Northwest Territories 2030 Energy Strategy

Pembina Institute comments and recommendations

Submitted to: Government of the Northwest Territories | August 21, 2023
Regarding: Feedback to the 2030 Energy Strategy Update

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Recommendation summary

This submission offers the following recommendations on how the Government of the Northwest Territories' 2030 Energy Strategy update can reflect an inclusive and collaborative approach to climate action in addition to ensuring policy, programs, and targets provide the necessary motivators and support for Indigenous- and community-led clean energy and decarbonization.

Guiding principles

- Advance reconciliation, recognizing that the success of the clean energy transition is directly related to the upholding of Indigenous rights
- Ambitious actions and plans consistent with Canada's climate goals and what science shows is necessary to prevent global warming above 1.5 degrees
- Address climate, affordability, and reliability concurrently
- Address perverse incentives and subsidies of diesel use
- Full cost accounting when evaluating renewable energy and energy efficiency alternatives
- Support youth leadership and capacity-building

Policy priorities

- Implement a target of 40-45% below 2005 level by 2030 and net-zero by 2050, supported by sector-specific GHG budgets and five-year interim targets post-2030 to establish a declining emissions pathway for the NWT
- Enact legislative certainty for GHG targets and interim targets to 2050
- Full legislative adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) supported by action plans for integrating UNDRIP throughout the GNWT's departments, decisions, and legislation
- Update existing legislation to facilitate necessary utility and regulator actions (e.g. including emission reduction requirements for utilities)
- Implement an Independent Power Producer (IPP) policy

- Update the net metering renewable integration limit
- Decarbonize transportation by setting 2030 and interim targets for the number of EVs on the road, funding EV rebate programs, committing to purchasing EVs for new government vehicles, and building charging infrastructure
- Address building needs and reduce emissions through deep retrofits, fuel-switching, capacity-building, increasing rebates for retrofits and energy efficiency, and implementing alternative financing models to address capital barriers

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Context

The Pembina Institute welcomes the opportunity to provide input on the Government of the Northwest Territories' (GNWT) 2030 Energy Strategy's five-year update.

The 2030 Energy Strategy sets objectives for the territory's energy initiatives and actions. Published in 2018, the Strategy is updated every five years. The current Energy Strategy sets six Strategic Objectives:

1. Work together with communities
2. Reduce GHG from electricity generation in diesel powered communities by an average of 25%
3. Reduce GHG emissions from transportation by 10% per capita
4. Increase the share of renewable energy used for space heating to 40%
5. Increase residential, commercial, and government building energy efficiency by 15%
6. A longer-term vision: developing the NWT's energy potential, address industry emissions, and do our part to meet national climate change objectives

The Strategy also commits the GNWT to decrease its emissions by 517 kilotonnes below 2016 levels to 1,094 kilotonnes by 2030.

This submission is in response to the questions posed by the GNWT in their Discussion Guide and supported by the GNWT-commissioned study, *Modeling emissions reductions pathways in the Northwest Territories*, by Navius Research.

Discussion and recommendations

The Pembina Institute's recommendations are supported by strong policy expertise across Canada's provinces and territories. Any recommendations received by the GNWT from local Indigenous entities should be carefully considered to centre the stewards of the Northwest Territories since time immemorial and advance equity and reconciliation in climate change adaptation and mitigation measures.

Overview: what should the NWT's energy and climate future look like?

1. Should the NWT set a long-term emissions reduction target like Canada's (e.g., net-zero by 2050)? How should emission reductions be balanced with other priorities?

Yes, the NWT should set a long-term emissions reduction target of net-zero by 2050 in line with Canada's commitments, with caveats for thermal communities. This target should only be implemented with both the full support of local Indigenous and community governments and adequate planning and funding for continuous collaboration, capacity-building, and support for communities in the implementation of actions and initiatives necessary to achieve said target.

Why set a long-term emissions reduction target?

The NWT is warming faster than virtually any jurisdiction in the world.[1] Over 70 countries, including China, the United States and the European Union, representing more than 76% of global emissions, have net-zero targets.[2] Thousands of companies and municipalities have committed to net-zero. A net-zero target is a minimum and necessary commitment to demonstrate that a jurisdiction treats the issue of climate change seriously and is part of the global fight to address global warming.

Aligning the NWT's actions with Canada's, as has been done in five provinces and territories including the Yukon, is needed to ensure climate policy continues to have long-term impacts. As demonstrated in the GWNT-commissioned Navius modelling report, progress on emissions

[1] Environment and Climate Change (Northwest Territories), "Climate Change." https://www.gov.nt.ca/ecc/en/services/climate-change

[2] United Nations, "For a livable climate: Net-zero commitments must be backed by credible action." https://www.un.org/en/climatechange/net-zero-coalition

reductions would flatline after 2030 under current policies, showing the need for new motivators to drive progress towards thriving and resilient communities. Setting ambitious targets across sectors while advancing policies that spur investment in the clean energy economy will help the GNWT to become a climate leader in the North.

Targets provide the foundation for a clear and comprehensive climate action strategy and help guide policy development in the short term. The NWT needs to decarbonize its transportation, industry, and buildings sectors — targets will provide the necessary long-term motivators to drive plans, projects, and investments towards lowering GHGs.

Through targets set by government and co-developed with rights-holders, a pathway for a wide range of actions across the whole of society can be outlined, and governments, investors, industry, and communities can move together to reduce emissions. Depending on the specific details of the decarbonization strategy, these targets can also hold various industry and government actors accountable for the work they are (or aren't) doing to decarbonize their sector and lower emissions.

Targets are also important for attracting investment and taking advantage of a rapidly growing clean energy economy while incentivizing needed innovation and research. With clear targets in place, various funding needs and sources can be more clearly identified and created. For the NWT, strong targets can help support ongoing investment in energy solutions and necessary capacity-building to support community-led desires to reduce reliance on diesel and begin owning and relying on renewable energy sources. This investment means that communities can endeavour to implement for themselves the clean energy infrastructure that works for them.

Key considerations for collaboration

Emissions reductions must be equally supported by collaboration between the GNWT and Indigenous leaders and governments, to ensure actions are aligned with community priorities. Any updates to the 2030 Energy Strategy must be in full alignment with the priorities and plans of Indigenous and community governments in the NWT. "To avoid perpetuating existing inequalities, equity and reconciliation will have to be built into climate mitigation and adaptation policies. While the pathway may not always be clear, it is essential that planning processes are deliberately inclusive of Indigenous Peoples and historically underrepresented and marginalized communities."[3]

A long-term emissions reduction target is made stronger by implementing these same strategies and processes of collaboration and engagement in all areas of climate and energy

[3] Nichole Dusyk et al., *All Hands on Deck: An assessment of provincial, territorial and federal readiness to deliver a safe climate* (Pembina Institute, 2021), 45. https://www.pembina.org/reports/all-hands-on-deck.pdf

policies and planning. The GNWT's emissions reduction target should incentivize and motivate short- and long-term investments into capacity-building, community leadership, and shifting the NWT economy to align with a net-zero future.

Thermal communities

Thermal communities are those that predominantly rely on diesel or gas for electricity. They fall under a separate and higher rate class than communities that are served by the territory's large hydro generation stations, aka hydro communities.[4]

Given the necessity of secure baseload power and the cost constraints of available alternatives in thermal communities (such as carbon capture, utilization and storage and transmission interties), some percentage of diesel generation may still be required. For member countries of the Organization for Economic Cooperation and Development (OECD), the Intergovernmental Panel on Climate Change (IPCC) specifies that in a median 1.5 degree warming scenario, a net-zero grid by 2035 can include up to 3% of generation from unabated natural gas.[5] Similarly, the GNWT could adopt a target of net-zero by 2050 with a condition that thermal communities retain low (e.g. <5%) levels of fossil fuel diesel generation. Thermal communities may still utilize higher levels of diesel generation (e.g. up to 20%) for the purposes of grid stability, but the majority of this should be met by renewable diesel. This condition should be re-evaluated as technology advances and economic conditions evolve.

2. What key actions will be needed in the NWT energy system to achieve a long-term emissions reduction target such as net-zero emissions by 2050?

