Government of Northwest Territories
Gouvernement des Territoires du Nord-Ouest

Our Energy and Climate Future in a Changing World

Notre avenir énergétique et climatique dans un monde en transformation

What We Heard on the Public Engagement on the Review of the 2030 Energy Strategy and Climate Change Targets

Ce que nous avons entendu lors des échanges avec le public sur l'examen de la stratégie énergétique 2030 et des objectifs en matière de changement climatique

Le présent document contient la traduction française du résumé.

March 2024 – Mars 2024

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English

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French

Kīspin ki nitawihtīn ē nīhīyawihk ōma ācimōwin, tipwāsinān.
Cree

Tłı̨chǫ yatı k'ę̀è. Dı wegodı newǫ dè, gots'o gonede.
Tłı̨chǫ

ʔerıhtł'ís Dëne Sųłıné yatı t'a huts'elkër xa beyáyatı theɔ́ą ɔat'e, nuwe ts'ën yółtı.
Chipewyan

Edı gondı dehgáh got'ı̨e zhatıé k'ę́é edatł'éh enahddhę nıde naxets'é edahłí.
South Slavey

K'áhshó got'ı̨ne xədə k'é hederı ɔedı̨htl'é yerınıwę nídé dúle.
North Slavey

Jii gwandak izhii ginjìk vat'atr'ijąhch'uu zhit yinohthan jì', diits'àt ginohkhìi.
Gwich'in

Uvanittuaq ilitchurisukupku Inuvialuktun, ququaqluta.
Inuvialuktun

ᑖᒃᓂᐊ ᑎᑎᖅᑲᐃᑦ ᐱᓕᒍᐃᑦ ᐃᓄᒃᑎᑐᖅᓯᒪᓕᑎᒃ, ᐅᐸᑦᑎᓐᓄᑦ ᐅᖃᓪᓚᕆᓐᓇᖅᑐᑎᑦ.
Inuktitut

Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.
Inuinnaqtun

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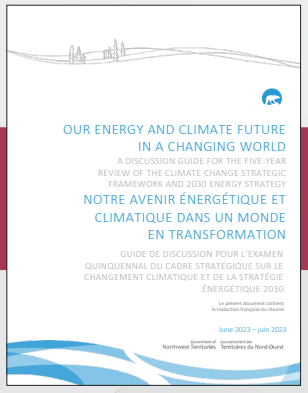
List of Acronyms

AEA	Arctic Energy Alliance
CDR	carbon dioxide removal
ECC	GNWT Department of Environment and Climate Change
ECE	GNWT Department of Education, Culture and Employment
ESG	environmental, social, and governance
EV	electric vehicle
FIN	GNWT Department of Finance
GHG	greenhouse gas
GNWT	Government of the Northwest Territories
INF	GNWT Department of Infrastructure
IPCA	Indigenous Protected and Conserved Area
IPP	independent power producer
IPPC	intergovernmental panel on climate change
ITI	GNWT Department of Industry, Tourism and Investment
kW	kilowatt
MACA	GNWT Department of Municipal and Community Affairs
MTS	Marine Transportation Services
NGO	non-governmental organization
NTPC	NWT Power Corporation
NWT	Northwest Territories
O&M	operations and maintenance
PPA	power purchase agreement
PPP	public private partnership
PUB	Public Utilities Board
SMR	small modular nuclear reactor
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples

Summary of What We Heard

Released in 2018, the Government of Northwest Territories' (GNWT) *2030 Energy Strategy* and the *Climate Change Strategic Framework* collectively advanced a commitment to reduce the Northwest Territories' (NWT) greenhouse gas emissions by 30% below 2005 levels by 2030, in line with Canada's *Pan-Canadian Framework on Clean Growth and Climate Change*. The *Energy Strategy* also sets out the GNWT's long-term approach to support secure, affordable and sustainable energy in the NWT. The GNWT committed to reviewing the Strategy and Framework after five years to determine what changes—if any—should be made and whether the NWT should set a more ambitious long-term emissions reduction target. To initiate this review, the GNWT conducted an engagement process from June to October 2023, called "Our Energy and Climate Future in a Changing World." This engagement involved a public submission period, in-person meetings, and a three-day, in-person multilateral dialogue with 148 representatives.

This summary aggregates the input received from all streams of engagement, broadly following the structure of a discussion guide released by the GNWT to support the conversation. The GNWT will use this feedback to inform its review of the Strategy and Framework, including any potential revisions to the NWT's GHG emissions reduction target.



Access the discussion guide that supported the engagement

Upgrading Energy Systems

Supporting the Development of Renewable Power

Changes to the territorial electricity systems were, by far, the issue commented on most throughout the engagement. Participants suggested that new sources of clean energy will be required to meet the NWT's energy needs while reducing carbon emissions, especially in communities currently running on diesel generators. Indigenous governments, Indigenous organizations, and communities are increasingly interested in taking advantage of federal funding currently available to develop clean energy projects. Participants recognized that this will likely require upgrading electricity systems to accommodate for higher penetration of renewables as well as more clarity on direct benefits from such projects.

There was a strong consensus among participants that the GNWT must take immediate action to review and develop electricity policies that support the development of clean electricity generation. The GNWT, the utilities, and the Public Utilities Board (which regulates the NWT electricity system) need to take a lead role in updating rules for the net metering program as well as establishing a clear independent power production policy that provides fair compensation for renewable generation. Specifically, most participants were consistently in favour of either eliminating or significantly increasing the limit of 20% renewable generation in communities primarily relying on diesel or natural gas for electricity generation, as many have already reached the cap. It was also argued that mandates of the Public Utilities Board and utilities be updated to support these changes.

Concerns related to energy affordability were clearly heard throughout the engagement, and this included the cost of electricity. Some participants noted that non-utility generation tends to increase electricity rates for all ratepayers and suggested utility compensation be decreased for such projects. Ideas such as off-peak power rates, separate rates for electric heat and electric vehicles, and a federal production incentive (which would see the Government of Canada subsidize renewable generation in remote communities) were proposed.

Some comments also pertained to the need for long-term system planning so that utilities can maintain safe, affordable, and reliable service as more renewable generation capacity is added to local power grids.

Lastly, there were concerns that not enough is being done to ensure the NWT electricity systems are able to withstand the adverse impacts of a fast-changing climate in the North. Utilities need to be given a clear mandate to develop climate-ready capital plans that include climate change risk management to ensure the resiliency of hydro and diesel systems.

Reducing Transportation Emissions

Feedback related to transportation focused mainly on the adoption of light-duty electric vehicles, which most participants agreed is essential. Participants noted that electric vehicles are becoming more affordable to purchase, as well as more cost-effective than traditional vehicles to operate. Challenges with operating electric vehicles in the North were also noted, such as the effects of charging infrastructure in communities relying on diesel for power generation, the overall impact of electric vehicles on electricity grid capacity, charger availability and operational costs, range anxiety, and cold weather operations and reliability.

Biofuels were also proposed as a solution to decarbonize transportation, especially heavy-duty vehicles, in the NWT. This option is discussed in a separate section below. Hydrogen was only superficially discussed as a solution to reduce emissions from transportation.

Decarbonizing Buildings

Some participants would like to see the GNWT work towards increasing the energy efficiency of buildings across the NWT by adopting energy performance standards for new buildings, increasing funding available for energy retrofits, and building capacity to ensure communities have available tradespeople.

The idea of developing electric heating was mostly met with skepticism due to higher costs when compared to heating with oil, as well as the need to upgrade electricity distribution infrastructure. A few participants commented that cold-climate heat pumps could play a role in heating buildings in the long term, and its costs and fit for the North should be further investigated by the GNWT and its partners.

In contrast, increasing biomass heating (e.g. firewood, wood pellets) was seen as a more practical solution to reduce building emissions, as well as heating costs, in the short term, as it can build on existing rebate programs and previous GNWT initiatives and experience. With increased reliance on biomass fuels for heating, however, came some concerns on possible supply chain issues, and the need to build sufficient technical capacity for ongoing installation and maintenance of pellet stoves and boilers, especially in remote communities. GNWT action was perceived as crucial to address these concerns.

Biomass district heating systems were also seen as a practical and lower-cost solution for heating buildings. Participants noted that the GNWT, Housing NWT and/or energy utilities also have a key role to play, in partnering with community governments and building owners and facilitating the development of district heating systems across the NWT. Specific to Yellowknife, a public-private-partnership could support the development of a biomass district heating system for the downtown and surrounding area.

Switching to Biofuels

There was support for 'drop in' biofuels, such as renewable diesel, as a short-term solution for reducing emissions in many parts of the NWT's energy systems. Most participants acknowledged the use of biofuels in the North currently poses a number of challenges, such as affordability and availability of arctic-grade supply. In response, participants suggested the GNWT take an active role in procuring, testing, and supporting the use of suitable fuels, especially for end uses where no low-carbon alternative is currently available (e.g. remote industrial sites, heavy duty vehicles).

Supporting the NWT Economy

Participants recognized that transitioning the NWT to a low-carbon economy will require significant capital investment (in the order of several billions of dollars, as estimated by the GNWT). There was consensus that the GNWT and the Government of Canada should fund the bulk of this energy transition.

Some participants noted that any substantial investment in clean energy projects will create job opportunities, and suggested the GNWT strategically plan to maximize job creation to be associated with the clean energy transition.

While understanding the need to transition to a lower-carbon economy, some participants expressed concerns about the potential impact on residents and overall costs of living. It was pointed out that Northerners already face very high energy costs and the GNWT needs a plan to address affordability before committing to a more aggressive GHG emissions reduction target, and ensure that new energy investments are not recovered through higher energy rates.

Lastly, there was a general acknowledgement that without access to clean energy sources, the NWT will have a more difficult time attracting investments in industrial projects. It was raised that the GNWT could also support this by requiring that an increasing share of industrial energy comes from renewables and help facilitate the transition to clean energy by adjusting territorial approach to carbon pricing.

Developing Carbon Dioxide Removal Solutions & Managing Land-based Emissions

A few participants commented on the possible role of carbon dioxide removal (CDR) solutions, land-based emissions management, and carbon offsets to reduce NWT emissions.

Updating a wildfire policy, developing a wetland policy, and working in partnership with Indigenous governments and Indigenous organizations to produce robust land use plans were identified as the foundations of a made-in-the-NWT approach to carbon offsets to be possibly deployed in Indigenous Protected and Conserved Areas (IPCA). It was also suggested that NWT boreal forest and wetlands be protected from disturbance such as industrial developments. Lastly, there was a wide range of views on whether the GNWT should purchase carbon offsets generated elsewhere, with some participants suggesting they can be used as a backstop to ensure GHG emissions reduction targets are met, while others argued they constitute greenwashing and the NWT should not delay the transition to clean energy systems.

Updating NWT Approach to Carbon Pricing

Participants framed carbon pricing—also referred to as a carbon tax—as a key tool to reduce territorial emissions, provided the approach covers all NWT sectors and the GNWT does all it can to promote existing clean alternatives to fossil fuels. Most views included recommendations to adjust the NWT approach to carbon pricing in terms of scope, coverage, and revenue recycling to reduce the impact on the cost of living and accelerate clean energy technology adoption. Proposed modifications to the current approach included exempting remote communities (where the carbon tax heavily impacts traditional economies) and re-investing proceeds to fund climate mitigation and/or adaptation initiatives, with an option for Indigenous governments to decide how the revenues should be used. It was, however, acknowledged that much of this is outside the control of the GNWT.

Redefining Roles and Responsibilities

Throughout the engagement, many participants stressed that Indigenous peoples and communities must have a voice and decision-making power for climate and energy plans, policies, programs, and investments. Several Indigenous government representatives expressed strong views that it is inappropriate for the GNWT to consider making significant energy and climate change decisions without proper consultation with Indigenous governments. The legislative adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) by the GNWT is viewed as an opportunity to develop an approach to the energy transition that is centered on Indigenous rights, knowledge, and priorities.

When it comes to the implementation of an energy transition, participants clearly identified that Indigenous communities are on the front lines of climate change and cannot be expected to bear the brunt of the associated costs.

Participants generally expressed the view that the GNWT must urgently do much more to address energy and climate change concerns, by establishing more ambitious targets, demonstrating leadership, developing policies and funding programs, and supporting technical planning work. Some suggested the GNWT should primarily coordinate the energy transition effort (as opposed to advancing clean energy projects) and keep a strong focus on energy affordability, reliability, and security.

Shared decision-making and better clarity on the respective roles of the GNWT, and Indigenous governments and Indigenous organizations, as well as the private sector, are issues that require further considerations if the NWT is to make progress towards a better energy and climate future.

"Participants generally expressed the view that the GNWT must urgently do much more to address energy and climate change concerns, by establishing more ambitious targets, demonstrating leadership, developing policies and funding programs, and supporting technical planning work."

Updating NWT GHG Emissions Reduction Target

Throughout the engagement, participants provided substantial feedback related to the NWT's current and future GHG emissions targets. The primary concerns included the risk of inaction, whether to adjust the NWT's existing 2030 target, and whether to commit to a net-zero target for 2050.

Overall, there appeared to be a general consensus that the NWT faces greater risks by not taking action to reduce its emissions, particularly in light of the ever-worsening climate impacts, such as the flooding and wildfire disasters that have occurred in recent years. The GNWT also received feedback on the risks of increasing our climate ambition before having a clear roadmap to ensure essential services such as electricity and heating remain safe, reliable, and affordable.

With respect to 2030, a number of respondents felt the NWT should increase its emissions reduction target. There was less agreement on whether the NWT should commit to achieving net-zero emissions by 2050. Some participants felt that not enough information is available to make this type of decision, particularly related to concerns about affordability and future funding support. Other participants felt very strongly that the NWT must make this commitment now, in order to focus the conversation on how to get there.

Putting It Together

The GNWT heard strong feedback on five broad ideas during the engagement. These ideas are important for the GNWT to consider when renewing the *Energy Strategy*, and possibly reviewing NWT's GHG emissions reduction target. This feedback will help inform a course to an energy and climate future where Northerners have continued access to secure, affordable, and sustainable energy in a healthy environment. The following are five points that participants generally agreed on.

1 Increase the Emissions Reductions Target

The NWT should raise its level of climate effort, and possibly adjust its 2030 emissions reduction target and/or set a long-term emissions reduction target to guide its efforts beyond 2030.

2 Revise Roles and Responsibilities

Indigenous governments and Indigenous organizations want to be more involved in making decisions on energy and climate change, especially when it comes to setting emission reduction targets. A renewed *Energy Strategy* should articulate clear roles and responsibilities for all parties involved in the energy transition.

3 Economy and Affordability are Key

The energy transition will greatly impact the economy, jobs, and cost-of-living in the NWT. The GNWT needs a realistic plan to deploy clean energy infrastructure that will shield Northerners from increases in energy costs. The availability of federal funding will be key to achieving this.

4 Utilities Will Play a Critical Role

The utility regulator, electric utilities, the GNWT, and interested Indigenous governments and Indigenous organizations should work together to develop appropriate planning, regulatory, and policy tools to enable the transition of the NWT electricity system over the coming decades.

