ACTIVITY REPORT

NAADSN
North American and Arctic Defence and Security Network

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Advancing Collaboration in Canada- US Arctic Regional Security (ACCUSARS) III

Workshop Report

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Key Themes

- Climate change, technological advancements, economic opportunities, geopolitical competition, and rising international interest are making the Arctic more strategically important than ever before. It is important to critically examine what is required to support continental defence in the face of the full range of new and evolving threats.
- Russia's full-scale invasion of Ukraine in February underscores the importance of Arctic Allies working together in partnership to maintain the Arctic as a region of low-tension and to preserve the rules-based international order.
- The North American Arctic Allies are currently making major investments to enhance their Arctic capabilities, which reinforces their sovereignty and protects their sovereign rights in the region. Priorities include strengthening situational awareness; modernizing command and control systems; enhancing defensive capabilities, including infrastructure; and advancing joint research.
- Joint exercises ensure integrated and effective defence of the continent, including the Arctic, and should incorporate both military and Whole-of-Society responses to multi-domain threats.
- Investments in strengthening both national and continental defence will further augment northern capabilities and interoperability, as well as bringing societal benefits when Indigenous Peoples, industry, communities, academia, and government work together.
- Climate change is a threat amplifier in the Arctic requiring strong North American partnerships to build resilience to its impacts and to develop innovative adaptation solutions appropriate to Arctic contexts.
- As outlined in Canada's 2017 defence white paper *Strong, Secure, Engaged*, and its 2019 Arctic and Northern Policy Framework, Canada will work to enhance cooperation with Arctic Allies and partners to strengthen domain awareness and information sharing, and will look to increase participation in multinational exercises in the region.
- Like Canada, the US seeks a collaborative approach with like-minded countries to ensure that the Arctic remains stable. The US Department of Defense, Department of the Navy, Department of the Air Force, Coast Guard, Army, and Department of Homeland Security have all released Arctic strategies since 2019, highlighting the growing strategic importance of the region for the US.
- Strengthening foreign and defence policy cooperation between Greenland, the Faroe Islands, and Denmark requires a deep and nuanced understanding of each other's perspectives.
- Russia and China are distinct competitors in the Arctic with their own interests that should not be casually conflated. Analysts should carefully consider how the impacts of the Ukraine war affect their relationship.

Introduction

The North American and Arctic Defence and Security Network (NAADSN), Nasiffik, the Ted Steven Center for Arctic Security Studies, the Center for Arctic Security and Resilience (CASR), and the Arctic Domain Awareness Center (ADAC) convened the third Advancing Collaboration in Canada-U.S. Arctic Regional Security (ACCUSARS) workshop on 24 and 25 March 2022. Held in a virtual format, the event sought to advance greater understanding of security challenges and risks affecting the North American Arctic.

This workshop built upon a series of prior events addressing North American Arctic Security, including ACCUSARS I and II held in September 2020 and March 2021 respectively, and expanded the coverage to include Greenland, our Eastern North American partner. As a third iteration of this series, ACCUSARS III focused on specific initiatives that can improve understanding and enhance collaboration between Canada, U.S., and Kingdom of Denmark/Greenlandic Arctic security and defence professionals.

Through panel presentations and breakout group activities, the workshop participants shared their professional and informed perspectives as we clarified priorities, concerns, and opportunities associated with current and anticipated challenges in the North American Arctic security environment. Notes taken during the meeting were formed into this summary report. I wish to thank the NAADSN rapporteurs – Jackson Bellamy, Nicole Covey, Joe Crowther, Nicholas Glesby, and Gabriella Gricius – who took careful notes, as well as Ryan Dean who provided a thorough summary of the strategic foresight activity and proofread the report.

Day 1: 24 March 2022

Co-hosts **Whitney Lackenbauer, Troy Bouffard,** and **Rasmus Leander Nielsen** offered brief orienting remarks to set the stage for the workshop. They explained how this event builds on the first and second ACCUSARS workshops, seeking to explore the security environment in a holistic and inclusive manner, and envisaging and contemplating possible security futures at the intersection of environment, trade, and global strategic power competition in the Arctic. While ACCUSARS II (March 2021) focused on the Western North American Arctic (Alaska, Yukon, and the Northwest Territories), this workshop looked primarily at Nunavut and Greenland in support of enhancing cooperation amongst North American security and defence professionals. The current international context makes these conversations important. Russia's further invasion of Ukraine on 24 February 2022 has upended longstanding assumptions about the international system. We are now faced with a changing and uncertain global security environment. What does that mean for the Arctic, and for discourses about the cooperative nature of the region?

Keynote Speaker

Dr. Whitney Lackenbauer, Canada Research Chair in the Study of the Canadian North and Professor in the School for the Study of Canada at Trent University, introduced the first keynote speaker, **Brigadier-General (BGen) Pascal Godbout**, Commander of Canada's Joint Task Force (North) (JTFN) based in Yellowknife. General Godbout was commissioned in the Canadian Forces as a Communications and Electronics Engineering Officer in 1995 after graduating from the Collège militaire royal de St-Jean, and has commanded teams of professionals at every stage of his career in Kingston, Afghanistan, Cold Lake, North Bay, Borden and now Yellowknife. He has also served in various staff and instructor roles, and has worked in support of NORAD operations on four separate tours of duty, culminating with his last tour in Colorado Springs as the Joint Cyber Centre Deputy Director, where he also served as one of the Deputy NORAD & USNORTHCOM Command Centre Directors. BGen Godbout's poignant remarks reflected on how Russia's brutal and illegal invasion of Ukraine had shocked the international community. This, in turn, raised questions about Arctic defence and security while reinforcing the importance of collaboration with allies and partners and understanding our respective strengths – as well as the challenges and requirements that we face. He emphasized the interconnections between Canada and the United States, and the imperative that we not take our collaboration for granted. He also highlighted variance across the Arctic, as well as the need for appropriate partnerships reflective of commonalities and differences. Greenland and Nunavut, for example, share similarities in terms of size and demographics, as well as distinct challenges associated with infrastructure.

BGen Godbout provided an overview of the JTFN area of responsibility (AOR) which covers 40% of Canada's land mass – but only 0.3% of Canada's population. He described the various constraints on Canadian Armed Forces (CAF) operations in the region, including limited infrastructure and the effects of climate change, as well as growing international interest and an evolving geopolitical environment. Canadian Rangers comprise the bulk of CAF personnel in the North, representing a "strategic asset" and serving as key enablers for military operations. JTFN is responsible for leading CAF continental operations in the North with four main roles: providing a visible and persistent CAF presence; surveillance and control; supporting Northern peoples; and contributing to Whole of Government efforts in the region. He emphasized that strong partnerships are critical to success.

The CAF maintains a continuous watch of the AOR to maintain full awareness of security and defence conditions in the North. JTFN also conducts a series of CAF northern operations and exercises each year with mission partners from the federal and territorial governments, Indigenous governments and northern communities, and defence forces from other countries. Operation NANOOK, the CAF's signature northern operation, takes place year-round to exercise the defence and security of Canada's northern regions, improve the CAF's ability to operate in a challenging environment requiring unique skillsets, respond effectively to safety and security issues in the North, and improve coordination with its northern partners. BGen Godbout explained growing challenges related to climate change, food security, and humanitarian and environmental disasters. Limited infrastructure and capacity at the local level challenge emergency response and require that we look holistically at community resilience. Concerns associated with research, tourism, and economic development also require attentiveness and action, from undeclared activities by foreign actors, to resource depletion, cyberattacks, and misinformation.

The changing geopolitical environment is marked by our adversaries' new capabilities. This requires enhanced all-domain situational awareness, as reflected in renewed efforts to modernize North American defence. BGen Godbout noted that *Strong, Secure, Engaged* provides a strong foundation to address these interwoven issues, and emphasized that we need forums to increase our mutual awareness and bolster our partnerships.

