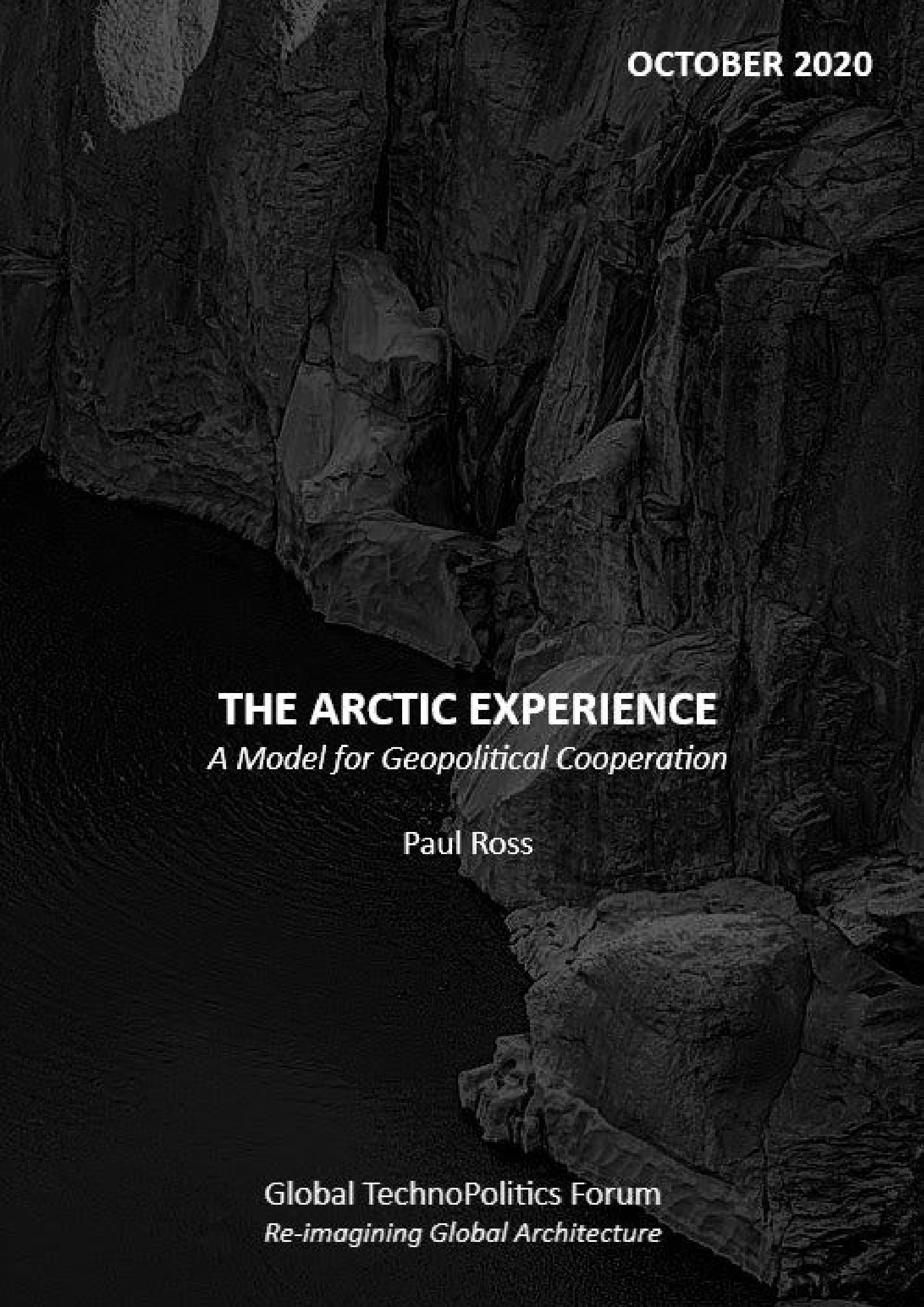

OCTOBER 2020

THE ARCTIC EXPERIENCE

A Model for Geopolitical Cooperation

Paul Ross

Global TechnoPolitics Forum
Re-imagining Global Architecture

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A Model For GeoPolitical Collaboration

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Table of Contents

Key Points:

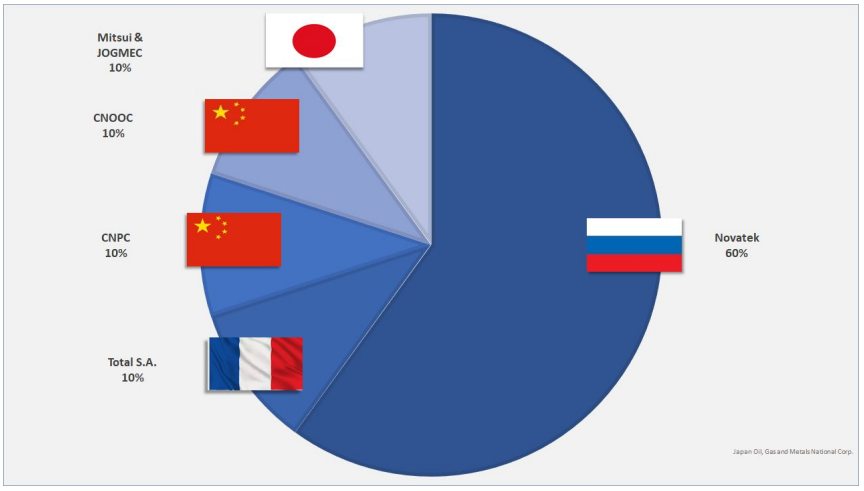
In the last years of the Soviet Union, Mikhail Gorbachev deemed the Arctic, his country's "extreme North," a "Zone of Peace." And so it has been, despite the emergence of new geopolitical currents, especially the opening of new seaways across the region, the expansion of access to the Arctic's rich oil and mineral resources those new channels have enabled, and the appearance of non-Arctic states, such as China, eager to take advantage of those resources.

The peaceful collaboration, sustained by the Arctic Council (an organization whose leadership rotates among countries and institutions that are active in the Arctic), is indeed impressive and provides the source for the question that is at the heart of this paper: Can the Arctic region provide pointers for other regions where there is geopolitical tension as well as related issues of contention but where there is also potential for collaboration? Indigenous peoples in the Arctic, for example, have surmounted some of the world's most daunting natural and environmental obstacles in their quest to connect far-flung settlements into thriving communities. Similarly, countries operating in the Arctic today have overcome geographic boundaries and overlooked political differences to join in undertaking collaborative projects that deliver clear and tangible benefits.

The key elements that have made the Arctic, despite its inhospitable climate, fertile ground for international collaboration are the trans-border role of Indigenous Peoples, Safety and Security, Scientific Inquiry, and Communication. The backdrop for assessing the role these elements play are the types of cooperation (government-to-government or primarily private sector-driven) and the geographic scope (national, cross-regional, or international).