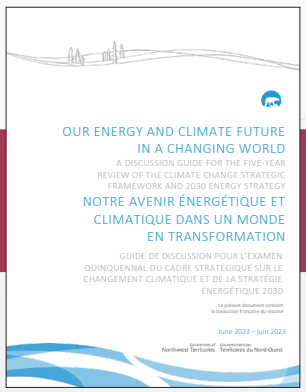
5 Leverage Known, Proven Technologies

Most of the technological solutions to decarbonize NWT energy systems are well known to Northerners (e.g. solar, wind, hydropower, biomass), and increased deployment would be dependent on factors such as local capacity, affordability and energy security. Emerging technological options, such as small modular nuclear reactors, liquid biofuels or hydrogen, could possibly be added to the mix in future, after the technologies become commercially available and have been properly tested for use in northern applications.

Résumé de ce que nous avons entendu

Publiés en 2018, la *Stratégie énergétique 2030* et le *Cadre stratégique sur le changement climatique* du gouvernement des Territoires du Nord-Ouest (GTNO) ont permis de soutenir l'engagement du territoire à réduire, d'ici 2030, les émissions de gaz à effet de serre (GES) du territoire de 30 % par rapport aux niveaux de 2005, conformément au *Cadre pancanadien sur la croissance propre et les changements climatiques*. La Stratégie énergétique définit également l'approche à long terme qu'adoptera le GTNO pour soutenir l'utilisation de sources d'énergie sûres, abordables et durables sur son territoire. Le GTNO s'est engagé à examiner la stratégie et le cadre au bout de cinq ans afin de déterminer si des changements doivent y être apportés et si les TNO doivent se fixer un objectif plus ambitieux de réduction des émissions à long terme. Le GTNO a commencé par organiser des échanges intitulés « Notre avenir énergétique et climatique dans un monde en transformation », qui se sont déroulés de juin à octobre 2023. Ces échanges comprenaient une période pour la soumission des observations du public, des réunions en personne et un forum multilatéral de trois jours en personne auquel ont participé 148 représentants.

Le présent résumé reprend les observations formulées dans le cadre de toutes les phases de l'exercice, en suivant dans les grandes lignes la structure du guide de discussion publié par le GTNO pour soutenir le dialogue. Le GTNO s'inspirera de ces informations pour procéder à l'examen de la stratégie et du cadre, et notamment pour réviser éventuellement les objectifs climatiques du territoire.



Consultez le guide de discussion qui a aidé à orienter les échanges.

Moderniser les systèmes d'approvisionnement en énergie

Soutenir le développement des énergies renouvelables

Les changements à apporter aux réseaux électriques du territoire ont été, de loin, le sujet le plus mentionné tout au long de la période d'échanges. Les participants ont souligné que de nouvelles sources d'énergie propre seront nécessaires pour répondre aux besoins énergétiques des TNO et réduire les émissions de carbone, en particulier dans les collectivités qui utilisent présentement des génératrices diesel. Les gouvernements et les organisations autochtones ainsi que les collectivités souhaitent de plus en plus profiter du financement fédéral disponible pour développer des projets de production d'énergie propre. Les participants ont reconnu que pour y parvenir, il faudra probablement moderniser les réseaux électriques – afin de permettre une plus grande intégration des énergies renouvelables – et clarifier davantage les avantages directs de ces projets.

Les participants se sont accordés sur le fait que le GTNO doit prendre des mesures immédiates pour examiner et élaborer des politiques en matière d'électricité qui soutiennent le développement d'une production d'électricité propre. Le GTNO, les entreprises de service public et la Régie des entreprises de service public (qui réglemente le réseau électrique des TNO) doivent jouer un rôle de premier plan dans la mise à jour des règles du programme de facturation nette et dans l'établissement d'une politique claire en matière de production indépendante d'électricité qui prévoit une rémunération équitable pour la production d'électricité à partir de sources renouvelables. Plus précisément, la plupart des participants se sont prononcés en faveur de l'élimination ou de l'augmentation substantielle de la limite actuelle de 20 % de production d'énergie renouvelable dans les collectivités qui dépendent principalement du diesel ou du gaz naturel pour la production d'électricité, étant donné que beaucoup d'entre elles ont déjà atteint ce plafond. Il a également été avancé que les mandats de la Régie des entreprises de service public et des entreprises de service public devaient être mis à jour pour soutenir ces changements.

Des préoccupations liées à l'abordabilité de l'énergie ont été clairement exprimées tout au long des échanges, notamment en ce qui concerne le coût de l'électricité. Certains participants ont fait remarquer que la production d'électricité en dehors des entreprises de service public avait tendance à faire augmenter les tarifs de l'électricité pour tous les contribuables et ont suggéré que la rémunération des entreprises de service public soit diminuée pour de tels projets. Des idées telles que des tarifs d'électricité en dehors des heures de pointe, des tarifs distincts pour le chauffage électrique et les véhicules électriques ainsi qu'une incitation fédérale à la production (qui ferait en sorte que le gouvernement du Canada subventionne la production d'énergie renouvelable dans les collectivités reculées) ont été proposées.

Certains commentaires portaient également sur la nécessité d'une planification à long terme du

réseau afin que les entreprises de service public puissent maintenir un service sûr, abordable et fiable à mesure que la capacité de production d'énergie renouvelable s'ajoute aux réseaux électriques locaux.

Enfin, des inquiétudes ont été exprimées quant à l'insuffisance des mesures prises pour veiller à ce que les réseaux électriques des TNO soient en mesure de résister aux effets néfastes de l'évolution rapide du climat dans le Nord. Les entreprises de service public doivent recevoir un mandat clair pour élaborer des plans d'investissement adaptés au climat qui incluent la gestion des risques liés au changement climatique, afin de garantir la résilience des réseaux hydroélectriques et diesel.

Réduire les émissions liées aux transports

Les commentaires sur les transports portaient principalement sur l'adoption de véhicules électriques légers, ce que la plupart des participants ont reconnu comme étant essentiel. Les participants ont noté que les véhicules électriques deviennent plus abordables à l'achat et plus rentables à l'utilisation que les véhicules ordinaires. Les problèmes liés à l'utilisation des véhicules électriques dans le Nord ont également été mentionnés, notamment les effets de l'infrastructure de recharge dans les collectivités qui dépendent du diesel pour la production d'électricité, l'impact global des véhicules électriques sur la capacité du réseau électrique, la disponibilité des chargeurs et les coûts d'exploitation, l'anxiété liée à l'autonomie ainsi que la fiabilité et l'utilisation par temps froid.

Les biocarburants ont également été proposés comme solution pour décarboner les transports aux TNO, en particulier les véhicules lourds. Cette solution est abordée ci-dessous dans une section distincte. L'hydrogène n'a été que superficiellement évoqué comme solution pour réduire les émissions liées aux transports.

Décarboner les bâtiments

Certains participants aimeraient que le GTNO prenne des mesures pour accroître l'efficacité énergétique des bâtiments dans l'ensemble du territoire en adoptant des normes de rendement énergétique pour les nouveaux bâtiments, en augmentant le financement disponible pour les rénovations à des fins énergétiques et en renforçant les capacités pour s'assurer que les collectivités disposent de gens de métier.

L'idée de promouvoir le chauffage électrique a été accueillie avec scepticisme en raison des coûts plus élevés par rapport au mazout et de la nécessité de moderniser l'infrastructure du secteur de l'électricité. Quelques participants ont indiqué que les thermopompes pour climat froid pourraient jouer un rôle dans le chauffage des bâtiments à long terme et que leurs coûts et leur adaptation au Nord devraient être étudiés plus en détail par le GTNO et ses partenaires.

En revanche, des participants considèrent que l'augmentation du chauffage à la biomasse (p. ex. bois de chauffage et granulés de bois) est une solution plus pratique pour réduire les émissions des bâtiments et les coûts de chauffage à court terme grâce aux programmes de rabais en vigueur ainsi qu'aux initiatives passées et à l'expérience du GTNO. La dépendance accrue à la biomasse pour le chauffage soulève toutefois certaines préoccupations quant à d'éventuels problèmes liés à la chaîne d'approvisionnement et à la nécessité de renforcer suffisamment les capacités

techniques pour maintenir l'installation et l'entretien des poêles et des chaudières à granules, en particulier dans les collectivités éloignées. L'intervention du GTNO est perçue comme cruciale dans ce dossier.

Par ailleurs, les systèmes de chauffage urbain à la biomasse sont considérés comme solution pratique et peu coûteuse pour chauffer les bâtiments. Les participants ont indiqué que le GTNO, Habitation TNO et les fournisseurs d'énergie ont également un rôle clé à jouer dans l'établissement de partenariats avec les administrations communautaires et les propriétaires de bâtiments et dans la promotion de l'installation de systèmes de chauffage urbain dans l'ensemble des TNO. En ce qui concerne Yellowknife, un partenariat public-privé pourrait soutenir le développement d'un système de chauffage urbain à la biomasse pour le centre-ville et ses environs.

Passer aux biocarburants

Les biocarburants « d'appoint », tels que le diesel renouvelable, ont été mis en avant comme solution à court terme pour réduire les émissions dans de nombreuses parties des systèmes d'approvisionnement en énergie des TNO. La plupart des participants ont reconnu que l'utilisation des biocarburants dans le Nord s'accompagne actuellement d'un nombre de défis tels que l'accessibilité financière et l'existence d'un approvisionnement de qualité arctique. Les participants ont par conséquent suggéré que le GTNO joue un rôle actif dans l'approvisionnement, l'essai et le soutien de l'utilisation de carburants appropriés, en particulier pour les utilisations finales pour lesquelles aucune solution de rechange à faible teneur en carbone n'est actuellement disponible (p. ex. les sites industriels éloignés et les véhicules lourds).

Soutenir l'économie des TNO

Les participants ont reconnu que la transition des TNO vers une économie à faibles émissions de carbone exigera d'importants investissements, que le gouvernement estime à plusieurs milliards de dollars. Un consensus s'est dégagé sur le fait que le GTNO et le gouvernement du Canada devraient financer la majeure partie de cette transition énergétique.

Certains participants ont souligné que tout investissement substantiel dans des projets d'énergie propre s'accompagnera d'occasions d'emploi et ont suggéré que le GTNO élabore un plan stratégique afin de maximiser la création d'emplois associée à la transition vers les énergies propres.

Tout en comprenant la nécessité d'une transition vers une économie à faibles émissions de carbone, certains participants ont exprimé des inquiétudes quant aux répercussions que cela pourrait avoir sur les résidents et sur le coût de la vie en général. On a souligné que les Ténois sont déjà confrontés à des coûts énergétiques très élevés et que le GTNO a besoin d'un plan pour résoudre le problème de l'abordabilité avant de s'engager dans des objectifs climatiques plus ambitieux ou de s'assurer que les nouveaux investissements en matière d'énergie ne sont pas absorbés par des tarifs énergétiques plus élevés.

Enfin, les participants reconnaissent dans l'ensemble que, sans accès à des sources d'énergie propre, les TNO auront plus de mal à attirer des investissements dans des projets industriels. Il a été souligné que le GTNO pourrait également soutenir cet effort en exigeant qu'une part croissante de l'énergie industrielle provienne des énergies renouvelables et en facilitant le passage aux énergies propres en ajustant l'approche territoriale en matière de tarification du carbone.

Mettre au point des solutions pour éliminer le dioxyde de carbone et gérer les émissions d'origine terrestre

Quelques participants ont évoqué le rôle que pourraient jouer les solutions d'élimination du dioxyde de carbone, la gestion des émissions d'origine terrestre et les compensations carbone pour réduire les émissions des TNO.

La mise à jour d'une politique sur les feux de forêt, l'élaboration d'une politique sur les zones humides et la collaboration avec les gouvernements et les organisations autochtones en vue d'élaborer des plans solides d'utilisation des terres ont été citées en tant que fondements d'une approche ténoise en matière de compensation des émissions de carbone qui pourrait être déployée dans les aires de protection et de conservation autochtones. Il a également été suggéré que la forêt boréale et les zones humides des TNO soient protégées contre les perturbations telles que les activités industrielles. Enfin, un vaste éventail de points de vue a été exprimé sur la question de savoir si le GTNO devrait acheter des crédits de carbone générés ailleurs; certains participants ont suggéré qu'ils soient utilisés pour garantir l'atteinte des objectifs climatiques, tandis que d'autres soutiennent qu'il s'agit d'une forme d'écoblanchiment et que les TNO ne devraient pas retarder la transition vers des systèmes d'approvisionnement en énergie propre.

Mettre à jour de l'approche des TNO en matière de tarification du carbone

Les participants estiment que la tarification du carbone — également appelée taxe sur le carbone — est un outil essentiel pour réduire les émissions territoriales, à condition que l'approche couvre tous les secteurs des TNO et que le GTNO fasse tout ce qui est en son pouvoir pour promouvoir des solutions de remplacement des combustibles fossiles qui soient propres. La plupart des avis comprenaient des recommandations visant à ajuster l'approche TNO en matière de tarification du carbone, en ce qui concerne le champ d'application, la couverture et le recyclage des recettes afin de réduire les répercussions sur le coût de la vie et d'accélérer l'adoption de technologies de production d'énergie propre. Les modifications proposées à l'approche actuelle comprennent l'exemption des collectivités éloignées (où la taxe sur le carbone a une forte incidence sur les économies traditionnelles) et le réinvestissement des recettes dans le financement d'initiatives d'atténuation des effets du changement climatique ou d'adaptation à celui-ci, avec la possibilité de laisser les gouvernements autochtones décider de l'utilisation des recettes. Les participants reconnaissent toutefois qu'une grande partie de ces mesures échappe au contrôle du GTNO.

Redéfinir les rôles et les responsabilités

Tout au long du processus, de nombreux participants ont souligné que les peuples et les collectivités autochtones devaient avoir leur mot à dire et disposer d'un pouvoir de décision en ce qui concerne les plans, les politiques, les programmes et les investissements dans les domaines du climat et de l'énergie. Plusieurs représentants de gouvernements autochtones ont affirmé fermement qu'il était inapproprié que le GTNO envisage de prendre des décisions importantes en matière d'énergie et de changement climatique sans avoir consulté les gouvernements autochtones de manière satisfaisante. L'adoption dans la loi de la Déclaration des Nations unies sur les droits des peuples autochtones (DNUDPA) par le GTNO est considérée comme une excellente occasion d'élaborer une approche en matière de transition énergétique qui soit axée sur les droits, les connaissances et les priorités des peuples autochtones.

En ce qui concerne la mise en œuvre de la transition énergétique, les participants ont clairement indiqué que les collectivités autochtones sont directement touchées par le changement climatique et qu'on ne peut pas s'attendre d'elles qu'elles assument la responsabilité des coûts liés.

Les participants sont généralement d'avis que le GTNO doit de toute urgence en faire beaucoup plus pour répondre aux préoccupations liées à l'énergie et au changement climatique, en établissant des cibles plus ambitieuses, en faisant preuve de leadership, en élaborant des politiques et des programmes de financement et en soutenant les efforts de planification technique. Certains ont laissé entendre que le GTNO devrait avant tout coordonner l'effort de transition énergétique (au lieu de promouvoir des projets de production d'énergie propre) et continuer à mettre l'accent sur l'abordabilité, la fiabilité et la sécurité de l'énergie.