A vibrant question and answer period followed, touching on various themes. One commentator highlighted that many of these problems are not "new," but that the Canadian population cannot take security and defence for granted – even if we do not need to worry about ninety thousand Russian troops invading us as had happened in Ukraine. There is a growing realization that Canada's three oceans do not protect the country (and its neighbours) from our competitors' strategic weapons (mainly in the aerospace domain). Although a large land force invasion is highly unlikely, the CAF still needs to demonstrate its capacity to operate in all Canadian territory in any context – and, in so doing, to test and refine its capabilities and show its ability to operate anywhere in the world. Other discussions focused on priorities for capability development: increasing our agility to operate across our territory by establishing key hubs to stage troops and equipment, and ensuring that we have the right mobility assets to operate reliably at any time; expanding redundancy in dual-use infrastructure; and augmenting whole of government cooperation to address pressing security issues in the region. Another question asked how we might limit escalation in the current context, given that what happens in the Arctic will affect the entire world. Participants suggested avoiding unduly alarmist rhetoric, undertaking realistic assessments of threats and risks in the North, and acknowledging how international law correlates to states' interests in the region.

Panel 1: Developing Arctic Security Risks

Troy Bouffard, the Director of the Center for Arctic Security and Resilience (CASR) and a full-time Instructor with the Homeland Security and Emergency Management Program at the University of Alaska Fairbanks, moderated the first panel on "Developing Arctic Security Risks." **Major General Brian Eifler** assumed command of United States Army Alaska (USARAK) on 21 July 2021, and serves as Deputy Commander, United States Alaskan Command (ALCOM), Joint Base Elmendorf-Richardson, Alaska. MG Eifler's awards and decorations include the Defense Superior Service Medal, four Legions of Merit, three Bronze Star Medals, seven Meritorious Service Medals, Army Commendation Medal for Valor, four Army Commendations, three Army Achievement Medals, Humanitarian Assistance Medal, and the Outstanding Volunteer Service Medal. **Brig. Gen. Edward L. "Hertz" Vaughan** serves as Deputy Director for Partnering, Security Cooperation, Policy and Space Capabilities, U.S. European Command in Stuttgart, Germany. He leads engagements, activities, and investments that enhance security relationships in Europe, and serves as acting co-chair for the Arctic Security Forces Roundtable. He previously served as Deputy Joint Force Air Component Commander for Canada, and Deputy Commander, Canadian NORAD Region. His awards and decorations include the Defense Superior Service Medal, the Legion of Merit with two oak leaf clusters, the Defense Meritorious Service Medal, the Meritorious Service Medal with two oak leaf clusters, the Aerial Achievement Medal with two oak leaf clusters, the Joint Service Commendation Medal, the Air and Space Commendation Medal with oak leaf cluster, and the Air and Space Outstanding Unit Award with "V" device and three oak leaf clusters. **Captain (Navy) Jacob French** is Deputy Commander Joint Task Force North in Yellowknife, NT. He joined the Canadian Forces in 1994 as a Maritime Surface/SubSurface Officer, attended Dalhousie University (BSc Earth Sciences Honours) under the Regular Officer Training Plan, was commissioned in 1998, has completed several sea postings and deployment, and holds a Masters of Defence Studies from Australia National University as a graduate of the Australia Command and Staff Course in 2013.

MG Eifler provided an overview of how he was leading the transformation of the US Army in Alaska (USARAK) into actual Arctic units. He recounted the story of former Canadian Chief of the Defence Staff General Walter Natynczyk quipping that if the Russians attacked Canada in the Far North, his first response would be to rescue them. This affirmed that the Northern part of Canada is untenable for an enemy to launch a ground attack. Over the last several years, however, Arctic security is changing owing to climate-induced environmental changes, greater access, and potential adversaries acting in an unconscionable way. The War in Ukraine is an indicator of future miscalculations. Are we going to escalate, or can we collaborate in the Arctic? In an increasingly tenuous international situation, the Arctic is a vital but contested area containing natural resources and key shipping channels, a platform for projecting global power, and a possible avenue of attack in conflict. The US military must be capable of escalating in the face of Russian belligerence or reinforcing good behavior.

USARAK provides trained and ready forces in support of worldwide unified land operations and supports United States Indo-Pacific Command (USINDOPACOM) Theater Security Cooperation Program in order to contribute to

a stable and secure operational environment. On order, executes Joint Force Land Component Command functions in support of Homeland Defense and Defense Support of Civil Authorities in Alaska. Eifler explained that there are 12,000 soldiers in Alaska to support Alaska Command for disaster response, homeland defense and civil emergencies. USINDOPACOM (which has little interest in the Arctic) has tasked USARAK to be the Arctic experts as well – another of the multiple hats that Eifler wears working for an admiral focused on force projection into the Indo-Pacific and the US Northern Command (USNORTHCOM) commander focused on defence of the homeland. The latter requires improving Arctic capabilities by training and equipping forces to operate in extreme cold, high altitude and latitude, and variable weather conditions.

MG Eifler explained that the US Army seeks to regain its Arctic ethos. Its revitalized Arctic Strategy articulates the plan to build an Army capable of multi-domain operations and regaining Arctic dominance. This is a shift in direction after two decades in which the US Army (and its Canadian counterpart) have focused on fighting wars in Afghanistan and Iraq, which left little space to focus on the Arctic. Generating, training, organizing, and equipping the Army to partner with Arctic allies and secure the national interests will entail significant changes in USARAK's organization and structure. This will also build upon the "great partnership with Canada," who represent the United States' "number one ally." Competing in the Arctic and globally involves partnering with allied Arctic nations who are familiar with these demanding operating environments. Improving readiness through training exercises also provides "great opportunities to train collaboratively," with Canadians sharing valuable lessons during Exercise ARCTIC EDGE. Wargaming also helps to discern the equipment needed to ensure materiel readiness of Arctic-capable units to conduct extended Arctic operations across various times of the year. The US Army had made "huge steps forward" that it had not taken "in many years," despite constrained resources. "Being capable is a deterrent," Eifler emphasized, and "adversaries don't like when we're united and together, so we need to focus on that."

Source: Arctic Edge 2020.

Brig. Gen. Vaughan began by noting his polar operational experience flying in Greenland for ten years and in Antarctica. He emphasized how the Arctic environment sets the region apart, making operations harder and the need to work with allies and partners particularly important. Holding the allies together in the face of adversaries (such as Russia) and other military and economic competitors is crucial. He noted that the Arctic is complex both environmentally

and in terms of international relations. While the Arctic allies cannot talk about security in the Arctic without taking into account Russian perspectives, he anticipated that direct discussions with Russia will be increasingly challenging given Putin's behavior. The geostrategic landscape is changing owing to climate change and increased maritime access, raising difficult questions about fisheries and freedom of navigation. Even if the Northwest Passage is not open to commercial transshipping, he noted, there are challenges associated with cruise ships and other vessels operating in North American Arctic waters.

Vaughan also highlighted the importance of the different geographic combatant commands into which the US has "taken the map of world and neatly divided it." The Arctic is a huge area with segments in three geographic combatant commands' areas of responsibility: U.S. Northern Command (USNORTHCOM); U.S. European Command (USEUCOM); and U.S. Indo-Pacific Command (USINDOPACOM). While convenient from a budgetary standpoint, he explained that this structure is "inconvenient from relationship standpoints" – with the seam running between Greenland (EUCOM) and Canada (NORTHCOM) serving as a prime example.