Represented as "New Arrivals," "Old Hands," or "Global Citizens", the strategic approaches countries active in the Arctic region adopt and the initiatives they undertake are shaped and guided by their particular political, economic, and cultural circumstances. Finally, the Arctic experience can be abstracted into a model that captures the interplay of its constituent elements - Pay-offs, Pressure points, and Balance - and has the potential to serve as a guide for those seeking a path towards cooperation in other regions and a means for resolving contentious issues.

The competing territorial claims, valuable resources, and shifting environmental landscape that define the Arctic in the 21st Century are ingredients that in other parts of the world (e.g. the South China Sea, Sudan, etc.) have formed a brew combustible enough to raise geopolitical tensions and even ignite international conflict. Despite the increasing risk of serious confrontation that exists in the Arctic today[1], countries eager to take advantage of what the Region has to offer demonstrate a surprisingly high incidence of cooperation that holds out the potential for even more expansive collaboration in future.



Yamal 2, a multi-billion dollar Liquid Natural Gas (LNG) project that has launched in the Arctic (see chart), exemplifies how countries that are locked in fraught and contentious relationships elsewhere in the world can find common ground in the Arctic and demonstrates how a coincidence of interests can form the foundation on which a solid framework for collaboration can be built.

[1] Perez, Christian, Carlson, Allison (ed), "Arctic Competition, Part One: Resource Competition in the Arctic", Foreign Policy, October 13, 2020.

The more cynically-minded observer might ascribe such collaborative spirit to nothing more than hard-nosed pragmatism and cool commercial calculation. However, a closer examination of the relations among countries operating in the Arctic and an evaluation of the initiatives they have undertaken reveals that the region's unique history, geography, and even meteorology have created an environment that is uniquely conducive to cooperation. Seen through this lens the Arctic comes into clearer focus as a model for collaborative international relations that has the potential to form the backbone for a more stable and sustainable geopolitical environment.

This paper aims to identify the key components and the composition that enables cooperation in the Arctic and based on the conclusions it draws derive a model for collaboration that can be applied elsewhere.

In his waning days as leader of the Soviet Union, Mikhail Gorbachev was given to envisioning the more than two million square miles of ice and snow that covered his country's "Extreme North" as a "Zone of Peace", a bulwark perhaps against the waves of upheaval that eventually engulfed the empire over which he presided. The establishment of the Arctic Council five years after the collapse of the Soviet Union can be seen, if not in reality at least in spirit, as the realization of Gorbachev's vision.

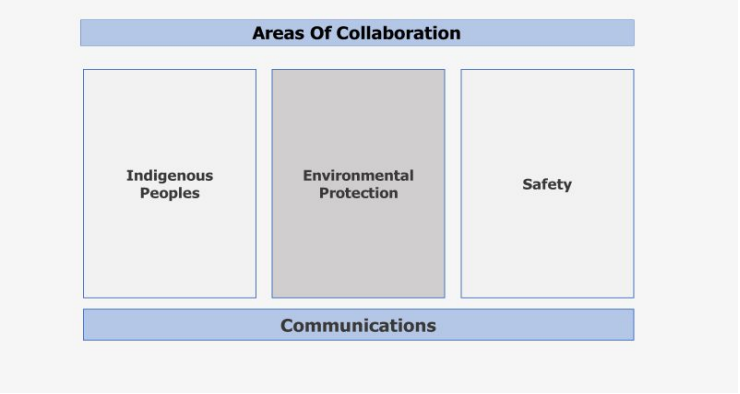
Originally conceived as a catalyst for cooperation among the eight member countries[2] that assert direct territorial claims in the Arctic and the various indigenous communities that inhabit it, the Arctic Council has broadened its scope over time to include an additional thirteen countries, all of which have a vested interest in the Arctic's future but no direct stake in its territory. Designated "Observers" under the Arctic Council's charter, these countries, in contrast to the Council's "Members" (see Appendix), enjoy

[2] Canada, United States, Russia, Iceland, Denmark (including Greenland), Norway, Finland, Sweden

neither voting rights nor ministerial representation. Rather, they present themselves as active contributors to the Arctic Council's working groups, advising Members on pertinent issues such as climate change, sustainable development, and security that the Council privileges within the scope of its mission.

To maintain its center of balance at the focal point of such a diverse base of members and the often competing interests and agendas they represent, the Arctic Council occupies a position that is scrupulously non-partisan, strictly enforces a two-year term limit on Council leadership, and insists on adherence to seven "Rules of Procedure" that function as its principles of operation. Comprehensive in scope, the "Rules of Procedure" serve countries as a set of guidelines for how to interact with one another and call attention to those issues whose need for resolution is most immediate. In practice, the Arctic Council applies the "Rules of Procedure" as a yardstick to judge a candidate country's "fitness" for membership, as a compass to align the efforts of its constituents, and as a "Bible" to instill a sense of common purpose.

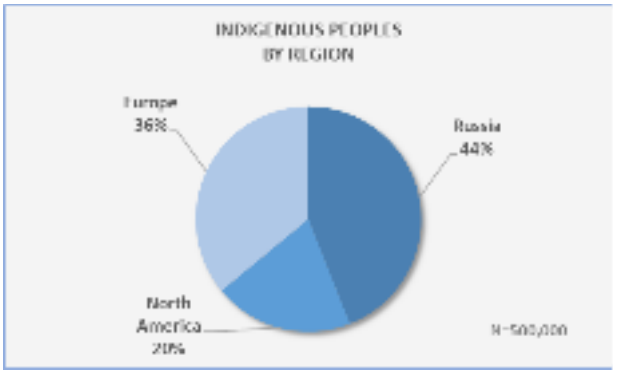
As broadly applicable as these "Rules of Procedure" may be, their essence can be distilled into a single word: *Respect.* Respect for the Council, Respect for other member countries, and Respect for the rights of indigenous peoples infuses all aspects of a country's operations in the Arctic and marks out four areas of collaboration in



which virtually all countries involved with the Arctic Council and the Arctic Region are engaged. Areas of focus include: **(1) Indigenous Peoples** (a feature of the Arctic Region that gives it a unique geopolitical complexion and distinguishes it from other places in the world); **(2) Environmental Protection** (a priority for all countries with an interest in the Arctic because they recognize that changes in the local environment can have an impact that is global in scope); **(3) Safety** (an indispensable element of all operations in the Arctic and a key ingredient for success given the extreme conditions under which those operations are carried out); **(4) Communications** (an integral and indispensable element of virtually all initiatives undertaken in the Arctic and a means of access to the sources of information on which almost all domains depend).