Le partage de la prise de décisions et une plus grande clarté sur les rôles respectifs du GTNO, des gouvernements et des organisations autochtones ainsi que du secteur privé sont des questions qui doivent être examinées plus en profondeur si l'on veut que les TNO évoluent vers un meilleur avenir en matière d'énergie et de climat.

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Mettre à jour les objectifs climatiques des TNO

Tout au long des échanges, les participants ont formulé de nombreux commentaires sur les objectifs actuels et futurs des TNO en matière d'émissions de gaz à effet de serre. Les principales préoccupations concernaient le risque d'inaction, la nécessité ou non d'ajuster l'objectif actuel des TNO pour 2030 et le besoin ou pas de s'engager à atteindre un objectif de carboneutralité pour 2050.

Dans l'ensemble, les participants ont semblé généralement s'accorder sur le fait que les TNO courent de plus grands risques en ne prenant pas de mesures pour réduire leurs émissions, en particulier à la lumière des effets du changement climatique qui ne cessent de s'aggraver, notamment les inondations et les feux de forêt catastrophiques qui se sont produits ces dernières années. Le GTNO a également reçu des commentaires sur les risques que pose le fait de revoir à la hausse nos objectifs climatiques sans disposer d'une feuille de route claire pour veiller à ce que les services essentiels, tels que l'électricité et le chauffage, restent sûrs, fiables et abordables.

En ce qui concerne l'horizon 2030, un certain nombre de répondants pensent que les TNO devraient augmenter leurs objectifs de réduction des émissions. Le consensus était moins grand quant à la nécessité, pour les TNO, de s'engager à parvenir à la carboneutralité d'ici à 2050. Certains participants considèrent que l'on ne dispose pas de suffisamment d'informations pour prendre ce type de décision, en particulier en ce qui concerne les préoccupations relatives à l'abordabilité et au soutien financier futur. D'autres participants sont convaincus que les TNO doivent prendre cet engagement dès maintenant afin d'orienter le débat sur les moyens à mettre en œuvre pour y parvenir.

Mettre les choses en place

Au cours des échanges, le GTNO a reçu de nombreux commentaires au sujet de cinq grands thèmes. Ces thèmes sont importants et doivent être pris en considération par les TNO au moment du renouvellement de la stratégie énergétique et, éventuellement, de la révision des objectifs climatiques du territoire. Les commentaires recueillis permettront d'orienter la stratégie vers un avenir énergétique et climatique dans lequel les Ténois auront toujours accès à une énergie sûre, abordable et durable, dans un environnement sain. Voici cinq points sur lesquels les participants sont tombés d'accord, dans l'ensemble :

1 Renforcer les objectifs de réduction des émissions

Les TNO devraient augmenter leur niveau d'effort en matière de climat, et potentiellement ajuster leur objectif de réduction des émissions pour 2030 ou établir une cible de réduction des émissions à long terme pour guider leurs efforts au-delà de 2030.

2 Revoir les rôles et les responsabilités

Les gouvernements et les organisations autochtones veulent participer à la prise de décisions sur les questions de l'énergie et du changement climatique, en particulier lorsqu'il s'agit de fixer des objectifs de réduction des émissions. La nouvelle stratégie énergétique devrait définir clairement les rôles et les responsabilités de toutes les parties engagées dans la transition énergétique.

3 Miser sur l'économie et l'accessibilité financière

La transition énergétique aura une incidence considérable sur l'économie, l'emploi et le coût de la vie aux TNO. Le GTNO a besoin d'un plan réaliste pour déployer une infrastructure de production d'énergie propre qui protégera les habitants du territoire contre les augmentations du coût de l'énergie. Pour ce faire, le financement du gouvernement fédéral sera déterminant.

4 Reconnaître le rôle crucial des entreprises du secteur de l'électricité

L'organisme chargé de la réglementation des entreprises de service public, les entreprises du secteur de l'électricité, le GTNO et les gouvernements et les organisations autochtones intéressés doivent collaborer pour élaborer des outils de planification, de réglementation et d'orientation appropriés afin de permettre la transition du réseau électrique des TNO au cours des décennies à venir.

5 Tirer parti des technologies connues et éprouvées

La plupart des solutions technologiques permettant de décarboner les systèmes énergétiques des TNO sont bien connues des Ténois (par exemple, l'énergie solaire, l'énergie éolienne, l'énergie hydraulique, la biomasse). Toutefois, un déploiement accru dépendra de plusieurs facteurs, comme la capacité à l'échelle locale, l'abordabilité et la sécurité énergétique. Les options technologiques émergentes, telles que les petits réacteurs nucléaires modulaires, les biocombustibles liquides ou l'hydrogène, pourraient éventuellement être ajoutées au portefeuille de sources d'énergie à l'avenir, une fois qu'elles seront commercialisées et qu'elles auront été correctement testées dans un climat nordique.

1. About the Engagement

Between June and October 2023, the Government of the Northwest Territories (GNWT) engaged with partners, stakeholders, and the public to discuss its approach to energy and climate change mitigation in the Northwest Territories (NWT). This report summarizes the feedback received, which will be used to inform the GNWT's review of the *2030 Energy Strategy* and greenhouse gas reduction targets under the *Climate Change Strategic Framework*.

1.1 The World Has Changed

Both Canada and the world have changed significantly since 2018, when the *2030 Energy Strategy* and the *Climate Change Strategic Framework* were released. New social, economic, and technological trends have emerged, and need to be considered when revising the GNWT's overall approach to energy and climate change mitigation, including:

- **Canada's enhanced GHG emissions reduction targets:** Canada has recently increased its national greenhouse gas (GHG) emissions reduction targets in line with international efforts to limit global warming to 1.5°C above pre-industrial levels (see box below). Canada's new targets include a commitment to achieving a 40-45% reduction in GHG emissions by 2030 and reaching net-zero emissions by 2050. This enhanced ambition is supported by a suite of federal policies and funding streams to help provincial, territorial and local governments, Indigenous governments, Indigenous organizations, industry, businesses, and residents adopt cleaner technologies.

- **Indigenous-led clean energy projects:** The level of interest and participation in clean energy projects by Indigenous governments and Indigenous organizations has steadily increased across Canada, in part thanks to better access to federal funding for clean energy projects. The GNWT recognizes this transition is well underway and has committed to building stronger and more collaborative relationships with Indigenous governments and Indigenous organizations and exploring partnerships on energy and infrastructure projects.

- **Role of critical minerals:** Critical minerals are essential to clean technologies. Most production is controlled by a few countries, putting supply at risk. The world must establish and maintain resilient critical minerals supply chains that adhere to the highest Environmental, Social and Governance (ESG) standards, an approach embraced by Canada. This represents a huge opportunity for the NWT and its economy, as 23 out of 31 critical minerals can be found in the territory.

The Climate Change Driver

Evidence clearly shows that GHG emissions from human activities are the most significant driver of climate change. According to the Intergovernmental Panel on Climate Change (IPCC), the earth is already 1.1°C warmer than it was in the late 1800s and, under the current emissions pathway, is on track to experience a 4.4°C increase in global temperature by the end of the century. To keep global temperatures from rising 1.5°C above pre-industrial levels and avoid the worst impacts of climate change, scientists estimate that global emissions need to be reduced by 45% from 2010 levels by 2030 and reach net-zero by 2050. Achieving this will require unprecedented and drastic changes to global, regional, and local energy systems, with significant impacts on the economy, societies and jobs.

1.2 Why the GNWT Asked for Feedback

Released in 2018, the GNWT's *2030 Energy Strategy* (Strategy) and the *Climate Change Strategic Framework* (Framework) collectively advanced a GNWT commitment to reduce the NWT's GHG emissions by 30% from 2005 levels by 2030, in line with Canada's *Pan-Canadian Framework on Clean Growth and Climate Change*.

The Strategy sets out the GNWT's long-term approach to supporting secure, affordable and sustainable energy in the NWT. Along with the *NWT Carbon Tax*, the Strategy is the main instrument for keeping NWT's GHG emissions in line with the 2030 climate objective. The Framework outlines the GNWT's response to climate change concerns, with the first of its three goals articulating the need to reduce territorial GHG emissions.

The NWT is now more than five years into the implementation of both the Strategy and the Framework, and has had a carbon tax in place since 2019. While there has been progress towards the GNWT's energy and climate goals in recent years (see box on next page), the NWT's energy supply is still highly dependent on imported fossil fuels like diesel and gasoline.

The GNWT committed to reviewing the Strategy and the Framework after five years. The subject of this engagement report is the Strategy, as well as Goal 1 of the Framework, while Goals 2 (improving climate change knowledge) and 3 (adapting to a changing climate) of the Framework will be reviewed separately in a subsequent process.

Now at the five-year mark, the GNWT is conducting a review of the Strategy to determine what changes—if any—should be made based on lessons learned, new information and emerging opportunities. One key question to consider is whether the NWT should set a more ambitious long-term emissions reduction target (e.g. net zero by 2050). The NWT future energy and climate plans need to be ambitious, effective, and achievable while also ensuring a secure, affordable, and sustainable energy system for Northerners.

Progress Against Current NWT Energy and Climate Goals

The NWT's overall annual emissions were 1,287 kilotonnes of carbon dioxide equivalent (kt of CO_2e) in 2021, the most recent year for which data is available. This represents a 25% reduction in GHG emissions since 2005. Modeling conducted in 2023 found the NWT is on track to meet its objective of reducing emissions by 30% below 2005 levels by 2030. While significant planned actions will contribute to reaching this goal, an expected reduction in mining activity is also a strong contributing factor enabling the realization of the 2030 target. The GNWT estimates ongoing actions and initiatives will reduce territorial emissions by 50 kt of CO_2e by 2028.

Between fiscal years 2018-2019 and 2022-2023, the GNWT and its partners invested $165 million to advance the objectives of the Strategy, with the bulk of the funding provided by the federal government. This figure does not account for programs and policies implemented by the GNWT to stabilize the cost of energy, such as the Territorial Power Support Program, the GNWT Rate Equalization Program, and the Senior Home Heating Subsidy, as well as one-time subsidies motivated by unique circumstances.

More funding and action are needed to address NWT's infrastructure deficit, especially in terms of energy infrastructure that would increase territorial energy security while developing local energy, thereby attracting players in the resource extraction industry, and contributing to stabilizing energy costs for residents and businesses.

1.3 Overview of Engagement

In 2022-2023, the Departments of Infrastructure (INF) and Environment and Climate Change (ECC) developed an engagement plan to scope and structure the engagement to take place in the following year and aimed to initiate the review of the Strategy and the Framework (Goal #1). Entitled "Our Energy and Climate Future in a Changing World," the engagement began on June 22, 2023, and ended on October 12, 2023, after being extended by approximately one month to account for the wildfire-related evacuations that impacted many NWT communities.

The GNWT gathered all information pertaining to the engagement on its 'Have Your Say' portal, with two main documents aimed at supporting the conversation:

- A discussion guide to outline key issues and proposing questions to be examined throughout the engagement; and
- A study from Navius Research commissioned by the GNWT to inform discussions with partners on what low-carbon pathways could look like in the NWT, including the technological and economic implications of reaching net-zero emissions by 2050. It is important to note that the study was about hypothetical pathways, and the GNWT remains neutral in regard to the potential targets and technology pathways presented.

The engagement comprised four streams to offer different ways for partners, stakeholders, and the public to provide feedback:

1. A public submission period for Indigenous governments, Indigenous organizations, partners, stakeholders, and the public to submit feedback based on key questions proposed in the discussion guide;
2. Engagement between the GNWT and Indigenous governments and Indigenous organizations using the NWT Climate Change Council, in-person meetings and correspondence;
3. Engagement between the GNWT and energy utilities, as well representatives from energy and climate stakeholders (e.g. Arctic Energy Alliance, NWT Association of Communities) and industry; and
4. By invitation, three days of in-person, multilateral dialogue, which took place in Yellowknife between July 5th and 7th 2023, with 148 representatives from Indigenous governments, the Climate Change Council, the Climate Youth Advisory Group, as well as Indigenous organizations, non-governmental organizations, utilities, industry, businesses, territorial and federal governments, and other partners and stakeholders from across the NWT.

This 'What We Heard' report summarizes the input received from all streams of engagement.

1.4 Organization of the Report

Section 2 summarizes what was heard throughout the engagement, organized by topic and broadly following the structure of the discussion guide released by the GNWT to support the engagement. Each subsection includes, when appropriate, some concise background about the issue, describes the range of views presented, and outlines feedback most often heard on the topic. Subsections usually include quotes, selected based on their relevance and ability to represent the range of views presented. While ideas and quotes are not attributed, the report sometimes notes whether particular feedback was heard more during the in-person engagement (e.g. multilateral dialogue, one-on-one engagement between the GNWT and partners as well as stakeholders) or written submissions.

Section 3 articulates the main findings of the engagement, which will be used to inform the review of the Strategy and the Framework, as well as potential revisions to the NWT's GHG emissions targets.

More information about the engagement can be found in the appendices. **Appendix A** contains a list of written submissions whose authors agreed on making these publicly available on the GNWT 'Have your say' portal. **Appendix B** includes the agenda of the three-day multilateral dialogue that took place in Yellowknife between July 5 and 7, 2023. **Appendix C** presents an overview of attendees by region and type.