Achieving a long-term emissions reduction target requires careful planning and ambitious actions over the target timeline. A commitment to net-zero by 2050 should be paired with a suite of "increasingly ambitious carbon targets and decreasing carbon budgets for every sector of the economy; a climate plan based on credible modelling showing how targets will be achieved; progress reports for each milestone period; and a requirement to course-correct when targets aren't met."[6] This entails having emissions reduction targets for both 2030 and 2050 in conjunction with interim targets and sector-specific GHG budgets, supported by plans, progress reports, and contingency measures.

[4] Northwest Territories Power Corporation, "Zone Rate System." https://www.ntpc.com/your-community/zone-rate-system

[5] Dave Jones, "The science is clear, coal needs to go," *Ember*, April 7, 2022. https://ember-climate.org/insights/commentary/the-science-is-clear-coal-needs-to-go/

[6] *All Hands on Deck,* 8.

Legislative and regulatory changes

The GNWT should carefully consider what mechanisms are needed in decision-making and regulatory processes to ensure the necessary enforcement and appropriate accountability measures are in place for meeting targets. In particular, electricity sector GHG budgets should be legislated and the Public Utilities Act should be updated such that the territory's energy regulator mandates and allowed actions reflect the full consideration of GHG requirements. This will ensure that territorial utility actions are aligned with said budget when evaluating utility applications.

Indigenous leadership

A groundswell of Indigenous leadership, passion, knowledge, skills and capacity is enabling the clean energy transition in remote communities across Canada. Accelerating the clean energy transition in remote communities requires a deep interrogation of existing rights-based legislation and policies. The GNWT must centre Indigenous rights, knowledge and priorities within processes and policies of energy system change. Until these issues are fully addressed through legislation and proper funding, a successful clean energy transition cannot be fully realized.

Progress on the clean energy transition is slowed by a thick web of complex social, economic and environmental policy. These must be reformed through a rights-based approach to addressing these policy complexities and the legislative adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Following the GNWT's introduction of a bill to implement UNDRIP, the government must pass legislation committing to full implementation of UNDRIP, as was included in the government's 2019-2023 mandate.

The success of the clean energy transition in remote communities is directly related to the upholding of Indigenous rights. In addition to legislation, this requires careful and full engagement and consensus-building with Indigenous leaders and communities, a thoughtful action plan, and government commitment to build administrative capacity and strong processes of collaboration and consultation.

Priorities for the GNWT with regards to social and Indigenous inclusion for emissions reduction target actions are to:

- Increase and plan for bilateral discussions between the GNWT and Indigenous organizations in the planning, development and implementation of climate and clean energy initiatives in the NWT. This includes ensuring Band Councils and Métis organizations are included in negotiations for climate action in the NWT. Indigenous peoples and communities must have a voice and decision-making power for climate and energy plans, policies, programs, and investments.

- Prioritize and support Indigenous-owned renewable energy projects. With the majority of federal funding to support remote renewable energy projects in the NWT being allocated to Indigenous projects, champions, and businesses, the territorial government must plan to support Indigenous-owned projects rather than utility- or government-owned projects. Collaboration with Indigenous communities, governments, and leaders plays a strong role in ensuring communities experience the full social and economic benefits of renewable energy development. Through partnership or full community ownership, projects can help to increase community pride, protect Indigenous rights to self-determination, and enable energy sovereignty.
- Support legally recognized Indigenous governments and/or authorized Indigenous organizations in the development and execution of housing plans. Appropriate housing and increased building energy efficiency are critical for lowering the cost of living, as over half of the total diesel consumed in remote communities is used for heating.

Policy priorities

Communities are making change in jurisdictions that have supportive policies and are challenging status-quo electricity regulations. To unlock opportunities for community-owned clean energy projects, it is paramount that the GNWT:

- Increase the renewable integration limit. The 20% cap for net metering projects has been reached or exceeded by at least 10 of NTPC's thermal communities.[7] Higher penetration levels are feasible without impacts to micro-grid stability. Current integration limits restrict economic opportunities for residents, promote behind-the-meter installations, and create roadblocks for communities advancing their clean energy goals.
- Formalize an Independent Power Producer (IPP) policy. IPP policies are frameworks for medium- to large-scale projects that generate and sell electricity to the utility. Yukon has a longstanding IPP policy and Nunavut will soon have a utility-scale IPP policy, making NWT the only territory yet to establish one. IPP policies provide a clear pathway for clean energy project proponents, creating certainty and transparency when developing projects. The GNWT should work with NTPC and the NWT Public Utility Board (PUB) to implement an IPP policy that has, at a minimum:
    - Priority and/or requirements of Indigenous ownership
    - Transparent and community-specific PPA rates above the avoided cost of diesel
    - Flexible contracts for unique project configurations

Policies that enable grid decarbonization will also support lower emissions intensity of the NWT's building stock, given that fuel switching and heating electrification follows.

[7] Northwest Territories Power Corporation, "Community Capacity Schedule." https://www.ntpc.com/node/547

Sector-specific actions

For the GNWT to meet a long-term emissions reduction target, prioritizing decarbonizing the NWT's highest emitting sectors is crucial. To achieve this, the GNWT should take the following actions.

Transportation (47% of total emissions)

- Set 2030 and interim targets for the number of EVs on the road.
- Based on targets, appropriately fund EV rebate programs with plans for long-term financing rather than top-ups to the incentive program on an as-needed basis.
- Commit to a goal of 50% of all new light-duty vehicles purchased by the GNWT being zero-emissions by 2030.
- Plan and build out charging infrastructure.
- Implement zero-emissions vehicle awareness campaigns.

Buildings (10% of total emissions)

- Retrofit existing buildings and address current housing needs through new energy efficient infrastructure. New buildings in hydro communities should employ electric heating and be built to maximize efficiency. Existing buildings need to be upgraded for cost savings and adaptation.
- Weatherize buildings to reduce air leakage prior to heating electrification. A significant number of residential and commercial buildings in the NWT are very leaky. In a northern climate, unlike more temperate climates, a small amount of air leakage can result in a very significant heat loss due to the extreme cold. Increasing insulation and sealing leaky building enclosures help reduce heat loss and costs associated with heating buildings.
- Support and fund youth and community capacity-building to meet the skills needed to implement large-scale retrofit and new infrastructure projects.
- The Energy Initiatives Report states that ten rebates for deep home energy retrofits were provided in 2021-22. This needs to be significantly increased by working with legally recognized Indigenous governments and/or authorized Indigenous organizations in addition to Housing NWT. This will ensure the impacted parties are involved and any barriers to rebate uptake are addressed.
- Appropriately fund retrofit and energy efficiency rebates, which emphasize adaptation and affordability while reducing carbon emissions.
- Implement alternative financing models (e.g. pay-as-you-save (PAYS), property assessed clean energy (PACE)) to address upfront capital constraints.

These actions require the GNWT to prioritize grid decarbonization, especially in thermal communities, to enable electrification. Investment in energy efficiency improvements must be

balanced with those in community-level renewable energy projects to ensure that decarbonization efforts target both energy supply and demand.

3. How much capital investment will be needed, and where will it be needed, to realize our long-term energy and climate goals? Where could the money come from?

The amount of capital investment needed will be dictated by the specific goals and associated actions from the updated 2030 Energy Strategy and subsequent Energy Action Plans. Following historical trends, funding to support necessary investments will likely be a mixture of territorial and federal dollars. However, there is a potential to form new approaches to the composition of these funding streams, through increasing the use of carbon price revenues for clean energy initiatives and prioritizing partnerships with Indigenous and community governments and organizations.

In the NWT, carbon price revenues are distributed between community offsets/rebates, large emitter grants/rebates, and GNWT general revenue. Revenues not allocated to cost-of-living offsets and other rebates total $144.4 million from 2023-2031, an average of $18.05 million annually.[8] The NWT allocates a significantly higher portion of carbon tax revenue to large emitters (38%) compared to the Yukon (12%).[9] To increase funding for clean energy capital investments and to address affordability concerns, the GNWT should consider increasing revenue allocations to communities and clean energy investments to ensure sufficient capacity for implementing clean energy initiatives, including electrifying buildings and transportation.