Vaughan also emphasized the importance of the Arctic Security Forces Roundtable (ASFR), established by Norway and the United States in 2010 - the only military forum to discuss hard security, military capabilities and security architecture within the Arctic region. This flag-level, military-to-military forum promotes regional understanding and enhance multilateral security cooperation among military forces that operate in and around the Arctic region, while also supporting nations that promote peaceful development of the Arctic region and adhere to international-rules-based order. Eleven nations participate: Canada, Denmark, Finland, France, Germany, Iceland, the Netherlands, Norway, Sweden, the United Kingdom and the United States. Russia was originally a member of ASFR but has not participated since 2014 as a result of sanctions and the suspension of military-to-military contact after its initial invasion of Ukraine. The May 2022 gathering would be held in Fairbanks, Alaska, hosted by USNORTHCOM in conjunction with USEUCOM and the Norwegian Defense Staff under the banner of "Security Through Partnerships: Stronger Together." Discussions would include defence and security issues, the strategic importance of the Arctic, Arctic-focused exercises and information sharing to the impact of climate change on military operations, and the asymmetric advantage gained through strong alliances and partnerships built on the foundation of shared values, experience and vision.

CAPT(N) French offered a Canadian Joint Task Force (North) (JTFN) perspective on security challenges and risks in Arctic. He first sailed to the Eastern Canadian Arctic in 2007 on Operation NANOOK – Canada's signature annual sovereignty operation until 2018, when it was rebranded as a series of comprehensive, joint, interagency and multinational activities designed to exercise the defence of Canada and secure its northern region. Three

years later, he led the international task force on NANOOK, an activity that demonstrated the value of international collaboration, increased practical capability to respond to emergencies in the Arctic, and build strategic credibility. While previous NANOOK operations had focused on "sovereignty patrols" for largely domestic Canadian audiences, the 2010 iteration projected international messaging. Danish Arctic Command (JACO) - the joint command that handles the tasks of the Danish Defence in and around Greenland and the Faroe Islands – was actively involved in improving interoperability, capability development, and training with JTFN in NANOOK 2022. French sees the close operational link between JTFN, ALCOM, and JACO, who all share a similar assessment of risks and challenges in the Eastern Arctic, and pushed for greater information sharing between these partners.

HDMS *Vædderen*, HMCS *Montréal*, and USS *Porter* proceed abreast during Operation Nanook in 2010. *Source:* Combat Camera

Captain French then turned to key emerging security risks associated with a more accessible Arctic. Is shipping through the Northwest Passage as an international waterway a serious risk? Is the trend towards more resource extraction in the Arctic best categorized as a regulatory challenge or a security risk? What about heightened non-Arctic state interest in the region? Whatever the assessment, French insisted that emerging challenges require a stronger presence from security partners and the need for improved surveillance and enhanced management practices. We need to share as many lessons as we can, he noted, to identify and address challenges. Tabletop exercises held in Nunavut, which played out a major maritime disaster and what it would entail to bring evacuees into a community, indicate the valuable insights to managing risks that can be gleaned from in-depth combined joint operations scenarios.

Are we prepared, with the right joint and combined operations, to improve situational awareness? Captain French highlighted Op NANOOK-NUNAKPUT 2021, which took place in the Nunavut communities of Resolute Bay, Pond Inlet, Grise Fiord, and Arctic Bay, as an important example of community interactions. During the operation, HMCS *Harry DeWolf* conducted its initial Arctic voyage, transiting the Northwest Passage and crossing the Arctic circle via Canada's internal waterways. But the maritime presence was not just the ship at sea, French explained, but persistent presence of ship through these waters, the sharing of information with stakeholders and rightsholders, bringing Canadian Rangers onto the ship, and taking time to listen and learn from Northern communities. Interactions with Rangers and other community members increased CAF personnel's

understanding of the regional human security environment. It is incumbent on Northern military planners that the capabilities we project have a human connection, French explained, not just in terms of public relations but also in defining the problems we are trying to solve.

Are we clear on the types of threats in all domains - traditional, non-traditional, hybrid – in the region? Captain French noted growing Canadian political and military interest in the region since Russia's further invasion of Ukraine in February, but also observed misinformation about the level of foreign activity or capability in the region that feeds "paranoia." He highlighted the Arctic Security Working Group: a forum for the federal and territorial governments to discuss and exchange knowledge on security issues of importance to Canada's North that has met since 1999. This is a valuable instrument for participants to enhance their mutual understanding and clarify priorities with one another. It has also heightened awareness of risks not associated with traditional military domains (such as information and cyber threats, food security, and energy security) that otherwise might not have been shared.

Captain French also noted how Russia's further invasion of Ukraine had awakened more people to the spillover effects of heightened Great Power Competition and deteriorating international relations on the Arctic region. This is not a new situation, he emphasized, but it makes the need to clearly articulate risks all the more poignant. Canadian Chief of the Defence Staff General Wayne Eyre explained that the rising concern with respect to Russia in the Arctic was not related to a Russian invasion of the Canadian Arctic (assessed as low risk) but the need for Canada and its allies to know what Russia is doing so that we can respond appropriately. We need to be able to manage increasingly high levels of complexity and uncertainty, and previous conflict solutions are insufficient – as French noted, "we cannot simply cut and paste lessons from previous experiences." Increasingly competitive global and regional dynamics necessitate cooperative frameworks amongst like-minded states and partners.

A vigorous question and answer period ensued. The first discussion revolved around how we deal with Russia *ahead* of a crisis – a challenge with a country that is increasingly isolating itself – when Arctic cooperative mechanisms are under stress. Panelists offered various reflections. We must be clear, in a phase of competition, to distinguish between Russia's legitimate and illegitimate activities. What activities are military and which are civilian? What could be recharacterized or weaponized? In planning and providing military advice, we need to discern what is "normal." Repositioning forces in their Arctic zone does not mean that Russia is planning an Arctic invasion, for example – although we must be conscious of such movements. In the face of uncertainty, we must maintain our resolve and unity of effort as allies. We cannot be slow to respond, and we might need to do more proactively to prevent the erosion of cooperation or our exploitation for lack of togetherness. We must be prepared and responsive, not "piecemeal" in our actions. Deterrence is front and center – and we need to learn lessons from Ukraine. Showing strength and presence in the Arctic is a form of deterrence. One panelist also noted that the "science community rises above the fray of politics," and that "bilateral science cooperation

will eventually need to be clicked back on" so it is important to anticipate that this and Indigenous relationships that transcend state boundaries will be the likely starting point for bilateral re-engagement.

What do we need to think about cyber or information domains? The panelists explained that multi-domain capabilities are essential everywhere. Multi-domain cyber and information electronic warfare, as well as non-kinetic activities, "are absolutely going to come into play in any future form of conflict." Indeed, Russia was currently engaged in an active information campaign in Europe – and, as the lead up to the First World War demonstrated, "little things" can spiral out of control. In the lead up to its full-scale invasion of Ukraine, Russia was constantly accusing the West of militarizing the Arctic when Russia was doing the same in its territory (which they spun as a defensive response to West). By painting the West as aggressively "militarizing" and escalating in the region, Russia made investments that enable them to force project into the North. Russia is skilled at operating in the information domain, which is like a "chess match" in shifting strategies based upon an adversary's moves. In the future, trustworthy, actionable intelligence will be shared with alliance partners and (in declassified formats) with the media quickly so that we can compete with Russia's quick information cycle. We must also grapple with China as a competitor in the information and influence space. Another panelist focused on the value of acting on a national rather than a regional (i.e. Arctic) level in the information domain, and ensuring that counter-messaging is well aligned and verified. How could this be better integrated into Arctic operations, and how do we measure the effectiveness of our counter-information campaigns?

What about the nuclear threat? How do we counter Russia's nuclear brinksmanship? How can we convince a rogue actor to de-escalate when it threatens to sacrifice everything to get its needs or wants met? We must discern their core intentions and desires, and we have a tremendous intelligence community across NATO to inform our efforts. From the perspective of the defence of North America, strategic avenues of approach are across Arctic. The challenge for NORAD is how to detect bombers, intercontinental ballistic missiles, cruise missiles, hypersonics, and other delivery systems and provide that information to decisionmakers at the speed of relevance. One panelist also noted that the threat of nuclear weapons does not mean that we must throw away all cooperation in the Arctic. Looking back to the Cold War, similar stresses existed and we were able to communicate with the Russians – although this would be difficult in the current context.