5

one-on-one engagement sessions with partners and targeted stakeholders

148

participants in the multilateral dialogue

152

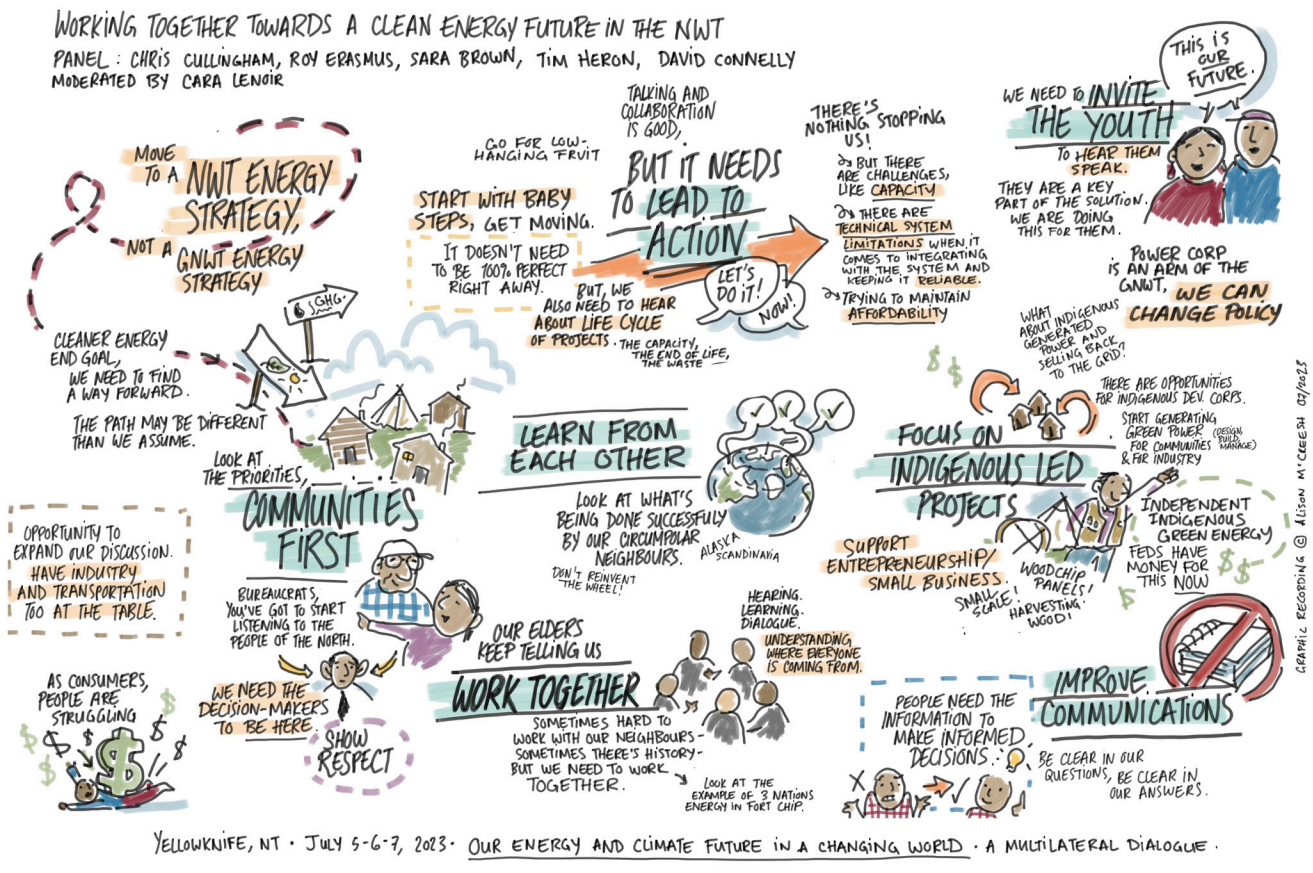
pages of feedback representing 16 written submissions

2,500

visitors to the engagement portal

A Visual Summary of What We Heard

As a companion to this report, the GNWT is also releasing a booklet entitled **A Visual Summary of What We Heard During the Multilateral Dialogue**, which gathers visual minutes recorded by graphic artist Alison McCreesh during the three-day multilateral dialogue that took place in July 2023 in Yellowknife. The booklet, also considered as an Appendix to this report, can be accessed at https://www.inf.gov.nt.ca/sites/inf/files/resources/our_energy_and_climate_future_in_a_changing_world_a_visual_summary.pdf



Pictures taken during the multilateral dialogue held July 5-7, 2023 in Yellowknife.

2. Engagement Results

This section summarizes what was heard on each of the issues included in the discussion guide released by the GNWT at the start of the engagement. For ease of reading, this section follows the same structure.

2.1 Changes to NWT Energy Systems

Most of the NWT's energy use is for electricity generation, heating, transportation and industry. About 85% of the total territorial energy supply comes from fuels imported from the south, primarily in the form of petroleum products, and the remaining 15% comes from local resources, including hydroelectricity, biomass, natural gas, solar, and wind power. Reducing NWT's reliance on energy imports and developing the local energy potential will require deep changes to territorial energy systems.

2.1.1 Electricity

BACKGROUND: *Unlike most of Canada, the NWT is not connected to the North American electrical grid. As a result, the NWT electricity system that supplies our communities is made up of 27 electrical grids, each with its own separate power generation facilities, as well as transmission and distribution lines. In a typical year, the electricity supply to the NWT's 33 communities is about 72% hydroelectricity, 22% diesel, 5% natural gas and less than 1% intermittent renewable energy (i.e. solar).*

These figures do not include electricity generated and used on remote industrial sites, such as mines. NWT's electricity prices are among the highest in Canada, despite large GNWT subsidies.

To adopt different emissions reduction goals, the NWT will need to make significant investments to refurbish existing generation facilities and develop new capacity to produce, transmit and distribute clean electricity. At the same time, the GNWT must also ensure that electricity continues to be provided in a manner that is safe, reliable, and affordable.

Changes to territorial electricity systems were by far the most commented issue throughout the engagement. Feedback received primarily revolved around five themes: the development of clean power; the need to revise the NWT's electricity policy framework; affordability concerns; utilities long-term planning; and climate change resilience and adaptation.

Enable community generation.

Remove the 20% intermittent renewable cap.

Support local ownership or equity opportunities.

Add climate to the utilities' mandates.

Electricity systems must mainstream climate change risk management

Development of Clean Power

The need to develop new sources of clean electricity was one main theme throughout the engagement. Many participants acknowledged that new sources of clean energy will be required to meet the NWT's energy needs and to reduce carbon emissions. There was widespread support for the idea of developing new sources of clean electricity generation in the NWT. Several participants noted that much of the NWT's current electric generating assets are aging and need upgrades or replacement. It was suggested that the GNWT should use this opportunity to rapidly invest in as much renewable energy as possible.

A number of Indigenous governments, Indigenous organizations, and communities are increasingly interested in taking advantage of federal funding currently available to develop clean electricity projects, become an Independent Power Producer (IPP), and enter into a Power Purchase Agreement (PPA) with utilities. However, many noted a lack of clarity on how these renewables projects provide direct benefits, with some expecting renewable energy projects developed in their community to reduce electricity rates, which may not be the case.

Some participants noted certain technical challenges with future electricity development. First, there are currently some limits on how much renewable generation – such as wind and photovoltaic systems – can be integrated into local power distribution grids. It was further noted that power distribution grids were not originally designed to handle high levels of renewable energy generation and may need to be upgraded to enable this to happen.

The GNWT received a range of perspectives on the specific electricity options that the NWT could pursue, and the type of planning needed to do so. For IPPs, it was suggested that regional

planning studies be required, and a technology-agnostic approach be adopted. For larger-scale, more capital-intensive developments, some respondents felt utilities should consider all technology options with a preference for lowest cost as well as lower carbon emissions. Other respondents suggested that the specific electricity generation options that should be supported be left up to the communities and other key interested parties such as utilities, industry, government to decide, but one thing to keep in mind is the importance of resiliency in the face of the unique circumstances of the North (e.g. remoteness).

Participants expressed a range of views on the types of renewable energy technologies available, such as hydroelectricity and solar. With respect to hydro communities, it was suggested that the installation of solar panels should be maximized within grid stability limitations. Another view expressed caution with respect to hydroelectric power generation, noting that the Navius analysis did not consider the possibility of low water level years and their consequences on the hydro systems as the effects of climate change intensify.

Several participants stressed that battery storage and microgrid controllers will be required to integrate significant penetration of intermittent renewables in diesel communities, while noting that batteries, which are expensive, could require replacement after about 10 years. It was also suggested there is a need to further investigate energy storage opportunities, as technical improvements may be on the horizon.

Other feedback received on power generations options included:

- Small modular nuclear reactors (SMRs), when commercially available, may present a future option to rapidly increase electrical supply with limited carbon emissions;
- Services to the grid should be considered moving forward, allowing IPPs to be compensated for providing grid-tied energy storage options to support the grid when electricity demand peaks, thus helping with grid stability and assuring redundancy during power outages.

Feedback received about the role for biofuels to reduce emissions from power generation is addressed in the below section (*2.1.4 The Role for Biofuels*).

Revision to NWT Electricity Policy Framework

There was a strong consensus among participants that the GNWT must take immediate action to review and develop electricity policies that support the development of clean electricity generation, particularly regarding independent power production and the net metering program.

The development of a formal IPP policy is seen as a critical step in supporting renewable power generation projects and making them more accessible for Indigenous governments and communities. A range of ideas were put forth on different aspects of an IPP policy, including:

- Some participants felt strongly that the GNWT needs to decolonize power generation, and revisiting a whole utility-community framework would be an opportunity to enable self-determination for Indigenous governments;
- An IPP policy should ensure fair compensation for renewable generation;
- An IPP policy should address issues around life cycles of renewable technologies and consider issues pertaining to operation and maintenance costs as well as replacement of battery storage systems when they have reached their end of life;
- The process by which renewable energy caps are arrived at or by which IPPs are approved is not clear and poses a major barrier to adoption. The GNWT, the utilities and the Public Utilities Board (PUB), which regulates the NWT electricity system, need to take a lead role in establishing a clear and accessible IPP policy if they want remote communities to be involved in the energy transition; and
- IPP projects lack the utility mandate for safe, reliable and affordable service, with utilities responsible for the availability of backup generation when intermittent generation is not available, as well as investments in grid upgrades to accommodate renewables. Utilities must also ensure that IPPs integrate safely into the grid, meaning batteries and microgrid controllers should be owned and operated by utilities. As such, an IPP policy should, to the extent possible, seek to define rules for how costs contributed by the IPP vs. the utility are allocated and recovered from ratepayers.

The GNWT received a lot of feedback pushing for changes in the current net metering program. This program, which has been in place since 2014, allows customers to install up to 15 kilowatts of renewable energy generation on their property to offset their power use. Self-generation helps customers manage their electricity costs while helping to reduce GHG emissions, but it is also a contributing factor in reduced utility revenues, which can result in increased electricity rates for all consumers.

Some participants noted customers can install their own renewable generation without formally subscribing to the net metering program. This gray area needs to be addressed as it is unfair to other customers while simultaneously creating risks for the power system.

For technical and rate impact reasons, the GNWT currently limits the total amount of intermittent renewable generation to 20% of the average load in each thermal community (thermal communities have their electricity primarily produced by a diesel or natural gas generator). Participants throughout the engagement process were consistently in favour of either eliminating this cap or significantly increasing it, as many thermal communities have reached the 20% cap. Modifying the cap would allow more renewable energy projects to be installed in these communities but would also increase the utilities' financial strain as customer self-generation causes them to lose more in revenue than is saved in avoided fuel expenses.

The GNWT also received a few comments touching on the mandates for the two electric utility companies. The general suggestion is that revisions are needed of the utilities' mandates – specifically to require that the utilities invest in clean power capacity and to add an emissions reduction component to their existing electricity supply requirements. A few participants suggested similar revisions to the mandate of the PUB, and specifically suggested it should include sustainability, as well as develop separate policies for hydro and non-hydro powered communities.

Affordability Concerns

In its discussion guide, the GNWT asked for feedback on ways in which potential increases in electricity rates could be addressed. While affordability concerns were largely discussed during the in-person engagement, a few submissions developed specific ideas aimed to stabilize, if not decrease, the cost of electricity. The ideas discussed were broad in scope and encompassed self-generation and net metering concerns as well as targeted funding programs, improved rate design and better coordination between the utilities.

For some participants it was clear there is a need to limit the overcompensation of non-utility generation, as these projects tend to increase electricity rates for all ratepayers. Relative to this issue, some other participants suggested the GNWT advocate for the development of a federal production incentive. This approach would see the Government of Canada providing a subsidy for each kilowatt-hour of renewable power produced in the North, with the incentive possibly split between the producer and utilities to help cover the fixed costs associated with ensuring continued grid reliability.

Some rate design ideas put forth included the development of a long-term vision and roadmap. It was also proposed to develop separate rates for the provision of electricity used for heat and electric vehicles, as well as off-peak power rates that could shift peak loads (where possible) to optimize power production.

Finally, some participants suggested exploring synergies and rationalization between utilities to reduce power generation and distribution costs in the NWT.

Utilities Long-Term Planning

A few participants expressed a range of concerns about long-term system planning and how renewable energy is integrated into NWT power grids in future years. The general concern is that much more technical planning is needed to ensure that, as more renewable generation capacity is added to local power grids, utilities will be able to maintain safe, affordable and reliable service. Specific comments included:

- Safe, affordable and reliable service must not be compromised; these attributes are foundational for a utility in a modern, functioning society and will remain critical with a decarbonized grid. Integrating renewable energy to achieve

decarbonization targets should ideally support, and, at worst, minimize impacts on these key attributes;

- Utilities should be working together and develop a plan for the future electricity system, exploring synergies where possible; and
- A utility roadmap is needed as various targets require long-term planning using a staged approach and will not be fully implemented for several years. The issue of timing of the transition between the current system to a net-zero system is important for reliability and affordability. Timelines and policy should be within the technical feasibility of current day technologies and the realities of labour availability.

Climate Change Resilience and Adaptation

Several participants expressed concern that not enough is being done to ensure the NWT's existing electricity systems are able to withstand the adverse impacts of a fast-changing climate in the North. One main concern raised is that both the hydro and diesel systems are neither climate ready nor resilient. Some participants indicated the NWT needs a climate model to inform a vulnerability assessment of NWT energy systems, and especially electricity assets. It was also recommended that the electricity utilities be given a clear mandate to develop climate-ready capital plans that include climate change risk management. Adapting our aging energy infrastructure to mitigate the effects of climate change will require substantial investments.

Other Feedback

The GNWT received comments on other factors related to the electricity system and planning for potential future investments in clean power generation, including:

- Supply chain constraints must be considered; the same raw materials, technologies and skilled labour will be required to modernize and transform electricity grids across the world;
- As more advanced technology is integrated into the grid, cybersecurity vigilance is an ongoing requirement.

2.1.2 Transportation

BACKGROUND: *The NWT currently has an objective of reducing GHG emissions by 10% per-capita by 2030 over 2016 levels. In 2021, transportation emissions accounted for about 63% of the NWT's overall emissions, with the bulk of these emissions linked to supply chains and industrial activity (as opposed to personal transportation).*

The feedback received for the transportation sector was mainly focused on the adoption of electric vehicles (EVs) for residents. While most participants expressed general support, they also noted some actual and/or perceived challenges associated with the wide adoption of EVs in the North. Some feedback was also received on how to reduce emissions in other modes of transport.

Emissions and energy use reduction strategies for industry and transportation are notably absent.

Adhere to cultural norms – what do people drive in the NWT? Pickup trucks? ATVs and snowmobiles?

Incentivize electric vehicles.

There are a number of challenges related to a transition to electric vehicles.

Plan and build out charging infrastructure.

Road Transportation

The electrification of vehicles is a key option for reducing emissions from road transportation, with the greatest potential for light-duty vehicles such as cars and pickup trucks. The feedback received throughout the engagement indicated broad support for the idea of transitioning to EVs over time, however, some challenges were also noted.

Participants mostly agreed that the transition to EVs is essential and is becoming more affordable, with EVs being notably more cost-effective to operate than traditional vehicles. Several participants noted that this transition will depend, in part, on the availability of EV charging stations on highways and within communities. A few participants thought that the NWT could be a leader for EV adoption in Northern climates, particularly if the regulatory treatment of EVs can be designed to eventually benefit all electric ratepayers. Some also suggested the GNWT lead by example by converting its fleet to EVs as vehicles come up for replacement.

Participants also noted some of the actual and/or perceived challenges associated with EVs. One concern involves the potential impact of higher electricity demand, due to EV charging, on the existing power distribution grids in communities. These local grids, as originally designed, may need to be upgraded to handle the higher electricity demand associated with a higher EV adoption.

