**NWT CLIMATE CHANGE STRATEGIC FRAMEWORK**

**&**

**NWT ENERGY STRATEGY**

**SUMMARY REPORT**

**REGIONAL ENGAGEMENT WORKSHOP**

**FORT SMITH, NWT**

**NOVEMBER 22-23, 2016**

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**EXECUTIVE SUMMARY**

The Department of Environment and Natural Resources (ENR) is leading the development of the NWT Climate Change Strategic Framework and the Department of Public Works and Services (PWS) is leading the development of the NWT Energy Strategy. In parallel with this work, the federal Department of Indigenous and Northern Affairs Canada (INAC) is leading the development of a Northern Adaptation Strategy and Health Canada is renewing the Climate Change and Health Adaptation Program.

Given the linkages between these different initiatives, the Government of the Northwest Territories (GNWT), INAC and Health Canada collaborated to organize regional workshops across the NWT to gather input on various energy and climate change issues and concerns.

On November 22-23, 2016 an invitational workshop was held at the Roaring Rapids Hall in Fort Smith. In addition to the workshop, a public Open House was held during the evening of November 22, 2016 to engage with residents. A total of 42 people attended the workshop – 14 from Aboriginal, community and regional organizations, 4 from non-governmental organizations, 3 from the private sector, and 21 from GNWT and Government of Canada departments or Crown agencies. A site tour of the GNWT’s biomass boiler facility at the Paul William Kaeser High School and Recreation Complex was offered and was attended by 8 workshop participants.

The workshop format involved several different sessions, each of which started with brief presentations, followed by breakout group discussions. The first day of the workshop focused on energy issues and the breakout groups repeated a common theme throughout all three sessions: the GNWT needs to foster partnerships with communities, Aboriginal governments and organizations, and residents in developing energy plans and programs.

The first session was led by the Department of Public Works and Services, to outline the NWT’s current energy system, the GNWT’s current renewable energy projects, and information on the potential use of renewable energy technologies in the NWT. Participants encouraged territorial and federal governments to work closer with Aboriginal governments and communities in order to improve communication, respect Indigenous rights, incorporate traditional knowledge (TK), and plan viable energy projects. The breakout groups suggested a combination of energy solutions should be used in each community, which could be funded by carbon tax revenue. However, it was noted that the NWT also needs to be more energy efficient and fully consider the environmental impacts of projects.

The second session opened with a presentation from the Arctic Energy Alliance (AEA) on energy efficiency, energy conservation and AEA programs. The breakout groups proposed an increase in awareness and communication tools to advertise energy efficiency, available programs and water conservation, in addition to improving current programs and community energy plans. It was suggested that buildings could be assessed to identify energy saving measures, and the NWT Housing Corporation in particular could cut down on the energy used in its residences.

The third session focused on the NWT’s energy future. Many of the breakout groups felt that clean technology (for example, solar energy) is a good option for the NWT, while concerns were expressed regarding the negative environmental impacts of hydro projects. Many stated that more environmental monitoring needs to be done to measure the effect of hydro power on rivers. Carbon pricing and targets should be explored, particularly for industry, as the participants identified this group as emitting the most greenhouse gases.

The second day of the workshop focused on climate change impacts and adaptation issues. The sessions had similar topics repeated over the course of the day including: the importance of community involvement in the identifying priorities, planning and completing research and monitoring needs; the appropriate and respectful use of traditional and local knowledge in projects; the need for improved local capacity and funding to understand and adapt to environmental and climatic changes; and, concerns over changes in the environment, including decreased water quality and quantity, increased frequency of natural disasters and events, and changes in plant and animal populations, including the presence of invasive species.

Environment and Natural Resources led the fourth session and explained climate change impacts, knowledge, monitoring and assessments. Participants felt there is a need for increased communication, funding and capacity in the areas of research, monitoring, climate change related impacts, and adaptation measures.

The final session explored the concepts of climate change adaptation and resilience. The breakout groups identified forest fires, invasive species, air quality, water quality and quantity, and food security as priority areas of concern regarding health and safety. On the land programs were recognized as important to both the preservation of culture and heritage, and as a means to increase resiliency to climate change. Some participants felt that better municipal and infrastructure planning is needed to ensure communities are prepared to deal with climate change.

With the feedback received through the engagement process, the GNWT and their federal partners will continue improving and developing the various strategies that will guide energy and climate change issues moving forward.

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1. **INTRODUCTION**

To respond to concerns about the impacts of climate change and the need to reduce fossil fuel usage, energy costs and greenhouse gas (GHG) emissions, the Government of the Northwest Territories (GNWT) has committed to develop a NWT Climate Change Strategic Framework and a NWT Energy Strategy.

The Department of Environment and Natural Resources (ENR) is leading the development of the NWT Climate Change Strategic Framework and the Department of Public Works and Services (PWS) is leading the development of the NWT Energy Strategy.