In their final comments, panelists also noted that a new US National Security Strategy and Defense Strategy would appear soon which identified China as the long-time pacing threat. China is already global economic power, and it has global ambitions. China thinks of warfare across 36 domains (compared to the five or six that we conceptualize in the West). When China says "near-Arctic" it means that China is a global player that is "close to everything. We've arrived. You'll have to deal with us. How do we handle that? Do we invite them in? We can't ignore it."

Panel 2: Enhanced Situational Awareness

Moderated by Dr. Whitney Lackenbauer, this segment featured four distinguished panelists. **David Beal** is currently Director NORAD Policy, a team established in late 2019 to provide policy support to NORAD and lead the development of Department of National Defence (DND) policy advice on NORAD Modernization and continental defence. David has held several other policy positions at DND, Public Safety Canada, and Immigration, Refugees and Citizenship Canada, with responsibilities for strategic analysis, policy development, and program transformation. **Dr. Andrea Charron** is an Associate Professor, Political Studies, and Director of the Centre for Defence and Security Studies at the University of Manitoba in Winnipeg. She is one of Canada's foremost experts on North American and Arctic defence, Canada-US relations, and sanctions. **Jim Landon** has been President of ATCO Frontec since 2017. He leads ATCO's Operational Support Services business which includes the partnership Nasittuq, an Inuit company, which was recently awarded the Operations and Maintenance contract for the North Warning System or NWS. He is a British Army veteran, and a proud new Canadian. **Lieutenant Colonel Brian Cox** enrolled in the CAF in 1992 and attended the Royal Military College, graduating with a Bachelor's degree in Engineering. He completed four flying tours on CF-18 Hornets, deployed in support of Op ECHO in 2000, conducted multiple NORAD missions since 9/11, and deployed in ground support operations in Afghanistan. He is currently employed at the Combined Joint Operations Command (CJOC) in Ottawa as the J5 Continental Plans officer.

Beal provided a rich overview of the Canadian approach to NORAD and continental defence. Speaking from a Canadian policy perspective, he noted that while Russia's full-scale invasion of Ukraine had not drastically changed the policy challenge, it did put "a fine point" on the problem and affirmed the need for transformation. Some challenges associated with NORAD modernization are straightforward practical ones, while others are more complex than Canada anticipated in its 2017 Defence White Paper *Strong, Secure, Engaged* (with its "unwritten chapter" on North American defence modernization). Canadian Minister of National Defense Anita Anand has promised Canadian investments into NORAD modernization soon, but Cabinet and budget confidence precluded him sharing specific details – particularly while politicians are still digesting the Russian invasion of Ukraine and its implications for the continental defence of North America.

Beal articulated two main policy drivers that are forcing Canada to rethink homeland defence and justify renewed investment in NORAD. First is global strategic competition between the great powers. China and Russia have become increasingly assertive in their respective areas and bold in their actions below the threshold of armed conflict (including cyber and information operations). The development of long-distance cruise missiles and other delivery systems for conventional weapons can enable our competitors to hold North America and risk and control the terms of escalation elsewhere in the world. This strikes at the heart of continental defence and thus our ability to uphold the larger rules-based international order. Canada and the United States will be seen as a single target set if this scenario comes to pass, and the Arctic is once again a key avenue of approach.

This puts Canada on the front lines, with Russia as the near-term threat and China the longer-term consideration. The second main policy driver are the increasing stark effects of climate change across Canada (and in the Arctic particularly). This has led to a dramatic increase in requests from civilian partners for CAF assistance in environmental disaster response. Looking ahead, Arctic infrastructure is particularly vulnerable – while essential to mount and sustain a CAF presence in the region. Although these two core challenges are different, they overlap in terms of the capabilities needed for NORAD and the CAF in the Canadian North.

The Canada-US Joint Statement on NORAD modernization in August 2021 outlined the categories of what is needed: investments in situational awareness; modernized command and control systems; capabilities to deter and, if necessary, defeat evolving aerospace threats to North America; and research, development, and innovation. Anticipating situational awareness (all-domain awareness in NORAD parlance) is the most important. This requires all-domain solutions to missile threats, including next generation over the horizon (OTH) radars with the potential to see much farther and with a smaller footprint than the North Warning System (NWS), a chain of 11 long-range and 36 short-range radar stations providing aerospace surveillance of the northern approaches to North America. It also demands a system of systems approach (air, space, underwater, cyber) that can evolve and adapt over time. While we need more sensors everywhere, Beal explained, Canada and the US still rely on the NWS and are committed to maintaining it in the interim. The CAF is also committed to enhancing new domain awareness by strengthen partnerships across government and with international partners. He also noted a deepening interest from Northern partners to discern new ways of sharing information. In pursuing this direction, the ability to adapt will be fundamental. This requires more attentiveness to drivers and underpinning enablers such as command and control (C2) and digital transformation, including software-based solutions, machine learning/artificial intelligence, more resilient communications, and open data architecture. Military capabilities to defend against threats are a last resort, and the main goal of improved situational awareness is to improve indication and increase warning time so that government decision-makers can discern appropriate measures.

Canada also needs to make a "generational investment" in military capabilities to support NORAD and the full range of homeland defence missions in case deterrence fails. Investments in these capabilities creates opportunity space for DND to deepen partnerships and think more creatively about how to work with territorial and Indigenous partners. The innovation space associated with agile research and development that can deliver at the speed of relevance is also exciting, with Canada boasting some key industrial strengths that it can leverage and build to contribute to NORAD and find solutions that make sense for the CAF at home. Beal emphasized that NORAD remains the best and most cost-effective option to deal with conventional threats, but that we are likely to see more bilateral coordination than in the past – with Canadian investments complementing those of the US, rather than the binational investments such as the NWS example from the 1980s – to support a system of systems approach. While *Strong, Secure, Engaged* anticipated replacing legacy systems like the NWS, the

conversation was now about responding to rapid technological change and refining solutions with various partners. The immediate Canadian focus will be on enablers, rather than the hard capabilities and physical platforms that the news media tends to fixate on. While the modernization of underlying enablers might not be as intuitive to envision, they are essential to detection, integrated deterrence, and defence in the 2020s and beyond.

Dr. Charron reflected on core assumptions about NORAD which she urged us to reconsider as we fundamentally rethink continental defence and the need for enhanced situational awareness. NORAD modernization goes beyond technological upgrades and is part of a rethink of what it means to defend North America writ large. Formally established by Canada and the US as the world's only binational military command in 1958, it is responsible for the shared monitoring and defence of North American aerospace and, since 2006 (when the two countries renewed the NORAD Agreement in perpetuity), maritime warning.

NORAD is a combatant command that is an essential part of the US Unified Command Plan. It is the independent air defence command or component twinned with USNORTHCOM – a US combatant command responsible for ballistic missile, land, and maritime defence for the continental United States, including Alaska. The two, in turn, co-exist with the other ten combatant commands. This structure enables adversaries, especially Russia, to exploit, and manipulate the numerous command seams and capability gaps amongst the regional combatant commands, as well as those between NORAD/USNORTHCOM and NATO. In this regard, particular concern has been directed towards Russia and the Greenland, Iceland, United Kingdom and Norway (GIUK-Norway) maritime gap in the North Atlantic which is a choke point and transit route to and from the European Arctic. Furthermore, USINDOPACOM shares responsibility with NORAD/USNORTHCOM for the Arctic along with USEUCOM, which is the "lead" (given that Russia is in its area of responsibility), but USNORTHCOM is the US military's Arctic capabilities' advocate and USINDOPACOM has many of the needed capabilities. These seams and capability gaps are ripe for exploitation.