The approaches that countries take to address these areas of focus are most clearly articulated in the strategic policy papers their Governments draft. If "Respect" is the touchstone and the "Rules of Procedure" the lodestar that ground member countries in a fluid and often unforgiving terrain, these policy papers are the roadmap that guides them in traversing that terrain and aligning their efforts.[3]

1. Indigenous Peoples



The introduction to Canada's policy paper, the "Arctic and Northern Policy Framework", is at once a declaration of commitment to Canada's indigenous peoples and an expression of contrition for past sins committed: "For too long, Canada's Arctic residents, especially [its] indigenous peoples, have not had access to the same services, opportunities, and standards of living as those enjoyed by other Canadians".[4] As a demonstration of its willingness to right past wrongs and make amends, the Canadian Government has taken an active role in collaborating with the indigenous inhabitants of its Arctic Region to promote their culture and protect their rights. The fruits of that collaboration include the Dechinta Centre for Research and Learning, the Nutrition North Program, and health and addiction treatment facilities in Nunavut and Nunavik. The "Northern Policy Framework", a product of joint and equal contribution from Canadian Government representatives and their indigenous counterparts, is itself an embodiment of that collaboration.

Like Canada, virtually every country involved in the Arctic expresses a commitment to preserving the culture of indigenous peoples and professes a willingness to collaborate with the institutions that represent them (see sidebar for "Indigenous People's

[3] Examples: State Council of the People's' Republic of China, China's Arctic Policy White Paper《中国的北极政策》白皮书 , State Council Communications Department, January 28, 2018 (www.scio.gov.cn); Germany's Arctic Policy Guidelines, Federal Foreign Office, August 2018;

[4] Canada's Arctic and Northern Policy Framework, https://www.rcaanccirnac.gc.ca/eng/1560523306861/1560523330587

Secretariat" profile). However, the intensity of that commitment varies from country to country and the shape of the collaboration is conditioned by a number of clearly-identifiable factors:

- Historical – where a country has mistreated or exploited its indigenous peoples in the past and subsequently enacted legislation, sometimes enshrined in a country's constitution, to right past wrongs.

- Cultural – where a country places a premium on social equality and human rights and gives priority to philanthropic initiatives as a matter of cultural proclivity and social principle.

- Commercial - where a country's relationship with indigenous peoples is guided by commercial interest and informed by geopolitical considerations.

- Compliance - refers to support for indigenous peoples that the Arctic Council's "Rules of Procedure" stipulate as a requirement for membership and is common to all countries considered.[5] Some national examples include.

Finland - Finland's Arctic policy paper, "Strategy for the Arctic Region", is candid in its admission of wrongdoing over the course of the country's long history of relations with the Saami, its indigenous people. To compensate for past errors, Finland recognizes an obligation to preserve the culture of the Saami, and ensure their interests are adequately represented in the Arctic Council and other relevant fora.[6]

Singapore - Although not home to any one of the Arctic's twenty-seven indigenous peoples, Singapore has nevertheless demonstrated a willingness to support them through collaboration with the organizations that represent their interests. In addition to organizing conferences focused on issues relevant to the Arctic's indigenous peoples, Singapore has developed programs whose intent is to improve their economic prospects. The "Singapore-Arctic Council Permanent Participants Cooperation Package", for example, offers full scholarships to students from indigenous communities in the Arctic that enable them to pursue studies in Singapore at select institutions of higher learning.

[5] By dedicating two of its seven "Rules of Procedure" (articles 4 and 5) to the maintenance and preservation of indigenous values and culture, the Arctic Council signals the importance it assigns them.

[6] "Finland's Strategy for the Arctic Region 2013," Helsinki: Prime Minister's Office of Publications, August 2013 [updates to this base policy document in the form of Government "strategy sessions" were published in 2016 and 2019 respectively]

China - Like Singapore, China expresses a "respect for [the Arctic Region's] diverse social culture and historical traditions of the indigenous peoples"[7] in its "Arctic Policy Whitepaper". It also articulates a commitment to advancing the interests of indigenous peoples by improving their economic prospects. However, while the Singaporeans believe that the most effective way for indigenous peoples to achieve economic independence is through education, the Chinese maintain that the Athabaskan, Inuit, Saami, and others can best improve their economic fortunes by honing their commercial skills and sharpening their entrepreneurial acumen -- this a refraction, undoubtedly, of a Chinese worldview that is informed by lessons drawn from their recent experience with very rapid economic growth.[8]

Russia - Russia's relationship with its indigenous peoples has been distinctly less collaborative than those of the other countries considered and has, at times even veered towards the confrontational. The "Concept for the Sustainable Development of Small Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation", the framework the Russian Government has developed to guide its policies in support of its indigenous peoples, has, by most accounts, not been rigorously or consistently applied. Leaders of the Russian Association of Indigenous Peoples of the North (RAIPON), the organization that represents the interests of the country's indigenous peoples, have even accused the Government of mismanagement and misallocation of resources.[9]

Germany - Germany expresses a commitment to the Arctic's indigenous peoples in its Arctic policy paper, "Germany's Arctic Policy Guidelines", that is similar in tone to that of Canada and Finland but different in concept. The nature of this difference is apparent in the implicit connection German policymakers draw between protecting the Arctic environment and protecting the rights of its inhabitants. This connection is clearly illuminated in the paper's assertion that particular attention be paid to "environmental protection, preserving the cultural identity and territorial claims of the indigenous population and their participation in the economic use of the Arctic".[10] Germany has also distinguished itself in taking statements that were nominally drafted to articulate aspirational policy objectives and recasting them as directives for the execution of actionable programs such as the MOSAIC research expedition.

2. Scientific Research and Environmental Protection

Launched under the auspices of Germany's Wegener Research Institute and buoyed with a multi-million-dollar investment, MOSAIC is the largest Arctic scientific research expedition ever undertaken. The expedition's mission, in its simplest formulation, is to study the structure of Arctic ice and understand how it changes with the seasons.[11] In

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7 "Respect provides the important basis for China's participation in Arctic affairs. China respects Arctic countries' sovereignty, sovereign rights, and jurisdiction in the Arctic, and the traditions and culture of Arctic indigenous people" (China Foreign Minister Wang Yi, October 2015)

8 State Council of the People's' Republic of China, China's Arctic Policy White Paper《中国的北极政策》白皮书, State Council Communications Department, January 28, 2018 (www.scio.gov.cn)

9 Heininen, Lassi, Segunin, Alexander, Yavroy, Gleb, "Russian Strategies in the Arctic: Avoiding a New Cold War", Moscow: Valdai Discussion Club, September 2014. pages 84-86.

10 "Germany's Arctic Policy Guidelines", Berlin: German Federal Government, August 2018.

11 "Arctic Exploration, Pole Position", *The Economist*, Science and Technology, June 20, 2020

addition to extending the frontiers of polar research, MOSAIC has expanded the scope of the international collaboration that is its hallmark by engaging more than one hundred scientists who represent 20 countries.

Scientific research is generally collaborative by nature, but in a place as challenging and inhospitable as the Arctic, it is very often collaborative by necessity.