From 2019-2022, the GNWT allocated on average $39 million annually for energy related investments, as noted in the Energy Initiatives Reports. However, much of this funding has been for large infrastructure projects (e.g. Taltson Hydro and Inuvik Wind). A reframing of GNWT priorities from government ownership towards partnership means that future generation upgrades are met through partnerships with community governments, where federal funding flows directly to communities for infrastructure projects as opposed to in GNWT capital allocations. This approach is substantiated by federal actions, where funding streams are increasingly intended to encourage Indigenous ownership of generation assets. This means partnerships are critical for unlocking funding opportunities to implement clean energy projects.

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[8] Standing Committee on Government Operations, *Report on Bill 60: An Act to Amend the Petroleum Products and Carbon Tax Act*, (Northwest Territories Legislative Assembly, 2023). https://www.ntassembly.ca/sites/assembly/files/cr_45-192_scogo_report_on_bill_60_an_act_to_amend_the_petroleum_products_and_carbon_tax_act__0.pdf

[9] *Report on Bill 60: An Act to Amend the Petroleum Products and Carbon Tax Act*.

Utilities may also add certain costs to the rate base, such as integrating battery storage to support the increase in community- and customer-owned renewables. This may require changes to legislation and regulation and should be carefully considered by the GNWT in evaluating actions to support clean energy adoption. If community ownership of batteries and other non-generation assets is desired, these costs may still be borne by the project proponent, on a case-by-case basis.

Carbon price revenue can then be directed towards the remaining upgrade costs for which the GNWT remains responsible, such as implementing EV chargers. Carbon pricing revenue should not go into general GNWT funding but rather be directed to clean energy initiatives and affordability improvements, with an emphasis on building upgrades to make buildings healthier, safer, and more resilient. GNWT carbon pricing revenue should be directed to supporting rebate programs, developing and implementing effective policies, building capacity, and supporting community initiatives.

Any remaining gaps in funding requirements should be clearly communicated in bilateral conversations on the federal level to indicate what direct federal funding to the GNWT may be necessary to supplement carbon pricing revenue and achieve the territory's emissions reduction target.

4. How do we balance the need for secure, affordable and sustainable energy?

Given the implications of climate change and the global clean energy transition, the priorities of energy security, affordability, and sustainability are not in opposition. An acceptable strategy must achieve, not "balance," all three of these outcomes.

Renewable energy promotes energy security through increasing local reliance on volatile global fossil fuel markets and price fluctuations. Home and building retrofits that improve energy efficiency and reduce the scale of renewable energy development needed are especially important from an affordability perspective. Retrofits that reduce heating energy demand also reduce energy bills. Beyond affordability, building retrofits can address a multitude of priorities including adapting buildings to a changing climate and improving public health and safety. The clean energy transition requires upfront capital investments; however, they pay themselves back in long-term energy security and cost stabilization, home heating affordability, climate adaptation, and climate mitigation.

To ensure the GNWT's plans are aligned with actions to address the equity impacts of climate change and climate policy, especially on Indigenous Peoples, the GNWT should "assess the distribution of [both existing and needed] climate impacts and policies by key stakeholder

group (including by income group) [and] address inequities in the distribution of impacts"[10] through capacity-building, funding, and other support measures.

Addressing climate change through thoughtful and effective policy action presents opportunities to address affordability, security, and health. Programs, policies, and plans can be designed to ensure that low-income groups and individuals with less access to financial resources, including renters, are not disproportionately affected by the effects of climate change. Mechanisms include income-based considerations for rates, rebates, and direct discounts. Support can be targeted at the community and/or individual level, for example with specific provisions for elders or those experiencing energy poverty. Energy actions are a direct avenue to buffer at-risk communities from climate effects, such as infrastructure investments to address flooding and extreme heat. Energy and climate are not separate but rather interconnected to community needs, only heightened by climate change.

5. What opportunities and challenges come with reducing emissions to achieve existing or new climate objectives while maintaining and growing the territorial economy? What policies or actions are needed to address those opportunities and challenges?

The Economic impacts outlined in Section 5.2 of the Navius modelling report found that GDP growth is lessened under decarbonization scenarios. However, it is unclear how the economic growth opportunities of the clean energy transition were incorporated. Other jurisdictions in Canada have seen substantial job and investment growth attributed to the clean energy industry.[11] Retrofits, for example, create a high number of jobs per dollar invested (8–27 jobs/$ million), employ a range of skilled labour, use mostly local materials, and create employment where people live.[12]

It is forecasted that the territories (NWT, Nunavut, and Yukon) will experience a 5% annual growth in clean energy jobs between 2025 and 2050, with there being approximately 9,300 jobs in clean energy by the mid-century mark.[13] Investing in the clean energy industry requires developing skills for continued work, such as building operation and maintenance, keeping people and jobs local over the long term. The NWT could also support the sharing of resources

[10] *All Hands on Deck,* 52.

[11] Karambir Singh and Binnu Jeyakumar, *Economic benefits of a clean grid in Canada* (Pembina Institute, 2023). https://www.pembina.org/pub/economic-benefits-clean-grid-canada

[12] Madi Kennedy, Tom-Pierre Frappé-Sénéclauze, and Ghazal Ebrahimi, *Accelerating B.C.'s economic recovery through building retrofits* (Pembina Institute, 2020). https://www.pembina.org/reports/bc-building-retrofits-recovery-2020.pdf

[13] Clean Energy Canada, *A Pivotal Moment* (2023). https://cleanenergycanada.org/wp-content/uploads/2023/03/A-Pivotal-Moment-Report.pdf

between communities to create higher economies of scale and deepen the impact of investment in capacity-building.

Opportunities in transitioning to a low-carbon economy are plentiful with regard to entrepreneurship, workforce diversity, and reconciliation. Changes to current business models and new market opportunities driven by new GHG targets present opportunities to advance equity, diversity and inclusion in private and public workforces or workplaces and to support youth and historically marginalized populations including Indigenous communities, low-income and disabled people, women, and newcomers to Canada.

Policies, investments, and legislation to support GHG targets must ensure that Indigenous reconciliation is ingrained into decisions made, prioritizing affected communities from the start and throughout and integrating Indigenous traditional knowledge within processes and outcomes. A transition to a low-carbon economy is an opportunity to offer and promote Indigenous equity partnerships such that Indigenous peoples are able to fully benefit from the clean energy transition through ownership in clean investments. A key consideration is ensuring that policies are designed to be open to individuals and entrepreneurs with lower access to capital, be that through loan guarantees or carefully evaluating lending criteria to lower access barriers.

With any transition, it is necessary to ensure that the pace of change leaves no one behind. This requires GNWT's plans, policies, and programs to integrate and support the views and experiences of workers and communities. As such, the GNWT must also facilitate and offer adequate opportunities for community members, unions, associations, and other stakeholders and rightsholders to have their voice heard.

6. What role could carbon offsets and land-based emissions management play in achieving higher emissions reduction targets?

We have no comments currently for this topic area.

7. What is the role for carbon pricing in achieving higher emissions reduction targets?

Carbon pricing is the most effective and economically efficient means for "reduc[ing] carbon emissions by putting a price on the pollution to help motivate both businesses and individuals in choosing low-carbon options in place of direct government regulations. A price on carbon works by sending market signals that guide both consumption choices and long-term investment decisions towards lower-carbon alternatives. In addition, the revenue collected can

be used to support deployment of energy efficiency and renewable energy to further reduce emissions."[14]

The carbon price is crucial for directing investment toward the clean energy sector and investments. As discussed in Question 3 above, the territorial carbon tax is a primary means by which the GNWT can support its clean energy projects and programs. Carbon pricing both motivates investments on individual, community, business, and government levels towards reducing carbon emissions, but also provides the necessary financial support to drive the NWT to meet its emissions reduction targets.

8. What role could the GNWT play in achieving greater climate action? What role could others play, including the Government of Canada, Indigenous governments, Indigenous organizations, community governments, energy utilities, industry, businesses, youth, and/or other partners and stakeholders?

Updates to the 2030 Energy Strategy should reflect a reframing re-evaluation of how rightsholders and stakeholders can collectively achieve shared priorities around climate action. The following recommendations identify re-imagined responsibilities for key actors in the NWT's clean energy transition.