In parallel with the work described above, the federal Department of Indigenous and Northern Affairs Canada (INAC) is leading the development of a Northern Adaptation Strategy that will help strengthen climate change adaptation efforts in Yukon, NWT, Nunavut, Nunavik (northern Quebec) and Nunatsiavut (northern Labrador). As well, Health Canada is renewing its Climate Change and Health Adaptation Program (CCHAP) which provides funding to address human health impacts resulting from climate change.

Given the linkages between these different initiatives, the GNWT (ENR and PWS) organized regional workshops across the NWT to gather input from Aboriginal organizations, community governments, institutions (regulatory, planning, co-management), business and industry, non-governmental organizations and residents on various energy and climate change issues and concerns. INAC and Health Canada provided financial and technical support to the GNWT for these workshops and sent participants to most of the workshops.

On November 22-23, 2016 an invitational workshop was held at the Roaring Rapids Hall in Fort Smith. A guided energy site tour of a GNWT wood pellet boiler facility was made available to participants immediately following the first day. To engage with residents, a public Open House session was held during the evening of November 22, 2016. A facilitator was hired to provide support during the workshop.

* 1. **Workshop Objectives and Agenda**

The main objectives for the workshop were to:

* Discuss content for the NWT Climate Change Strategic Framework;
* Discuss energy planning and the NWT Energy Strategy; and,
* Discuss regional concerns, priorities and actions.

The workshop started with greetings from the facilitator and opening remarks from John Vandenberg (Assistant Deputy Minister, Energy Group, Department of Public Works and Services), followed by a prayer by Michael Miltenberger. There was then a brief overview of the topics for discussion and an explanation as to how the participants’ feedback would be used to help inform the various climate change and energy initiatives under development. The balance of the first day focused on energy supply, energy efficiency and energy visioning.

The second day started with presentations about Health Canada and INAC climate change funding programs, then focused on climate change impacts, monitoring, risk and vulnerability assessments, and adaptation planning and projects.

A copy of the agenda is provided in Appendix A.

* 1. **Workshop Participants**

In total, forty-two (42) participants attended the workshop. A breakdown of the participants is below:

* 14 participants from Aboriginal, community and regional organizations
* 4 participants from non-governmental organizations
* 3 participants from the private sector
* 21 participants from GNWT and Government of Canada departments and Crown agencies

A list of the participants is provided in Appendix B.

* 1. **Energy Site Tour**

Following the first day of the workshop, PWS regional staff provided a site tour of the GNWT’s wood pellet boiler facility at the Paul William Kaeser High School and Recreation Complex. Eight participants attended the site tour from 4:15 to 5:30 pm.

* 1. **Public Information Session**

During the evening of November 22, 2016 a public Open House was held at the Roaring Rapids Hall to provide information about the workshop and the various topics and initiatives under discussion. The Open House was attended by six people and lasted from approximately 7:00 to 8:30 pm.

1. **WORKSHOP RESULTS**

The format for the workshop consisted of a series of sessions that focused on different topics. On Day 1, there were three energy sessions and on Day 2 there were two climate change sessions. Each session started with a presentation, followed by breakout group discussions and ended with brief reports back from each breakout group to the plenary group.

The results of all the breakout group discussions were recorded. During each session, the breakout groups prepared three key messages, based on their discussion results. The results are summarized below.

* 1. **Day 1: Energy**

**Session #1: Renewable and Alternative Energy Development**

Session #1 started with two presentations from Public Works and Services. The first presentation, entitled “2017 Energy Strategy” provided information on the NWT’s current energy system, including statistics on the NWT’s energy supply and usage, energy costs and greenhouse gas emissions. The priorities used by the GNWT for energy planning purposes were also mentioned. The second presentation, entitled “Renewable and Alternative Energy” outlined the GNWT’s current renewable energy projects and provided some background on the pros and cons of using different renewable energy technologies (solar, wind, hydroelectricity, and biomass) in NWT communities.

The breakout groups used the following questions to help initiate and support their discussions:

* What do you see as most important for the GNWT to consider when assessing energy projects? (For example: climate change, local pollution, ownership, local economic impacts, direct costs to residents, etc.)
* What renewable or alternative electricity technology would be best for your community? Why?
* What renewable or alternative heating or transportation technology would be best for your community? Why?
* How should your community be involved and consulted when energy projects are being developed?

The key themes and results from this session included:

* *Communication –* There needs to be a breakdown of government “silos” and an improvement in communication between governments, government departments, communities and organizations NWT communities often feel that they are not being involved in projects and studies. Improved communication and involvement can strengthen projects and improve access to funding.