Defending the North American Arctic requires cooperation with neighbouring allies. Charron suggested that NORAD might wish to reconsider its terms of reference and future agreement to include Greenland and potentially Iceland. US Air Force Base Thule is a critical hub for resupply of Canadian Forces Station Alert, demonstrating the interconnectedness of defending North America's northernmost limits. She also noted that, while the Arctic is considered the main avenue of approach, we cannot ignore southern threat vectors as well. While NORAD considers only Canada and the continental U.S., USNORTHCOM adds Mexico and nearby Caribbean islands to its area of responsibility (but does not operate in Mexican airspace). Do we need to rethink the command plan? Does Canada need more connections to USSOUTHCOM to ensure that the southern approaches to North America do not become a new back door for attack?

Dr. Charron also noted that, in theory, NORAD can warn of threat anywhere in world at any time. Accordingly, it does not have an area of responsibility, but it has global area of operations constrained by its defensive

mandate. This means that NORAD could issue a warning of sanctions-busting vessels off the coast of North Korea, or ships contaminated with Ebola, or hostile aircraft within the other other combatant commands. Is NORAD artificially limited in its warning functions and defeat options? If so, this should be rethought. Charron also noted that NORAD's three regions (Alaska, continental US, and Canada) operate within their national boundaries since 1983. Does this make sense in a North American Arctic context? NORAD's command-and-control (C2) structure, in which the commander issues air tasking orders and the three regional commands (Alaska, Canada and continental U.S.) exercise battle management, is a legacy of the past. This has been recognized, whereby NORAD, through a Vigilant Shield exercise, experimented with a Combined Forces Air Component Commander (CFACC) located within continental U.S. command in Florida. It makes more sense for the CFACC or operational commander to move to the NORAD headquarters in Colorado Springs and for the command to consider a rethink of the three NORAD regions. Do boundary constraints inhibit Joint All-Domain Command and Control (JADC2) and its end goal of domain awareness with information dominance? Furthermore, do we need additional actors "in the room"? The logic of integration at the aerospace level suggests that it should also be pursued in all other domains to create a single North American defence command with other government departments and private actors included, notwithstanding political and organizational barriers to such a step forward. Accordingly, rethinking continental defence necessitates new technologies and actors, and we should not constrain ourselves with assumptions that are a product of past practices and politics. NORAD has evolved and adapted in the past, so we must question assumptions and barriers to new ways of thinking.

Landon, as an industry partner, sought to bring an "Inuit point of view" to the conversation. He noted that situation awareness is about detection, but it is also about understanding – if you cannot understand what you are seeing, then you have a problem. We make mistakes in the West; we judge our potential opponents through Western eyes, and we assume they think like us and that they are rational actors – but it is unsettling to deal with an irrational actor armed with nuclear weapons. Thus, while previous speakers discussed *why* we need to upgrade our continental defence systems, Landon focused on *how* and *who.* In 1985, the American and Canadian authorities went to the North and installed modernized NWS radar stations without the involvement of Inuit communities, who were not in a political or economic position to contribute substantively. This has changed. Several members of the board of the Nasittuq Corporation, a partnership between ATCO Frontec (part of the ATCO Group) and the Pan Arctic Inuit Logistics Corporation (PAIL), started out as NWS technicians. They and other Inuit now see the NWS operation and maintenance contract as a "nation-building project."

As Canada pursues reconciliation and answers various calls to action, Landon said that we need to go beyond a duty to consult to embrace a "duty to act together" and substantively involve Inuit in projects beyond consultations. If we are going to spend significant amounts of money in the Arctic, he urged governments to seize the opportunity to ensure people living in North are involved in this and have "a real part to play." This will be challenging. Nonetheless, we must embrace innovation and be guided by "climate consciousness" –

making sure what we are doing in the North is not taking a bad situation and making it worse. He also noted the importance of timelines, urgency, and prioritization. We cannot act and spend all of our money at once. Procurement is hard, and we must prioritize what we are going to do first.

LCol Cox began with the observation that our North American way of seeing the world is back to before 9-11: we are again thinking outwards about external threats. He then explained the tools that the CAF has for Arctic operations. The Canadian military's permanent Arctic presence is anchored by Joint Task Force North (JTFN), with approximately 300 CAF personnel stationed with the command which is headquartered in Yellowknife (with detachments in Iqaluit and Whitehorse). CAF assets and capabilities resident within Canada's Northern territories include four CC-138 Twin Otter aircraft, Canadian Forces Station Alert, the CAF Arctic Training Centre in Resolute Bay, and 1st Canadian Ranger Patrol Group (1CRPG) with 1,800 Rangers in more than 60 communities across the North. Furthermore, the Nanisivik Naval Facility is expected to be fully operational by 2025. DND/CAF can also augment these capabilities with southern-based assets such as C-17 strategic lift aircraft, CF-18 fighters, tactical aviation, Arctic and Offshore Patrol Ships (AOPS), and the Arctic Response Company Groups (Canadian Army). DND/CAF also has a number of assets used by NORAD in the North, including the NWS and three Forward Operating Locations in Yellowknife, Inuvik, and Iqaluit (out of which CF-18s can operate to expand surveillance coverage and control airspace). He noted that this infrastructure represents for would-be attackers, and that Canada's Air Defence Identification Zone (CADIZ) is not fully supported by the NWS radars – a gap that should be filled.

In terms of the threat environment, Cox pointed to various Arctic bases in Russia, which provides a chain of military presence and anti-access aerial denial (A2AD) systems that can defend their locations. He also notes anti-missile systems in the Bering Sea region , as well as land-based capabilities controlling northern sea route. In terms of CAF tactics, he highlighted the recent deployment of AOPS boasting all-domain capabilities and providing a presence in the North that "has not been seen for several years." He projects regular deployments in the Arctic in the future, as well as ongoing activities by Ranger patrols throughout the region (which he described as a significant domestic capability that enhances presence in the North and provides valuable situational awareness). He explained that the CAF maintain the ability to operate effectively in the North through annual operations. Operation NANOOK, the CAF's signature Arctic training operation, reinforces the CAF as a key partner and expert in Arctic safety, security, and defence and ensures a more persistent presence in the Arctic. The CAF also carries out operations focused on resupply, maintenance, and surveillance in the North such as Operation BOXTOP supplying CFS Alert; Operation LENTUS support to provincial and territorial authorities to respond quickly to natural disasters; and cold-weather exercises to build force capabilities in the challenging Northern environment. To conclude, he highlighted the importance of NORAD and the NORAD-USNORTHCOM joint operations center for linking Canadian and American partners in continental defence.

U.S. Northern Command Joint Operations Center. Photo by: Navy Petty Officer 1st Class Shane Wallenda

The first part of the question and discussion period focused on whether *Strong, Secure, Engaged* provided a sufficient foundation given current geopolitical changes, or whether Canada needed fundamentally revise its strategy. One panelist noted that Canada's defence policies usually say very similar things, and perhaps it was time to generate more specific strategies tailored to particular domains or regions. Having a clear Canadian foreign policy white paper would also guide the development of targeted strategies. Another panelist suggested that *Strong, Secure, Engaged* and Canada's Arctic and Northern Policy Framework provided sufficient strategic "cover" for investments in North American and Arctic defence, but specific plans "one level down" remain to be developed – with the US concept of "integrated deterrence" offering a useful framework to tie efforts together. The so-called "unwritten chapter" had proven more weighty and complex than expected, and (as one panelist put it) "leaves too much to the imagination." Whole of government engagement had started, and panelists hoped that policy efforts would ensure agility and creativity in implementation processes – particularly in the face of constantly evolving threats.