Some concerns were also raised about the wisdom or viability of adopting EVs in the NWT's thermal communities. Participants noted that a push towards electric vehicles may pose problems for communities reliant on diesel generation, including increased emissions, very high costs and slow charging times (at peak times). It was suggested that more research and engagement is needed to determine if/when it makes sense (emissions-wise) to electrify vehicles, depending on how much renewable energy has been integrated into a local grid or if biofuels are used to generate power.

Other concerns raised by participants about EVs pertain to range anxiety; cold-weather operations and reliability of the vehicles; the lack of excess renewable generation capacity available for charging stations; the need for an EV policy for utilities to follow; and EVs being a less practical solution for off-road vehicles as people need reliable transport to travel long distances on the land.

A few participants commented on policy implications of adopting EVs and encouraged the GNWT to support utility ownership and operation of fast chargers as the operational costs are expected to significantly exceed charging revenues.

Some participants indicated that biofuels could play a critical role to decarbonize medium-duty and heavy-duty vehicles in the NWT. Feedback received about the role for biofuels to reduce transportation's emissions is addressed in the section below (*2.1.4 The Role for Biofuels*). Some participants also suggested that electrification and hydrogen could also become an option in the longer-term for medium-duty and heavy-duty vehicles, and recommended the GNWT explore these options in partnership with industry (e.g. mines, haulers for food and fuel, etc.).

Other Modes of Transport

Some participants expressed opinions about potential changes that could be made in other modes of transport to help reduce emissions.

A few participants encouraged investment to expand or optimize the use of rail and marine transportation modes for cargo services over the long term. One suggestion involved electrifying rail transport to reduce costs. Another participant urged the GNWT to investigate both green hydrogen and battery-switching for industry transportation. Another respondent stated that the GNWT has unmatched control over aviation and marine transportation as compared to other jurisdictions, facilitating the transition to suitable biofuels when commercially ready.

It is recommended that the GNWT and Housing NWT be more deliberate about energy efficiency.

Address housing concerns through deep retrofits and youth-focused capacity building programs to improve energy efficiency

Aggressively invest in building retrofits and efficiency improvements.

2.1.3 Buildings

BACKGROUND: *The building sector is made up of private dwellings, commercial buildings, and institutional buildings. For 2021, the National Inventory Report indicates that the annual GHG emissions from energy use in residential dwellings and commercial/ institutional buildings were 47 kt and 62 kt respectively, or about 8.5% (109 kt) of NWT overall emissions. Thanks to ongoing efforts to improve energy efficiency and adopt biomass heating, the level of emissions from the building sector has been slowly declining in recent years.*

Assuming the NWT increases its supply of clean electricity, there is potential to use electricity to heat buildings with electric baseboards and cold-climate heat pumps, however the economics of this will be challenging. There is also an opportunity to increase the use of biomass for space heating of buildings.

The GNWT received a range of comments pertaining to buildings, with feedback primarily focused on energy efficiency, electric heating, district heating systems and biomass heating, as well as policy considerations.

Energy Efficiency

The GNWT received a range of comments about the need for increased energy efficiency as well as the associated challenges that exist at the community level. Many participants suggested that energy efficiency needs to be promoted more, that it requires a suite of policies to support it, and that more investment is needed in building retrofits and efficiency improvements.

Some participants felt that the GNWT and Housing NWT need to be more deliberate about energy efficiency. New buildings should be built to stringent efficiency standards and more funding be available to retrofit older housing stock. It was also suggested that the GNWT should explore financing the construction of new housing.

In terms of challenges, some participants said communities often lack the capacity and tradespeople necessary to plan for, install, and maintain energy efficiency projects. Related to this, it was noted that communities rarely have a housing plan and/or building codes in place nor the means to enforce them to ensure efficient building practices.

Electric Heating and Heat Pumps

Participants mostly expressed doubts about the feasibility of electric heating for houses and buildings, although there was some support for this idea in the long-term. Several challenges with electric heating were noted, including the fact that electric heating is very expensive compared to heating with oil at the current power price. It was also noted that housing and community infrastructure wasn't designed for the electrification of heating. A few participants felt that a move towards electric heating (whether resistive heating or heat pumps) is an ideal solution to decarbonize in the long term.

Specific to heat pumps, some participants also expressed doubts about the technology, questioning its cost (deemed higher than wood pellets) and arguing the efficiency of heat pumps drops significantly in cold weather. It was noted that cold-climate, air-source heat pumps are currently being tested in NWT and Yukon, and one respondent suggested the results of the study be shared with the public when available. It was also suggested that stakeholders such as the NWT Association of Communities, the Arctic Energy Alliance, and the Northern Infrastructure Standardization Initiative could partner to facilitate the uptake of heat pumps when they are promoted, incentivized, and mainstreamed.

Woodstoves – expand and partner.

We need more than one single biomass supplier.

Where potential exists, develop community biomass systems for heating that use local chipped wood/hog fuel to capture employment and other economic benefits locally

The NWT needs a biomass supply delivery system on par with the current diesel delivery system.

Biomass Heating

BACKGROUND: *Biomass heating, through wood or pellet stoves and boilers, is considered a carbon-neutral heating option. The NWT is already a leader in the use of biomass heating and this trend will become increasingly important in a net-zero future.*

Participants generally expressed support for the increased use of biomass heating but noted some concerns with the biomass supply chain that serves the NWT and the issues sometimes encountered with biomass system installations and maintenance.

Many participants were in favour of biomass heating as a way to rapidly reduce emissions in the short and medium term. One suggestion put forth was to expand the Community Woodstove Program run by the Arctic Energy Alliance. Another participant recommended exploring how high efficiency stoves could become the norm as a secondary heating source for homes. For biomass boilers, some participants suggested the GNWT share the knowledge gained from converting government buildings to biomass heating and consider expanding the Biomass Energy Program (for building-scale installations).

Some participants also raised concerns with the idea of increased use of biomass. One challenge is that there is no current production of pellets or wood chips in the NWT and that there may be issues with quality and consistency of production if done locally. Another potential concern was that an increased demand for pellets would result in worsening supply chain issues and/or cost increase for pellets. Some participants noted some remote NWT communities don't currently have a reliable access to a biomass supply.

Participants also noted some of challenges encountered with the purchase, installation, certification, and maintenance of biomass

heating systems. Specifically, there are often issues with finding service technicians to fix broken pellet stoves and boilers, both in Yellowknife and in smaller communities. There were also concerns about the potential impact on air quality if there is a big shift towards biomass heating.

Participants saw a direct role for the GNWT in addressing many of these concerns or challenges. Some felt a need for the development of a program for the procurement, delivery, and storage of biomass across the NWT (similar to what is currently in place for petroleum products). The GNWT should also investigate the failures of abandoned biomass heating projects before scaling up. Some added that the GNWT should also better support the creation of a biomass fuel industry within the NWT to create employment, improve energy security, and increase forest management to reduce wildfire risks around communities. FireSmarting efforts in communities and harvest of standing burned timber have the potential to increase local biomass supply and provide local economic opportunities.

District Heating Systems

The GNWT received a range of comments about district heating systems, which distribute heat from a central source through pipes to residential units and buildings. Most participants were in favour of using more district heating systems, particularly biomass-fired district heating, as these systems operate at larger scales and are often more efficient and operate at lower costs. In contrast, a view was also expressed that small communities may be unable to plan for future home construction in a way that would allow for future connection to a central domestic water and heating system.

Some participants advanced specific ideas to support the development of district heating systems in the NWT. Others proposed that the GNWT and/or utilities expand their role as a utility provider to include district heating systems. Another suggestion was that the GNWT and Housing NWT partner with community governments and major building owners to support district-scale biomass boiler projects. Specific to Yellowknife, it was also suggested the GNWT seek a Public-Private-Partnership (PPP) to develop a biomass district heating system for the downtown and surrounding area.

Policy Recommendations

In terms of legislative or policy action, the GNWT received a few comments expressing support for the concept of energy legislation applicable to buildings, building codes, or energy performance standards. One participant encouraged the development of an NWT Energy Buildings Standards Act detailing progressive energy standards. Other participants expressed support for the general idea of adopting much higher energy performance standards for new construction but didn't specify how this should be done. One note of caution was that the GNWT should ensure a holistic approach is taken, for example, mandating electric heat in a building code should consider the impact on the available electricity capacity in a community.

Biofuels must be piloted and de-risked prior to being adopted in the North.

Thermal communities could maintain carbon neutrality under the constraints of baseload power by using biofuels.

Move progressively to nail down production and supply of Arctic-grade renewable diesel and begin the shift as soon as possible with the GNWT committing to internal usage goals as well as blending target for purchased fuel.

Aggressively pursue renewable diesel. This technology can be implemented immediately and widely, and will be required to achieve net-zero by 2050. Begin now.

2.1.4 The Role for Biofuels

BACKGROUND: *Biofuels are another promising option for reducing emissions from vehicles and buildings. When commercially available in an Arctic-grade, 'drop-in' fuels such as renewable gasoline and renewable diesel will not require any change in the existing fuel distribution system and equipment. Drop-in fuels are fuels designed to be a direct replacement for traditional fuels with comparable performance and compatible with existing equipment. In scenarios modelled where the NWT achieves net-zero emissions by 2050, a significant portion of fossil-fuel equipment remains installed and is run primarily on this type of biofuels.*

Engagement participants generally expressed support for the idea of using 'drop-in' biofuels such as renewable diesel. While this was not a separate section in the GNWT's discussion guide, comments related to biofuels are provided in its own section in this report as they were proposed as a solution applicable to power systems, transportation, and buildings.

Participants commented that biofuels being a 'drop-in' fuel mean they can be implemented in the short term and in many parts of NWT's energy systems. While most of the feedback usually refers to renewable diesel (as diesel is the NWT's most common source of energy), one submission notes that renewable propane, a by-product of renewable diesel production, could become another option to reduce NWT emissions in the longer term. Some participants also noted that modeling sees biofuels as critical to meet any ambitious long-term climate target, such as net-zero emissions by 2050.

Engagement participants noted biofuels can play a critical role for specific hard-to-decarbonize end uses. While EVs provide an option for light-duty vehicles, biofuels could soon be a solution for heavy-duty transportation, including long industrial supply chains. Biofuels could also be instrumental in complementing intermittent renewable energy and bringing communities relying on diesel generators to net-zero emissions, thus allowing for electrifying end uses in thermal communities.

Participants also acknowledged some challenges associated with shifting to biofuels in the NWT, whether neat (unblended) or blended with traditional fuels. In particular, the availability and cost of an Arctic-grade supply are the main challenges currently blocking the application of liquid biofuel in the North, especially if meeting Arctic standards for biofuels is not a priority for southern producers. It is also noted that biofuels will most likely require additional storage tanks to be added to existing facilities or tank farms.

To overcome these challenges, feedback received consistently suggested the GNWT take an active role in procuring, testing, and supporting the use of suitable biofuels in the NWT. Specific ideas included:

- The GNWT should take the lead in 'de-risking' the technology in the North, which could be accomplished through a demonstration project done in partnership with industry (e.g. mining);
- The GNWT should lead by example by committing to corporate usage targets, which could be met with long-term contracts in order to secure procurement of renewable diesel in increasing quantities;
- The NWT should collaborate with other remote jurisdictions and lobby the Government of Canada for funding to cover the premium cost as well as require that federal funding for biofuel-refining capacity in Canada be tied to a production quota of Arctic-grade renewable diesel earmarked for remote community use; and
- The GNWT should develop policy such as a clean fuel standard to require an increasing blend of biofuels be mixed in the gasoline and diesel pool used by residents, businesses, and the industry. Proceeds from the NWT carbon tax could be used to help pay for the equipment or higher costs of procuring blended fuels.

I recognize that industry plays a key economic role in the territory, but also that its impact on the climate here is significant.

The major players that should promote and fund this transition are the GNWT and the federal government.

NWT ESG standards would facilitate capital flows.

Funding should be available to cover O&M costs for clean energy projects.

Young people need access to good jobs that are not extractive.

2.2 The NWT Economy

BACKGROUND: *The NWT is currently facing economic challenges, including maturing diamond mines, an aging population, declining private sector investment and a need for economic diversification. A shift to a lower-carbon economy will require significant capital investments in the NWT energy system, the transportation system and community buildings and housing. This kind of investment in energy, which the GNWT estimates will be in the order of billions of dollars, has varying implications that must be considered.*

In its discussion guide, the GNWT outlined what the transition to a low-carbon economy might mean for the NWT, including some of the opportunities and challenges involved. How this transition is managed will be very important for creating jobs and economic benefits while minimizing adverse impacts such as rising energy costs in NWT communities.

One part of the resource industry with high economic potential is the development of NWT critical minerals deposits. Investors and suppliers of capital are increasingly using ESG considerations in deciding where to make investments. Access to low carbon energy is an important consideration in those investment decisions.

The feedback received from participants revolved mostly around issues such as capital investment requirements and funding sources, job opportunities, and cost-of-living implications, as well as resource extraction industry development.

Funding Requirements and Sources

Participants generally recognized that a transition to a lower-carbon economy will require very significant capital investments in clean energy technology. Participants also understood that this transition may have different impacts on the NWT economy and cost of living in communities, depending on the level of funding support provided by government for clean energy investments.

Participants provided a number of comments about future funding requirements. Many recognized that addressing climate change with the urgency needed will require immense capital investments to achieve our goals. Several participants noted that the GNWT and its partners should do more work to determine how much capital investment is needed to transform the NWT energy systems, including improving the climate resilience of the infrastructure to withstand the impacts of a rapidly warming northern climate. Related to this, some participants from thermal communities maintained that funding should also be made available to help cover operation and maintenance costs for clean energy projects.

There was also a general consensus that the major players that should promote and fund this transition are the GNWT and Government of Canada, with much of the funding coming from federal programs. For the electricity sector, it was noted that utilities are willing to invest as well, as long as policy certainty allows recovery of incurred costs.

Other potential sources of funding for the energy transition noted by participants included using carbon tax revenues (*see 2.4 Carbon Pricing*), establishing partnerships with Indigenous organizations and communities, using private sector investments and an expansion of government grants, subsidies and financing programs.

Future Jobs

Any substantial investment in clean energy projects will create job opportunities. However, there were few comments on the topic of future job creation. One respondent did indicate that it was encouraging to see some mention of areas for potential jobs creation. It was suggested that relevant GNWT departments (INF, ITI, ECE, Housing NWT) work together to be strategic and deliberate in finding ways to support and maximize the job opportunities that will be associated with the clean energy transition.

Cost-of-Living

While generally supportive of the need to transition to a lower-carbon economy, some participants expressed concerns about the potential impact on residents and the overall cost-of-living. Some participants insisted that the NWT needs a plan to address affordability before committing to more aggressive targets.

Northerners are already facing very high energy costs and have little ability to absorb additional costs. It was specifically suggested that cost recovery of future clean energy investments for electricity and space heating should be avoided as customers already face extraordinarily high prices for these services.

With respect to existing (or future) incentive programs that are rebate based, it was pointed out that such programs are inaccessible to homeowners on a low income, and that funding programs should be accessible to all NWT residents, not just those with disposable income.

Another suggestion to address energy affordability issues included establishing regional or territorial buying groups that communities could use to acquire clean energy technologies (e.g. solar, energy storage, biomass boilers, energy efficient products), thereby ensuring access to better pricing and post-sale support and training.

