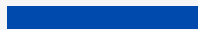


WORKING DRAFT FOR SENATE REVIEW

OCTOBER 2023

ARCTIC NATIONAL STRATEGY



ABOUT THE ARCTIC NATIONAL STRATEGY



The Arctic National Strategy was developed through ongoing work and consultations with Youth and Elder committees, Hunter Trapper Organizations/Associations/Committees, and other local organizations from the communities of: Uqsuqtuuq (Gjoa Haven), Iqaluktuuttiaq (Cambridge Bay) and Qamani'tuaq (Baker Lake), Nunavut; Yellowknife (Yellowknife), Xátt'odehchee (Hay River), Tuktuyaaqtuuq, Inuvik; Łíídlıı Kúę (Fort Simpson), Délıne, and Łutselk'e, Northwest Territories; Churchill, Manitoba, Nunainguk (Nain), Nunatsiavut, Wašaho Ininiwak (Fort Severn) and Peawanuck, Ontario; and the communities of the Kativik and Makivvik Regional Governments in Nunavik.

The National Arctic Strategy builds on the goals and objectives of the government of Canada's Arctic and Northern Policy Framework (ANPF). It is intended to provide a roadmap to implement key areas of the ANPF through high-impact projects, infrastructure development, training programs, and policy changes. Further, it is meant to complement the work of the Truth and Reconciliation Commission and assist Canada in fulfilling its objectives under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

INTRODUCTION

The vastness, complexity, and isolation of Canada's Arctic cannot be overstated, and its scientific, cultural, and economic values have been greatly overlooked. As a result, the basic scientific knowledge required for responsible governance and resource management is minimal at local, regional, national, and international levels.

While the importance of Canada's Arctic is crystal clear, and while all manner of research and innovation initiatives are poised to launch, there is a notable gap in the infrastructure and logistics platforms required to safely and economically deploy researchers on the ground and onto the decks of Arctic vessels.

Furthermore, there is a general lack of understanding that this science must be led by communities - not just through consultation, but through meaningful partnerships that result in long-term benefits such as economic and infrastructure growth; educational and employment opportunities for youth; career training; and climate change mitigation and adaptation.

While science funding is increasing, it has not yet reached the scale required to achieve these outcomes, especially when the costs of meaningful engagement and community participation are factored in.

There is a wealth of policy papers that have been written on the Arctic from federal government and Indigenous perspectives, with Canada's Arctic and Northern Policy Framework being particularly strong. However, a gap remains regarding effective strategies for implementation. The goal of this paper is to both outline major issues in Canada's Arctic and suggest practical ways to begin implementing solutions to these problems in the near future.

THE NEED FOR ACTION

The Arctic is warming three to four times as rapidly as the rest of the planet through a process called *Arctic amplification*. Arctic amplification is driving direct changes to the physical components of Arctic ecosystems – warming marine, lake, and river waters, as well as tundra soils.


This myriad of changes and their potential impacts are poorly understood: tundra ecosystems are “greening” and “browning,” permafrost is degrading while soil bacterial activities are increasing. Lakes and rivers are highly threatened by climate change effects that are altering the distribution and abundance of freshwater biota. Ocean waters are warming and becoming more acidic, making survival difficult for sensitive aquatic plants and animals at all scales of life.

These climate-driven challenges are creating negative change in northern ecosystems in complex, poorly understood ways which are impacting northern communities locally and regionally, and providing intensifying feedback to the atmosphere and oceans at a global scale.

For example, sources of healthy and available country food (also known as traditional Inuit Food) are threatened by historically low caribou populations; sea birds are experiencing mass die-offs; muskoxen are infected with southern swine virus; seals, polar bears, and walrus are facing shorter seasons on their sea ice hunting platforms; whales are losing weight and being forced to change migration patterns; and char are losing access to some spawning areas.

These changes may seem academic to Southerners, but they are all too real for Northerners. These changes threaten their traditional diet of country food which is especially important with food costs being so drastically high in the Arctic.





The changes also limit their ability to travel as waterways flood or run dry and once-stable sea ice become unnavigable, and their ability to construct and maintain infrastructure as permafrost erodes.

New, invading species such as beaver, moose, salmon, and killer whales are upsetting existing ecosystem equilibria with largely unknown effects. At the same time, broad-scale changes in sea ice, snow cover, and vegetation expansion are creating untold impacts on the natural world and are making traditional ways of life even more difficult for Arctic residents.

The vast quantities of carbon frozen in cold tundra soils have been termed a potential “carbon bomb” that will be respired by increased bacterial decomposition under a warming climate, significantly impacting global temperatures.

For industry, factors such as reductions in sea ice are opening sea routes that will enable formerly landlocked raw materials to reach markets more efficiently. Ship-based Arctic tourism is also increasing, as is military activity, and eventually, the North West Passage will see international through-shipping to move products globally. However, only 10 percent of Arctic waters are properly mapped, and this mapping primarily encompasses major deep-water shipping routes.

Coastal waters are the areas most important to Northerners for fishing, transportation, recreation, and cultural practices. They’re also a crucial area for scientific study due to their ecological diversity, rapid rate of global-warming influenced change, and the interaction between salt and freshwater. However, they are barely mapped and chronically under-researched, despite long-standing calls from northern communities for change.

We are challenged by an accelerating state of increasing threat and uncertainty. We must conduct research that takes a system-level approach to show interactions across ecological and human use systems.


We must make serious investments in community engagement, science, and infrastructure that will enable a coordinated, local-to-regional approach to establish long-term, community-led, and adaptive monitoring experiments.

These are issues that require an enormous effort to properly address. But the problems are not unsolvable.

Below, we present a path forward based on four pillars. These pillars are informed by eight guiding principles that previous policy papers hold in common. These are:

GUIDING PRINCIPLES

1. Nurture healthy families and communities;
2. Invest in the energy, transportation, and multi-user, multi-purpose communications infrastructure that northern and Arctic governments, economies, and communities need;
3. Advance reconciliation, support the preservation and growth of Indigenous languages and cultures, and improve relationships, work, and cooperation between Indigenous and non-Indigenous peoples;
4. Respect Indigenous Knowledge (IK) and incorporate it into projects where appropriate and under the guidance of Knowledge Holders;
5. Create jobs, foster innovation, and grow Arctic and northern economies;
6. Support science, knowledge and research that is meaningful for communities and for decision-making;
7. Acknowledge and address the effects of climate change and support healthy ecosystems in the Arctic and North;
8. Ensure that Canada and our northern and Arctic residents are safe, secure, and well-defended.

A man wearing a dark jacket, a purple cap with 'ROTA SCOTIA' on it, and safety glasses is standing on the deck of a blue ship. He is handling a thick, green, braided rope. The ship's railing and other equipment are visible in the background.

Each of the four pillars outlined in this strategy are supported by a series of related policy recommendations that will aim to make progress on these guiding principles, and as a result, will directly respond to the needs of northern Indigenous communities. As previously noted, this strategy aims to build on steps already taken by Canada in response to these guiding principles. As such, this strategy notes how each policy recommendation is in alignment with various actions or commitments made by the federal government. These include the Arctic and Northern Policy Framework, Canada's UNDRIP Action Plan, the Oceans Protection Plan, and the mandates of relevant cabinet ministers.