How could work with allies help to address these problems? "One thing that costs nothing is NATO solidarity," one panelist noted, but this could "melt away very quickly" if political and strategic focus shift. Arctic security was beyond the capacity of any one country to manage, and opportunities exist to better coordinate training and exercising, share information, and improve integration amongst allies. One panelist also highlighted the importance of informing and educating one another to heighten awareness about distinct realities in the different sub-regions of the Arctic. Norway's High North represents a very different strategic and operating environment than the Canadian High Arctic, for example. Nonetheless, we need to be able to accept help and assistance from partners. One panelist also suggested that Canadians do not talk about enough about Antarctica and the new partners associated with engagement in that region.

Strategic Foresight Activity

Great Power Competition: Regional Implications for the Eastern North American Arctic

Summary by Ryan Dean

The Strategic Foresight Activity (SFA) examined the regional implications of great power competition for the eastern portion of the North American Arctic to anticipate future affects. Participants were encouraged to think about concepts of cooperation and competition in the Arctic, and how the renewed Russian invasion of Ukraine had shifted the region from the former to the latter. Many forms of regional cooperation have been suspended, the main example being the "pausing" of the Arctic Council and the notion of pending "modalities" for the forum to resume its normal operations. Participants were reminded that elements of cooperation included effective communication, openness and trust, defining conflicting interests as a mutual problem, and coordination of efforts to achieve common goals – ultimately the mutual benefit of absolute gains. By contrast, characteristics or competition included impaired communication, reduced confidence in others, and the inability to work towards common goals – the prioritization of relative gains.

The SFA asked participants to think about the conditions required for cooperation in the Arctic and/or a healthy competition between Arctic states. What does a desirable end state look like? The SFA aimed for participants to consider this in six-month and two-year timeframes. Participants were broken into five groups, with each group focusing on one of the five sectors of security as articulated by the "Copenhagen School": the military sector which is concerned about relationships of forceful coercion; the political sector oriented around relationships of authority; the economic sector focused on relationships of trade, production, and finance (particularly access to strategic resources and industries and any activities with linkages to military capability and socio-political stability); the environmental sector relationship between human activity and the biosphere; and the societal sector and its prioritization of collectively identities (communities) and how individuals identify themselves as belonging to communities and their acceptance by others.

The Five Sectors of Security

Sector of Security	Referent Object to be Defended
Military	Territorial Integrity of the State
Political	Sovereignty (autonomy) of the State
Economic	Economic Growth and Stability
Societal	Collective Identities of Citizens
Environment	Pollution / Climate Change

Source: Barry Buzan, Ole Wæver, and Jaap de Wilde, *Security: A New Framework for Analysis* (Boulder, Colorado: Lynne Rienner Publishers, 1998).

Groups were asked to push aside uncertainty and make bold prognostications of the future, considering whether the Arctic would see renewed cooperation or entrenched competition. They were to consider the desired end state of their sector and the necessary preconditions to get there. The goal of the SFA was to foresee what would be lost if the "pause" on Arctic relations continues, sanctions on Russia persist, and international tensions continue to escalate.

Environmental Security

Group 1 was moderated by Troy Bouffard of the Center for Arctic Security and Resilience (CASR) at the University of Alaska Fairbanks. Noting the "pausing" of the Arctic Council, the group quickly turned to the Arctic Coast Guard Forum (ACGF), a complimentary forum aligned with the Arctic Council chairing cycle. The ACGF was also paused but functional cooperation between the coast guards of the Arctic states continues. The group noted that the capabilities of the coast guards are stretched and collective action through the ACGF helped to overcome this to a degree. Without collaboration, incidents in the Arctic could increase, collective responses to pollution will suffer, and exercises will stop. Arctic states need to be able to "lean on each other" when large multi-domain emergencies occur. It was agreed that there was a real practical need to try to hold this crucial forum together.

It was noted that collaborative responses and exercises for pollution response had been growing towards actual solutions for major accidents. Participants noted that Russian border service sailors in the Arctic were there to "save lives." Below the political level you have people whom are warm and friendly and there for altruistic reasons. Damage had already been done at the political level, however. Participants highlighted that efforts to combat black carbon in the Arctic were delayed due to Russia's annexation of Crimea. Such measures could otherwise have been in the Polar Code. The hope was there for renewed cooperation and the group argued that some avenue for cooperation should be kept open if somehow possible.

Discussion shifted to the topic of environmental protection and how efforts could be harmed by pausing cooperation with Russia in the Arctic. The role of coast guards in environmental protection was noted, as was possible future damage to Arctic fisheries. Offshore mining was very new but emerging exploration could be affected. The tourism market (particularly cruises) in the Arctic would have to adapt to changes in regard to risk management without Russia. The group noted that the cruise industry in the Arctic was in poor shape and likely would not be viable in the near future. They also noted that chartered ships could run up into Arctic waters during the summer and, if barred from Russia, could end up in other waters like Svalbard or Northern Canada were the charting is poor. These chartered ships will invariable elevate risks to the environment.

The group looked at gaps in private industry as a whole that could threaten environmental security of the Arctic. Discussion noted that the prohibition on Russian ships would complicate ventures like the Baffinland Iron Mine which used many ice-strengthened ships. The breakdown in cooperation means that these ships and their experienced crews would no longer be available for hire, leading to the possibility of new ships with new crews

getting into trouble. It was also noted that the Arctic shipping season was just about to start. As a participant noted, "anything that has rush has risk."

Discussion turned to the communications gap due to the lack of transpolar satellites and the strange effects of the magnetic pole. Efforts to put new satellites into these special orbits raised the potential for environmental damage. It was noted that there had been complaints from indigenous communities including in Canada were spent rocket motors had been dumped into Arctic waters. This was a concern due to their increased dependency on the environment for food security, plus the possibility that the spent rockets would not necessary land where intended.

The group turned to the topic of heavy fuel oil and its use in the Arctic by shipping. Discussants noted that it would be tough for Russia to follow up on any commitment to convert their fleet to alternative, less polluting fuels given the situation they had placed themselves in. The group worried that many national climate change mitigation targets were going to be "torn apart" due to the economic implications of the Ukraine war. The group was unsure as to how the other Arctic states could help Russia out in reducing its heavy fuel oil footprint in the way that they had hoped. The group feared this could be the great economic security cost of the Russian invasion of Ukraine: climate change mitigation targets might be destroyed.

The group turned to how environmental security could suffer due to the disruption of scientific cooperation across the pole. It was noted that Russia had shared its icebreaker fleet for scientific purposes but that was now gone – what other gaps existed? There was concern about long running science projects being vulnerable to even short interruptions, resulting in huge consequences. It was noted that modelling data was hard with a "gap year" in the data. Other participants were not as worried about science being hit. It was noted that a lot of scientific research is conducted in national pods, with different countries doing different things on their own ships and then combining their collective data later. Ultimately, scientific collection would continue despite the disruption of sharing data with or from Russia.

The group noted that scientific cooperation tends to carry on quietly. The group noted this happened after Russia's initial invasion of Crimea. However, social media has become a major factor since then – it is almost impossible to keep things "under the radar." Participants observed that there continued to be a diplomatic connection for special circumstances about the sharing of data, with the US State Department always trying to leave some form of back channel way of communicating. A scientific community parallel was discussed, as was resistance to the idea. Even if scientists could continue to share important environmental data on climate change with their Russian colleagues, for example, this would be perceived as bad.

Military Security

Group 2 examined the military sector of security under the moderation of Dr. Kari Roberts of Mount Royal University. She asked: what is "Arctic" about recent developments in Ukraine? Participants began by considering the "pausing" of the Arctic Coast Guard Forum (chaired by Russian from 2021-23) and how American, Canadian, and Danish participants were reacting to their Russian counterparts. Denmark participates through its Navy and it was noted that the United States Coast Guard (USCG) was different from the Canadian Coast Guard (CCG) in that it operated within the military realm, bringing the Forum under the umbrella of this sector of security. American participants emphasized that they shared a common maritime border with Russia, and that the planning required to maintain this border had been paused. The broader implication is that the US has spent a lot of time keeping the channels open to Russia and is uncertain about the long-term implications of the pausing of this relationship.