Resource Extraction Industry Development

Participants provided a range of views on ESG considerations and the potential next generation of mines in the NWT. There seemed to be a general acknowledgement that without access to lower carbon energy sources, the NWT will have a more difficult time attracting investments in industrial projects. This means that future industrial development, such as critical mineral mining projects, will likely need to be low carbon, if not carbon neutral, to obtain capital financing or meet customers' demands on sustainability.

Some participants also argued that the GNWT should establish progressive requirements and a schedule for the proportions of mining projects' energy to be met with renewable energy sources. A program of support using carbon tax revenues from industry could be developed in parallel to help facilitate an industry-wide switch to clean energy.

With respect to ESG considerations, one respondent advocated for the implementation of a stronger land management regime, prior to new mining projects, in order to help streamline the permitting process while adhering to the ESG values and principles established by the GNWT. This idea is further detailed in the next section (*2.3 Carbon Dioxide Removal Solutions and Land-based Emissions Management*).

Other comments the GNWT received about future mining projects and sustainability included:

- Mines need to have a large enough, or rich enough, deposit to justify investment in sustainable technologies;
- Pursuing industrial development is great for the local economy and minerals from the NWT could eventually be incorporated in lower-emitting technologies;
- Ideally, industrial grid connections would benefit other electricity ratepayers; at worst, other ratepayers should not be harmed by industrial connections; and
- There is also an opportunity to engage IPPs for renewable energy to serve new industrial loads.

Carbon offsetting and land-based emissions management can play a very important role in the fight against climate change.

Carbon offsets and land-based emissions management are largely window dressing and greenwash.

"The GNWT should pursue carbon offsets as a backstop to guarantee emission targets are met.

We should not be using carbon offsets as an excuse to delay or stop a transition away from carbon intensive activities

2.3 Carbon Dioxide Removal Solutions and Land-based Emissions Management

BACKGROUND: *The Navius study identifies Carbon Dioxide Removal (CDR) solutions as an option to address hard-to-abate GHG emissions. CDR solutions remove CO2 from the atmosphere and permanently store it so that it does not re-enter the atmosphere. CDR approaches come in two types: biological CDR (a.k.a. nature-based solutions) protects carbon sinks through sustainable forest and landscape management; non-biological CDR corresponds to emerging technologies designed to remove CO2 from the atmosphere and sequester it in deep geological formations or through mineralization. To reduce NWT GHG emissions, CDR solutions could either be deployed or carbon offsets generated by CDR projects in other jurisdictions could be purchased. Non-biological CDR has not been achieved at a significant scale in any jurisdiction yet and would require technological innovation.*

Overall, few comments were made about CDR solutions and land-based emissions management throughout the engagement. The issue was only anecdotally discussed during the in-person part of the engagement. Six of the 16 written submissions received share a perspective on this, with one submission articulating detailed ideas and considerations. Comments received show a wide spectrum of views expressed on the subject. Two submissions shared skepticism about land-based emissions management playing a significant role in reducing territorial emissions. Most of the submissions discussed the possibility of the GNWT purchasing carbon offsets (created through CDR solutions most likely deployed outside of the NWT) and one submission detailed an approach to generating carbon offsets through the management of NWT's forests and landscapes.

2.3.1 About Purchasing Carbon Offsets

Certain submissions advance carbon offsets as an effective way to achieve emissions reductions and make progress towards NWT's territorial target. Some asserted that reallocating funding from emissions-reducing projects to carbon offsets purchase could be a more effective use of funds as cost-per-tonne of NWT clean energy projects are often too high. It was also raised that using offsets in this way is considered acceptable practice internationally as emissions are a global issue and ultimately it does not matter where the emission reductions come from. One submission argues that "NWT dollars could have an outsized impact if invested in other regions."

Other submissions articulate more skeptical views on the role of carbon offsets and the CDR solutions they rely on, calling them "window dressing and greenwash" as opposed to actual clean energy solutions, or pointing to the risk CDR technologies pose in delaying the needed global transition away from fossil fuels.

Lastly, some indicated that more research is needed to better understand the role that CDR solutions could play in reducing NWT GHG emissions.

2.3.2 About Managing of Land-based Emissions and Developing Carbon Offsets in the NWT

One submission proposes an approach for developing carbon offsets relying on biological CDR solutions in the NWT. According to the submission, the establishment of a wetland policy to protect vast amounts of carbon wetlands stored, an update to the wildfire policy, the development of robust land use plans in partnership with Indigenous governments and Indigenous organizations, and the creation of Indigenous Protected and Conserved Areas (IPCAs) could be the foundations of made-in-the-NWT carbon offsets. Specific to wildfires, the submission

notes that updating the wildfire policy to allow for "suppression action of areas of high carbon value and examining the potential for active mitigation practices to minimize burn intensity" could contribute to create the certifiable carbon offsets required by protocols.

The groundwork required to determine the path forward includes the collection of baseline data, mapping of values, partnership building, budgeting, review of existing policy, regulations, and legislation – a process that "could take anywhere from two to 10 years, and sometimes longer."

This same submission suggests that revenues from selling carbon offsets be recycled to fund IPCAs and pay for the stewardship of the land they provide, including fire management. Such an approach would be best led by Indigenous organizations as taking care of the land is an important cultural value, and stewarding the landscape for carbon will also help provide conservation of other values such as biodiversity and hydrology. Ultimately, the proposed approach aims to advance Indigenous reconciliation at the same time it develops the local NWT economy and creates jobs.

A couple of submissions note NWT boreal forest and wetlands (and especially peatlands) should be protected from disturbance. One submission proposes that the development of a wetland policy and robust land use plans would create the basis for a strong land management regime in the NWT. This could ensure landscape alterations associated with industrial and energy-related developments do not adversely impact the land's ability to store carbon as well as other values such as hydrology, biodiversity, or people's use of land.

Carbon pricing revenue should not go into general GNWT funding but rather be directed to clean energy initiatives and affordability improvement.

Carbon pricing always must be balanced with affordability.

Carbon pricing, by placing a financial cost on carbon emissions, is a good tool for encouraging the shift away from fossil fuels.

Carbon pricing remains key, but only to the extent that GNWT does not provide subsidies or exceptions to any use of fossil fuels, and only if GNWT does all it can to promote alternatives to fossil fuel energy sources.

2.4 Carbon Pricing

BACKGROUND: *Carbon pricing—or a carbon tax—is a policy tool to reduce fossil fuel consumption by encouraging energy savings through energy efficiency upgrades or changes in the way we consume energy and increasing low or zero carbon energy sources when available such as biomass, solar, wind, or hydro. While provinces and territories have the flexibility to choose the type of carbon pricing system to implement, the Government of Canada has introduced a carbon price backstop in jurisdictions that do not meet the federal carbon pricing benchmark.*

The NWT Carbon Tax, in compliance with the federal backstop, will see carbon pricing gradually increase from $65 per tonne of CO2e in 2023 to $170 per tonne in 2030. It currently applies to all transportation and heating fuels used in households, businesses, administration, and industry, except for aviation fuel and public electricity generation.

Most submissions expressing an opinion on carbon pricing show reasonable support, framing it as an important tool to reducing GHG emissions if designed and implemented

properly. Most views included recommendations and considerations about adjusting the current territorial approach to carbon pricing in terms of scope, coverage, exemption, and revenue recycling in order to make it more effective or reduce adverse effects such as impact on the cost of living in the North.

Many participants frame carbon pricing as a key tool to reduce territorial GHG emissions, providing the approach covers all sectors and that the GNWT does all it can to promote existing alternatives to fossil fuels (e.g. biomass, heat pumps, EVs, suitable biofuels, energy conservation and efficiency measures). Such an approach will enhance the competitiveness of lower-emitting options and drive behavioral change at all levels, from individual consumers to large corporations. Specifically, to the private sector, carbon pricing allows them to innovate and find cost effective solutions instead of having governments dictate what the solutions should be. A predictable carbon price that gradually increases in steps sends a signal that society wants to move away from fossil fuels, while allowing for time to transition.

Some participants articulated concerns related to carbon pricing's impact on cost of living, by increasing the cost of energy at a time when affordability is already a crucial issue for many Northerners. The carbon tax has adverse effects on vulnerable and low-income people across the NWT. Carbon pricing is having a greater impact in regions heavily dependent on fossil fuels such as remote communities, which rely heavily on a traditional economy. Adding to the issue, the GNWT is seen as not supporting the development of clean energy such as biomass and solar to help these communities reduce their exposure to the carbon tax. For these reasons, several participants advocate for remote communities being exempted from the carbon tax, or at the very least be given special considerations.

Most participants asserted that the current approach to the NWT carbon tax should be modified to minimize negative economic impacts on vulnerable communities and traditional economies as well as accelerate clean technology adoption. Ideas included:

- Recycle proceeds from the carbon tax to support emissions reduction initiatives in communities (especially more vulnerable ones), to fund the territorial portion of projects when accessing federal funding', and to fund clean energy programs and infrastructure across the NWT. This would best be designed through collaborative work.
- Proceeds generated in a specific region should be re-invested in this region to support the local economy and enhance energy sovereignty. Indigenous governments could potentially play a role in this approach.
- Earmark some carbon tax proceeds to fund climate adaptation initiatives in communities.
- A revised energy strategy should include some specific metrics to measure, inform and report on the impacts of the carbon tax on energy affordability across the NWT.

Many participants also noted the current approach for large emitters should be tweaked to help the industry transition to clean technologies like hydrogen fueling stations for industry's heavy trucks.

People need to be part of the change.

Connections and relationships help get things done.

Share the perspectives of Elders who are seeing the land change.

Increase and plan for bilateral discussions between the GNWT and Indigenous organizations.

Support youth leadership and capacity building.

The NWT energy ecosystem is complex, and stakeholders are various and numerous.

Promote collaboration, efficient learning and sharing, and communication amongst communities and potential partners.

2.5 Working Together: Roles, Responsibilities and Partnerships

BACKGROUND: *As a government, the GNWT plays a leading role with respect to energy, climate and economic policy. It is involved in the planning and delivery of numerous programs, initiatives and projects throughout the territory. In recent years, the level of interest in and participation by Indigenous governments and Indigenous organizations in clean energy projects has been steadily increasing, and there is improved access to significant amounts of federal funding for clean energy initiatives. Private sector businesses and industry are also key players in the economy, in terms of private investment, job creation, tax revenues and energy demand. Businesses and industry need to be part of the NWT's ongoing energy and climate discussions and implementation efforts towards a lower-carbon economy.*

In the discussion guide the GNWT asked engagement participants about roles, responsibilities, and partnerships that can help the NWT achieve better results in improving our energy systems and addressing climate change. Several themes emerged from participants' feedback, including decision-making, respective roles and the need to work together in partnerships.

2.5.1 Decision-making

Throughout the engagement, many participants identified the strong need for a much larger role for Indigenous peoples and communities in energy and climate change policy matters. During the in-person portion of the engagement, several representatives from Indigenous governments expressed strong views and concerns that it is inappropriate for the GNWT to consider making decisions on significant energy and climate change policy matters, such as a net-zero emissions commitment, without proper consultation and input from Indigenous governments.

One suggestion also made is to give Indigenous governments more authority and jurisdiction to develop and make their own energy and climate decisions. Related to this, it was also noted that failures to incorporate Indigenous leadership in energy and climate decisions results in an absence of Indigenous knowledge and the recognition of treaties. In this view, the GNWT must do better to honour Indigenous self-government agreements and work with Indigenous governments as partners.

Some participants specifically indicated that the legislative adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) by the GNWT is an opportunity to develop an approach to the energy transition that is centered on Indigenous rights, knowledge, and priorities. More broadly, many stressed that Indigenous peoples and communities must have a voice and decision-making power for climate and energy plans, policies, programs, and investments, including any such initiatives that involve land management issues or decisions.

Last, some suggestions were offered on how the GNWT could improve its approach to engagement and consultation. Specifically, it was advised that GNWT departments need to work together when conducting community engagement, with projects' timelines designed to allow for enough time for such engagement. Some also noted that wildlife impacts should be addressed before the GNWT engages on energy projects.

2.5.2 Roles

GNWT

Throughout the engagement process, participants generally expressed the view that the GNWT must do much more to address energy and climate change concerns, particularly if the NWT decides to adopt a net-zero target for 2050. Participants' views on an appropriate role for the GNWT generally include demonstrating leadership in setting ambitious emissions targets and showing urgency in the development of supporting policies and funding programs, as well as supporting technical planning work. It was also felt the GNWT's decisions and allocation of resources sometimes seem ad hoc and arbitrary, and that better explanations are warranted.

Many participants asserted that the GNWT should lead by example by adopting ambitious corporate GHG emissions reduction targets and by demonstrating how they can be achieved, rather than exempting itself from its own policies.

Some participants stated the optimal role of the GNWT is to keep a strong focus on energy affordability, reliability, and security, and to plan for infrastructure upgrades (especially in the power sector) by developing roadmaps and issuing policies to achieve emissions targets. In this view, the GNWT should primarily coordinate the energy transition effort, and potentially no longer advance clean energy projects itself.

A few participants noted the GNWT needs to provide targeted funding programs that address regional variations across the NWT.

Indigenous and Community Governments and Organizations

Further to the idea that Indigenous peoples and communities need to have a much bigger role in regional and community climate and energy initiatives, the GNWT received several suggestions on how this could be achieved. Some participants felt the GNWT is part of the problem and should instead give Indigenous governments more authority and jurisdiction to develop and make their own decisions in the planning and implementation of energy and climate actions.

There were some differences in opinions on the specific roles that Indigenous governments and Indigenous organizations could play. Many participants noted that Indigenous governments and Indigenous organizations should lead community-based initiatives and having them provide traditional ecological knowledge and experience will be vital to finding solutions. In contrast, some participants stated that Indigenous and smaller communities are on the front lines of climate change and cannot be expected to bear the brunt of any transition, though they need to be included in decisions that may impact them.

Private Sector

The GNWT received suggestions on the appropriate role of businesses, utilities, and the private sector in general, most of which have already been mentioned in previous sections of this report. These included:

- The private sector should be encouraged to invest and work in areas where it could be inefficient for government to be involved. To that end, the GNWT should develop a long-term vision, supported by policies, in order to attract private investment;
- Energy utilities and industry can invest in cleaner technologies and sustainable practices; and
- Businesses can implement energy efficiency measures and support community projects.

2.5.3 Partnerships

Shared decision-making and better clarity on the respective roles of the GNWT, Indigenous governments and Indigenous organizations, as well as the private sector, are clearly issues that require attention if the NWT is to make progress towards a better energy and climate future.

A related issue raised by the participants is the need for better collaboration and real partnerships involving different levels of government, the private sector, and other players such as non-governmental agencies, contractors, and suppliers. Effective partnerships can enable shared planning and decision-making, help pool available resources, and support project implementation.

One respondent tackled this topic in some detail, arguing that the NWT needs to shift to using partnerships to plan, pool resources, and complete projects, rather than the status quo where different players work independently, without much communication and coordination. It was also stated that for partnerships to deliver outcomes, the GNWT must bring resources and capacity to the table in all its forms: time, knowledge, outreach, material, contacts, funding and advocacy for full lifecycle funding.