* *Northern Energy Plan* – There is a need for a Northern energy plan, which takes a holistic approach to energy planning in the NWT, rather than separating it into small jurisdictions. This must involve Aboriginal peoples, and be consistent with Aboriginal and Indigenous rights as well as the six articles of the Paris Agreement. A Northern Energy Plan would need to consider historical impacts of energy sources, including the impacts caused by dams in NWT watersheds. This energy plan should also provide energy solutions that reduce the cost of living in the NWT.
* *Traditional knowledge –* Given all the changes associated with climate change, it is essential to use TK along with scientific knowledge. Traditional knowledge has to be part of any projects that are undertaken in the NWT. Nature has rights as much as humans, yet this is not the way the government sees the world. This needs to change if the government and Aboriginal peoples are to work together.
* *Project planning and Aboriginal involvement –* Aboriginal governments and organizations need to be involved in energy projects whether it be with established technology or the development of technology such as small hydro kinetic. When working with Aboriginal governments and organizations, it needs to be understood that these governments often have limited budgets. Before project planning begins, the GNWT should ensure that the Aboriginal government has the financial resources to assist with the project. The government, including the Northwest Territories Power Corporation (NTPC), needs to focus on better planning and long-term planning during projects.
* *Environmental and social considerations –* Before new hydro projects are considered environmental and social impacts must be understood. For example, the Bennett Dam in British Colombia (BC) has had long-term impacts on the Slave River. The environmental and human impacts have never been addressed.
* *Renewable energy and heat –* There should be more emphasis on low carbon projects so that there are fuel savings in the future. The government has a number of buildings with biomass but we should be doing more renewable energy projects like solar and wind*.*
* *True cost of diesel generation* – The real cost of energy generation needs to be used to establish the benefits of renewables. Subsidies and the carbon tax should be considered. The true cost should be considered and studied when reviewing the price communities could get in a power purchase agreement.
* *Technologies* – A combination of solutions should be used in each community, including biomass, solar, wind, and higher efficiency diesels. The technologies used should also be “high penetration” due to the urgency of climate change, similar to the Colville Lake solar project. Energy sources should come from a natural cycle (biomass, sun, wind) and we should strive to be energy smart by improving efficiency.
* *Surplus hydroelectricity* – The surplus hydroelectric capacity in the Taltson grid (worth millions of dollars) should be used for electric heating, not only for large customers but also for residents. Conversion costs to electric heat can be high, so large energy users such as industries, businesses and communities would likely have the highest impact and benefits. The sale of that surplus power would also represent a valuable new revenue stream for NTPC.
* *Electric vehicles* – The surplus electricity could also be used to charge electric vehicles, however the ability to get service for these vehicles and the cold weather was cited as a challenge to the adoption of this technology.
* *Carbon tax* – Industry must participate in the carbon tax and the revenues from the tax should be used to fund renewable energy projects. Funding should also be given to communities and mines to assist with the cost of integrating renewable energy solutions in local grids.

**Session #2: Improving Energy Efficiency and Conservation**

Session #2 opened with a presentation from the Arctic Energy Alliance (AEA) on energy efficiency, energy conservation and AEA programs. A number of different energy efficiency measures and funding programs were described.

The breakout groups used the following questions to help initiate and support their discussions:

* What can we all do to improve our energy use?

• How would you improve energy efficiency programs (access and what they cover)?

• What can be done at the community level to improve efficiency?

• What can the GNWT do to help Northerners overcome barriers to being more efficient?

The key themes and results from this session included:

* *Energy awareness* – Awareness of current energy programs should be improved across the NWT. Energy audits seem to be key to increasing the understanding of energy efficiency and providing tangible examples of how efficiency can save money. Increasing the number of audits and making them more accessible is necessary to improve energy understanding in the NWT. Communications and advertising about energy audits, specifically targeted towards youth, would help improve uptake of the program.
* *Communication* – Several ideas were raised about how to improve communication regarding energy including:
	+ Energy audit blitzes in communities, with a focus on public housing – where the GNWT has more control over improvements and changes;
	+ Advertising about the cost-savings of energy efficiency improvements using tangible examples;
	+ Printing information and advertising about energy efficiency on power bills and,
	+ Expand ways to communicate AEA and government programs and energy saving measures using social media and ENR regional staff.
* *Target rental units for energy efficiency* –Current programs do not provide sufficient incentives and support for renters or landlords to undertake energy efficiency upgrades. Landlord or renter specific programs would allow reductions in energy consumption from a large portion of the NWT population.
* *High upfront costs of upgrades* – Retrofits often have high upfront costs associated with them. Ideas for addressing this challenge could include making current programs more affordable and changing NWT legislation to allow communities to implement ‘local improvement charge’ programs. The AEA needs to work with local appliance retailers to inform consumers of rebate programs when purchasing energy star appliances.
* *Community energy planning* – Community energy plans should be created to outline goals and actions of communities and regions. One objective is to ensure that energy efficiency improvements work in hand with renewables to create real changes at the community level. Improved planning, at a community level could encourage small homes with changes to zoning laws, support district heating projects, and allow other energy efficiency undertakings.
* *Infrastructure* –Buildings need to be assessed to identify where energy savings could be introduced. NWT Housing Corporation should look at its housing and cut down on the energy being used.
* *Water conservation* – People living in the NWT need to be informed about water conservation, as many residents rely on trucked water service, not pipes. Low flow shower heads and ways to reduce wasting water needs to be taught.
* *Biomass policies* – Homeowners are penalized for using wood pellet stoves or boiler systems through increases in insurance. The GNWT should work with companies to create solutions to this problem, and any other issues that are preventing biomass conversion.