Because the resources needed to staff, fund, and execute effective scientific programs in the Arctic can easily exceed what any single country can muster, research initiatives are typically carried out under the auspices of broad multilateral coalitions such as Mosaic. However, these coalitions can also be structured as *regional* or *bilateral* partnerships depending on the circumstances of the countries involved and the goals they hope to achieve.

The Arctic Council complements initiatives such as MOSAIC by supporting programs designed to promote collaboration among countries that demonstrate a commitment to addressing challenging environmental problems and a willingness to set aside their differences for the greater good. No less than four of the Arctic Council's six working groups are concerned with environmental issues. The Arctic Contaminants Action Program (ACAP), for example, is charged with finding ways to reduce climate risks and prevent pollution of the Arctic environment; the Sustainable Development Working Group (SDWG) works to protect and enhance the environment, economy, and health of the Arctic's Indigenous communities and the social conditions of its inhabitants.

There are three issues in particular that feature prominently in the minutes generated from the deliberations and discussions of the working group sessions and are relevant to all of the Council's members and stakeholders:

- Closing the knowledge gap through the conduct of scientific research and exploration. **Example**: Korea's atmospheric and marine modeling of the Arctic Sea that includes reproducing a three-dimensional (3D) model of the fluctuation in ocean currents and ice floes.[12]

- Developing policy to act on what the research results show.
  Example: Germany's determination of rules and penalties in support of a "Polluter Pays" policy for the Arctic.[13]

- Monitoring and measuring to gauge the effect of changes in the environment and the impact of policies enacted.
  Example: The Swiss Polar Institute's observation-based assessments of biodiversity change, drivers of plant growth, and long-term vegetation dynamics in the Arctic tundra[14]

[12] "Arctic Policy of the Republic of Korea", Seoul: Korea Maritime Institute, 2017, pages 9-10

[13] "Germany's Arctic Policy Guidelines", page 13

[14] "Polar Science in Switzerland : Proposed Priorities for the Swiss Polar Institute up to 2025 and Beyond, Zurich: SPI Science and Technology Advisory Board, 2018. Page 13.

Complementing the collaborative efforts introduced above that engage virtually all the Council's members and stakeholders are initiatives undertaken by smaller subsets of member countries on either a regional or bilateral level.

- Regional - Collaborative programs initiated by countries from a specific region or geography.
  Example: Japan's Arctic policy paper, in line with Japan's orientation towards scientific partnerships, outlines plans for engaging in joint Arctic research programs with regional counterparts China, Japan, and Korea.

- Bilateral - Collaborations organized by pairs of countries that have entered into a bilateral agreement.
  Example: The scientific research programs China has initiated in collaboration with Iceland and Norway (see below) are particularly relevant cases:

  China-Iceland - China has engaged in scientific collaboration and exchange with Iceland for more than a decade. The China-Iceland Arctic Observatory (CIAO) is undoubtedly the most tangible and successful outcome of this collaboration. The CIAO's research agenda has expanded in scope and breadth over the course of that decade, from a handful of modestly-provisioned experiments initiated at the outset to a fully-fledged research program that encompasses a diversity research initiatives in areas such as: Atmospheric Physics, Oceanography, Glaciology, and Geophysics.[15]

  China-Norway - In addition to the joint research initiatives it has undertaken with Iceland, China has engaged in a number of collaborative scientific programs in the Arctic with Norway following restoration of diplomatic relations between the two countries in 2016. It is worth noting that even during a six-year hiatus in official diplomatic relations, the two countries, nevertheless, maintained their engagement in Arctic-related scientific exchange (cf. Arctic Frontiers Conference in 2012), a testament to just how powerful a force the spirit of collaboration in the Arctic is.[16] Similarly, the ongoing cooperation U.S. and Russian scholars have maintained in this area, despite increasing political tensions between their countries, is a further demonstration of how geopolitical differences that separate countries elsewhere in the world are very often suspended in the Arctic[17]

3. Safety and Security

Safety and Security, similar to Scientific Research, is another domain that is highly

[15] Koivurova, Timo, Kauppila, Lisa, et. al. "China in the Arctic and the Opportunities and Challenges for Chinese-Finnish Arctic Cooperation", in: Publication Series of Government's Analysis, Assessment, and Research Activities, February 2019. Page 35.

[16] Koivurova, Timo, Kauppila, Lisa, et. al. "China in the Arctic and the Opportunities and Challenges for Chinese-Finnish Arctic Cooperation", in: Publication Series of Government's Analysis, Assessment, and Research Activities, February 2019. Page 45.

[17] Wishnick, Elizabeth, "China's interests and goals in the Arctic: implications for the United States", The Strategic Institute of the United States Army War College, The Letort Papers, United States Army War College Press, Carlisle, Pennsylvania, March 2017, page 41.

collaborative by nature and, in the Arctic, collaborative by necessity. The Arctic's remoteness, unpredictable weather conditions, and lack of infrastructure make it a place where even experts find carrying out tasks that typically fall within a coast guard's scope of responsibility exceedingly complex and full of risk. The magnitude of the challenges, the severity of the Arctic's operating conditions, and the vastness of the area to be covered make collaboration in Safety and Security prudent if not imperative.

Established in 2015 as a platform capable of sustaining the level of collaboration necessary for effective safety and security, the Arctic Coast Guard Forum (ACGF) took on the mission of ensuring safe, secure, and environmentally responsible maritime activity in the Arctic. The nature of the Forum's mission and the close collaboration that its members, representatives of nations that enclose the Arctic territory within their borders,[18] exemplifies the effect that local environmental conditions have on collaboration. "Polaris", the ACGF's annual live search and rescue exercise that lasts for three days and involves ships, aircraft, and personnel from ten countries, is a showcase for that collaboration. "Polaris is just one of the many programs (such as table-top simulations, training sessions, etc.) the ACGF organizes to ensure that its members are well-prepared and capable of handling any eventuality they may encounter.[19]

Similar in spirit to the ACGF but more targeted in its mission, the North Pacific Coast Guard Forum, initiated by Japan's Coast Guard in 2000, is another example of an organization that has been established to facilitate multi-lateral collaboration. Each of the North Pacific Coast Guard Forum's six members – Canada, China, Japan, the Republic of Korea, Russia, and the United States – honors a commitment to sharing information and participating in joint missions intended to reduce illegal migration and drug trafficking, enforce fishing resolutions, and improve maritime security.

Complementing these multilateral models for collaboration are much more targeted and "purpose-built" bilateral arrangements. A prime example of bilateral collaboration is the arrangement the United States has put in place with China to implement UN Resolution 46/215, a prohibition on the practice of driftnet fishing.[20] Within the scope of this collaboration that has endured for more than a quarter of a century, the United States and China have joined forces to patrol the Northern Pacific on the lookout for perpetrators. As an enhancement to the original accord, the two countries entered into a supplementary agreement that outlines procedures and specifies conditions under which Chinese officials are granted permission to board U.S. Coast Guard vessels.[21] The on-board visits provided for under these agreements are constitutive elements of a much broader ensemble of communications activities that are essential to fostering

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[18] Canada, United States, Russia, Iceland, Denmark (including Greenland), Norway, Finland, Sweden

[19] Polaris is a combined Search and Rescue and Mass Rescue Operation Exercise. The exercise will focus on Mass Rescue Operations (MRO), Search and Rescue (SAR), Emergency towing and response to ship fire incidents.