This document is intended to be a living, “evergreen” strategy that will undeniably evolve over time. It is our hope that the pillars and policy recommendations outlined in this strategy will resonate with parliamentarians who are passionate about advancing the needs of northern and Indigenous communities in the Arctic. We invite you to make these recommendations your own and raise them with your colleagues in the House of Commons, the Senate, and the federal government at large.

In the past, Indigenous Northerners were often treated as an afterthought in Arctic research. It is only through continued, collaborative advocacy that we can ensure their voices are at the forefront of Arctic policy and are actively directing Arctic research and infrastructure projects.

PILLAR 1 - RECONCILIATION AND THE CO-PRODUCTION OF KNOWLEDGE



**POLICY PRIORITY:
SUPPORT RECONCILIATION AND IMPLEMENT CO-
PRODUCTION OF KNOWLEDGE APPROACHES TO ARCTIC
RESEARCH**

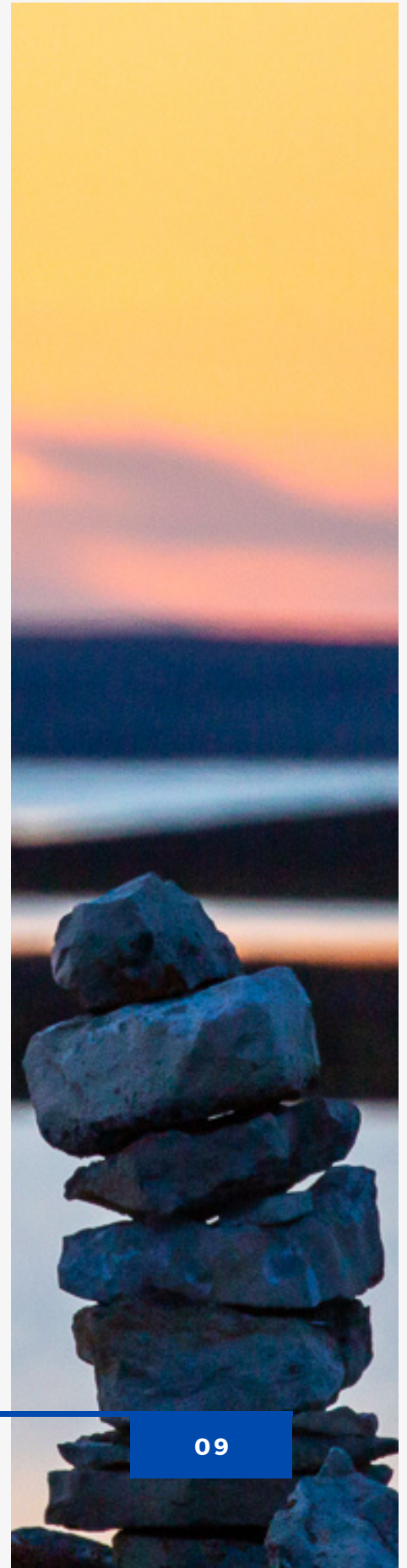
Canada is presently undergoing a period of recognizing, acknowledging, and atoning for historic and often tragic actions towards its Indigenous peoples - misdeeds that still hurt Indigenous communities through the long-term impacts of intergenerational trauma and ongoing policies.

The Calls to Action of the Truth and Reconciliation Commission (2015) asks all Canadians to consider how their activities can help achieve its objectives.

The United Nations Declaration of Rights of Indigenous Peoples (UNDRIP), which Canada signed in 2016, also lists several goals relevant to research, e.g. the right to self-determination (Art. 3), revitalization of Indigenous histories, languages, oral traditions, philosophies, writing systems and literatures, and retention of their own names for communities, places and persons (Art. 13), and maintenance and development of Indigenous political, economic, and social systems or institutions (Art. 20).

Several publications outlining guidelines for conducting ethical science activities in the Arctic have been published, e.g., Armitage et al 2017, INDQ 2017, ITK 2018, Peltier 2018, Wong et al 2020, and Pedersen et al 2020. A recent publication (Ellam Yua et al 2022) is based on input from Inuit across the circumpolar north and provides a detailed roadmap to guide Arctic research towards co-production of knowledge (CPK) approaches. Taking direction from all of these sources and national commitments, we propose the federal government adopt a policy whereby all federally funded Arctic research be required to:

- Work with and alongside Indigenous governments, organizations, and communities and:
 - Be guided by and implement CPK approaches that establish ethical and equitable research projects;
 - Empower communities to promote self-determination;
 - Respect and enable Indigenous Knowledge.
- Engage Indigenous youth in all aspects of research projects.
- Train community members through culturally sensitive methods while building northern capacity and improving employee retention.



ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER



DIANE LEBOUTHILLIER
MINISTER OF FISHERIES, OCEANS, AND
THE CANADIAN COAST GUARD

MANDATE LETTER

Work with Indigenous partners to better integrate traditional knowledge into planning and policy decisions.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 40: Develop and employ mechanisms that respect and incorporate Indigenous Knowledge as a distinct knowledge system in the management of fisheries, fish habitat, conservation, marine safety, and protection of the marine environment.

Shared Priority 48: Build on important work that has already occurred to recognize, elevate, and incorporate Indigenous science into Environment and Climate Change Canada's scientific inquiry by continuing to stand up the new Indigenous Science Division, established in 2022, to bridge, braid, and weave Indigenous science with western science to inform Environment and Climate Change Canada's science, policy, and program decision making.

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 4.1: Ensure that Arctic and Northern people, including youth and all genders, play a leading role in developing research and other knowledge-creation agendas.



POLICY PRIORITY: ESTABLISH ETHICAL AND EQUITABLE RESEARCH PROJECTS

Successful CPK Arctic research projects require a set of guiding principles that should be used to initiate and carry out research with Arctic Indigenous communities. The following steps should be taken in order to establish ethical and equitable research projects:

- Recognize the sovereignty of Indigenous communities in the context of Land Claims and other agreements;
- Acknowledge previous status quo research that was based in colonial approaches and demonstrate commitments to decolonization by taking the time to build equitable relationships in a deliberate and intentional way that shows respect and grows trust;
- Build the capacity of science teams to conduct CPK projects by taking the time to read and inquire about the community being engaged in terms of, for example, governance, social issues, and the work of previous researchers.
- Based on these evolving relationships, directly engage with the community in all aspects of the project by:
 - Establishing goals and outcomes that meet community needs;
 - Designing and implementing sample regimes;
 - Analyzing samples and recording instrument readings;
 - Managing and curating data – including Indigenous Knowledge, when appropriate – with a clear understanding of data ownership;
 - Preparing plain language summaries of outcomes;
 - Clearly communicating these results to the community in face-to-face meetings.

These processes take time and require resources that are additional to Arctic research projects under the past status quo. Both funders and practitioners should account for this in terms of time and money as programs are planned.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



DIANE LEBOUTHILLIER
MINISTER OF FISHERIES,
OCEANS, AND THE CANADIAN
COAST GUARD

Work with Indigenous partners to better integrate traditional knowledge into planning and policy decisions.