The group noted that deterrence theory and compliance theory all suggest that you need open channels with Russia. There was concern that the world's reaction to Russia was not entirely appropriate. Discussants understood that the world was expressing outrage, but diplomacy is meant for times like this. The group asked for any metrics about the political threshold to resume Arctic Council cooperation with Russia but no member had heard of anything as of yet, which was worrying. Turning to lines of communication, it was noted that the Arctic Coast Guard Forum works because it includes all of the Arctic states. There were opportunities to bring Russia back to the Military Security Forces Roundtable after its first 2014 invasion of Ukraine but that participation would have been very specific and limited so Russia cannot bring other factors into the regional discussion. It was acknowledged that keeping the lines of communication open with Russia in the Arctic was important.

What needs to happen in order to see regional cooperation resume? The group was adamant that Russian regime change was needed to restore the Arctic to pre-2014 levels of cooperation. Russia now had no military relationship with its Arctic neighbours and relations had shifted from "trust" to the old Reagan mantra of "trust but verify." It was noted that there is nothing but hatred between Ukraine and Russia. The negotiations and conversations expected between countries with a shared border are not happening. The lack of trust between these two countries was at the point where they do not even engage. However, participants were adamant that the Russian invasion of Ukraine had to immediately stop and its forces withdraw. It was noted that Ukrainians were mounting a successful defence of their country and exposing weaknesses in the Russian military. Given that there was not much of a Russian army left, and the air force and navy were on a very limited budget, could Putin even use his armed forces in the Arctic? There was concern he might try showing his continued relevancy by going all in in one theatre, which may be the Arctic.

It was pointed out that Russia had essentially two different militaries: its conventional forces in Ukraine and its strategic forces largely based in the Arctic. These nuclear forces were distinct within the Russian military.

Similarly, the Russian air force was not blocked by the Arctic environment and could operate across the region. Participants were adamant that these forces had to be deterred, including the capability to defeat them if used.

Canada, Denmark, and the US are backing away from engagement with Russia, but participants were adamant that now is the time to maintain critical exercises between ourselves and our other allies. There was concern about normalizing exercises in the Arctic and Russian perceptions of escalating or abdicating readiness in the Arctic. For example, Exercise Trident Juncture taught a lot but now if we were to do an exercise like that in the Baltics it would increase tensions or make Russia think that we are scared. Discussion moved from changing defence postures in the Arctic to emphasizing the strategic messaging surrounding these exercises and the Arctic in general. The message should be about what we in North America are doing, what we will do, and what we have done for a long time. It was emphasized that these exercises would demonstrate that the three countries are not backing away from cooperation in the Arctic, allowing others to step in and fill the vacuum. It was acknowledged that the Northern flank of North American is important because it is shared with Russia. The group acknowledged that Russia is an Arctic power due to the amount of infrastructure it has built there. While both Canada and the US have done a lot of work to address this flank (NORAD modernization), there is not a sense of when capabilities will be in place. Participants noted that these defence efforts are lagging behind those of Russia in securing its Arctic. While North American defences are trying to catch up, space-based systems are taking the largest chunk of this portfolio, possibly to the loss of other domains. Discussion turned to the nature of this infrastructure and the notion of “dual use” and could such an approach help Canada develop its own Arctic infrastructure.

Is there political will to build northern capabilities? The group agreed that there was but also noted how much had to happen to motivate change and questioned how fast change could occur. Building these capabilities will be hard, especially in the Canadian Arctic which is huge and difficult to operate in. Studies have demonstrated that it is not feasible to place a big military presence for the long term in the Canadian Arctic. Participants noted that the INDOPACOM arena poses a similar challenges in terms of the tyranny of distance and the idea that you cannot be everywhere. They have gone to a theory of networked “cold” basing that can be rapidly expanded. A physical presence all the time could not be expected, but a rotational presence could be established with a set of specific capabilities. Discussions turned to “warm” basing in the South with a small presence in the North that can be expanded as an expeditionary role. The challenge with this approach is that the Arctic is evolving rapidly and commercial operations are changing every year. Industries are surging in and out, complicating logistics. The problem for the group turned to building permanent infrastructure before when is it needed, where will it be needed, and how it will be paid for. Collaborating amongst North American partners was a way to mitigate this problem.

Defence infrastructure should be mobile, scalable, and flexible. Building this infrastructure strengthens our presence in the Arctic which in turn strengthens sovereignty. The group noted that neither Canada nor the US

has invested enough in this infrastructure. Given that NORAD modernization is part of this, how do we see our existing relationships in the next two years? If we start putting money into North American defence modernization, we will demonstrate to the world that we are willing to invest in deterrence. While the group was pleased that Prime Minister Trudeau committed to NORAD modernization, it was cognizant of the fiscal reality in which such investments would be made.

Political Security

Group 3 was moderated by Dr. Maria Ackrén of Ilisimatusarfik who began by asking about the future of the Arctic Council. Did the group think the Council could continue without Russia or another organization be created in its place? Participants noted the underlying values and norms of the Arctic Council and the larger postwar international architecture – how far are liberal democracies willing to protect and defend these values? Authoritarian governments like China and Russia were already signalling the sort of parallel institutional architecture they wanted to put in place through their earlier joint statement of cooperation. This was global, not Arctic, in scale. In many ways the Ukraine was a litmus test as to which world view would win out, prompting discussion about rethinking NORAD assumptions and assessing if they are still valid.

The group noted that the two-year horizon of the SFA was a very short period of time. Within this short period, the notion of pausing the Arctic Council did make sense. Despite chairing the Arctic Council, Russia was completely out of touch with the concerns of the rest of the Members. Discussants emphasized that it would be impossible to keep the Arctic Council functioning when the trust upon which it is built has been so fundamentally damaged. Despite this, after the two-year Russian chair, it is difficult to imagine the forum continuing without Russia. The group noted the dilemma of holding Russia to account on an international level while acknowledging that the lack of cooperation with that country in the Arctic was a serious blow to the inhabitants of that region. It was recognized that the Arctic is an excellent place from which to re-engage Russia when the time comes due to the strong history of collaboration there.

While acknowledging the importance of the values argument, participants noted various practical concerns associated with ceasing all cooperation with Russia. Cutting academic cooperation was tough, as this cooperation was hard to achieve under the best of circumstances. Similarly, transnational Indigenous Peoples were suffering owing to loss of contact with their kin, bringing economic and societal issues as well. Lastly, the Russian Arctic contains great petroleum and mineral resources, the supply of which would be greatly shifted because of great power competition. What would Russia's reaction be to all of this? How would China react? Again, the notion of responding in the Arctic to events happening outside of it dominated the discussion. The costs of short-term loss due to cutting Arctic ties with Russia had to be weighed against the long-term benefits. The notion of track two diplomacy as an option to keep conversations going was advanced as a way to mitigate the practical short-term costs. It was noted that the desire by liberal democracies to "go back to normal" in the long-run is something that Putin has historically preyed upon, with Crimea, Chechnya, Georgia, and Syria serving

as examples. Putin, and not the Russian people, was noted as the core problem inhibiting good faith, long-term cooperation with Russia.

The group addressed the continued existence of the Arctic Council given the Russian chair and the recent "pause." Another forum could be created but the Arctic is now completely criss-crossed by various international and regional laws and bodies involving the other Arctic states, which would result in immediate problems. Considering the history of cooperation with the Permanent Participants (PPs), the group addressed the possibility of strengthening the role of the Arctic Council and the PPs within it. It was noted that Arctic Council is a forum – not an institution – with no legal personality like NATO or the EU. This presents both challenges to its continuation but also opportunities for future growth.

Discussion turned to the Northwest Passage and the outstanding disagreement between Canada and the US over the status of waters as either Canadian historic internal waters or an international strait. It was noted that the two countries had an excellent working relationship despite this legal disagreement. It can cause political flare-ups every few years, but does not affect the day-to-day relationship. Could the Russian invasion of Ukraine prompt the two countries to overcome this disagreement?