GNWT

- Evolve its approach to climate and energy: GNWT is facilitating, advocating for, working with, and supporting communities.
- Set ambitious emissions reduction targets for both 2030 and 2050 aligned with other jurisdictions.
- Set interim targets and sector-specific GHG budgets, supported by plans, progress reports, and contingency measures.
- Implement necessary policies, including legislative and regulatory changes, to unlock barriers and create the necessary conditions for energy transition.
- Support Indigenous communities' capacity development, financial needs, and leadership.
- Act on the mandate adopted by the GNWT to address reconciliation / UNDRIP.
- Coordinate with and between the various parties involved in the energy transition, including establishing responsibilities for the administration of new policies and programs. For example, with PAYS/PACE retrofit financing, the NWT would need to determine whether these would be allocated through the GNWT, Arctic Energy Alliance, or municipalities, as is the case in Alberta, Ontario and elsewhere.

[14] Sara Hastings-Simon, *Carbon pricing: Alberta Climate FAQ Series, No. 3* (Pembina Institute, 2016). https://www.pembina.org/reports/faq-3-carbon-pricing.pdf

- Promote collaboration among affected parties, including those listed below and others such as the public utilities board.
- Ensure that youth are equipped with the skills to become leaders in the sustainable economy, through investing clean energy job opportunities in schools and post-secondary, including trades and training.

Federal government

- Work with the territorial government to coordinate implications of federal policy measures (Clean Electricity Regulation, Carbon Pricing, Clean Fuels Regulation, National Adaptation Strategy, Canada Green Building Strategy, etc.).
- Provide funding to Indigenous communities, community governments, and territorial initiatives to support the clean energy transition.
- Keep territorial governments informed of program and funding opportunities and federally funded projects to ensure alignment between federal and territorial initiatives.

Indigenous governments & organizations

- The role of Indigenous governments and organizations in achieving greater climate action is up to their discretion but should be considered in the update of the GNWT's 2030 Energy Strategy.
- Indigenous governments and organizations are already leading renewable energy installations in the NWT, and this trend is only increasing. These initiatives need to be more centrally integrated into the GNWT's 2030 Energy Strategy.[15]
- Future planning should ensure that Indigenous governments and organizations are fully engaged in GNWT, NTPC, and PUB decisions.
- The GNWT should endeavour to develop deeper, more reciprocal relationships between GNWT and communities on energy, such as through formally including Band Councils and Métis organizations in negotiations for climate action in the NWT.

Energy utilities

- Partner with Indigenous and community governments and organizations for the implementation of renewable energy projects, including community- and building-scale projects, and provide the necessary support to ensure successful project implementation, including:
  - Supporting information requests
  - Providing clarity and transparency into utility processes for project implementation
  - Providing favourable Power Purchase Agreement and net-metering terms

[15] Canadian Institute for Climate Choices and Indigenous Clean Energy, *Waves of Change* (2022). https://climateinstitute.ca/wp-content/uploads/2022/02/ICE-report-ENGLISH-FINAL.pdf

- Ensure power plants are "renewable ready," meaning sufficient and granular load data is available for power system studies, there is space in the power plant systems for the integration of renewables, and any generator upgrades are optimized for renewables integration, for example by implementing gensets of varying sizes to increase the efficiency of hybrid power systems.
- Evaluate and implement grid modernization initiatives to transmission and distribution systems as needed to support the increased adoption of distributed energy resources.

Youth

- "Strong youth leadership should be prioritized by engaging and allowing youth to co-define success, deliverables and timelines for youth engagement, leadership and capacity-building programs. […]
- [Youth leadership] fosters community pride and ensures a greater diversity of views when developing clean energy initiatives. […] In order to address the barriers preventing greater Indigenous youth participation, more youth programming is needed, and programs need to be responsive to the needs of students. Youth need to be given the time and resources to succeed; this includes financing for education, making sure youth voices are at the table and giving those voices the tools they need to engage in an effective discussion. Non-Indigenous partners need to be open to reciprocal learning. Peer-to-peer mentorship is an invaluable way to invest in and empower youth."[16]

9. What values or principles should guide the NWT's long-term approach to energy and climate issues?

Climate action is not an independent action. Without consensus building and full inclusion of the impacted communities, businesses, and citizens in the NWT, the success of the GNWT's emissions reduction target will be impeded. A vision for the NWT's energy future must be co-developed with communities. Collaboration is supported through mutual respect-based relationships and clear frameworks — efforts to address past and current harms are not easy or quick work, but are necessary to enable success. GNWT attitudes and actions to achieve the objectives of the 2030 Energy Strategy necessitate:

- Proactive, early, and continuous engagement with communities
- Establishing transparent processes and timelines for engagement and participation in energy planning and goal setting
- More visibility into what areas of collaboration exist, short and long term, for Indigenous communities

[16] Madeleine Whitestone and Katarina Savic, *Renewables in Remote Communities 2022 Conference* (Pembina Institute, 2022), 2, 10. https://www.pembina.org/reports/rirc2022-conference-summary.pdf

- More Indigenous representation at the GNWT, NTPC, and PUB
- Supporting capacity-building for Indigenous communities, governments, and organizations to actively participate in the GNWT's energy planning processes
- Mandating that GNWT, NTPC, and PUB actors have the appropriate Indigenous relations training

Electricity

The electricity sector comprises approximately 4% of the NWT's total emissions. The electricity sector is a priority not solely based on the proportion of emissions the sector is responsible for, but also implications for building and transportation electrification. Furthermore, the electricity sector is a primary area for local and Indigenous economic development opportunities through project development and ownership.

1. Is there general support to further develop clean electricity generation in the NWT?

Yes, communities and Indigenous organizations have shown clear desire and support to further develop clean electricity generation. This is demonstrated by the numerous community-led projects that have been or are in development, and participation across the territory at events such as the NWT Association of Communities Climate Change and Asset Management Conference. Communities and businesses alike recognize the economic opportunities that accompany clean electricity development, further emphasizing the importance of the electricity sector as a priority area.

2. Which specific electricity generation options should be supported? Why?

Non-emitting energy sources are key to enabling the decarbonization of all key sectors (transport, buildings, and industry). These will need clean electricity for the NWT to grow the clean economy. Wind and solar, in particular, are proven technologies in northern environments, have rapidly decreasing costs, and can support economic development. These are both key technologies for Indigenous ownership and participation in the energy sector.

Electricity grids of the future will be very different in the NWT from the current systems. This means increased application for distributed energy resources and transmission interties in hydro zones, and high penetration renewable microgrids in thermal communities. Wind, solar, and batteries are complementary to significant diesel reduction through the generally opposing generation profiles of wind and solar, and the stabilizing and supply-leveling benefits of energy storage. Any remaining diesel dependency should be met through high-percentage blends of renewable diesel to limit emissions impacts.

3. What should be the role of independent power production versus utility generation?

The GNWT must prioritize the design, implementation, and improvement of a strong and inclusive Independent Power Producer policy. Through these policies, clean energy project proponents are better able to create projects and lead on-the-ground action.

Independent Power Producers, specifically Indigenous and community proponents, should be given priority for establishing new generation, as opposed to utility and government ownership. The benefits of Indigenous and community ownership include increased energy security, advancement of energy sovereignty, and local economic development. These benefits and associated community pride with project ownership are crucial contributors to project success.

Utility generation is still necessary to provide baseload power where clean (e.g. run-of-river) generation sources are not possible. Under certain design scenarios, utility-owned battery storage may also be considered.

4. What mechanisms could contain potential increases in electricity rates?

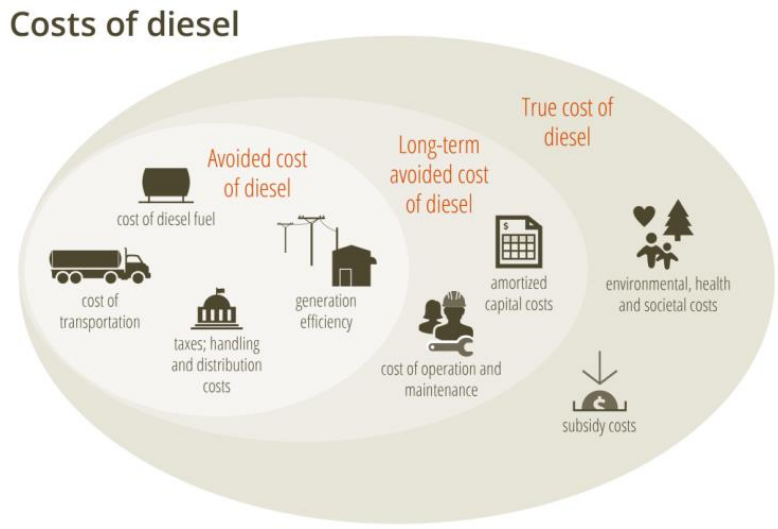
Current electricity rates are masked by the Territorial Power Subsidy Program (TPSP) and GNWT Rate Equalization Program (GREP). It is difficult to compare the implications of a clean energy transition for electricity rates when the true cost of diesel is obscured through subsidies.