**FRANCOIS PHILLIPE
CHAMPAGNE**
MINISTER OF INNOVATION,
SERVICES, AND INDUSTRY

Improve support for Indigenous researchers by including a specific equity target for their representation in federally-funded scientific research delivered through the granting councils and providing dedicated funding to support promising graduate students.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 48: Build on important work that has already occurred, to recognize, elevate, and incorporate Indigenous science into Environment and Climate Change Canada's scientific inquiry by continuing to stand up the new Indigenous Science Division, established in 2022, to bridge, braid, and weave Indigenous science with western science to inform Environment and Climate Change Canada's science, policy, and program decision making.

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 4.2: Ensure that Arctic and Northern people have the tools and research infrastructure to participate in all aspects of the knowledge-creation process

ANPF Goal 4.3: Increase support for health, social science, and humanities research.

ANPF Goal 4.4: Create and store knowledge in a manner consistent with the self-determination of Indigenous peoples, balancing ethics, accessibility, and culture.



**POLICY PRIORITY:
EMPOWER COMMUNITIES TO PROMOTE SELF-
DETERMINATION**

When conducting ethical and equitable research projects in Indigenous communities, it remains critical to understand that the way in which the project is carried out is equally as important as the research itself; this is clearly a new paradigm for northern research. One key component of this process is to account for the fact that Indigenous community members require the means and ability to engage in a CPK process. This can include the funding required to support staff and community members at meetings and the training required so that community members can participate directly in research activities.

Funders and researchers must follow the advice of communities as to where investments are best made to carry out projects. Community members with the required training to carry out important parts of the project are key assets in terms of communicating with Elders and other community members. This helps build trust and deepens the relationship between the science/TK team and the community. Finally, creating capacity in the community not only helps to empower the community towards self-reliance but also extends the normal sampling that is possible in status quo research.

For example, status quo marine studies are typically restricted to the open water season, whereas community-led sampling can cover all months of the year – the knowledge value of data collected across seasons is now well recognized as valuable information that informs marine as well as terrestrial Arctic research.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



STEVEN GUILBEAULT
MINISTER OF ENVIRONMENT
AND CLIMATE CHANGE

Work with First Nations, Inuit, and Métis partners to support new Indigenous Guardians programs and establish new Indigenous Guardians Networks, and support Indigenous communities to build capacity to establish more Indigenous Protected and Conserved Areas.



GARY ANANDASANGAREE
MINISTER OF CROWN-
INDIGENOUS RELATIONS

In collaboration with the Minister of Environment and Climate Change and the Minister of Indigenous Services, continue to work in partnership with First Nations, Inuit, and the Métis Nation to address climate change and its impacts, and chart collaborative strategies.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 36: Pursue amendments and reforms to fisheries legislation, regulation, or policies to support self-determination and the meaningful implementation and exercise of Indigenous fishing rights, including Aboriginal and treaty rights. **(Fisheries and Oceans)**

Shared Priority 37: Enhance collaborative tools agreements and transparent approaches to better deliver on the collaborative design, development, delivery, and management of fisheries, as well as conservation and protection of fish habitat. Fisheries and Oceans Canada and Crown-Indigenous Relations and Northern Affairs Canada will continue to pursue fisheries-related collaborative governance opportunities through nation-to-nation, Inuit-Crown, and government-to-government negotiations. **(Fisheries and Oceans)**

Shared Priority 46: Together with First Nations, Inuit, and Métis, advance an Indigenous Climate Leadership Agenda, including distinctions-based strategies, that vests the resources and authorities necessary for Indigenous peoples to fully exercise their right to self-determination on climate. This includes ensuring that First Nations, Inuit, and Métis peoples have stable, long-term financing to implement their climate actions, make climate-related

decisions with the Government of Canada, and that systemic barriers to Indigenous climate leadership are addressed. **(Crown-Indigenous Relations and Environment and Climate Change Canada)**

Shared Priority 47: Continue to support Indigenous leadership in conservation through initiatives such as Indigenous Guardians, Indigenous Partnerships Initiative, and Indigenous-Led Area Based Conservation that will provide capacity support until 2026, as well as the Project Finance for Permanence. **(Environment and Climate Change Canada)**

Shared Priority 68: Strengthen Indigenous peoples' participation in decision-making through an improved whole-of-government approach to consultation and accommodation which is aligned with the UN Declaration by co-developing consultation arrangements with Indigenous partners that establish agreed-upon duty to consult and engagement processes, in a manner that is consistent with self-determination objectives and free, prior, and informed consent. **(Crown-Indigenous Relations and Northern Affairs)**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 8.2: Change federal operating practices and processes in support of increased self-determination and representation of Arctic and northern Indigenous peoples, and recognize the unique operating environment of various Indigenous and public governments in the Arctic and north.



**POLICY PRIORITY:
RESPECT AND ENABLE INDIGENOUS KNOWLEDGE AND
TARGET YOUTH**

“Indigenous Knowledge is a systematic way of thinking and knowing that is elaborated and applied to phenomena across biological, physical, cultural and linguistic systems. Indigenous Knowledge is owned by the holders of that knowledge, often collectively, and is uniquely expressed and transmitted through Indigenous languages. It is a body of knowledge generated through cultural practices and lived experiences including extensive and multi-generational observations, lessons and skills. It has been developed and verified over millennia and is still developing in a living process, including knowledge acquired today and in the future, and it is passed on from generation to generation” (Ottawa Indigenous Knowledge Principles 2015 and revised in October 2018).”

Through the intentional and thoughtful application of CPK approaches, outcomes and applications of Arctic research in all ecological realms will be significantly improved by respecting, accessing, and applying Indigenous Knowledge (IK). The process of including both IK and science in research is new to both Indigenous and science communities, so mutual learning is required. This learning can only happen where trusting relationships have been developed and the required levels of communication will support a trial-and-error process.

Conversations with community Elders and other leaders consistently request the direct and meaningful engagement of youth in all aspects of research conducted through communities. IK is traditionally passed orally from Elders to youth through stories and direct teachings that provide detailed insights into practical to spiritual aspects of the land – insights that promote survival and create awareness of traditional cultural heritage.

The inclusion of Youth-Elder camps as an important component of research project design is an excellent way to promote these connections and to build trusting and meaningful relationships among all actors in a research program.

Researchers must integrate IK into their research, treating it with the same weight and respect as primary data gathered by their instruments. However, this can only be done with the guidance, permission, and ongoing support of Knowledge Holders. The Knowledge must remain the intellectual property of those Holders and the communities.

Furthermore, efforts must be made to preserve Indigenous languages and cultural traditions and to ensure the capacity and programs are in place to enable the passing on of these traditions to younger generations.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



DIANE LEBOUTHILLIER
MINISTER OF FISHERIES,
OCEANS AND THE CANADIAN
COAST GUARD

Work with Indigenous partners to better integrate traditional knowledge into planning and policy decisions.