[20] Drift nets operate by entangling fish in the meshes of a sheet of netting that is held in place vertically by a buoyant float line attached to the top of the net and a weighted leadline attached to its bottom.[source: Northridge, Simon P., "Driftnet fisheries and their impacts on non-target species: a worldwide review", Food and Agriculture Organization (FAO) of the United Nations, Rome, 1991 http://www.fao.org/3/t0502e/T0502E01.htm

[21] Wishnick, Elizabeth, "China's interests and goals in the Arctic: implications for the United States", The Strategic Institute of the United States Army War College, The Letort Papers, United States Army War College Press, Carlisle, Pennsylvania, March 2017, page 56.

mutual understanding and maintaining a productive working relationship. As example, the Coast Guards of China and the U.S. have recently finalized an agreement intended to reduce the incidence of misunderstandings by improving communication that is similar in spirit to the multilateral "Code for Unplanned Encounters at Sea'' the two countries signed in 2014.

4. Communications

Like the other domains considered, Communications also lends itself to collaboration. However, where the representatives of other domains (medical practitioners, research scientists, etc.) view collaboration as a means to realizing the worthy objectives they have set themselves, those who represent Communications regard the network solutions they develop and deploy as the catalyst for that collaboration because they offer access to the sources of information on which all the other domains increasingly depend.

Indigenous Peoples are increasingly dependent on communications networks for access to sources of information -navigation, weather, and increasingly education - that sustain their livelihoods. ***Scientific Exploration*** depends on communication tools to send and receive data in large quantity and in a timely fashion. Improved connectivity in the Arctic creates better conditions for data collection, preservation, and transfer within, and to and from the Arctic[22] ***Safety and Rescue*** depends on reliable communication for effective coordination of efforts. An indicator of just how critical communications is to the search and rescue operations coast guards in the Arctic carry out, the Arctic Coast Guard Forum made a point of incorporating a large-scale communications exercise involving all eight Arctic states' Rescue Coordination Centres into "Polaris 2019," its most recent annual preparedness program.[23]

Communications in the Arctic, encompassing as it does devices as diverse as walkie-talkies and CB rigs at one end of the technology spectrum and High Earth Orbit satellites circling thousands of miles above the Earth's surface at the other, may give the impression of forming a robust and seamless communications system. In reality, this "system" is a rough patchwork of jerry-rigged solutions, none of which by itself is sufficiently robust to satisfy all of the region's communications needs.

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[22] The Mosaic expedition (featured in "Environmental Protection" section) makes use of the services of Kepler Communication, a Canada-based provider of nanosatellite telecommunication services, that provides access to two polar-orbiting satellites that enable scientists participating in the Mosaic expedition to transmit on-board data to experts at on land at a rate of more than 100 Mbps (Megabits-per-second). "Kepler Delivers World's First Arctic High-Bandwidth Satellite Service for Largest Polar Expedition", Kepler Communications press bulletin, November 17, 2019 https://www.globenewswire.com/news-release/2019/11/07/1943110/0/en/Kepler-Delivers-World-s-First-Arctic-High-Bandwidth-Satellite-Service-for-Largest-Polar-Expedition.html

[23] The participating organizations of the communication exercise are MRCC Turku (Finland), JRCC Greenland (Denmark), JRCC Iceland (Iceland), JRCC Bodø (Norway), MRCC Murmansk, MRCC Saint Petersburg, MRCC Kaliningrad, MRCC Dikson and MRSC Arkhangelsk (Russian Federation), JRCC Gothenburg (Sweden), RCC Atlantic Area Command Center (United States) and JRCC Halifax as well as JRCC Trenton (Canada). [source: "Live Exercise Polaris 2019", Arctic Coast Guard Forum news bulletin, March 27, 2019 https://www.arcticcoastguardforum.com/news/live-exercise-polaris-2019]

The demands that the Arctic's unique environmental, geographic, and meteorological conditions place on communications networks translate into requirements for solutions and services whose complexity, distinctiveness – and thus cost – exceed the resources, technical and financial, that any one company or country can bring to bear. These requirements can only be met through collaborative effort.

Despite the nature and magnitude of the challenges that providing communications service in the Arctic presents, governments, enterprises and institutional investors, encouraged by the potential the Arctic's changing landscape creates, have initiated more than a dozen large-scale Communications projects that are in development or already underway. Despite the range in scope of these projects and the diversity of their objectives, their essence can nevertheless be distilled into two basic models" ***Institutional*** (Public/Government and Private) and ***Geographic.*** The principal dimensions that define these models are consistent with those that have defined the global trading system and sustained its evolution. Relations between nations and the geographies they represent have formed globalization's substance. The institutions that channel resources and set guidelines have provided its structure.

The Geographic model comprises three dimensions: **National** – project participants are within a given country (e.g Canada), **International** – project participants represent different countries, but those countries are situated within the same region/geography (e.g. Denmark and Norway) **Cross-Regional** (project participants represent different regions (e.g. Iceland and China; Canada and Norway). The following cases illustrate each of these dimensions.

- **National: "Dempster Link"**
  The Dempster Link project implemented under the aegis of Canada's "Connect to Innovate" initiative will provide an alternative pathway when complete over which data can be transmitted in the event of an outage to the Canada North Fiber Loop.[24] The benefit of this solution is that it will significantly reduce the risk of internet service interruptions in more than 70 communities. Funded through a public-private partnership (see sidebar), the Dempster Link project is a good example of collaboration among Public and Private actors in one country.[25]

- **International: "GOMX-4"**
  GOMX-4 is a Low Earth Orbit[26] satellite program managed by GomSpace, a Danish-Swedish group to support Arctic communications and monitoring.[27] Launched in 2018, GOMX-4 makes use of "nanosatellites" that are about the size of a toaster and weigh less than 20 pounds (8 kilograms). These satellites have a variety of data and scientific applications such as maritime navigation and aircraft tracking.

[24] The North Fiber Loop, the primary fibre network in Northern Canada, is designed to deliver enhanced internet, cellular and other telecommunications services to residents, businesses and governments in the Yukon, Northwest Territories and Nunavut.

[25] "Improving Connectivity in the Arctic", Arctic Council Task Force on Improved Connectivity in the Arctic, Arctic Council Secretariat, Rovaniemi:Finland, May 2019, Page 29.