Current rate setting practices are also not necessarily conducive to supporting current and emerging objectives around reconciliation, energy sovereignty, and decarbonization. This is explored in the Pembina Institute report, *Transforming the Utility Business Model*.[17] The report emphasizes that current rate-setting practices favour large capital investments rather than, for example, Independent Power Producers. Clear government priorities and direction to regulators and utilities, plus updates to mandates, legislation, and regulation are needed to ensure that the necessary utility and regulator frameworks and rate-setting practices are in place to enable clean energy development.

The impacts of IPP rates under current utility and regulatory practices, particularly around the definition of the public interest, mean that no impacts are experienced by ratepayers. However, this requirement should be reconsidered through the lens of energy justice, acknowledging that climate change and advancing reconciliation are all primary components of the public interest, along with providing secure and affordable energy.

[17] Emily He, Grace Brown, and Dave Lovekin, *Transforming the Utility Business Model* (Pembina Institute, 2022). https://www.pembina.org/reports/transforming-the-utility-business-model.pdf

IPP rates should be priced, at a minimum, at the **long-term avoided cost of diesel**, including not only the cost of fuel itself but also capital investments, the cost of operations and maintenance for diesel generation infrastructure, diesel subsidies, and the societal and environmental costs of diesel reliance. Ideally, IPP rates should reflect the **true cost of diesel**, as illustrated in the following figure, and the full economic and societal benefits of adopting renewable energy generation.



The current model followed by NTPC is to offer PPA rates equal only to the **avoided cost of diesel** to ensure utility costs are not increased. However, this does not capture potential operations and maintenance savings on diesel infrastructure at higher penetration renewable energy levels, when diesel generators can be shut off for prolonged periods. To ensure ratepayers do not face undue impacts, IPP rates from utility revenues should reflect diesel cost savings, but it is essential that this does not just encompass avoided fuel costs but also avoided O&M and capital costs for diesel infrastructure.

Outside of utility revenue, one mechanism to ensure that PPA rates reflect the full cost savings from diesel is territorial government top-ups from avoided subsidy costs. The money saved from diesel subsidies can be redirected toward supporting renewables in a similar way. This approach has also been recommended in Nunavut.[18]

The federal government also provides substantial funding towards diesel subsidies that are not materially included in PPA rates. The federal government could instead provide a top-up purchase price or production incentive for clean energy produced by an Indigenous proponent

[18] 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

and sold to the utility. This top-up revenue would be a completely separate contract with the federal government than the PPA price negotiated with the utility. This enables the federal government to address shortfalls in Indigenous proponents securing sufficient rates and contribute to long-term project revenue, especially for remote, diesel-displacing projects.

5. What other factors should be considered when making decisions about our power system?

The electricity system does not operate in a silo from other sources of GHG emissions in the NWT. Electricity demand increases need to be carefully considered in utility and territorial plans, acknowledging that demand could grow with more electrification, depending on how efficiency measures are implemented in tandem. As shown in the Navius modelling:

- Current policies scenario: demand increases by 30-84% between 2020 and 2050 due to growth in the building stock, adoption of battery electric vehicles, and mine connection
- Federal pathway scenario: demand increases by 57-131% between 2020 and 2050

However, it is unclear how energy efficiency was considered in the Navius modelling with regard to demand increases. Energy efficiency and demand reduction measures can have significant implications to overall territorial energy demand and should be clearly communicated in future energy plans.

The current 2030 Energy Strategy's GHG accounting focuses on territorial actions. However, the Strategy must fully reflect existing and planned community-owned renewable energy projects in the NWT, which will be responsible for significant GHG reductions.

6. Should NWT policy be developed to support the development of clean electricity generation and mitigate some of the expected challenges? If so, how?

The implementation of territorial policy to support the development of clean energy is crucial to opening market opportunities for residents, businesses, and community governments. Which policy areas are a priority are discussed in Question 2 of the 'Overview' section above.

Policies implemented should reflect best practices from other jurisdictions while being tailored to the unique needs and constraints of the NWT. The means for implementing policies should reflect the urgency of the need; the GNWT should carefully consider appropriate avenues for implementation, be that an Order-in-Cabinet, Public Utility Board or utility implemented policy, legislative change, or update to regulatory practice, for example. Any policies should be preceded with adequate consultation with the affected parties to ensure policy design appropriately addresses priorities and any expected challenges. Policies should be easily interpreted and demonstrate the appropriate level of detail to achieve objectives while allowing for flexibility where necessary.

NWT policy should be developed to support clean electricity generation, electrification, and energy efficiency. To meet its GHG targets, the NWT needs strategies that encourage decarbonization from multiple perspectives, for example, implementing whole-building retrofits while also fuel-switching heating.

7. What would an NWT net-zero target mean for utilities?

A net-zero target should be accompanied by clear pathways to ensure utility actions and investments are in alignment. This includes updating PUB mandates and associated legislation to require the PUB to materially include GNWT climate targets when evaluating utility investments and proposals.

A net-zero target does not mean that utilities should independently strive to meet the goal. Long-term resource plans should reflect increased demand, changes to the generation mix to be increasingly non-emitting, partnership opportunities, and calls for power to enable community participation and local economic development opportunities.

Transportation

The transportation sector produces approximately 47% of the NWT's total emissions, and is the NWT's highest emitting sector, followed by industry. As such, prioritizing emissions reductions in the transportation sector is crucial.

1. What are the opportunities and challenges related to a transition to electric vehicles?

Opportunities:

- Mining for critical minerals as part of the EV supply chain.
- Reduced air pollution from reduced internal combustion engine vehicle usage.
- Travel distances within NWT communities are relatively short and populations are small compared with large urban centers, so personal vehicles have the range to meet daily transportation demands, even with cold weather impacts. This is especially true in communities that are fly in only.

Challenges:

- Electric vehicles have lower range and reliability in cold weather. For many NWT communities, though, reduced vehicle range is less of a concern because of less extensive road infrastructure (see Opportunities, above).
- Sparse populations weaken the business case for public recharging facilities, while inter-city travel across large distances could require substantial investment in recharging facilities across highways.

- Initial costs for adopting zero-emissions vehicles are higher than the status quo, but these can be offset by savings in the long run.

2. What are the opportunities and challenges related to the adoption of suitable biofuels?

Opportunities:

- Biofuels may be more viable than electricity, given the challenges with connecting residential areas to the grid.
- Thermal communities could maintain carbon neutrality under the constraints of baseload power by using biofuels — particularly renewable diesel, which is essentially chemically identical to fossil fuel derived diesel.

Challenges:

- Biofuels burn cleaner than regular diesel but still produce some emissions.
- Biofuels could be climate-negative if the feedstocks are obtained from agriculture or plantations (e.g. palm oil, canola oil, corn or soybean ethanol).
- Biodiesel has reliability issues in cold weather due to gelling and water absorption. Pure ethanol also has cold-starting problems below zero degrees Celsius. More R&D is needed to address these issues. However, this issue may be more relevant for medium- or heavy-duty vehicles, as most R&D for light-duty vehicles is currently focused on electrification and biofuels are not seen as a viable fuel source these vehicles in the medium to long term. These challenges are not significant for renewable diesel/ hydrogenation-derived renewable diesel (HDRD).
- Renewable diesel may face cost and supply chain challenges.