**Session #3: Energy Visioning**

Session #3 opened with a brief presentation on what the NWT’s energy future might look like. It was noted that 25 of the NWT’s 33 communities are remote and rely on imported diesel fuel for electricity and heating. This isn’t sustainable in the long term so what should the NWT’s energy sector look like in the future?

The breakout groups used the following questions to help initiate and support their discussions:

* How should we foster and support the transition to a lower carbon economy and what kinds of initiatives will create this transformation?
* What is the role of government and partnerships in the transformation?
* Should the GNWT set greenhouse gas emission or renewable energy targets as part of its vision?
* Should the NWT pursue larger scale hydroelectric development as well as community based projects?

The key themes and results from this session included:

* *Energy vision and priorities* – Participants noted that industry produces the majority of the NWT’S GHG emissions and should have more incentive to reduce their emissions through the use of renewables. Other vision ideas put forth included making it a priority to reduce the amount of fossil fuel used for heating and to set a target for reducing diesel use in thermal communities by 50%.
* *Technology –* Many of the participants felt that clean technology and solar energy are good options for the NWT. New technologies may become an alternative as fossil fuels become more expensive. It was felt that the NWT needs to look outside of the NWT for new solutions to energy issues.
* *Hydroelectricity and Taltson* – Concerns were expressed regarding the negative environmental impacts of hydro projects and many participants were not supportive of pursuing large hydroelectricity projects. The participants expressed concerns about the high capital costs and noted that the NWT has a history of failed projects. Concerns were also expressed about the impact of transmission lines on the movement of caribou and the impacts of hydro development on muskrat, beaver and fish. Participants raised examples where lands are being impacted by hydro projects (i.e., Site C or Muskrat Falls) and also provided examples of local impacts being felt due projects such as Taltson and the Bennett Dam.
* *Environmental stewardship* –Canada and the NWT have a commitment to the Paris Agreement where Indigenous Nations are involved in projects at every stage, and the NWT could be leaders in moving this agenda forward. The GNWT must recognize that it is our responsibility to preserve the land, water and air for all that are supported by these resources.
* *Partnerships -* A number of participants stated that the GNWT needs to collect input and work together with communities, Aboriginal governments and organizations, and all residents in developing energy projects. Taltson and Snare were developed in the past without any consultation or the involvement of Aboriginal governments and all levels of government need to work in partnership when developing energy projects. By working together it will help reconcile some of the mistakes that were made in the past and will provide opportunities for Aboriginal governments to work with the territorial government to access federal money for energy projects.
* *Targets* - Targets can be beneficial in that they set a cap that all sectors have to comply with and work towards. Industry sectors will have to be included in developing and setting targets.
* *Industry* – In regards to carbon pricing and the role of industry, it was suggested that all the carbon pricing revenues collected should be used to fund renewable energy projects and that this approach should be supplemented with federal funding. It was also suggested that as industry is the biggest emitter of GHG emissions, more needs to be done in this sector. This discussion also recognized that while the sector needs to change, if the costs are too high, they won’t do business in the NWT.
	1. **Day 2: Climate Change Knowledge, Resilience and Adaptation**

**Session #4: Climate Change Impacts, Knowledge and Monitoring**

Session #4 opened with two presentations. The first presentation entitled “Climate Change Impacts and Knowledge” showed current and potential climate impacts in the region and explained the importance of gathering knowledge about these impacts to guide decision-making and support adaptation efforts. Two key sources of knowledge include scientific research and monitoring, and traditional and local knowledge. The second presentation entitled “Climate Change Monitoring and Assessments” outlined different approaches to monitoring and explained how risk and vulnerability assessments can be used as a tool for understanding the implications of climate change for planning purposes.

The breakout groups used the following questions to help initiate and support their discussions:

* Research & Monitoring - what are the gaps or priorities that communities are concerned about? How can governments (federal, territorial and regional) best work with researchers and communities to support research and monitoring projects and share results?
* Community-based Monitoring - are communities interested in having more community-based monitoring activities? What kinds? What is required to make this happen?
* Risk / Vulnerability Assessments - what are the risk / vulnerability gaps and priorities that communities are concerned about?
* How should traditional and local knowledge be accessed and used?