Mother Earth is tired.

The GNWT has not taken the climate crisis seriously.

Setting a long-term emissions reduction target is crucial for mitigating the long-term impacts of climate change. However, setting targets should be done carefully to balance emissions reduction with other priorities.

I see climate change and carbon emissions as the greatest threat faced by the NWT today and believe we require rapid and profound action to address it.

Treat climate change as the emergency it is.

Climate action must be grounded in a commitment to social justice, promote Indigenous self-determination and leave no person or community behind.

Climate action must be grounded in a commitment to social justice, promote Indigenous self-determination and leave no person or community behind. The climate crisis has placed our society at a crossroads, where we must examine the values and policies that got us here and find the political courage to build alternatives.

2.6 NWT GHG Emissions Targets

BACKGROUND: *Results from the Navius study suggest the NWT is on track to meet its current emissions reduction target of 30% below 2005 levels (1,094 kt CO2e) by 2030, considering planned activities, along with an anticipated reduction in mining activity in the late 2020s.*

In recent years, Canada has become more ambitious in its GHG emissions reduction efforts, including increasing its national 2030 target to 40-45% below 2005 levels and by setting a goal of net-zero emissions by 2050. Canada will also be engaging jurisdictions on revised targets and timing. The NWT needs to determine if its existing GHG emissions target for 2030 should be adjusted, if timing adjustments should be considered, and whether it should commit to pursuing net-zero emissions by 2050 or take a different approach.

Throughout the engagement process, the GNWT received a substantial amount of feedback from participants on topics related to the NWT's current and future GHG emissions targets. Participants' primary concerns included the risk of inaction, whether to adjust the NWT's existing 2030 target, and whether to commit to a net-zero target for 2050. Some discussion also occurred about potentially setting targets by economic sector or on a regional/community basis.

2.6.1 Risk of Inaction

There is still a high degree of uncertainty about the various technology pathways the NWT should pursue to significantly reduce emissions, what the roles of the GNWT and its partners should be in transitioning to a lower-carbon economy, how much capital investment is required in future years to achieve this and how that investment will be paid for. Due to the uncertainty on these key questions, some participants were concerned about the implications of setting higher emissions reduction targets while other participants were equally concerned that the NWT is not doing nearly enough to reduce its emissions and contribute to global efforts to combat global warming.

Overall, there appeared to be a general consensus amongst participants that the NWT faces greater risks by not taking action to reduce its emissions, in terms of effects from climate change as well as reputation. Several participants shared that they believe the GNWT does not understand the crisis the world, Canada, and the NWT are confronting because of climate change, nor subsequently the degree of response required. The GNWT needs to acknowledge that a paradigm shift is needed as tweaking the system will not meet the challenge. With a temperature increase up to four times the global average in the NWT, youth representatives shared

that they are scared and exhausted knowing that we will continue to experience the ever-worsening effects of the climate crisis in their lifetimes. Several participants pointed to the recent flooding and wildfire disasters in the NWT as the very predictable outcomes of decades of government excuses and inaction on climate change around the world. It was raised that the GNWT is not exempt from this criticism.

The GNWT also received feedback on the risks of increasing our climate ambition before there is a clear roadmap to ensure essential services such as electricity remain safe, reliable and affordable. Many decarbonization efforts will require significant investments – now and in the future – which may strain affordability, but at the same time represents economic development opportunities. In this view, it was stated that a clear road map, including a plan to address affordability, as well as transparent communication with communities, are all needed before the NWT commits to more aggressive GHG emissions targets.

2.6.2 2030 Emissions Target

A number of respondents expressed the general view that the NWT needs to increase its 2030 emission reduction target. Some participants specifically suggested that the NWT should set a new target for 2030 that is 50-60% below the 2005 level so that the Strategy reflects or exceeds current IPCC targets.

2.6.3 2050 Net-Zero Commitment

The GNWT also received a substantial amount of feedback on the question of whether the NWT should commit to achieving net-zero emissions by 2050.

Some participants feel that not enough information is available yet to make this type of decision – particularly related to concerns about affordability and future funding support. A specific concern is that the NWT does not yet know how much investment may be needed to achieve net-zero emissions or how much future funding may be available from the Government of Canada. In this view, we should not commit to net-zero emissions until we better understand the affordability implications.

On the other hand, some participants felt very strongly that the NWT must make this commitment now. These respondents suggested that there shouldn't be a debate on this, arguing that the NWT should officially commit to net-zero by 2050 so it can focus the conversation on how to get there. Related to making such a commitment, it was noted that the sooner this effort starts, the sooner the benefits will be realized. It was stated that there is a strong rationale to start now so the NWT will have more time to work with, particularly as it will be competing for labour, engineers, equipment and supplies with other jurisdictions that are also trying to reach net-zero emissions by 2050.

2.6.4 Emission Targets by Sector / By Region and Communities

Related to the questions the GNWT asked about 2030 and 2050 NWT emission reduction targets, a few participants also expressed their views on setting targets by sector, by region or by community.

Most of the feedback received focused on the industrial and transportation sectors. As the largest emitters, it was suggested that representatives of the industry and transportation sectors need to be engaged in a similar dialogue event, commit to a common strategy and be accountable and transparent on the implementation of measures to reduce emissions.

Some participants focused on actions that the GNWT could take to tackle industrial emissions. One idea put forth is that the GNWT should establish progressive emissions reduction requirements for industry and a schedule for the proportions of project energy that must be met with non-carbon energy sources. To help industry pay for these investments it was suggested the GNWT use carbon tax revenue collected from industry to help facilitate an industry-wide switch to renewable sources. Looking to the future, it was also argued that the GNWT must establish and legislate standards for industry to ensure new projects do not compromise our progress towards the NWT's overall targets.

During the in-person part of the engagement, some Indigenous participants suggested there should be an option for each region, nation or community to set their own emissions targets. This idea was not further explored and the GNWT didn't receive any feedback on this idea during the rest of the engagement process.

2.7 Other Feedback Received

This section summarizes feedback received throughout the engagement on other related energy and climate topics.

2.7.1 Strategy and Framework's Principles and Values

BACKGROUND: *The Strategy and the Framework contain several principles and values that have helped guide the GNWT's implementation of various climate and energy-related initiatives in recent years. To determine if the existing principles and values are still appropriate, or should be revised, the GNWT asked participants to share feedback about values or principles that should guide the NWT's long-term approach to energy and climate issues.*

Engagement participants provided a wide range of responses to this question. Some responses touched on broader societal issues while others were specifically focused on either energy or climate-related principles and values.

In terms of broad feedback, some suggested that the NWT's long-term approach to energy and climate should avoid colonial behaviour, be fair and equitable, and be respectful of the needs, culture and traditions of the NWT's different regions. Examples of the comments received included:

- Incorporate worldviews of Dene, Inuit, Métis and settler populations;
- Commit to long-term sustainability over short-term profit;
- Commit to anti-colonial behaviour and avoid enforcing rules from the top down;
- Commit to equity in investment as every community will require them;
- Commit to action, acknowledging that monumental effort is needed to act on plans;
- Ensure resilience, prosperity, and preservation of culture and traditions;
- Focus on equitable benefits and affordability for communities; and
- Be responsive to the unique needs and priorities of each region in the NWT.

With regards to climate concerns, the feedback received on principles and values focused mostly on instilling a sense of urgency on the need to take action. These comments included:

- Climate change is a crisis and therefore effective action now should be a top priority;
- Immediate and effective policy and regulation changes are critical to addressing this emergency;
- Focus efforts according to the size of sectoral emissions (e.g. buildings, transportation, electricity generation, industry);

- Pursue continuous learning and adaptation to evolving climate science and technology; and
- Commit to reducing carbon emissions and mitigating climate impacts while respecting cultural and economic traditions.

The feedback the GNWT received on energy principles and values touched on the importance of energy safety, security, and sustainability as well as community leadership, ownership and local benefits. Specific comments included:

- Safe, reliable and affordable utility service is critical;
- Support community and Indigenous ownership and leadership in energy initiatives;
- Ensure energy security and independence in the face of long-term climate challenges. Minimizing cost increases and maintaining or improving energy security should be secondary priorities;
- Respect traditional knowledge and practices;
- Promote collaboration and partnership amongst all stakeholders; and
- Avoid megaprojects like the Taltson Hydro Expansion. The preferred approach is small, focused, and immediately feasible projects that can be applied widely.

2.7.2 Implementation Considerations

BACKGROUND: *Reducing the NWT's reliance on energy imports will require deep changes to territorial energy systems. These changes will involve improving energy efficiency, developing local energy sources and using clean electricity and biomass for space heating of buildings. Much of this future work will occur within NWT communities, which means community interests, priorities and limitations must be taken into consideration in planning and implementation efforts.*

During the public engagement activities, numerous participants provided feedback on technical, policy and economic considerations related to the NWT's energy transition. These discussions also touched on some implementation considerations, involving 1) energy planning, and 2) capacity and training, which are summarized here.

Energy Planning

Once the NWT makes key decisions on its future energy and climate goals, including its emissions reduction targets for 2030 and 2050, additional work is needed to develop short-term and long-term energy plans to reach the targets.

The GNWT has produced a number of climate and energy strategies (or plans) over the last 25 years, but this work has been mostly focused on addressing issues at a

territorial level. In recent years, Indigenous and community governments have been using federal funding support to develop and implement regional and/or community energy plans and projects to address local interests and concerns, which often include self-determination, equity participation and economic benefits and jobs. Other key players, such as the electric utilities, also conduct their own capital planning work.

Participants in the public engagement process noted that the NWT does not have an established process for developing long-term energy plans that include and reflect the needs of all relevant partners and organizations. The GNWT heard a range of ideas on how future energy planning in the NWT could be improved.

Some feedback focused on long term and NWT-wide energy planning approaches, including:

- Top-down solutions don't work – energy planning should be from the bottom up with communities determining what they do;
- A diversification of renewables is needed – this requires the right mix seasonally and by community/region; and
- We need to undertake regional strategic analyses of the required energy transition, looking at factors such as environmental concerns, the need for a just transition, priority tradeoffs and climate change externalities.

Other comments were on the need for better planning, integration and support for regional and community-specific energy planning, including:

- Regions and communities need energy information and education to support planning;
- Community energy champions need to overcome continuity challenges when community leadership changes; and,
- Regional and community energy planning should be linked to the Strategy, with flexibility to accommodate different opportunities and challenges at the regional or community level.

A number of participants indicated that additional GNWT support is needed to increase Indigenous participation and leadership in clean energy projects. Specific suggestions on the type of support the GNWT should provide include:

- Assisting with capacity-building programs;
- Providing funding for Indigenous participation;
- Developing transparent policies to support equity participation (like an IPP policy);
- Engaging companies that have Indigenous partners; and
- Facilitating better coordination between utilities, government as well as Indigenous governments and Indigenous organizations.

One respondent noted that the GNWT also needs to strengthen linkages between GNWT departments and agencies impacting on, or impacted by, the energy transition. To this end, it was suggested that linkages and collaborations involving ITI, ECE, ECC, MACA, INF and Housing NWT should appear clearly in the revised Strategy, with associated commitments.

Capacity and Training

Some participants noted the need for capacity building and training to help regions and communities prepare to plan and implement local energy projects and support the energy transition. Comments received regarding challenges and potential solutions included:

- There is a general lack of trained personnel and energy expertise in small communities;
- There is a high degree of reliance on external contractors;
- Training programs for youth are needed;
- Community energy champions are needed to support local energy projects;
- There is a need for biomass operator training courses; and
- A renewable energy technician program should be established at Aurora College.

3. Putting it Together

This section summarizes five ideas on which the GNWT heard strong feedback during the engagement and provides important considerations as the GNWT works to renew the Strategy, as well as to review the NWT's GHG emissions targets.

3.1 Increase the Emissions Reductions Target

There is a desire to raise NWT's climate effort and increase its current emissions reduction target. The world is moving forward, and the NWT needs to as well. Based on the feedback received throughout the engagement, there could be different ways to determine new short- and long-term targets.

With respect to 2030, the NWT appears to be on track to achieve its reduction target of 30% below 2005 levels. While many participants felt the NWT should increase its 2030 emission reduction target, there is apprehension the NWT may not be ready to achieve a substantially higher emissions reduction target by 2030.

The GNWT also heard that the NWT needs to set a long-term emissions reduction target that extends beyond 2030. The concern is whether it is better to set a new target now without solid information on what can be achieved and at what cost, or if this decision could be deferred two years to enable the NWT to make some progress on other issues outlined later in this section.

3.2 Revise Roles and Responsibilities

The GNWT, Indigenous governments, Indigenous organizations, energy utilities, and the private sector all have important roles to play in advancing energy- and climate-related work in the NWT. Throughout the engagement, most participants insisted that Indigenous peoples and communities should have a much bigger role in energy and climate change decisions. This was especially so when it comes to setting emission reduction targets.

A renewed Strategy will need to articulate clear roles and responsibilities for all parties involved in the energy transition, possibly including a process to include Indigenous governments and Indigenous organizations when making decisions.

3.3 Economy and Affordability are Key

Many participants, while generally supportive of the need to reduce emissions, expressed concerns about the potential impact of the energy transition on the economy and jobs, as well as on the overall cost-of-living in the NWT. Northerners are already facing very high energy costs and have little ability to absorb additional costs in the future.

In the context of a transition to a lower-carbon economy, participants voiced that the GNWT needs a realistic plan to deploy clean energy infrastructure while shielding Northerners from increases in cost of energy. Such a plan would first require the GNWT to work with its partners to estimate how much capital investment is needed to upgrade the NWT's aging energy systems, as well as improve the resilience of infrastructure to withstand the impacts from a rapidly warming climate. The availability of federal funding will be key to effectively overhauling NWT energy systems while limiting the impact on Northerners' cost of living. Such investments in clean energy infrastructure would allow for attracting new industrial projects and developing the economy.

Understanding future capital requirements and establishing who will pay for these are two critical steps in determining how the energy transition will affect the economy, jobs and the cost-of-living.

3.4 Utilities Will Play a Critical Role

It was strongly identified through this process that electricity providers have a crucial role to play to reduce territorial emissions. Specifically, the utility regulator, electrical utilities, the GNWT, and interested Indigenous governments and Indigenous organizations need to work together to develop appropriate planning, regulatory, and policy tools to enable the transformation of the NWT electricity system over the coming decades.

From a technical perspective, further work is required to develop a long-term roadmap that outlines what's needed to accommodate the ongoing energy transformations and achieve upcoming GHG emissions reduction target. The timing of this transition must be carefully planned to ensure that electricity service throughout the territory remains safe, reliable, and affordable at all times. Key aspects to develop this electricity system roadmap will involve long-term system planning, policy development, as well as reviews by the electricity regulator, the electricity providers, and the GNWT to identify necessary changes to support the transition.

3.5 Leverage Known, Proven Technologies

It was heard clearly that most of the technological solutions to decarbonize NWT energy systems are well known to Northerners; only the scale of deployment is different, with significant implications for NWT energy systems and residents.