DAN VANDAL
MINISTER OF NORTHERN
AFFAIRS

Continue to support the Task Force on Northern Post-Secondary Education and, with the benefit of its recommendations, advance measures to close the gaps in education outcomes and provide ongoing learning and skills development opportunities.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 36: Develop and employ mechanisms that respect and incorporate Indigenous Knowledge as a distinct knowledge system in the management of fisheries, fish habitat, conservation, marine safety, and protection of the marine environment. **(Fisheries and Oceans)**

Shared Priority 37: Build on important work that has already occurred, to recognize, elevate, and incorporate Indigenous science into Environment and Climate Change Canada's scientific inquiry by continuing to stand up the new Indigenous Science Division, established in 2022, to bridge, braid, and weave Indigenous science with western science to inform Environment and Climate Change Canada's science, policy, and program decision making. **(Fisheries and Oceans)**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 4.5: Increase international polar science and research collaboration with full inclusion of Indigenous Knowledge.

PILLAR 2 - PROTECTING THE ENVIRONMENT WHILE UNDERSTANDING AND ADAPTING TO CLIMATE CHANGE



POLICY PRIORITY: ALIGNING FUNDING WITH THE COST OF CONDUCTING RESEARCH IN THE ARCTIC

When researchers have systematically calculated the price of Arctic fieldwork, total costs are upwards of eight times greater than similar research conducted in southern locations. Gaps in funding make it exceptionally challenging to conduct marine research, as the difficulty of navigating poorly mapped Arctic waters – combined with increased labour and other costs, as well as increasingly extreme Arctic weather – makes it far more expensive to run aquatic research vessels than in Canada’s south. However, field research grants for the north rarely allocate any additional funding for ship time compared to those granted in the south.

In the Arctic and National Policy Framework, the federal government acknowledges the disproportionately high costs of living and working in the Arctic, as well as the high costs associated with the development and maintenance of critical infrastructure. While these factors apply to Arctic scientific research as well, making it increasingly difficult to fund groundbreaking research projects, Canada has failed to adequately increase the financial supports available for Arctic researchers.

Many of the suggestions in this paper will help to reduce those costs; however, additional federal investment is needed as current funding sources are limited and insufficient to cover the cost of Arctic fieldwork.

Funding should be increased relative to the costs through stipends tied to Arctic research grants. This policy already exists in one federal department through the NSERC Northern Research Supplement Program, which funded 73 percent of applications, granting about 50 percent of the amounts requested. This funding approach should be replicated across all federal departments funding Arctic research.



**POLICY PRIORITY:
BEYOND SHIPPING LANES: THE NEED FOR ARCTIC
COASTAL RESEARCH**

Coastal and near-coastal Arctic areas are chronically under-researched. These are the regions where locals fish; where they use ships for transportation in the summer and drive snowmobiles in the winter; and where important cultural activities such as tanning and drying hides take place. However, because near-coastal regions are more difficult to access than terrestrial areas, and because they have less of an obvious impact on global economies than major shipping lanes, they have too often been ignored by funding bodies despite demands from both local Indigenous peoples and the scientific community to increase investments.

This problem can be addressed through the deployment and sustainable funding of small and medium-sized near-coastal research vessels. They are the perfect platforms to conduct science close to communities while enabling community participation, training, and capacity building. Because these vessels are smaller than the large icebreakers traditionally used in Arctic Science, operate closer to shore, and are often run by non-profit and Indigenous organizations, they are an ideal solution to maximize federal funding dollars while conducting meaningful research projects. These projects can range from oceanography to animal stock assessments and can include hydrography and bathymetric mapping which is necessary for navigation, infrastructure installation, flood-plain mapping, and more.

Providing operational funding to this marine research infrastructure and investing in specialized organizations through grants and public-private partnerships will be an important piece of the puzzle in enabling the development of regional scale assessments of ecosystem change. This could lead to one of the most meaningful leaps forward in understanding the impact of climate change on the Canadian Arctic. It would only require the diversion

of a small percentage of federal dollars currently being used to pay for icebreaker-class ships (which are only capable of operating in areas of the Arctic that are less important to locals than near-coastal waters and have, comparably, already been studied at length).

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



DIANE LEBOUTHILLIER
MINISTER OF FISHERIES,
OCEANS AND THE CANADIAN
COAST GUARD

Continue to protect and restore oceans and coasts by renewing and expanding the Coastal Restoration Fund to restore aquatic habitats; supporting community shoreline and ocean plastic cleanup efforts; and, in partnership with Indigenous Peoples, continue to implement commitments made under the Oceans Protection Plan while strengthening marine research and science.

Make new investments in coastal and ocean areas that have a high potential to absorb and store carbon, like tidal wetlands, seagrass meadows, and riparian habitats.



PABLO RODRIGUEZ
MINISTER OF TRANSPORT

In partnership with Indigenous Peoples, continue to implement commitments made under the Oceans Protection Plan, and continue efforts to deliver world-leading marine safety systems, increase protection for marine species and ecosystems, and create stronger partnerships with Indigenous and other coastal communities, while strengthening marine research and science.

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 5.8: Enhance understanding of the vulnerabilities of ecosystems and biodiversity and the effects of environmental change.



**POLICY PRIORITY:
ACCURATE BATHYMETRIC MAPPING AND ANIMAL STOCK
ASSESSMENTS IN UNCHARTED ARCTIC WATERS**

Only approximately 20 percent of the Arctic ocean floor has been mapped to modern standards (Jakobsson et al., 2020). The charts are often out of date and rarely extend beyond shipping lanes. Worse, inland Arctic lakes, such as Great Bear and Great Slave, and large marine basins such as Sherman Basin, are almost entirely unmapped.

This makes it impossible to understand the dramatic changes in lakebeds and the ocean floor caused by factors such as permafrost erosion (which can lead to the major navigation hazard of pingos (large “bumps” on the ocean floor filled with gases, including explosive methane), the movement of potential flood causing debris, and many other factors. It means communities don’t know what is happening below the surface, making flood prediction difficult, aquatic navigation dangerous, and scientific exploration prohibitively slow.

This is a large problem that will take years of concerted effort to fix. However, the work toward a solution can be accelerated through the use of opportunistic hydrography. By outfitting small and medium-sized research vessels operating in uncharted waters with equipment from the Canadian Hydrographic Service (CHS), a constant stream of data can be collected in the areas that are:

1. Closest to communities
2. The most scientifically and ecologically significant
3. The most important for aquatic navigation outside of major shipping lanes

This would require a small upfront investment but would guarantee that wherever Arctic research is being conducted, CHS-quality charts are also being produced at a greatly reduced operating cost.

Furthermore, the advancement in hydrographic technology means that the mapping can serve a second purpose: stock assessments of fish and other aquatic animals. Modern hydrographic scanners are very similar to the technology used in advanced fish-finders. As such, they can be used to accurately determine the numbers of various species of aquatic animals in a given region. These assessments can then be ground truthed by employing small local fishing vessels with small-scale trawls. This method is frequently used in the European Union and provides accurate data at a low cost while also building capacity and injecting funds into the local economy.

Contrast this with the way stock assessments are traditionally done in Canada; trawling with enormous nets from large ships – a process that is expensive, slow, and ecologically damaging (Sala et al., 2021). The inefficiency of this method has led to a lack of stock assessments by Fisheries and Oceans Canada (DFO) throughout the Arctic. This is dangerous for local economies, as it means quotas are made lower by default. This ultimately makes it challenging for hunters and fishers to earn a living (Gardner Pinfold, pg 61).