3. What factors should be considered when making decisions about our transportation system?

- The transportation sector comprises almost half (47%) of the territory's overall emissions.
- Given the increasing cost of living, reducing reliance on fossil fuels helps insulate households from inflationary pressures caused by rising gas prices.
- The increasing stringency of carbon pricing by design incentivizes the adoption of electric and hybrid vehicles.
- Transportation planning should sufficiently consider the infrastructure (grid decarbonization, charging, transmission, distribution upgrades) requirements to support this increased uptake.

4. Should NWT policy or legislation be specifically developed to help accelerate the uptake of electric vehicles in the NWT and/or adoption of suitable biofuels?

NWT policy and targets should accelerate the uptake of electric vehicles — while there are challenges arising from the cold weather and long distances, the experience of EVs in countries like Norway show that these challenges are surmountable with sufficient policy impetus.

Buildings

The buildings sector comprises approximately 10% of the NWT's total emissions. Addressing building inefficiency is increasingly a priority as communities and governments look to reduce emissions. These improvements cannot be made without acknowledging and addressing that many of the issues with housing in NWT communities are a result of past and persisting government policy.

Current housing needs, including addressing mould, insufficient heating and ventilation systems, chronic housing shortages, and overcrowded homes contribute to communities facing higher rates of physical and mental health problems, which has a negative impact on the overall health levels within the community and impairs economic development.

"The need for major building repairs due to insufficient and deteriorating building infrastructure in remote communities is only going to be amplified as communities face increasingly extreme weather conditions as a result of climate change. The impact of which is already being felt by some communities including Tuktoyaktuk, where permafrost melt and rapid erosion threaten several community buildings due to building foundation subsidence and shoreline loss."[19] "Future requirements for air conditioning can also be expected as a result of warmer summers – fuel-switching with heat pumps will pre-empt these cooling needs."[20]

Decarbonizing buildings is an opportunity to address these existing challenges and ensure communities are afforded safe and robust homes.

1. What are the challenges to scale up energy efficiency actions in the NWT? Could they be addressed? How?

Challenges to scaling up energy efficiency actions include a lack of capacity, supply chain constraints, limited funding, capital constraints for building owners, and uncoordinated efforts

[19] Matthew Mcclearn, "In Tuktoyaktuk, residents take a stand on shaky ground against the Beaufort Sea's advance," The Globe and Mail, April 17, 2018. https://www.theglobeandmail.com/canada/article-in-tuktoyaktuk-residents-take-a-stand-on-shaky-ground-against-the/

[20] Emily He, "Remote communities transitioning to clean energy need better housing," Pembina Institute, July 20, 2022. https://www.pembina.org/blog/remote-communities-transitioning-clean-energy-need-better-housing

across the many organizations tackling building energy efficiency. "[Housing NWT] cites a lack of funding and limited internal capacity as primary reasons for the territory's repair demand being unmet. This has caused housing affordability, suitability and quality to continue to deteriorate. A 2019 survey from the NWT Bureau of Statistics found that approximately 43 per cent of dwellings in the territory had one or more issues that needed to be addressed.[21]"[22] These challenges, and priorities for improving the energy efficiency of existing and new buildings, can be addressed through:

- Tooling up and training the existing workforce with capacity to lead energy efficiency, fuel-switching and building improvements
- Building territorial understanding of building science principles and building-as-a-system retrofit approaches, which are fundamental for successful decarbonization
- Deep retrofitting existing buildings so they are more energy efficient, have better ventilation, and keep occupants healthy and safe during extreme weather events
- Ensuring new buildings and homes are designed to have low climate impact, be ready for future climate conditions, and be culturally appropriate

Building codes and performance standards are critical technical resources but all policies and actions under a NWT building strategy must be co-developed with Indigenous and local communities.

2. What types of support do communities and Indigenous partners need to plan and implement small-scale renewable energy projects pertaining to the building sector?

To implement small-scale renewable energy projects pertaining to the building sector, communities and Indigenous partners require appropriate funding, capacity-building support, simple and accessible policies and programs, and direct engagement and involvement in housing decisions.

This includes direct engagement and continued support for the territory's net metering program for all residents of the NWT. The territory must carefully re-evaluate the current net metering penetration limit, acknowledging that it is contrary to meeting goals for GHG reductions and does not support community and Indigenous ownership of renewable energy projects. To address concerns around microgrid stability, community-specific studies should be conducted — as was done to some extent in the CIMA+ study *Microgrid Stability with Intermittent Renewables* — to develop community-specific penetration limits which maximize

[21] NWT Bureau of Statistics, *Housing Indicators*, (2019). https://www.statsnwt.ca/recent_surveys/2019NWTCommSurvey/2019%20NWT%20Community%20Survey%20Housing%20Indicators.pdf

[22] "Remote communities transitioning to clean energy need better housing."

renewable energy penetration while ensuring grid stability.[23] Furthermore, grid modernization improvements may be needed to ensure that microgrid controllers and distribution infrastructure are sufficiently flexible to accommodate an increase in distributed energy resource penetration.

3. Should the NWT consider developing and/or implementing building codes to ensure minimum standards in buildings? Should such codes be made net-zero ready?

The 2020 national model codes have adopted a tiered approach to energy efficiency, which B.C. has already demonstrated to be an effective way to allow leading communities to implement cross-cutting improvements while sending clear market signals to the building industry through the Energy Step Code (ESC). Alternatively, some jurisdictions have developed Building Performance Standards that set threshold energy and carbon emission levels. Building upgrades present a significant opportunity for job growth. Now is the time to set the bar high for the training and upskilling needed to grow the local labour capacity. It is critical to design capacity-building programs well now, to avoid playing catch-up later and to potentially open economic opportunities outside of local markets.

The NWT already weathers extreme conditions; it must consider coming impacts in permafrost changes, and needs to protect residents from increasing severity and frequency of floods and wildfires. It must consider how to adapt homes to the effects of climate change and the environmental impacts of heating homes with fossil fuels. By adopting the new 2020 national model codes, the NWT can facilitate local leadership, ensure residents are safe and comfortable, and ensure homes and buildings reduce both their energy demand and impact on climate change while also being able to withstand its changes.

Future iterations of the national model codes will include climate resilience measures. The NWT should collaborate with the Canadian Board for Harmonized Construction Codes in preparation for the adoption of the National Building Code (NBC) and National Energy Code for Building (NECB),

4. What other factors should be considered when making decisions about buildings in the NWT?

Home and building improvements should be undertaken along with fuel-switching to electric heat and developing community-scale renewable energy projects. Investing in heating systems without reducing losses wastes energy, misses opportunities to improve indoor living

[23] CIMA+, *Microgrid Stability with Intermittent Renewables* (2021). https://www.inf.gov.nt.ca/sites/inf/files/resources/s13291a_renewable_energy_penetration_analysis_-_gnwt.pdf

conditions (e.g., sealing up drafts and providing fresh, filtered air through mechanical ventilation), and can result in oversized, inefficient heating and ventilation equipment. This will not only result in unnecessarily high utility costs for the home and building owners but also reduce capital cost recovery through energy savings. For rental buildings, fuel-switching can sometimes transfer the energy cost burden from owner to tenant, making energy efficiency particularly important from a housing affordability perspective.

Cost-benefit analyses should be conducted to determine what actions should be prioritized in both thermal and hydro communities, be that fuel-switching, energy efficiency, renewable energy, or all of the above. For thermal communities, heating electrification first requires sufficient grid decarbonization to unlock emissions reductions. As such, in thermal communities, priority may first be given to deep retrofits and implementing non-emitting generation prior to electrification actions, although other fuel-switching actions may be effective, such as biomass heating.

5. Should NWT policy be specifically developed to ensure buildings are built in a way that supports territorial energy and climate objectives?

Given the unique climate conditions in the NWT, developing policies in line with territorial energy and climate objectives is crucial. This would mean reducing GHG emissions, adapting to climate change, and improving energy efficiency, all while ensuring the safety, comfort, and resilience of buildings in this extreme climate. Incorporating lessons from the ASHRAE's Cold-Climate Buildings Design Guide and prioritizing stakeholder feedback can make these policies effective and locally viable.

Beyond territorial energy and climate objectives, policy must be developed in collaboration with and for the communities impacted, with an emphasis on culturally appropriate construction in line with the needs and objectives of Indigenous peoples in the NWT.

