forward to continued engagement in this issue.