Reliable, up-to-date stock assessments are needed in order to have a more accurate picture of marine health and to set accurate fishing quotas. The most recent stock assessments on DFO's website are from 2020. Of the 180 stocks listed, 21 are from the "Central and Arctic." Only three species are categorized as "healthy," "cautious," or "critical," – the remaining 18 are listed as "uncertain." This is an unacceptable failure on the federal government's part to deliver on its obligations, and it means fishing policies are being created over huge swaths of Canada's oceans without meaningful, reliable, or up-to-date information.

Combining opportunistic hydrography with this new form of stock assessments will provide a much clearer picture of the Arctic at a relatively low cost, and will ensure that more funds are flowing directly into communities.

ALIGNMENT WITH CANADA'S PRIORITIES

Oceans Protection Plan

Transport Canada's Ocean Protection Plan (OPP) highlights hydrography in coastal, Arctic communities as a key priority. In the next phase of the OPP, Canada intends to use modern and emerging hydrographic technologies to further survey Arctic waters. The OPP also notes the importance of including Indigenous communities in this process by empowering them to collect and use bathymetric data to support their unique local needs.



**POLICY PRIORITY:
GETTING OFF DIESEL: DEPLOYING HYDROELECTRIC,
SOLAR, WIND, AND OTHER GREEN ENERGY SYSTEMS**

There is a worldwide push to end the use of fossil fuels in power generation. None of these fuels are more inefficient or produce more carbon than diesel. Yet the default for power in Canada's north is diesel.

This is a dirty, expensive method, and the Canadian government has announced it wants to phase the practice out by 2030. Worse, many diesel plants are past their end of life, and aging infrastructure is beginning to fail in many places; this is especially true of hydro poles, pylons, and other tall infrastructure pieces that are beginning to topple throughout the Arctic, as the permafrost that once held them rapidly melts.

However, several projects have proved that both solar (especially effective in the north's 24-hour daylight, when solar power generation is most efficient) and wind (especially effective in the increased winds associated with 24-hour darkness) are viable in the north. There are several practices key to the success of these projects:

- Using many small wind turbines and solar installations instead of fewer large ones;
- Purpose-built designs (such as "tulipping" wind turbines with a surface area that shrinks as wind increases, preventing wind damage);
- New battery technology that allows for efficient and affordable energy storage for use in off-peak times;
- Effective backup generator setups that ensure energy remains uninterrupted and batteries don't fully drain (empty batteries are easily damaged in extreme cold);
- Providing proper training and, crucially, permanent employment to locals to maintain these systems.

This has worked for more than three years with minimal involvement from southern technicians in Uqsuqtuuqn and Iqaluit, Nunavut. Investments into scaling projects that follow the above principles will ease the transition off diesel.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



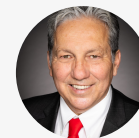
FRANÇOIS-PHILIPPE CHAMPAGNE
MINISTER OF INNOVATION,
SCIENCE AND INDUSTRY

Advance efforts to ensure that Canada is a world leader in clean technology, including partnering with post-secondary institutions and Indigenous organizations to accelerate the creation and growth of Indigenous clean technology businesses.



JONATHAN WILKINSON
MINISTER OF ENERGY AND
NATURAL RESOURCES

Advance near-term consultations with provinces, territories, and Indigenous communities to develop and implement strategies to decarbonize electricity systems. This includes work with Indigenous partners and communities to support the transformation from diesel-fueled power to clean, renewable, and reliable energy by 2030, as well as work to connect regions with carbon-intensive electricity systems to more clean power by supporting transmission lines and the integration of renewables and clean fuels.



DAN VANDAL
MINISTER OF NORTHERN
AFFAIRS

Continue to support territorial planning for hydroelectricity projects and other forms of renewable energy (e.g., wind and solar) and invest in renewable, sustainable, and affordable sources of energy.



SEAN FRASER
MINISTER OF HOUSING,
INFRASTRUCTURE AND
COMMUNITIES

Support the Minister of Natural Resources in advancing near-term consultations with provinces, territories, and Indigenous communities to develop and implement strategies to decarbonize electricity systems.

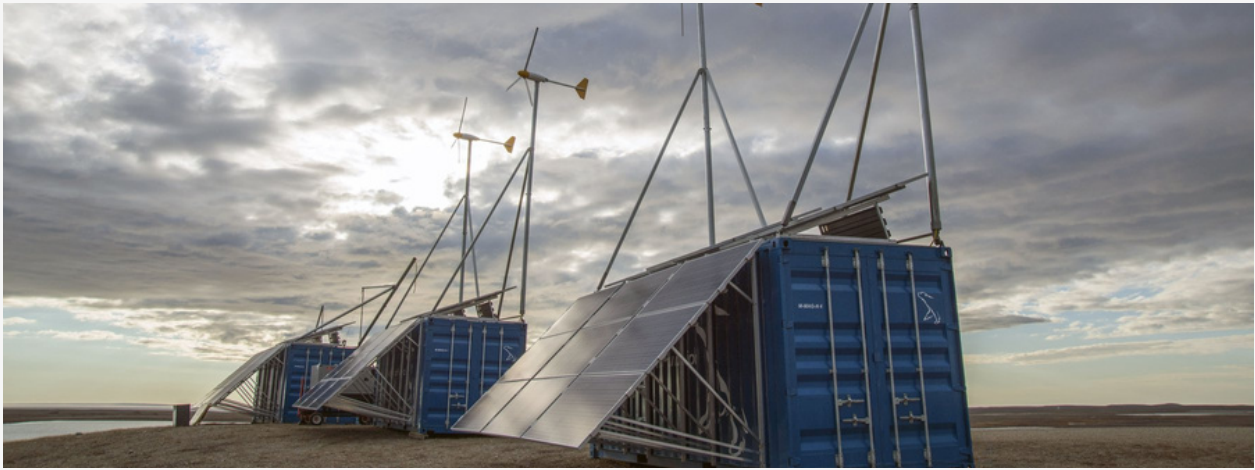
UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 34: Work in consultation and cooperation with First Nation, Métis, and Inuit communities, governments, and organizations to enhance the participation of Indigenous peoples in, and set the measures that could enable them to exercise federal regulatory authority in respect of, projects and matters that are currently regulated by the Canada Energy Regulator (CER). **(Natural Resources Canada and the Canada Energy Regulator)**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 2.5: Achieve energy security and sustainability in all communities and improve access to reliable, affordable, and clean energy solutions.

ANPF Goal 3.10: Maximize economic opportunities flowing from infrastructure investments.



**POLICY PRIORITY:
ESTABLISHING BASECAMPS AND DEPLOYING SENSORS IN
UNDERSTUDIED, REMOTE AREAS**

The vast majority of the Arctic is uninhabited and difficult to access. Even in the Arctic's National and Territorial parks, there is little infrastructure available to hunter-trappers, researchers, or anyone else looking to explore the region (Nunavuts Infrastructure Gap 2020, pg 6, 30).

This makes expeditions to remote, understudied areas difficult and dangerous, as teams are forced to use expensive modes of transportation, such as heavy-lift helicopters, or to carry heavy gear both in and out, creating a need for additional personnel at an increased cost.