The key themes and results from this session included:

* *Planning and community buy-in* – Participants expressed strong views that the communities need to be much more involved in the identification of research and monitoring needs and have meaningful participation in the planning and completion of research and monitoring projects. Specific comments or suggestions for improvement included:
	+ Understanding and planning for extreme weather events is key to dealing with the uncertainty that climate change causes;
	+ Research and monitoring work at the local level needs to reflect the interests and concerns of the people living in that community or area. There should be meetings with communities, including elders, youth, local leaders and co-management boards, to determine their concerns and priorities;
	+ Communities are starting to reject poor research processes. Some researchers are getting better; those that spend the time to build relationships with community members and discuss their projects often use a more holistic approach and end up with stronger results;
	+ Information on research projects and results is often not available to the public, it is kept by government departments or other research institutions; and,
	+ Research results should be brought back to the communities and presented in plain language. Results should be discussed to validate the findings and ensure that community residents understand correctly. The information should be in a format that allows it to be shared with others.
* *Communication and awareness* – Participants felt there was a need for better communication including availability of information on research and monitoring results and more effort to make community members aware of climate change related impacts and adaptation measures. Some specific suggestions include:
	+ Local residents, researchers, governments, etc. need to sit down, communicate and work together to understand each other;
	+ Schools need to be more involved in climate change action; and,
	+ The GNWT needs to work to overcome language barriers, especially when engaging with elders. Holding meetings with translators available and supplying climate change information in local languages are good practices to improve communication.
* *Funding and capacity* – Participants noted that there was a general lack of funding and capacity across the NWT. There needs to be consistent, long-term funding to support community-based monitoring and monitoring positions need to be located in the communities. This will also serve to improve communication with communities about impacts, research results and adaptation measures.
* *Research and monitoring priorities and gaps* – As the climate changes, more monitoring and research work is needed to determine new baselines and to understand what is happening. Particular areas of concern include:
	+ There needs to be better coordination and inventories of research and monitoring work already happening in order to identify gaps and priorities;
	+ Research and monitoring work should try to identify risks ahead of time so that proper planning and risk management work can be done. We want to avoid reacting to crises, as this approach tends to be more expensive;
	+ There needs to be more community-based monitoring and consistent funding to develop monitoring capacity; and,
	+ There needs to be more monitoring of impacts, including: human health indicators; air quality; water quality (especially in terms of transboundary impacts) and quantity; economic and culturally important animal species; invasive species; and weather patterns.
* *Community-based monitoring* – There was a broad consensus among the participants that more community-based monitoring is needed to understand climate change and build capacity within the communities. Consistent funding for monitoring capacity would improve this. The GNWT should provide a technician-type position in all NWT communities to focus on the climate change and environmental interests of the community. This employee would help represent local interests and concerns, establish priorities, and ensure plain language communication of information to community members.
* *Accessing and using traditional and local knowledge* – The use of traditional and local knowledge is a key concern. To ensure TK is respected and used appropriately, it is necessary to understand certain things about TK and how it can be used to support climate change adaptation work:
	+ TK is not transferable from one area to another; it is very specific to a location;
	+ TK must be kept with the holders of the information and there must be free, prior and informed consent to access it;
	+ Researchers need to come to communities to explain their projects, how they will do them, what they need and must follow up to explain their results afterwards, even if the results are negative;
	+ There are protocols in place that govern how TK can be used, i.e., who owns the intellectual property, what the terms and conditions are for studies, etc.;
	+ TK is closely connected to nature: it tells the story of how things are (the natural order) and when things are changing. Western science should fill the gap by finding out why observed changes are happening and what the impacts are for humans and the natural world;
	+ Scientists and researchers should take the time to meet with and talk to the Elders. Some participants believe TK and science should be entwined, others believe the processes should be kept separate; and,
	+ TK and the Elders can help the scientists see the bigger picture (i.e., natural order of things) and approach research and monitoring in a more holistic way. Indicators of change can be found by listening to the Elders’ stories.

**Session #5: Climate Change Adaptation and Resilience**

Session #5 started with a presentation entitled “Adaptation and Resilience” that defined the concepts of adaptation and resilience and explained how an adaptive management approach can be used to support planning and decision-making efforts when there is uncertainty about how the climate is changing. The presentation went on to outline four categories of climate resilience and adaptation action: ecosystem management; infrastructure and built environment; health and public safety; and culture and heritage.

The breakout groups used the following questions to help initiate and support their discussions:

* Ecosystems - What ecosystem components should be prioritized for vulnerability assessments?