[26] A Low Earth Orbit (LEO) is one that is less than 600 miles (1000 kilometers) above the Earth's surface

[27] GOMspace website: https://gomspace.com/gomx-4.aspx

- **Cross-Regional: "Arctic Connect"**
  "Arctic Connect" is an initiative whose objective is to install a 10,500 km cable that connects Europe to Asia by crossing Russia's North coast. Led by the Finnish firm Cinia, "Arctic Connect" is a collaborative venture that includes Russian mobile phone operator Megafon, as well as Japanese and Nordic signatories and an international investment bank.[28] Once completed, "Arctic Connect" will halve the distance of current communications routes that connect East Asian markets to Europe[29] and in so doing nearly halve the delay in transmission[30] to which connections over that distance are prone.

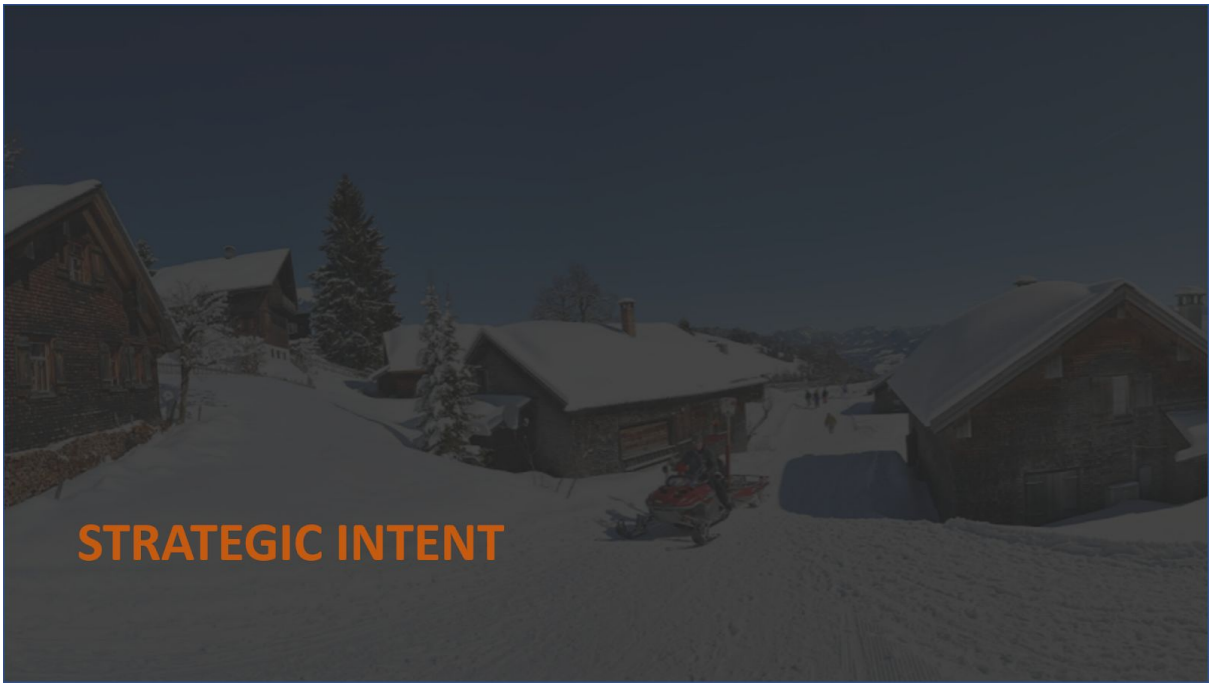
  Finland and China both have a particular interest in the project, Finland because the investment it hopes to attract in support of data centers it is building out is predicated on the presence of a requisite communications infrastructure; China because it sees in the laying of transcontinental and cross-border data cables an opportunity to extend its signature international trade initiative, the Digital Silk Road. Support for the project will also open up new market opportunities for domestic data cable service providers, such as Huawei Marine, whose solutions have already been selected for the construction of the "Arctic Connect" platform.[31]

[28] "Arctic Telecom Cable Initiative Takes Major Step Forward" Cinia corporate press release, June 6, 2019 https://www.cinia.fi/en/archive/arctic-telecom-cable-initiative-takes-major-step-forward.html

[29] Clark, Robert, "Cinia Seeks Partners for Arctic Rollout", Lightreading, October 25, 2019 https://www.lightreading.com/asia-pacific/cinia-seeks-partners-for-arctic-rollout/d/d-id/755149

[30] from 250 milliseconds to less than 150 milliseconds

[31] Juris, Frank, "Handing over infrastructure for China's strategic objectives: 'Arctic Connect' and the Digital Silk Road in the Arctic", Estonian Foreign Policy Institute, March 12, 2020 https://efpi.icds.ee/handing-over-infrastructure-for-chinas-strategic-objectives-arctic-connect-and-the-digital-silk-road-in-the-arctic/



The collaborative relationships in which countries engaged in the Arctic and their commercial representatives participate – Dempster Link, Arctic Connect, Globe-X, and the like - are clearly shaped by conditions unique to the local environment. However, the form these relationships eventually take is determined as much by strategic considerations that are aligned with national interests as they are by broader international agreements to which these countries are signatories. Using these dimensions as guides, a number of distinct strategies can be discerned that form the basis for categories according to which countries operating in the Arctic can be grouped: Recent Arrivals, Old Hands, Global Citizens.[32]

1. Recent Arrivals

Countries classified as Recent Arrivals are, as the name implies, those that have become active in the Arctic Region only in the more recent past. These Recent Arrivals exhibit a number of common traits and characteristics:

- Typically don't have direct territorial claims in the Arctic.
- Tend to adhere to rules and defined by organizations such as the Arctic Council.
- Demonstrate a relatively high level of respect for other countries.
- Contribute to existing programs in areas where they have some expertise but are otherwise content to observe initiatives undertaken by others.
- View collaboration as a way to gain experience and acquire information that can eventually be applied to achieve longer-term goals.

Countries that fit this profile include: Singapore, India, and (to a lesser extent) China.

Case: China signals its ambitions in the Arctic by presenting itself as a "near Arctic" country despite the fact that a distance of more than 2,000 miles separates it from the

[32] These categories are not mutually exclusive and relatively malleable. Any given country can occupy more than one category or shift from one category to the other as time goes on.

Arctic Region. Compounding China's geographic disadvantage is its lack of experience, a consequence of the country's relatively short tenure in the Region. In response to these challenges and limitations, China has adopted a strategy in the Arctic that specifies initially contributing to infrastructure projects, an area where the country has significant experience, and then working out more expansive strategic programs and policies in the longer term. In support of this strategy, China has opted for multilateral approaches to collaboration in the short term that are best-suited to its Observer status in the Arctic Council. The strategic framework China has developed to guide its activities in the Arctic stands in marked contrast to its preference elsewhere in the world for bilateral engagements that enable it to leverage its economic heft to best advantage.[33]

2. Old Hands

A country classified as an Old Hand typically asserts a claim to territory in the Arctic and possesses deep experience in the Region acquired through a long history of engagement. An Old Hand's drivers for collaboration include:

- Gain access to resources that can increase revenues.
- Enhance national image (relative to the environment, the climate, etc) for both national and international audiences.
- Fulfill national and, in some instances, legal obligations and commitments (to climate accords, indigenous peoples, Arctic Council "Rules of Procedure" etc.).
- Maintain engagement with important developments and stay abreast of key issues.