This problem can be reduced through the deployment of small, mobile, semi-permanent, and Arctic-hardened basecamps and laboratories. Powered by green energy systems designed for the Arctic, these can be easily moved wherever needed across the ice using Qamutiks (traditional Inuit sleds used to move heavy loads), pulled by a tractor, or by snowmobile.

Modular in design, the laboratories are inexpensive and relatively easy to construct. They can be outfitted for almost any purpose, from storing core samples to conducting oceanographic experiments to serving as medical centres or bunk-rooms with showers and composting toilets. At the moment they're built in the south and shipped north, but they could be produced at scale in Canada's north with the right investment from the federal government. This would reduce shipping costs while also providing meaningful employment and skills training to locals.

Creating a network of these mobile labs and basecamps, where researchers can rest, recharge, store gear, and conduct their work without the need to hook up

to an energy grid, will make exploration of remote areas far more safe and cost-effective.

Furthermore, each of these labs can serve as the base camp through a “hub and spoke” approach to remote sensing. Each lab would be a “hub,” with a variety of sensors placed around it being the “spokes.” Depending on their type, sensors could either be networked directly to the lab, with a satellite uplink providing remote access to data, or the lab could act as a basecamp from which researchers would traverse to check non-networked sensors manually.

Sensors of all types – from atmospheric composition to temperature to acoustic to visual to oceanographic saline analysis – have become smaller, less expensive, and more reliable in extreme conditions. With so much of the Canadian Arctic unmonitored, and increasing calls to rectify this problem from the scientific, military, and Indigenous communities, now is the perfect time to create such a network.

PILLAR 3 - CAPACITY BUILDING AND ECONOMIC DEVELOPMENT



POLICY PRIORITY: NORTHERN FARMING: MOVING BEYOND FOOD SECURITY TO FOOD SOVEREIGNTY

The cost of food is rising across Canada, deepening the food insecurity crisis in the north. Previous statistics showed that while 4.4 million Canadians – or 12.7 percent – were food insecure, those rates in Nunavut and the NWT are 22 and 57 percent, respectively.

Nutrition North Canada has been in place for over a decade and is an important program to assist with the cost of perishable food in the north, but it will never be the sole solution to the crisis.

Currently, much of the food consumed by Northerners is shipped either by plane or sea lift, and at a great expense. Ensuring food sovereignty requires going beyond reliance on shipping so Northerners have access to nutritious, locally sourced food. This requires an increased investment in farming innovation and food cultivation in the North through the funding and expansion of projects such as [Naurvik](#), a joint venture between the community of Uqsuqtuuq, Agriculture Canada, the Canadian Space Agency, the National Research Council, and the Arctic Research Foundation.

Naurvik (“the growing place”) is a community-led, hydroponic, food production system in Uqsuqtuuq, Nunavut.

Staffed by seven permanently employed technicians hired from the local community, the facility was constructed and had its first crop in October 2019. Naurvik has produced a variety of crops including several types of lettuce, peas, peppers, mint, corn, and strawberries. After harvest, the crops are donated back to the community. Local technicians deliver the produce to Elders, search and rescue teams, and those in need.

Naurvik is constructed using repurposed shipping containers retrofitted to house all systems and equipment required to operate year-round – even through harsh Arctic winters. The system is powered by Canada’s northernmost solar and wind array. Its success proves that these kinds of projects work, and can become a viable solution for reducing dependence on food shipped from the south with the right federal investment.

At the same time, it is equally important to increase access to traditional food – such as Arctic char, caribou, and seal – in Northern communities. The Harvesters Support Grant, through Nutrition North Canada, was introduced in 2020 to increase northern harvesting. However, Elders in northern communities often lament the lack of harvesting knowledge amongst youth, and the lack of chances to pass on their Indigenous Knowledge. Increasing funding for projects that include youth-Elder camps, making remote areas safer through the deployment of off-grid basecamps (as outlined above), increasing community access to research vessels and marine training (as outlined above), and creating effective economic and infrastructure investments in Indigenous communities, are all effective tactics that can help alleviate these problems.

ALIGNMENT WITH CANADA’S PRIORITIES

MINISTER



GARY ANANDASANGAREE
MINISTER OF CROWN-INDIGENOUS RELATIONS

MANDATE LETTER

Support the Minister of Northern Affairs in continued work with Inuit to improve food security in Inuit Nunangat, including through the Harvesters Support Grant and the Nutrition North Canada program, amended to make it more transparent and responsive to Inuit needs.



DAN VANDAL
MINISTER OF NORTHERN
AFFAIRS

Continue to work with Inuit to improve food security in Inuit Nunangat, including through the Harvesters Support Grant and the Nutrition North Canada program, amended to make it more transparent and responsive to Inuit needs.



LAWRENCE MACAULAY
MINISTER OF AGRICULTURE AND
AGRI-FOOD CANADA

With the support of the Minister of Employment, Workforce Development, and Disability Inclusion, and in partnership with provinces and territories, employers, unions, and workers, develop a sector-specific Agricultural Labour Strategy to address persistent and chronic labour shortages in farming and food processing in the short and long term.

Working with provincial and territorial governments, develop the next agricultural policy framework to continue to support the sustainable economic growth of the agriculture and agri-food sector, ensuring climate action and resilience are core to the framework.

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 1.2: Eliminate food insecurity and hunger by improving access to affordable food from the grocery store, as well as traditional food that supports a healthy diet, community well-being, and connection to culture.



**POLICY PRIORITY:
DELIVERING FAST, RELIABLE INTERNET**

The COVID-19 pandemic highlighted the connectivity gap for rural and remote communities while also exposing the disparity of internet access in the north.

During the pandemic, households in the Northwest Territories reported large overage fees, and the need to use cellular technology to hotspot when weather or other factors interrupted their service. The CRTC's report on Telecommunication Services in Northern Canada found "prices are too high for the internet service received, which is hampered by network outages and slow speeds". The Council of Canadian Academies, meanwhile, found communities with low-quality broadband are experiencing worsening inequalities in many aspects of life.

The backbone of connectivity in southern Canada is millions of kilometres of terrestrial fibre optic cable. In Nunavut, it is satellites with relatively low bandwidth and frequent connectivity problems made worse by extreme weather and the tendency for satellite internet companies to focus their coverage on much lower (and more profitable) latitudes.

In 2019, the Government of Canada released the High-Speed Access for All: Canada's Connectivity Strategy. The strategy articulates a minimum target speed of 50 Mbps download and 10 Mbps upload. However, this needs to be a moving and evolving target. Just a few years ago the CRTC's target was 10Mbps/1Mbps, but current cloud-based computing has rendered these original targets obsolete. It can be expected that this current minimum target will not meet connectivity demands in the coming years as new technology and uses are developed and introduced onto the market. Satellite internet will simply not be able to meet this need.

Aquatic fibre optic lines, combined with terrestrial lines where appropriate, are the most cost-effective, lowest-maintenance option for providing internet to remote communities. Investments such as CanArctic Inuit Network’s project to connect Iqaluit to southern Canada through Labrador, are already being made in the north, but more investment is needed to ensure all communities have wired internet access in the near future.

Furthermore, the federal government must end spectrum trafficking and ensure all appropriate available spectrum is being used in the north, while also ensuring wholesale rates are appropriate.