* Infrastructure - What infrastructure do you think is most at risk due to climate change? Are new building standards an effective way to deal with this?
* Health and Safety – There are a number of climate-related health concerns including food security, air quality (smoke), new parasites, access to the land and hazards (floods, forest fires, etc.). Which of these are of most concern to your community and how should these be addressed?
* Culture and Heritage – What actions do you think are required to increase resiliency or address the impacts of climate change? Which projects should be prioritized in your community or region?
* Opportunities – What opportunities could climate change bring to this region?
* Barriers – What barriers are there to integrating adaptation planning into decision making and how could they be overcome? How should we pay for adaptation?
* In your community what are the priorities for resilience and adaptation projects? What timelines should these projects happen over?
* What are examples of successful collaborations in the community with other groups, agencies and businesses? What factors lead to this?

The key themes and results from this session included:

* *Ecosystems* – Concerns were expressed about several aspects of the ecosystem, including the compartmentalization of ecosystems when developing solutions, humans trying to control natural cycles, and impacts on forests, water and species composition.
	+ Different ecosystem components need to be considered in a holistic way, they should not be compartmentalized;
	+ It was suggested that we should be cautious in trying to control too much of the natural cycle. The need to address climate change should be balanced against the natural order of things;
	+ Due to changing climatic conditions, forest fires are becoming more of a risk. Some concerns were raised about the GNWT’s current approach to only fighting fires that pose risks to human life or to values-at-risk (e.g., property, infrastructure, economic resources). More planning and risk management work (i.e., FireSmarting, community wildfire protection plans) is needed to address these concerns;
	+ There is now a lack of water in the region. Reasons include the impacts of upstream developments, such as hydro dams, that restrict water flows; changes in the usual fall rain patterns; and the continuing retreat of glaciers in Alberta that feed the Athabasca and Peace rivers. One solution raised by several participants involves changing how water is released from dams to focus less on power production and more on replicating “natural” water flows and cycles; and,
	+ There needs to be more monitoring of invasive species to determine the impacts on the ecosystem, existing species and human health.

* *Infrastructure* – Some participants felt that more infrastructure planning is needed to make sure communities are prepared to deal with climate change impacts and adaptation requirements. Specific concerns included the impact of wildland fires, climate impacts on emergency response and decision making, and the following of best practices in construction.

Recent drought conditions have increased the risks from wildland fires. Communities need to establish better fire guards and undertake Firesmart measures to reduce risks. While recognizing the need to fight forest fires, some participants expressed reservations about the use of prescribed burning as a means of reducing forest fire risks.

* + Good planning is the key to dealing with emergency situations. Potential risks and future changes arising from climate change need to be considered when making decisions; and,
	+ It was suggested that proper planning and the use of best practices for building construction should be legislated requirements.
* *Health and safety* – A number of concerns or priority areas were identified for further work, including the impact of climate change on water quality, food security, wildfires, and air quality.
	+ During the afternoon presentation, concerns were raised about high rates of cancer among the local population, specifically stomach cancer. Research is needed to determine the reasons for these high rates of cancer; it is suspected that the cause may be due to pollutants or contaminants in the water;
	+ Due to changing conditions access to country foods and the ability to trap or hunt are serious concerns. There are fewer resources (e.g., animals, berries) and thin ice makes it more difficult or dangerous to travel. There is interest in the use of satellite imagery to determine ice thickness as a way to find safe routes to travel; and,
	+ If the air quality is bad or there is a need to evacuate a community due to a wildfire threat, some communities may be vulnerable as there is only one road in and out. There are concerns about whether a community could be evacuated if necessary.
* *Culture and heritage* – The erosion of TK was a key concern in the NWT’s culture and heritage. As local climates change, the ability for TK holders to utilize their knowledge on the land becomes more limited. Participants felt that involving youth through incorporating TK into schools and allowing on the land participation was key to passing on TK. Participants were also aware that changes in how people interact with the land were inevitable and that the capacity for individuals and communities to adapt to new species and weather patterns was important.
* *Opportunities and barriers* – Some suggestions were provided regarding resilience and adaptation opportunities and barriers:
	+ One suggestion is to focus on improving the basic resilience in communities. Ideas include addressing food security through local food production and teaching youth how to survive on the land. Other potential opportunities from climate change might include a longer growing season, a shorter heating season, mushroom harvesting in burnt areas, ecotourism, more wild medicines and beekeeping;
	+ Fort Smith’s Landing First Nation provided details on their successful ‘On the Land Training Program for Youth’ as a model for engaging youth and Elders. This program could be expanded as a way to promote eco-tourism in the Northern communities;
	+ Fort Providence has a greenhouse project that is federally funded. This successful initiative is now selling local produce in Northern Stores; and,
	+ Challenges to address include a lack of funding and appropriate policies to support resilience and adaptation actions. Participants want to see concrete actions versus indirect measures such as “toolkits”.