The Old Hands can be further divided between "**Big Hands**" and "**Small Hands"**.
Big Hands - Countries that are physically large (i.e. large in area) and wield significant commercial, economic, and military power (e.g. Russia and the United States).

Small Hands - Countries that are physically small (e.g. Iceland and Denmark)[34] and, as a consequence of their size, tend to cultivate and maintain collaborative relations with larger countries as a way of sustaining engagement and guaranteeing themselves a position in key regional developments.

3. Global Citizens

Global Citizens favor a strategy that privileges serving the greater good over achieving clearly-defined geopolitical objectives.[35] Accordingly, Global Citizens are typically active contributors to scientific domains and the initiatives they engage in to deliver those contributions – experiments, expeditions, exploration, etc. - are largely research-driven. Environmental protection is a prime example. However, it should be noted that the motivation of the Global Citizens to engage in initiatives to protect the Arctic environment does have a utilitarian side. Changes in the Arctic environment that are as dramatic as melting ice floes and as subtle as changing bird migration paths have

[33] Wishnick, Elizabeth, "China's interests and goals in the Arctic: Implications for the United States", The Strategic Studies Institute of the United States Army War College, The Letort Papers, United States Army War College Press, Carlisle, PA, March, 2017

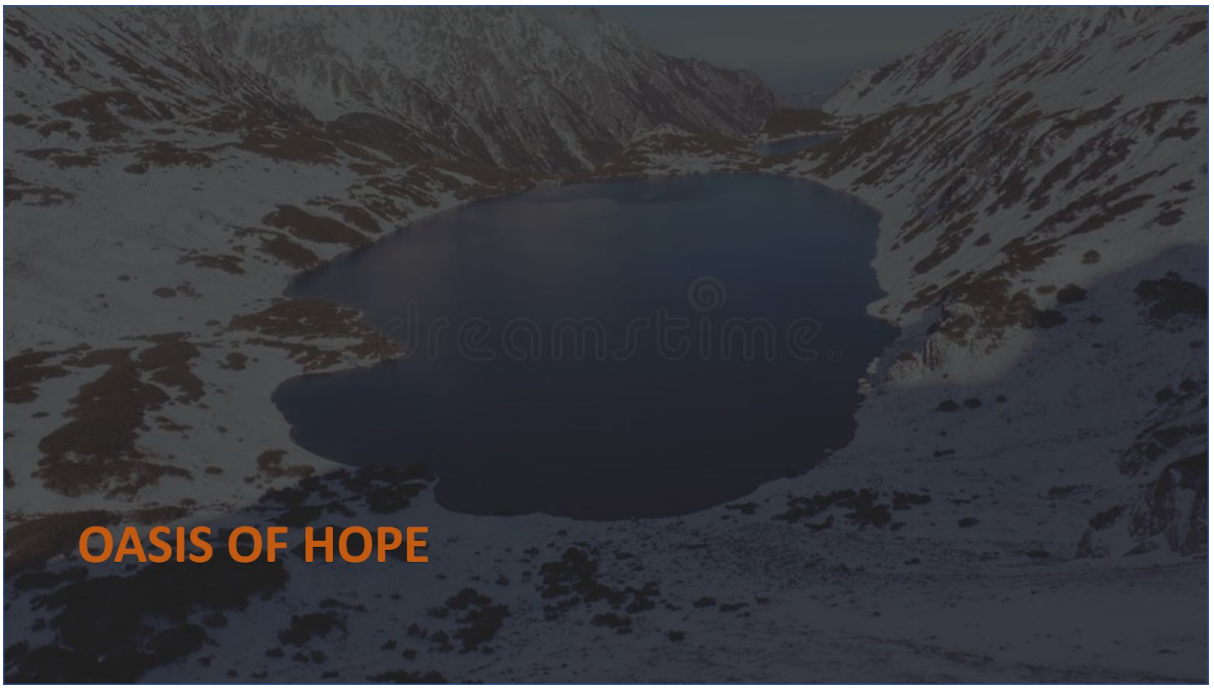
[34] Greenland comes into consideration, but in the end it is a large territory that is sparsely settled.

[35] This is perhaps because Global Citizens (cf. Germany, Switzerland) lack the military or territorial presence necessary to support a more muscular strategy.

economic and social repercussions for any country that are clear and incontrovertible.

As much as they are eager to take advantage of the opportunities for commercial gain and logistic efficiencies that changes in the Arctic climate is creating, most of the countries involved in the Arctic are concerned about the toll that changes in the Arctic's climate will take on their domestic environments and the implications this will have for their ability to sustain economic growth.

So this is a motivation for countries to make the environment and sustainability in the Arctic a strategic priority and suggests why they are willing to participate in collaborative initiatives like MOSAIC and join multinational working groups that address environmental issues.



Regardless of the goals they promote in policy papers, strategy documents, and media reports, countries active in the Arctic all have a vested interest in taking advantage of resources that are becoming more accessible as the region's climate changes and more valuable. According to some estimates, energy resources and fisheries in the Arctic that currently generate an average of $560 million annually could increase by up to thirty-seven times in size as a result of climate-driven migration[36]. The competition these ambitions fuel has naturally become more intense as the number of countries operating in the region has grown and the stakes have increased.
Yet despite the heightened tensions that have resulted and the occasional flare-ups that are their consequence, the Arctic has, to a large extent, remained the "Zone of Peace" that Soviet leader, Mikhail Gorbachev envisioned thirty years ago. What has sustained

[36] Perez, Christian, Carlson, Allison (ed), "Arctic Competition, Part One: Resource Competition in the Arctic", Foreign Policy, October 13, 2020.

this state of harmony in the Arctic and underpinned the stability of relations that countries operating within its borders enjoy is a spirit of collaboration.

Evidence for the presence of this collaborative spirit can be found, most notably, in areas of focus such as **Indigenous Peoples**, **Environmental Protection**, and **Safety** – all domains that are naturally disposed towards collaboration. The Communications domain, whose networks and related technologies are the catalyst for the range of collaborative initiatives in which research scientists, coast guard officials and representatives of related disciplines engage, is both a reflection of an Arctic landscape that is rapidly changing and at the same time an enabler of that change.