In addition, communities in the north cannot be left to rely on a single cable network. Current federal policy through Innovation, Science and Economic Development Canada aims to limit “redundancy”, meaning only one connectivity project is funded per community. This works fine in the south, where multiple providers have ensured various hookups are available. However, because forest fires, extreme weather, and other events that regularly occur in the Arctic can easily destroy sections of fibre optic line, redundancy should be the goal. The problem with single-line connectivity was brought into stark relief in the summer of 2023 when wildfires destroyed large swaths of terrestrial fibre optic internet throughout the Northwest Territories, making evacuations more dangerous due to communications blackouts that forced service providers to scramble in order to make repairs.

As such, this policy to avoid funding redundant projects should be repealed or, at the very least, exempt in northern communities.

ALIGNMENT WITH CANADA’S PRIORITIES

MINISTER

MANDATE LETTER



GUDIE HUTCHINGS
MINISTER OF RURAL
ECONOMIC DEVELOPMENT

Continue to lead the Universal Broadband Fund and accelerate the delivery of broadband service across Canada to ensure that all Canadians, no matter where they live, have access to high-speed internet.

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 2.2: Fast, reliable, and affordable broadband connectivity for all.

ANPF Goal 2.4: Develop multi-purpose corridors for broadband, energy, and transportation, including connections to hydroelectricity grids.



**POLICY PRIORITY:
TRAINING AND CAPACITY BUILDING IN CONSTRUCTION
AND MARINE INDUSTRIES**

Many of the projects outlined in this strategy require construction and maintenance that has traditionally taken place in the south. This will remain true in the short term. However, as new technologies and infrastructure are deployed, the right investments combined with thoughtful community engagement can ensure locals are trained on the use and maintenance of these new technologies.

As capacity increases alongside familiarity with these new technologies, training on operations and maintenance can be used as a springboard to move into construction and manufacturing. This would need to start small, and likely in larger northern communities such as Yellowknife, Inuvik, and Iqaluit. It must also be culturally sensitive and focused on the attraction and retention of Inuit and Northern Indigenous employees, and delivered in a method that supports the preservation and passing on of Indigenous language and cultural practices. Furthermore, it must be accompanied by efforts to retain those Northerners already employed, and in youth outreach programs to ensure Northern youth can see the pathway to careers that would provide them with an opportunity to thrive.

Take, for example, the construction of one of the mobile labs mentioned earlier in this paper. A shipping container is procured, along with solar panels, wind turbines, and appropriate power systems. Flooring, wall panels, insulation, appropriate power systems, and associated wiring are also purchased, as are tables, plumbing, and fixtures (if required).

Once procured, the various parts are put together using standard construction, carpentry, and plumbing techniques. The only specialized equipment used are solar panels, wind turbines, and power systems, and the only

specialized knowledge needed is electrical. The entire build can be done for less than \$250,000 a lab.

Most of the raw materials needed to build such a lab are already available in many large and medium-sized Arctic communities, as is the construction knowledge to complete everything with the exception of specialized science labs and green electrical systems. As such, it would be a relatively simple process to move manufacturing of these mobile labs from the south to the north with a few years of training and logistical support.

Many organizations working in the north try to hire as many locals as possible. However, this can be difficult in specialized fields. To use marining as an example, hiring small boat operators from the north who require a Transport Canada certification (that can be obtained through the completion of a brief online course) is relatively easy. However, it is difficult to hire a crew with Bridge Watch Certificates because certification requires months of classwork and training time on working ships. Effective research vessels require a certain number of crew to hold these certificates for safe operation, and because certification programs are primarily offered in southern Canada, it is very hard to find potential crew members that hold them in the north.

As more research vessels are able to work consistently in the north, they become available not just for science work but to help overcome the biggest obstacle to bridge watch certification – the availability of ship time for training in the Arctic. Research vessels are an ideal platform for this kind of training, which can be done alongside scientists conducting research. This provides an opportunity for training that will lead to meaningful employment in critical marine work in the north and will help create a virtuous cycle of projects with long-tail benefits for communities. With a modest federal investment and thoughtful partnerships between organizations running research vessels and training institutions (such as the Hay River Marine Training Centre or Camosun College's Bridge Watch Rating Program), it would be relatively easy to begin issuing Bridge Watch Certifications in the north.

These are just two examples in an extensive list of economic opportunities that can be created with moderate investments and thoughtful partnerships.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



JONATHAN WILKINSON
MINISTER OF ENERGY AND NATURAL RESOURCES

Work with the Minister of Labour in moving forward with legislation and comprehensive action to achieve a Just Transition. This work will be guided by consultations with workers, unions, Indigenous Peoples, employers, communities, and provinces and territories. Increase inclusion in the clean energy workforce by creating more opportunities for women, 2SLGBTQIA+, and other under-represented people in the energy sector.



RANDY BOISSONNAULT
MINISTER OF EMPLOYMENT

To support the future and livelihood of workers and their communities in the transition to a low-carbon economy:

- Support the Minister of Natural Resources and the Minister of Labour in moving forward with legislation and comprehensive action to achieve a Just Transition, guided by consultations with workers, unions, Indigenous Peoples, employers, communities, and provinces and territories.
- Address gaps in training and upskilling to ensure that all Canadian workers can take advantage of sustainable battery industry opportunities.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 38: Provide predictable and flexible funding that will ensure Indigenous partners have the capacity to provide fisheries, habitat, science, and oceans and marine-related services. Provide predictable and flexible funding to ensure Indigenous nations and organizations have the capacity to meaningfully participate in advisory, co-management, and decision-making processes tied to aquatic resources and oceans management. **(Fisheries and Oceans)**

Shared Priority 42: Through meaningful consultation and collaboration and partnerships with Indigenous governments, organizations, communities, and other partners, advance marine Indigenous Protected and Conserved Areas to support Canada's commitments to reconciliation and marine conservation.

(Fisheries and Oceans)

Shared Priority 102: Deploy necessary efforts to support Indigenous peoples' and communities' right to self-determination on socio-economic issues including access to post-secondary education, skills training, and employment. Such efforts will be inclusive of Indigenous peoples regardless of where they reside. **(Employment and Social Development)**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 1.8: Provide ongoing learning and skills development opportunities, including Indigenous-based knowledge and skills.

ANPF Goal 3.10: Maximize economic opportunities flowing from infrastructure investments.



**POLICY PRIORITY:
MAINTAINING AND IMPROVING DECAYING MARINE
INFRASTRUCTURE**

There is a significant lack of marine infrastructure in Arctic communities, and the infrastructure available is often poorly maintained. To name a few examples: the community dock in Iqaluktuuttiaq, Nunavut (where the Canadian High Arctic Research Station is located) is near collapse, aquatic infrastructure along the Mackenzie River in NWT is regularly inaccessible due to increased flooding or extremely low water levels, and the dock in Uqsuqtuuq, Nunavut is far too small to provide anchorage for the numerous ships that regularly enter its harbour on the way to conduct scientific research or other work.

Furthermore, there are few places in the north where ships can be safely hauled out of the water. The Arctic marine research season is short – only two to four months in most areas – and the inability to haul out ships means they must either overwinter in the south or risk requiring expensive repairs by being frozen into the water (shifting ice can easily warp boat hulls).