* *Priorities* – A number of different priorities were suggested including:
	+ Focusing efforts on return to the land programs so that Elders can teach the young people how to survive. This is a resilience measure that is very closely linked to the health, safety, culture, and heritage concerns described above;
	+ Emergency planning – Participants expressed concerns about the community preparedness for dealing with climate-related emergencies or disasters. Communities need to know what climate-related risks may exist and ensure these considerations are taken into account in emergency planning efforts and preparations. Other emergency planning concerns that were raised included the need for better communication and developing the capacity required to respond to an emergency;
	+ Food security – Two ideas put forth to address food security include the caching or storage of food, tools, medicine, dry goods, etc. in case of emergency and increasing local farming or greenhouse capacity to improve self-sufficiency as the South Slave region has good soils; and,
	+ Land use planning – One method for improving resiliency is through better land use planning. This should include the identification of areas of concern that require protection, allowing development to occur in stages rather than boom-bust cycles, and determining how much industry to allow.

**2.3 Other Topics**

**2.3.1 Indigenous Rights in Paris Agreement**

At the start of Day 1, a presentation was provided to explain current climate change initiatives happening at the territorial, national and international levels. Key initiatives mentioned included the Paris Agreement, which was negotiated at the United Nations Conference of the Parties (COP 21) in Paris, France in December 2015, and the work currently underway in Canada to develop the Pan-Canadian Framework on Clean Growth and Climate Change.

During this presentation, a workshop participant pointed out that there were several references to the rights of Indigenous peoples included in the text of the Paris Agreement and indicated that such references should also be reflected in the drafting of the Pan-Canadian Framework on Clean Growth and Climate Change and the NWT Climate Change Strategic Framework. This requirement was also brought up in several of the group discussions.

**2.3.2 Clean Energy Utilization**

A representative of the Northwest Territory Metis Nation (NWTMN) participated in the Fort Smith engagement workshop. At the end of the second day, the representative requested an opportunity to bring forward a specific energy and climate change concern.

At a NWTMN Annual General Assembly held from November 17-21, 2015, the membership expressed their concerns regarding the negative environmental impact of development. Given the importance of this issue to the membership, the following resolution was proposed and passed unanimously at the Annual General Meeting:

Resolution #12 Clean Energy

WHEREAS mine development activity in the NWT is not environmentally friendly;

AND WHEREAS the NWTMN is concerned about the negative impact that development activity will have on the environment;

THEREFORE BE IT RESOLVED the NWTMN will lobby government to require mines to utilize green energy alternatives, e.g. wood pellets for heat, solar and wind energy and low emission vehicles.

In October 2016, the NWTMN wrote to the ENR Minister to inform him of the resolution and request that the GNWT introduce legislation requiring mines and other major developments to utilize green energy alternatives.

1. **CONCLUSIONS / NEXT STEPS**

During the two-day workshop, the five key themes throughout were:

* The need for stronger partnerships and collaborations on energy projects, and resilience and adaptation efforts;
* The need for environmental consideration and monitoring during all stages of hydro energy projects;
* The need for increased, targeted funding for energy projects, climate monitoring and climate change adaptation;
* The need for stronger communication by governments on energy solutions, climate change impacts and adaptation; and,
* The need for traditional and local knowledge to be used appropriately to strengthen projects and decisions in the NWT.

Workshop participants clearly expressed interest in being more involved in the planning, decision-making and implementation of projects and initiatives.

All of these concerns suggest a necessity for improved collaboration between different levels of government (federal, territorial, Aboriginal, and local), researchers and academics, and other key organizations (Arctic Energy Alliance, NWT Association of Communities, Ecology North, etc.).

At the end of the workshop, GNWT representatives thanked the participants for their time and generosity in sharing their knowledge and ideas. Participants were advised that the workshop results would be captured in a summary report that would be distributed to all participants.

Looking forward, the GNWT and its federal partners (INAC and Health Canada) will use the workshop results to help inform their respective initiatives, which include:

* NWT Energy Strategy (GNWT);
* NWT Climate Change Strategic Framework (GNWT);
* Northern Adaptation Strategy (INAC); and,
* Climate Change and Health Adaptation Program (Health Canada).

**APPENDIX A: WORKSHOP AGENDA**

#### NWT CLIMATE CHANGE STRATEGIC FRAMEWORK & NWT ENERGY STRATEGY

FORT SMITH INVITATIONAL WORKSHOP

Roaring Rapids Hall, November 22 & 23, 2016

**Day 1 – NOVEMBER 22**

ENERGY: HOW DO WE ADAPT AND MITIGATE OUR ENERGY USAGE?

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**8:30 – 9:00 Doors open – Coffee and conversation**

**9:00 – 9:30** Opening Comments

Review of Workshop Agenda

**9:30 – 10:15** Setting the Stage: Opening Presentations on Climate Change and Energy

**10:15 – 10:30 Break**

**10:30 – 11:00** Presentations:Introduction to Energy in the NWT

 Renewable and Alternative Energy

**11:00 – Noon** Group Work #1: Supporting Renewable and Alternative Energy Development

Participants will discuss and identify renewable and alternative energy solutions.