This is elaborated upon in the following excerpt from the Pembina Institute's publication, *Remote communities transitioning to clean energy need better housing*.

> "Government policies and programs should be simple and accessible to applicants to increase their uptake. Restrictive application requirements, including income requirements and limited access to residents with outstanding bills, have led to less than half of repair applications to [Housing NWT] being fulfilled, according to [Housing NWT's] 2020-21 Annual Report.[24]

[24] Northwest Territories Housing Corporation, *Annual Report 2020-2021*, (2021). https://www.ntassembly.ca/sites/assembly/files/td_542-192.pdf

"Addressing the chronic funding gap for housing and energy efficiency improvements cannot be delivered through existing program models as they put too many stipulations on who controls the funding and where it goes, hampering uptake. New funding streams must respond to the longstanding requests of many Indigenous governments that "Indigenous peoples… are best placed to address the housing needs and priorities of their people and communities."[25]

"The Federal Government's recent "first-of-its-kind investment" of $78.6 million to the Tłı̨chǫ Government, Gwich'in Tribal Council, and Délı̨nę Got'ı̨nę Government for housing and infrastructure projects is an example of the funding model that should be adopted elsewhere. It allows communities to allocate funding to immediate housing needs and ensure community members fully benefit through local training opportunities.

"But so much more of this type of funding is needed, in addition to better policies and programs that also directly engage and involve local communities in the solution. As Ken Kyikavichik, grand chief of the Gwich'in Tribal Council points out, this "is just a start for the very dire infrastructure gaps that our communities face."[26]

[…]

"At the same time, government programs need to incorporate capacity-building so that communities can continue to benefit from participating in building retrofit projects and maintain control over community assets and upkeep.

"Examples of the capacity-building programs necessary to facilitate building energy efficiency improvements include the CMHC's Housing Internship for Indigenous Youth and the IESO's Education and Capacity Building Program because they ensure the expertise and knowledge needed for these projects are established within communities. These programs are essential in ensuring that installation and ongoing maintenance needs are not outsourced and communities can continue to benefit economically from energy efficiency projects by finding local solutions through training and skill development programs. The Pembina Institute's report[, *Net-Zero Skills*,] identifies the many skills and roles needed to ensure Canada's homes and buildings meet 2050 net-zero emissions targets.

"Additionally, programs designed to support deep retrofit measures must consider traditional building methods and culturally appropriate design, as per the Indigenous

[25] House of Commons, "House Of Commons Committee Tables Its Report Indigenous Housing: The Direction Home", May 26, 2021. https://www.ourcommons.ca/DocumentViewer/en/43-2/HUMA/news-release/11355060

[26] April Hudson, "$25M for Gwich'in homes, infrastructure 'just a start', says grand chief," *CBC News,* June 3, 2022. https://www.cbc.ca/news/canada/north/federal-funding-announcement-deline-gwich-in-tlicho-1.6475626

Homes Innovation Initiative. Relying on third parties who are not familiar with needs specific to the community becomes a logistical challenge, increases costs and is less likely to be as successful as community-led initiatives.

"Beyond growing skills in trades, capacity-building programs should target providing training for local residents to be designated as their community's energy manager to provide oversight and coordination of building and energy needs and projects. This will ensure that retrofits are more accessible and communities can independently conduct continuous management and monitoring of project performance.

"Funding must be flexible in both amount and timeframe to account for unexpected delays, contingencies, and unexpected cost increases associated with more complex logistics required in reaching and working in remote communities. Having a local community representative overseeing these programs would ensure these issues are identified early and planned for."[27]

The NWT economy

No comments at this time for this topic area.

Land-based solutions management

No comments at this time for this topic area.

Carbon pricing

1. What is the role for carbon pricing in achieving higher emissions reduction targets?

Carbon pricing is an effective tool to reduce emissions and it should be a central part of the GNWT's 2030 Energy Strategy. Carbon pricing also has a central role in ensuring climate action in the NWT is appropriately financed; however, affordability implications must be addressed through allocating revenues to individuals and directly toward clean energy programs and projects. "The primary purpose of a carbon levy is to reduce harmful emissions by putting a price on the externality and using a market mechanism to achieve emission reductions in place of direct government regulations. [...] Putting a price on carbon allows individuals and the market to make choices on how to reduce emissions. By giving fixed rebates, people can end up

[27] "Remote communities transitioning to clean energy need better housing."

with money in their pocket if they choose to reduce their emissions, so you are providing an incentive to reduce emissions while protecting them from costs."[28]

2. Over the long term, how can carbon pricing best support emission reductions and a transition to a low-carbon economy in the NWT, while minimizing the effects on people, communities, and the economy?

The NWT must continue to ensure its carbon price reflects that of the federal government, to provide a clear market signal that guides both consumption choices and long-term investment decisions towards lower-carbon alternatives.

Long term, carbon pricing is a crucial mechanism in the transition to a low-carbon economy. "This is supported by the experience in B.C. where the economy has grown since the carbon price was implemented and mirrored in the experiences of other examples such as U.S. states and Ireland.[29] In contrast, the costs of inaction are high, with impacts to GDP estimated in the double digits.[30]"[31]

Well-designed carbon pricing systems should have positive effects on people, communities, and the economy, especially given the long-term implications of continued carbon reliance. Revenue redistribution should be designed such that people and communities experience benefits from the implementation of a carbon price while the economy as a whole adopts low-carbon solutions.

Communications and public understanding are critical to the success of carbon pricing. Marketing campaigns and public education, such as in the Pembina Institute's *Carbon pricing FAQ*[32], are necessary to ensure the actual impacts of carbon pricing (that is, that the general public has limited if not positive impacts on cost of living while both individuals and industry are incented towards adopting lower carbon choices) are understood.

[28] *Carbon pricing*.

[29] James Rydge, "Implementing Effective Carbon Pricing," contributing paper for *Seizing the Global Opportunity: Partnerships for Better Growth and a Better Climate* (New Climate Economy, 2015).

[30] Nicholas Stern, "Economic development climate and values: making policy", *Proceedings of the Royal Society B*, 282 (2015).

[31] *Carbon pricing*.

[32] *Carbon pricing*.

Working together

1. What role should Indigenous governments, Indigenous organizations, and community governments play in advancing climate and energy action?

See response to Question 8 of the Overview section above.

Indigenous governments, organizations, and local community governments have an important role in advancing climate and energy action. The clean energy transition creates enormous opportunities for advancing reconciliation and diesel reduction in remote communities. The GNWT should focus on ensuring communities have access to capacity funding to engage in community energy planning and open pathways for Indigenous-led renewable energy development. Plans for advancing climate and energy action should be co-developed with Indigenous rightsholders and community governments, ensuring alignment with individual priorities and creating buy-in for success.

2. Should regional and community energy planning efforts be linked to the territorial energy strategy? If so, how?

Regional and territorial planning efforts should be undertaken to coordinate and enable community energy plans and priorities. More coordination between territorial, regional, and community-level planning is needed to facilitate community-level action on the climate transition. It is important that community needs and plans are respected within the regional and territorial energy planning process, both to create buy-in and investment in regional and territorial energy goals, and to build a more robust and resilient electricity resource mix both locally and throughout the NWT. Furthermore, the sharing of resources between communities creates higher economies of scale and deepens the impact of investment in capacity-building. Coordination between community, regional, and territorial levels is necessary to avoid repeat or redundant actions, to increase the effectiveness and efficiency of actions taken, and to meet territorial GHG targets more effectively — but coordination requires capacity-building to ensure entities at all levels are sufficiently resourced for participation.

To validate alignment between the Territory's 2030 Energy Strategy and regional and community-level plans, specific engagement is needed with local representatives. Plans should not be developed in isolation from one another; a holistic approach is necessary to fulfill climate ambitions.

3. What role should the GNWT play in achieving greater climate ambition?

See response to Question 8 of the Overview section above.

The GNWT can play an important role in advancing a greater climate ambition through revised strategies and targets developed in collaboration with communities. The GNWT can embrace bold, ambitious messaging painting the picture of a more sustainable North, where issues of energy poverty and insecurity have been addressed through distributed renewable energy resources, energy storage, and a healthy local economy fueled by clean energy.