There must be a concerted investment from the federal government into maintaining existing aquatic infrastructure, and studies, followed by investment, into the development of new port facilities in strategic locations.

ALIGNMENT WITH CANADA'S PRIORITIES

MINISTER

MANDATE LETTER



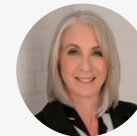
PABLO RODRIGUEZ
MINISTER OF TRANSPORT

Complete the Ports Modernization Review with an aim to update governance structures that promote investment in Canadian ports.



FRANÇOIS-PHILIPPE CHAMPAGNE
MINISTER OF INNOVATION,
SCIENCE AND INDUSTRY

Support the Minister of Public Services and Procurement, the Minister of Fisheries, Oceans and the Canadian Coast Guard, and the Minister of National Defence to renew the fleets of the Canadian Coast Guard and Royal Canadian Navy, advance the shipbuilding industry, including the process to add a third Canadian shipyard as a strategic partner to the National Shipbuilding Strategy, create middle-class jobs, and ensure Canada has the modern ships needed.



PATTY HAJDU
MINISTER OF INDIGENOUS
SERVICES

In partnership with First Nations, Inuit, and Métis communities, continue to make immediate and long-term investments to support ongoing work to close the infrastructure gap by 2030.



GARY ANANDASANGAREE
MINISTER OF CROWN-
INDIGENOUS RELATIONS



DAN VANDAL
MINISTER OF NORTHERN
AFFAIRS



GUDIE HUTCHINGS
MINISTER OF RURAL
ECONOMIC DEVELOPMENT

Contribute to the development of rural infrastructure priorities in line with the Government's broader infrastructure strategy.



DIANE LEBOUTHILLIER
MINISTER OF FISHERIES,
OCEANS AND THE CANADIAN
COAST GUARD

Continue to support improvement in Small Craft Harbours and work to ensure our investments in harbours are resulting in climate-resilient infrastructure that serves the needs of the fishing industry and local residents.



SEAN FRASER
MINISTER OF HOUSING,
INFRASTRUCTURE, AND
COMMUNITIES

Continue making meaningful investments in infrastructure across the country. Your focus must be on the successful and timely delivery of our growth-generating investments in public transit and green and social infrastructure. These investments should have a focus on increasing economic growth, supporting climate resilience, reducing emissions, and creating good middle-class jobs with infrastructure that improves Canadians' quality of life.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

First Nations Priority 15: Continue to work with First Nations on closing infrastructure gaps on reserve – based on priorities identified by communities - with the goal of improving current service delivery (including increasing the number of housing units) as well as supporting increased First Nations capacity for housing governance, management, and planning. **(Indigenous Services Canada)**

Inuit Priority 16: Support Inuit self-determination in Inuit Nunangat including through National Defence investments in multi-purpose infrastructure that supports Inuit needs, where feasible. **(Department of National Defence)**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 2.1: Investment in significant infrastructure projects.

ANPF Goal 2.3: Expand multi-modal transportation infrastructure and operations to connect communities to Canadian and international opportunities and improve access to essential services.

ANPF Goal 2.4: Develop multi-purpose corridors for broadband, energy, and transportation, including connections to hydroelectricity grids.

PILLAR 4 - ARCTIC DATA MANAGEMENT



POLICY PRIORITY: SETTING RESEARCH DATA STANDARDS AND IMPROVING ARCTIC DATA MANAGEMENT

Many groups, both Canadian and international, are generating increasing amounts of Arctic data, driving the need for better interoperability, standards, and improved sharing through data repositories.

As it stands, there are few standards formally recognized in Arctic research. One institution's methods for analyzing air temperature, water salinity, or the movement of Caribou herds, can vary widely from another. This makes it extremely difficult to compare results, create "big data" datasets, or take a systems approach to understanding the Arctic at large.

Even if we reach a point where there is enough ongoing research to properly understand the Arctic, a lack of data standards will remain a serious bottleneck to drawing meaningful conclusions from the data. Canada needs standards and interoperability to inform evidence-based, proactive climate adaptation and mitigation decisions. This is an especially urgent issue as the science community accelerates data collection, and systems of data storage and dissemination continue to lag behind.

Investments have been made to support data collection in recent years but access to that data remains disconnected, disassociated, and difficult to access. The issue is twofold: the data needs to be standardized, but also accessible in central, public, and affordable repositories.

Currently, data is held in a variety of databases, making it difficult for researchers to access. For example, metadata may be held in one database, primary data in another, and reports and publications in a third. Organizations such as the Canadian Consortium for Arctic Data Interoperability (CCADI) are working to develop an Arctic Research Data Infrastructure (ARDI) that would “facilitate the discovery of information across numerous data types, both qualitative and quantitative; enable interoperability among existing Arctic data infrastructures, establish metadata and data sharing standards for Canadian Arctic data that will facilitate international data sharing, and is accessible to a broad audience of users.” Essentially, they are working to build a searchable “network of networks” to make it easier to find data, and to adopt standards that will make the data more uniform, interoperable, and easier to understand, combine, and visualize.

CCADI and its partners are also working to determine the best path forward to adopting standards for Arctic data that are effective, equitable, and determined by Indigenous Northerners and other appropriate stakeholders.

The federal government has supported this initiative through a CFI grant. However, it will have many years and many phases to complete, and ongoing federal support will be necessary.

UNDRIP ACTION PLAN PRIORITY ALIGNMENT

Shared Priority 30: Continue to support Indigenous Data Sovereignty and Indigenous-led data strategies through legislative, regulatory, and policy options to help ensure that First Nations, Inuit, and Métis have the sufficient, sustainable data capacity they need to control, manage, protect, and use their data to deliver effective services to their peoples, tell their own stories, participate in federal decision-making processes on matters that impact them, and realize their respective visions for self-determination. **(Indigenous Services Canada, Treasury Board Secretariat, Library and Archives of Canada, various other Departments).**

ARCTIC AND NORTHERN POLICY FRAMEWORK ALIGNMENT

ANPF Goal 4.8: Support development of data collection, production, and measurement specifically focused on Arctic and Northern populations.

ANPF Goal 4.9: Reduce barriers to accessing research funding for Indigenous knowledge holders and organizations.




CONCLUSION

There is a growing awareness of the value and opportunity in the Arctic; however, the need to ensure that an Indigenous-led approach is taken to the development of the region has never been greater. While Canada has already taken steps to address the most pressing needs in the North, progress on the priorities raised by local Indigenous communities remains slow.

While groundbreaking policies like the Arctic and Northern Policy Framework and the UNDRIP Action Plan are crucial steps in the right direction, it remains important to supplement these approaches with focused policy recommendations as outlined in this strategy.

Adopting a Canadian strategy with clear tactics for implementation – while working with international consortia, Canadian non-profits, universities, and research institutes and ensuring Indigenous Northerners are given the opportunity to lead these efforts for the benefit of their communities – will be a major step toward a stronger, more resilient, and better understood Canadian Arctic. As Canada embarks on this journey alongside Arctic Indigenous partners, the strategy outlined in this document stands to play a crucial role in ensuring the vision of an inclusive, prosperous Arctic becomes a reality.



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