**Noon – 1:00 Lunch on site**

**1:15 – 1:30** Presentation: Energy Efficiency and Conservation

**1:30 – 2:30** Group Work #2: Improving Energy Efficiency and Conservation

Participants will discuss these initiatives and additional initiatives they would like to see.

**2:30 – 2:45 Break**

**2:45 – 3:00** Presentation: Electricity – Long Term Vision

**3:00 – 4:00** Group Work #3: Developing a Long Term Vision for Energy in the NWT

Participants will discuss a long-term energy vision for the NWT.

**4:00 – 4:15** Day 1 Wrap-up

**4:15 – 5:00** Guided Tour for Participants (optional)

**7:00 – 9:00** Information Session – Open to the Public

#### NWT CLIMATE CHANGE STRATEGIC FRAMEWORK & NWT ENERGY STRATEGY

FORT SMITH INVITATIONAL WORKSHOP

Roaring Rapids Hall, November 22 & 23, 2016

**Day 2 – NOVEMBER 23**

CLIMATE CHANGE: KNOWLEDGE, RESILIENCE AND ADAPTATION

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**8:30 – 9:00 Doors open – Coffee and conversation**

**9:00 – 9:15** Re-cap of Day 1 and Review of Day 2 Agenda

**9:15 – 9:30** Presentation:Climate Change Impacts and Knowledge

 Climate Change Monitoring and Risk/Vulnerability Assessments

**9:40 – 10:30** Group Work #4:Climate Change Knowledge and Monitoring - Research Priorities and Projects

 Participants will identify knowledge and research gaps and priorities, as well as discuss monitoring programs and risk/vulnerability assessments.

**10:30 – 10:45 Break**

**10:45 – Noon** Group Work #4 (continued)

**Noon – 1:00 Lunch on site**

**1:10 – 1:30** Presentation:Climate Change Adaptation and Resilience

**1:30 – 3:00** Group Work #5: Climate Change Adaptation and Resilience

Participants discuss how to plan and prioritize resilience and adaptation projects in the areas of ecosystem management; built environment and infrastructure; health and safety; and culture and heritage.

**3:00 – 3:15 Break**

**3:15 – 3:45** Energy and Climate Change Wrap-up

**APPENDIX B: LIST OF PARTICIPANTS**

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| --- | --- |
| **Name** | **Organization** |
| Louise Schumann | Arctic Energy Alliance |
| Tom Gross  | Arctic Energy Alliance |
| Sarah Rosolen | Aurora Research Institute |
| Adam Bathe | Blyth and Bathe Consultants |
| Chloe Dragon Smith | Ecology North |
| Rick Olson | ENR Forest Management |
| Westley Steed | ENR Forest Management |
| Ben Linaker | Environment and Natural Resources |
| Brian Sieben | Environment and Natural Resources |
| Rob Marshall | Environment and Natural Resources |
| Troy Ellsworth | Environment and Natural Resources |
| Leanne Tait | Facilitator |
| James Christie | Fort Providence Metis Nation |
| Sholto Douglas | General Public |
| Evelyn Krutko | Hamlet of Fort Providence |
| Samuel Gargan | Hamlet of Fort Providence |
| Patrick Simon | Hamlet of Fort Resolution |
| Tom Unka | Hamlet of Fort Resolution |
| Marrissa White | Health Canada |
| Paul Hemming | Health Canada |
| Melaine Simba | Ka'a'gee Tu First Nation |
| Jean Soucy | Municipal and Community Affairs |
| Michael Miltenberger | North Raven |
| Tim Heron | Northwest Territories Metis Nation |
| Jay Pickett | Northwest Territories Power Corporation |
| Josh Clark | Northwest Territories Power Corporation |
| Matthew Miller | Northwest Territories Power Corporation |
| Myra Berrub | Northwest Territories Power Corporation |
| Pam Coulter | Northwest Territories Power Corporation |
| Andrew Stewart | Public Works and Services |
| Curt Snook | Public Works and Services |
| Geraldine Byrnes | Public Works and Services |
| John Vandenberg | Public Works and Services |
| Remi Gervais | Public Works and Services |
| Wade Carpenter | Public Works and Services |
| Allen Stanzell | Salt River First Nation |
| Frieda Martselos | Salt River First Nation |
| Ray Tourangeau | Salt River First Nation |
| Becky Kostka | Slave River Coalition |
| Francois Paulette | Smith's Landing First Nation |
| Lorraine MacDonald | Smith's Landing First Nation |
| Jack Van Camp | Stand Alone Energy |
| Kevin Smith | Town of Fort Smith |