An analysis of Arctic policy papers drafted by countries that are active in the Arctic revealed "International Cooperation" to be the second most frequently referenced indicator, just after "Scientific Cooperation" with which it is closely linked.[37] Countries active in the Arctic maintain such a consistent dedication to collaboration because it is in their best interest to do so. As example, virtually all countries with operations in the Arctic work together in studying climate change as a condition for ensuring environmental sustainability. Their active participation in these initiatives enables them to anticipate commercial opportunities, meet the requirements of broader international agreements they may have entered into, and enhance their reputations both internationally and domestically. Establishing a reputation for environmental friendliness is taking on greater importance as evidence of a commitment to social values becomes a more consequential criterion for securing the support of investors, customers, and citizens. Finally, countries and companies privilege collaboration as a mode of operation in the Arctic, quite practically, because the resources (technical, financial, etc.) needed to sustain the vast majority of initiatives in which they engage exceed what any single country can support on its own.

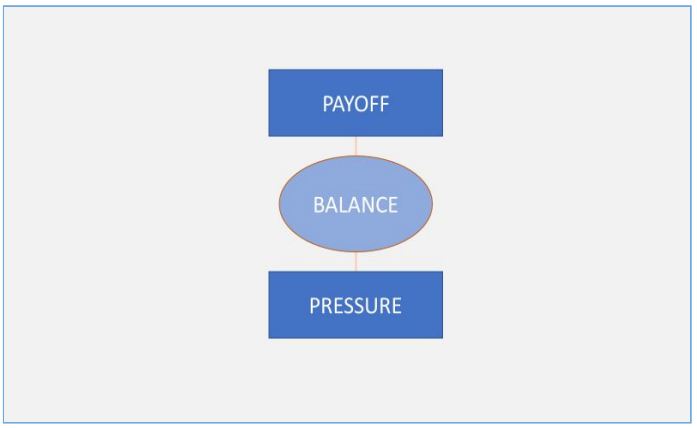
1. Model for Global Collaboration

From the case of the Arctic and the conditions that determine the engagement of countries operating in the region, we can derive a more generalized model for how countries with diverse objectives and, in some cases, conflicting interests can nevertheless recognize an incentive to collaborate and find common ground.

At its core, the model consists of three elements. **Payoff**, **Pressure Point**, **Balance**. An elaboration of these elements follows:

- **Payoff**
  The "Payoff" is a clear benefit that a country can anticipate receiving as the positive outcome from engaging in a collaborative relationship. This benefit can be tangible or intangible.
  A *tangible* benefit is typically commercial in nature. In the case of the Arctic, the tangible benefit most countries expect are the new resources and trade routes that changes in the environment are making more accessible.

[37] Heininen, Lassi, Everett, Karen, et. al. "Arctic Policies and Strategies: Analysis Synthesis, and Trends" International Institute for Applied Systems Analysis, February 2020, page 242.



An *intangible* benefit might be the potential for burnishing a country's reputation that achieving the "Payoff" holds. Such an intangible benefit, in the context of the Arctic, is the reputation enhancement that countries operating in the region enjoy from contributing to the improvement of the environment and combating climate change.

- **Pressure Point**
  In tandem with the pull that the "Payoff" exerts, the "Pressure Point" pushes a country to enter into a collaborative relationship, effectively the stick that drives a country forward towards the prospect of the carrot that the "Payoff" holds out. The **Pressure Point** is a significant challenge or threat, very often environmental in nature, that has economic and social implications for all countries involved. The resources required to address this challenge or resist the pressure it exerts exceeds what a given country has at its disposal. Climate change in the Arctic, for example, poses an existential threat to countries operating in the region, even those whose territories are quite distant, by raising sea levels to a point sufficient to submerge coastal areas where significant economic activity is concentrated.

- **Balance**
  The model's third element, the "Balance", occupies a position that lies between "Payoff" and "Pressure Point" and mediates between them. The **Balance,** at the center of the model, acts as a fulcrum that maintains an equilibrium between "Payoff" and "Pressure Point". The **Balance** usually takes the form of a neutral and non-partisan organization that defines a common goal and establishes a framework and conditions for guiding countries in developing collaborative relationships and defining objectives. It also exerts pressure where necessary and warranted.

Finally, an overarching cause or challenge that transcends any single country's national interest is an environmental condition that must be present.

2. Lessons Learned

In conclusion, there are a number of lessons to be learned from the experience of those who engage in collaborative initiatives in the Arctic and a number of elements that can be derived from the models they have evolved and generalized to form the basis for collaborative relations that can be applied more globally.

- Collaborative Spirit: A collaborative spirit is best cultivated in areas and domains that naturally lend themselves to collaboration and where those engaging in collaborative initiatives recognize an incentive for collaboration that outweighs an incentive for competition.

- Institutional Catalyst: Collaboration among countries with diverse objectives and motivations can be sustained in the presence of institutions that are non-partisan, have a clear mandate to act, and follow a set of well-defined operating principles.

- Global Initiatives-Local Impact: A foundation for collaborative relations can be established if related initiatives and strategies are anchored in broader-based global initiatives and agreements and have direct consequence for domestic social and economic conditions.

Viewed through the lens whose facets are shaped by these elements, the "Zone of Peace" the Arctic embodies comes into focus as an "Oasis of Hope", the source of lessons and models that holds out the prospect for greater and more long-lasting collaboration among enterprises, nations and regions around the world.

APPENDIX

ARCTIC COUNCIL MEMBERSHIP		
MEMBERS	**PERMANENT MEMBERS (INDIGENOUS PEOPLES)**	**OBSERVERS**
Canada	Arctic Athabaskan Council	People's Republic of China
Denmark	Aleut International Association	France
Finland	Gwich'in Council International	Germany
Iceland	Inuit Circumpolar Council	India
Norway	Russian Association of Indigenous Peoples of the North	Italy
Russia	Sammi Council	Japan
Sweden		Republic of Korea
United States		The Netherlands
		Poland
		Singapore
		Spain
		Switzerland
		United Kingdom
Source: Arctic Council website https://arctic-council.org/en/about		

ARCTIC COUNCIL "RULES OF PROCEDURE"	
1	Accepts and supports the objectives of the Arctic Council defined in the Ottawa declaration
2	Recognizes Arctic States' sovereignty, sovereign rights, and jurisdiction in the Arctic
3	Recognizes that an extensive legal framework applies to the Arctic Ocean including, notably, the Law of the Sea, and that this framework provides a solid foundation for responsible management of this ocean
4	Respects the values, interests, culture, and traditions of Arctic indigenous peoples and other Arctic inhabitants
5	Has demonstrated a political willingness as well as financial ability to contribute to the work of the Permanent Participants and other Arctic indigenous peoples;
6	Has demonstrated their Arctic interests and expertise relevant to the work of the Arctic Council
7	Has demonstrated a concrete interest and ability to support the work of the Arctic Council, including through partnerships with member states and Permanent Participants bringing Arctic concerns to global decision-making bodies

THE ARCTIC ATHABASKAN COUNCIL

- One of six indigenous organizations that are Permanent Members of the Arctic Council.·
- Represents the interests of a 30,000 member community who speak 23 distinct languages
- The distance separating the Athabaskan settlements that are furthest from each other is greater than that between New York and Los Angeles.