Participants identified that the NWT needs to transform and expand its electricity system to replace aging assets, develop new renewable generation, and add new sources of low-carbon energy. This could be accomplished by relying mostly on a mix of proven technologies such as hydroelectricity, renewable energy, battery storage, biomass, and biofuels. Other options, such as small modular nuclear reactors or hydrogen, could also be added to the mix in future, after the technologies are commercially available and have been properly tested for use in northern applications.

Appendices

Appendix A:
List of Public Written Submissions

Appendix B:
Participant Agenda of the Multilateral Dialogue – Our Energy and Climate Future in a Changing World

Appendix C:
Overview of Participants to the Multilateral Dialogue

Appendix D:
A Visual Summary of What We Heard During the Multilateral Dialogue by Alison McCreesh

Appendix A:

List of Public Written Submissions

The GNWT received 16 written submissions during the engagement period, representing a total of 152 pages of feedback. These submissions were shared by a range of authors, including Indigenous governments, Indigenous organizations, non-governmental organizations, businesses, utilities, academics, and individuals.

Six respondents have agreed to make their submission available to the public:

- Gonezu Energy
- Lachlan MacLean
- Alternatives North
- Big River
- NWT Association of Communities
- NWT Climate Youth Advisory Group

Appendix B:

Participant Agenda of the Multilateral Dialogue – Our Energy and Climate Future in a Changing World

Date: July 5-7, 2023
Location: Hotel Chateau Nova (Caribou and Lynx rooms), Yellowknife, NT

Background

The GNWT is engaging on its approach to energy and GHG emissions reductions. As part of this engagement, the GNWT is hosting a three-day, by-invitation dialogue in Yellowknife with key partners and stakeholders (July 5, 6 and 7, 2023).

Many things have changed since the GNWT launched the 2030 Energy Strategy and Climate Change Strategic Framework (CCSF) in 2018. New energy and climate policy, Canada's net-zero target for 2050 and increased volatility in energy prices are pushing governments and the private sector to be more ambitious in their energy and emissions goals and more innovative in their approaches to achieving these goals. The importance of Environmental, Social, and Governance considerations in making these decisions, and the ongoing commitment to meaningfully partner with Indigenous governments and Indigenous organizations on energy issues creates new opportunities as we strive to achieve long-term energy security, environmental sustainability, and economic prosperity for the NWT while doing our part to reduce greenhouse gas emissions.

There are two papers supporting the engagement:

- A discussion guide outlining key issues and proposing key questions to be examined through the engagement, and
- The low-carbon pathways study commissioned by the GNWT to better understand what low-carbon pathways could look like in the NWT, including the technology and economic implications of reaching net-zero emissions by 2050.

Input from partners, stakeholders and the public will be sought through written submissions, targeted meetings, and the multilateral dialogue. The event will gather about 100 representatives from Indigenous governments, Indigenous organizations, community governments, territorial and federal governments, industry, utilities, academia, and non-government organizations for three days of in-person engagement in Yellowknife in July 2023.

The GNWT intends for the outcomes of the engagement process to inform the five-year review of the Energy Strategy and the Climate Change Strategic Framework, which the GNWT committed to initiating in 2023.

Agenda

The Whova platform will be used to support participation in the dialogue during the event. Continental breakfast and lunch will be provided for the three days as well as light snacks and refreshments through the day.

The multilateral dialogue will be primarily facilitated by Hilary LeRoy-Gauthier, with some sessions moderated by Cara Lenoir.

DAY 1 – JULY 5, 2023	
8:00 am to 9:00 am	*Continental Breakfast*
9:00 am to 9:20 am	Land Acknowledgment Opening Prayer by Elder Jonas Sangris
9:20 am to 9:30 am	**Welcome from GNWT** Julian Kanigan, Assistant Deputy Minister, Environment and Climate Change
9:30 am to 10:15 am	**Objectives and Agenda** Hilary LeRoy-Gauthier
10:15 am to 10:45 am	*Health Break*
10:45 am to 11:50 am	**Framing the Conversation** Robert Sexton, Director of Energy, Department of Infrastructure, GNWT Questions moderated by Hilary LeRoy-Gauthier
11:50 am to 12:00 pm	**Introducing the Whova Platform** Hilary LeRoy-Gauthier
12:00 pm to 1:00 pm	*Lunch (provided)*
1:00 pm to 1:10 pm	Results of Whova Survey

<table>
<tr><td>1:10 pm to 2:00 pm</td><td colspan="2">Modeling Emissions Reductions Pathways in the NWT
Presentation of the methodology, assumptions and main findings of the study commissioned by the GNWT by Aurora Marstokk (Analyst, Navius Research) and Sam Harrison (Senior Analyst, Navius Research

Introduction and questions moderated by Mark Heyck, Executive Director, Arctic Energy Alliance – Questions crowdsourced through Whova</td></tr>
<tr><td>2:00 pm to 2:30 pm</td><td colspan="2">Health Break</td></tr>
<tr><td>2:30pm to 3:15 pm</td><td colspan="2">What Will it Take: Reflections on Emissions Reductions Pathways in the NWT
Panel moderated by Mark Heyck, with:
• Alex Love, Chief Projects and Engineering Officer, NWT Power Corp.
• David Connelly, owner, Ile Royale Enterprises Ltd.
• Mark Brajer, Chief Executive Officer, Tlicho Investment Corporation
• Nick Martin, Director of Electrification, Transition Accelerator
Questions crowdsourced through Whova and moderated by Mark Heyck</td></tr>
<tr><td>3:15 pm to 4:00 pm</td><td colspan="2">An Indigenous Perspective on Emissions Reductions Pathways
Panel moderated by Cara Lenoir, with:
• ʔek’wahʈdǝ́ Danny Gaudet, Chief, Délı̨nę Got’ı̨nę Government
• Gladys Norwegian, retiree/former Grand Chief of Dehcho First Nations
Questions crowdsourced through Whova and moderated by Cara Lenoir</td></tr>
<tr><td>4:00 pm to 4:15 pm</td><td colspan="2">Day 1 Review
Hilary LeRoy-Gauthier</td></tr>
<tr><td rowspan="2">4:30 pm to 6:30 pm</td><td colspan="2">Breakout Sessions</td></tr>
<tr><td>Open House and Soapbox Sessions (Caribou Room)

Participants are invited to present for five to 15 minutes in front of the public to spark exchanges and discussion on ideas to accelerate the clean energy transformation of the NWT, reduce energy costs and increase energy security for Northerners. This session is open to the public.

Soapbox Sessions introduced and facilitated by Hilary LeRoy-Gauthier and Cory Doll (Manager, Climate Change unit, Environment and Climate Change, GNWT).</td><td>A technical dive into Emissions Reductions Pathways Study (Lynx Room)

This session features a deeper dive into the results of the study Modeling Emissions Reductions Pathways in the NWT by Navius Research and provides participants with an opportunity to ask technical questions about the modeling.

Session presented by Aurora Marstokk (Analyst, Navius Research) and Sam Harrison (Senior Analyst, Navius Research), and moderated by Remi Gervais (Manager, Energy Policy and Programs Energy, Department of Infrastructure, GNWT).</td></tr>
</table>

DAY 2 – JULY 6, 2023	
8:00 am to 9:00 am	*Continental Breakfast*
9:00 am to 9:15 am	Recap of Day 1 and review plan for Day 2 Hilary LeRoy-Gauthier
9:15 am – 10:00 am	**Introduction to a Lens-Based Discussion on Low-Carbon Pathways** Facilitator introduces the six lenses to be used throughout the day to examine the challenges and opportunities associated with pathways to reduce emissions in the NWT: • Hydro community lens – Michael Ross, Industrial Research Chair, Northern Energy Innovation, Yukon University • Non-hydro community lens – Jason Collard, Chief Executive Officer, Gonezu Energy Inc • Technical lens – Remi Gervais, Manager, Energy Policy and Programs Energy, Department of Infrastructure, GNWT • Economic lens – Peter Houweling, Vice-President of business development, Deton'Cho Management • Policy lens – Robert Sexton, Director of Energy, Department of Infrastructure, GNWT • Indigenous Leadership – Cara Lenoir, Indigenous Engagement Strategist, Naakah Solutions Inc.
10:00 am to 10:30 am	*Health Break*
10:30 am to 11:30 am	**Lens-Based Discussions (First Roundtable)**
11:30 am to 12:10 pm	**Lens-Based Discussions (Cont'd) (Second Roundtable)**
12:10 pm to 12:15 pm	Whova Survey
12:15 pm to 1:15 pm	*Lunch (provided)*
1:15 pm to 1:20 pm	Results from Whova survey
1:20 pm to 2:00 pm	**Lens-Based Discussions (Cont'd) (Third Roundtable)**
2:00 pm to 2:30 pm	**Lens-Based Discussions Debrief** Table facilitators review what they heard (round robin) and plenary time to collectively reflect and complement what was discussed.
2:30 pm to 3:00 pm	*Health Break*

3:00 pm to 4:00 pm	**Panel of Lenses Representatives** Six representatives reflect on what they heard on their respective lens through the day as well as connection to other lenses: • Michael Ross, Industrial Research Chair, Northern Energy Innovation, Yukon University (Hydro community lens) • Jason Collard, Chief Executive Officer, Gonezu Energy Inc (Non-hydro community lens) • Remi Gervais, Manager, Energy Policy and Programs Energy, Department of Infrastructure, GNWT (Technical lens) • Peter Houweling, Vice-President of business development, Deton'Cho Management (Economic lens) • Robert Sexton, Director of Energy, Department of Infrastructure, GNWT (Policy lens) • Cara Lenoir, Indigenous Engagement Strategist, Naakah Solutions Inc. (Indigenous Leadership lens) Panel and questions moderated by Hilary LeRoy-Gauthier. Questions crowdsourced through Whova
4:00 pm to 4:15 pm	Day 2 Review
From 4:30 pm	**Fireside Chat with Tea and Bannock (Lynx Room)** *All participants welcome to attend*

DAY 3 – JULY 7, 2023	
8:00 am to 9:00 am	*Continental Breakfast*
9:00 am to 9:30 am	Recap of Day 2 and review plan for Day 3
9:30 am to 10:30 am	**A Review of Principles and Values Guiding GNWT's Energy and Climate Strategies** Short presentation by Cory Doll, Manager, Climate Change unit, Environment and Climate Change, GNWT Session facilitated by Hilary LeRoy-Gauthier
10:30 am to 11:00 am	*Health Break*
11:00 am to 12:00 pm	**Working Together Towards a Clean Energy Future in the NWT** Panel moderated by Cara Lenoir, with: • Chris Cullingham, Regulatory Manager, ATCO • David Connelly, owner, Ile Royale Enterprises Ltd. • Roy Erasmus Jr, Executive Director, Gwich'in Development Corporation • Sara Brown, Executive Director, NWT Association of Communities • Tim Heron, Former NWT Métis Nation Lands Manager, Climate Change Council Co-Chair Questions crowdsourced through Whova and moderated by Cara Lenoir

12:00 pm to 1:00 pm	*Lunch (provided)*
1:00pm to 1:15 pm	Evaluation Survey (Whova platform)
1:15pm to 2:00 pm	**A Vision in Action: A Youth Perspective** Panel moderated by Cara Lenoir, with: • James Thomas, member of the Climate Youth Advisory Group • Monique Chapman, NWT Indigenous youth delegate to the United Nations' 27th Conference of the Parties • Grace Nakimayak, Coordinator of the Paulatuk Energy Working Group and 20/20 Catalyst
2:00 pm to 2:20 pm	**Three-day Closing** Hilary Leroy-Gauthier
2:20 pm to 2:30 pm	**Closing Remarks** Steve Loutitt, Deputy Minister, Department of Infrastructure, GNWT

Appendix C:

Overview of Participants to the Multilateral Dialogue

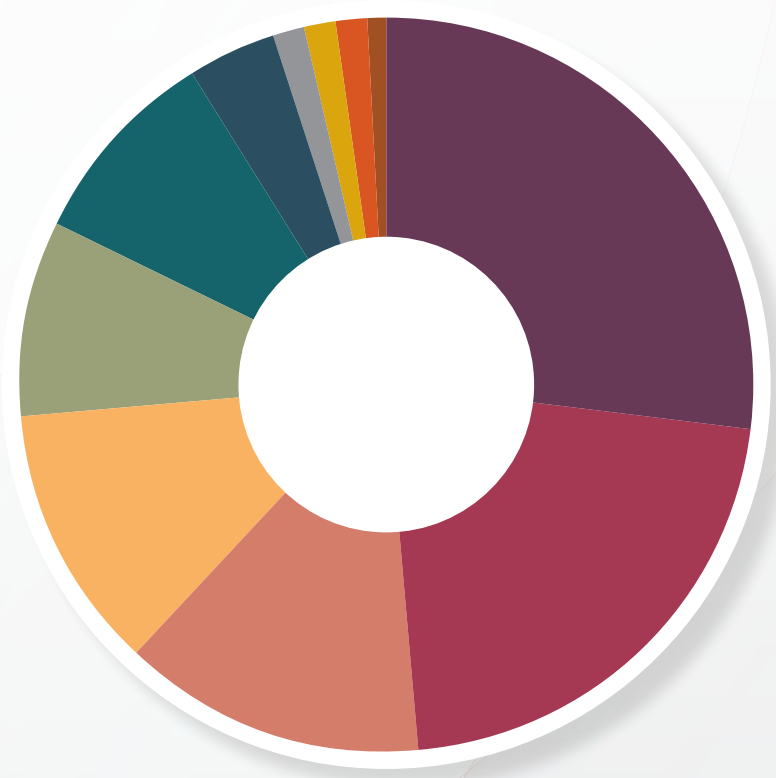
The following charts show the number of participants to the multilateral dialogue per region and per type of organization they represented. In total, 148 participants attended the multilateral dialogue.

Participants to the Multilateral Dialogue by Region

- **72** NWT
- **17** Other
- **17** Beaufort Delta
- **17** North Slave
- **9** South Slave
- **8** Dehcho
- **8** Sahtu

Note: *Regions were assigned based on the location of the organization each participant represented. Organizations that operate across the NWT, such as the GNWT or some NWT NGOs are accounted for under the 'NWT' region. Out-of-the-NWT organizations and federal governments are accounted under 'Other'.*

Participants to the Multilateral Dialogue by Type of Organization



- **40** GNWT
- **32** Indigenous Governments & Indigenous Organizations
- **20** Communities
- **17** NGO
- **13** Private Sector
- **13** Federal and Other Territorial Governments
- **6** Utilities
- **2** Climate Youth Advisory Group
- **2** Academia
- **2** Housing NWT
- **1** Environmental Review Board

Appendix D:

A Visual Summary of What We Heard During the Multilateral Dialogue by Alison McCreesh

As a companion to this report, the GNWT is also releasing a booklet entitled **A Visual Summary of What We Heard During the Multilateral Dialogue**, which gathers visual minutes recorded by graphic artist Alison McCreesh during the three-day multilateral dialogue that took place in July 2023 in Yellowknife. The booklet, also considered as an Appendix to this report, can be accessed at https://www.inf.gov.nt.ca/sites/inf/files/resources/our_energy_and_climate_future_in_a_changing_world_a_visual_summary.pdf