The GNWT can embrace decarbonizing industrial projects as a strategy for ensuring economic prosperity in the Territory while also building a strong renewable energy economy.

Setting ambitious targets for carbon reduction across sectors while advancing policies that spur investment in the clean energy economy will help the GNWT to become a climate leader in the North.

4. How do we balance climate action against the need for affordable energy and address energy poverty?

The framing of this question does not acknowledge the actual and clear mutual benefits between climate action, affordability, and energy poverty. Failing to acknowledge this and perpetuating negative connotations around climate action is contrary to progress and not helpful to the energy transition.

The GNWT must solve for multiple objectives — achieving emissions reductions while fully addressing the need for affordable energy and ending energy poverty — and not trade off outcomes. Climate action now will only help alleviate energy poverty in the long run, as renewable energy sources are already among the cheapest per kW. Furthermore, energy efficiency improvements in buildings are a primary mechanism to address poverty, affordability, and equity through improved living conditions and lower energy costs. The large-scale capital investment needed to advance the energy transition should not be undertaken in a way that results in increases in costs or reduction of service or reliability for customers. The GNWT should work with the federal government to advance programs for funding and attracting private capital in the clean energy sector, in addition to engaging communities and supporting work to ensure equitable energy access across the territories.

5. Should NWT policy be developed to accelerate GHG emissions reductions? If so, what policies would be most useful?

See response to Question 2 of the Overview section above.

Policy priorities are as follows:

- Implement a target of 40-45% below 2005 level by 2030 and net-zero by 2050, supported by sector-specific GHG budgets and five-year interim targets post-2030 to establish a declining emissions pathway for the NWT

- Enact legislative certainty for GHG targets and interim targets to 2050
- Full legislative adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) supported by action plans for integrating UNDRIP throughout the GNWT's departments, decisions, and legislation
- Update existing legislation to facilitate necessary utility and regulator actions (i.e. including emission reduction requirements for utilities)
- Implement an Independent Power Producer policy
- Update the net metering renewable integration limit
- Decarbonize transportation by setting 2030 and interim targets for the number of EVs on the road, funding EV rebate programs, committing to purchasing EVs for new government vehicles, and building charging infrastructure
- Address building needs and reduce emissions through deep retrofits, capacity-building, increasing rebates for retrofits and energy efficiency, and implementing alternative financing models to address capital barriers

6. What federal/territorial incentives would facilitate community-public-private partnerships on clean energy projects?

As noted in Question 4 of the Electricity section above, the federal government provides substantial funding towards diesel subsidies that could be redirected to PPA rates, supporting and promoting the implementation and economic favourability of clean energy projects.

The federal government could provide a top-up purchase price or production incentive for clean energy produced by an Indigenous proponent and sold to the utility. This top-up revenue would be a completely separate contract with the federal government than the PPA price negotiated with the utility. This enables the federal government to address shortfalls in Indigenous proponents securing sufficient rates and contribute to long-term project revenue, especially for remote, diesel-displacing projects.

7. How could the GNWT support increased Indigenous participation or leadership in clean energy projects as well as the resource extraction sector?

The GNWT can support increased Indigenous participation and leadership in clean energy projects by:

- Proactive, early, and continuous engagement with communities
- Adding requirements for Indigenous equity ownership and leadership in all new clean energy development
- Providing capacity funding for Indigenous communities to focus on energy literacy and to participate in public and targeted engagement
- Adding funding to accelerate Indigenous leadership in clean energy through education and business development programs

- Adding grant funding for Indigenous-led renewable energy projects
- Working collaboratively on energy reform and removing barriers to Indigenous-led clean energy
- Mandating that the utility provide PPA rates that are higher than the avoided cost of diesel to projects that displace diesel fuels
- Regulatory reform to support the inclusion of climate action and reconciliation with Indigenous peoples as primary components of the public interest and requirements for the utility

8. What role should the private sector play in advancing the energy transition? How could the GNWT best support this effort?

No comments at this time for this topic area.

NWT GHG emissions reductions targets

1. Should the NWT update its 2030 emissions reduction target? If so, what should the parameters be in terms of level of investment, ambition, scope and timeline?

Yes, the GNWT should update its target to achieving emissions reductions of 40-45% below 2005 levels by 2030, consistent with the appropriate share of Canada's target. The level of investment will be dictated by the specific actions and priorities established in the government's plans.

2. Should the GNWT adopt a long-term (e.g., 2040 or 2050) climate target? If so, what should the parameters be in terms of level of investment, ambition, scope and time horizon?

See response to Question 1 of the Overview section above.

Yes, GNWT should set a long-term (2050) target supported by five-year targets post 2030 to establish a declining emissions pathway for the NWT to achieve net zero emissions by 2050.

3. How should emission reductions be balanced with other priorities such as energy affordability?

See responses to Question 4 of the Overview section and Question 4 of the Working together section above.

A well-designed and holistic energy strategy does not strive to balance priorities, but rather achieve outcomes of energy security, affordability, and sustainability. Framing these outcomes in opposition to one another sets priorities contrary to actual public benefit and does not lend

to a successful energy strategy. It is recommended that the GNWT use caution with this framing and instead acknowledge the mutual benefits afforded by climate action.

4. What values or principles should guide the NWT's long-term approach to energy and climate issues?

See response to Question 9 of the Overview section above.

The following are key values and principles that should be reflected in the NWT's long-term approach to energy and climate issues:

- Proactive, early, and continuous engagement with communities
- Establish transparent processes and timelines for engagement and participation in energy planning and goal setting
- Centre Indigenous rights, knowledge and priorities within processes and policies of energy system change. Indigenous peoples and communities must have a voice and decision-making power for climate and energy plans, policies, programs, and investments.
- Prioritize and support Indigenous-owned renewable energy projects
- Ambitious actions and plans consistent with Canada's goal and what science shows is necessary to prevent global warming above 1.5 degrees
- Address climate, affordability, and reliability concurrently
- Advance reconciliation, recognizing that the success of the clean energy transition is directly related to the upholding of Indigenous rights
- Address perverse incentives and subsidies of diesel use
- Full cost accounting when evaluating renewable energy and energy efficiency alternatives
- Support youth leadership and capacity-building
- Ensure opportunities in transitioning to a low-carbon economy prioritize entrepreneurship, workforce diversity, and reconciliation

5. Should specific economic sectors be subject to a different climate target?

No, the NWT should have a consistent GHG target for the territorial overall. However, individual sectors should have decreasing carbon budgets supported by a climate plan based on credible modelling showing how targets will be achieved.

6. Should communities without hydro have different climate targets?

See responses to Question 1 of the Overview section above.

No, the NWT should have a consistent GHG target for the territorial overall. However, given the necessity of secure baseload power and the cost constraints of available alternatives in thermal

communities (such as carbon capture, utilization and storage and transmission interties), the GNWT could adopt a net-zero by 2050 target with a condition that thermal communities retain low (e.g. <5%) levels of fossil fuel diesel generation. Thermal communities may still utilize higher levels of diesel generation (e.g. up to 20%) for the purposes of grid stability, but the majority of this should be met by renewable diesel. This condition should be re-evaluated as technology advances and economic conditions evolve.

7. Should the GNWT implement policy and/or legal mechanisms to ensure continued progress towards its targets?

Yes, the NWT should have legislation to enshrine major components of the climate plan, including a requirement to prepare a plan for specific GHG emission targets and corresponding reporting requirements. Furthermore, the GNWT should ensure accountability through:

- "Create[ing] an independent accountability body, and mandat[ing] independent evaluation and advice to the legislature, not the government of the day
- Legislat[ing] targets and carbon budgets for regular, short-term milestones between 2021 and 2050
- Mandat[ing] a requirement that climate mitigation plans, including actions to achieve legislated milestones, adaptation plans, and evaluations are tabled in their respective legislatures."[33]

Conclusion

In closing, we would like to express our gratitude for the opportunity to provide feedback to the Government of the Northwest Territories' update to the 2030 Energy Strategy. Thank you for the opportunity to provide written comments on the topics of NWT's energy and climate future, electricity, transportation, buildings, carbon pricing, collaboration, and GHG emissions reduction targets. We look forward to continued engagement in this issue.

[33] *All Hands on Deck,* 7.