The group also looked at China as the Arctic "wild card." It was noted that its internal messaging to its people as a rising power is different from its narratives of benign intent that it presents to the larger world. It was noted that China seems to wait for advantageous circumstances to appear before acting. Its past actions have shown increasing assertiveness on the global stage, pushing against international laws and norms that do not advance its interests. Since its admission as an Observer to the Arctic Council in 2013, its Arctic interests have grown.

The group closed with a "wish list" to provide political security across the Arctic. First, the war in Ukraine must end with the Ukrainian government remaining in sovereign control of its territory. Second, Russia must learn a lesson for its actions – its leadership must be held accountable. Third, the Arctic Council should keep operating as a demonstration of its values. Ultimately, Russia should not be allowed to halt cooperation across the North.

Economic Security

Group 4 was moderated by Dr. Rasmus Leander Neilsen of Nasiffik at Ilisimatusarfik and tackled the economic security of the Arctic through three lenses: the alliance dilemma of trading across regional blocs; European dependence on Russian oil and gas; and the lack of infrastructure across much of the North. While the first two concerns threatened the economic security of the North, the desire for more infrastructure could improve it.

Discussion surrounding the alliance dilemma looked at balancing the military and political security of alliances with the economic desire to trade with countries such as China. How much and of what could you trade with China without imperilling your security? The group noted how much the Russian invasion of Ukraine had effected the political economy of the world and raised the notion of trading only within like-minded blocs. The

group proposed seeking a desired end state of a global economy not divided by blocks but for this two happen made two stipulations: that the war on Ukraine had to end and the Putin regime had to fall.

Russia had caused a massive breach of trust, calling into question how a relationship with Russia could continue. The group noted that the war had been on for a month and had quickly destroyed much of Russia's relations with their Arctic neighbours in the process. While these relationships had been severely damaged, the group did not want to completely destroy economic cooperation with Russia, viewing trade as a potential source of peacebuilding. The group noted that sanctions had been already hard on Russian oligarchs and the Russian people to a lesser extent, but would they be enough to force a regime change? The discussion noted that there had been growth in smaller northern communities across the circumpolar north but the war was scaring away investment, inhibiting this growth. The group noted that economic collaboration as equals with Russia could be a long way off, but if conditions allowed it to restart, cross-border trade would be an excellent place to start. The personal relationships that the Finns held with Russians was also a good source from which to re-establish trade.

The group addressed the energy situation of Europe, having made itself largely dependent on cheap Russian oil and gas. Alternative energy suppliers like Norway did not produce enough supply to cover what Russia provided. Were other energy suppliers such as Saudi Arabia or Qatar more ethical than Russia? The notion of developing the Canadian northern corridor concept was considered a potential long-term solution to energy – and thus economic – security. Discussion turned to liberal democracies becoming more dependent on oil and gas in an effort to keep pace with China's economic growth. It was noted that Russian reserves once destined for Europe will likely be redirected towards China at a major discount to help drive their economy – an unintentional outcome for Russia.

It was noted there are new economic opportunities for small- and medium-sized businesses to help build North American Arctic infrastructure. However, the communities reliant on diesel-electric power faced distinct challenges. Discussion turned to the already high price of fuels in Northern communities which made them vulnerable to geopolitical shifts – spiking energy costs could stifle investment and economic opportunity for Northerners. The group examined sustainable energy as a means to mitigate this and looked at Greenland's experience as a case study. When power was cut to Greenland, it had a devastating effect. The threat of adversaries targeting the power of Northern communities was raised.

Participants also discussed the notion of energy security in the North and energy sovereignty across the liberal democratic world. Could developing energy sources of the Arctic benefit both Northerners and the larger free word? Despite talk about economic decoupling due to geopolitical competition, a global economy persisted. The impact of Russia's renewed invasion of Ukraine on Northerners across the pole made this clear.

Societal Security

The final panel, moderated by Dr. Andrew Bresnahan of NAADSN, examined the health of Northern communities and the institutions and infrastructure that help generate societal security for them. Discussion noted that northern communities are always there, but visitors (including southern researchers) come and go, leading to a sensitivity towards migration into the North. This has help create a guarded approach to building new relationships between Northerners and the larger world. Additionally, there are capacity challenges in Northern (especially Indigenous) communities, necessitating managed expectations of what can be achieved in promoting societal security. It was emphasized that the context within which new relationships are built towards security must be carefully considered. Reconciliation was the major context within which discussants addressed their topic, aiming to centre Indigenous communities in bolstering their own security.

The group noted that tremendous efforts had been made to improve governance in Northern Canada. This includes the creation of the territory of Nunavut, which is also one of the four regions of Inuit Nunangat. From a federal perspective, the Canadian Arctic and Northern Policy Framework addresses this Inuit polity. From the community-level up, Inuit Tapiriit Kanatami advocates for Inuit within Canada. Relations between these levels of government had recently been supplemented by the new Inuit Crown Partnership Committee which seeks to "advance shared priorities intended to create a more prosperous Inuit Nunangat through meaningful collaboration." While progress is being made, it does not negate a painful history of colonization of Inuit within Canada.

Discussion turned to the notion of human security. It was noted that the existing military footprint in the North emanated out from JTFN in Yellowknife, with a focus on Search and Rescue (SAR) and emergency management. A continuing success story was the Canadian Rangers, a longstanding organization stretching across the North, connecting communities with the military. Participants explored how Canadian defence spending was being routed towards the Arctic and that this spending was increasing towards the 2% of GDP goal set by NATO. How could Canada move from seeing spending as an opportunity cost and reframe it as social investment or a "social force multiplier"? Could expanded military infrastructure benefit Inuit communities?

Participants emphasized that the territories of Canada were very different from the provinces, characterized by a few small populations centres scattered across a wide areas, with little infrastructure capacity connecting them. There is no inter-community electrical grid, no broadband in many Arctic communities, and power in many communities is provided by diesel generators. What infrastructure that does exist is old with little redundancy. While there is a desire to be sustainable and use renewable energy, it was noted that such an investment would be enormous. The territories were also experiencing large population growth, further straining limited infrastructure from hospitals to landfills. It was noted that this infrastructure was increasingly vulnerable, creating social risk.

The group examined the longstanding Inuit priority to close infrastructure gaps – especially telecommunications infrastructure and harbour and port facilities. Participants suggested that the last major federal government investment in the North was during the 1940s and 50s. A high modernist developmental approach created new opportunities, with the first market economy jobs along the Distant Early Warning (DEW) Line. These infrastructure decisions were taken without Inuit input, despite having a major impact on them. The group noted that it was important to get the next round of infrastructure right. Discussants noted engagement with ITK as a positive step towards addressing Inuit participation in infrastructure like maintaining and updating the North Warning System (NWS).

Given the history of Indigenous neglect in government and economic development, discussion turned to the threat of foreign disinformation through social media which could weaponize past grievances to undermine future growth. The group noted narratives around the crisis of equity between non-Indigenous and Indigenous Northerners and how social media analysis reveals narratives of Western hypocrisy and anti-colonial language in the Arctic space. These narratives reflect those circulating in the BRICS (Brazil, China, India, and Russia) and across Africa and Asia, and represent well-known hybrid warfare tactics that seek to divide populations. The group looked at lessons from the Cold War to the present that sought to balance building a more open society – noting the already strong degree of people-to-people relationships across the North – with the risk associated with disinformation from Russia.

The group noted that good governance creates greater societal resiliency and is the best counter to disinformation narratives. While the two-year time frame of the SFA was not a long time for this sort of threat to take root, the group noted that Canada had been making great strides forward with devolution of governance in the territories and building important civil-military links with them. Discussion highlighted that good governance aligned with the new emphasis on defence in the North – the notion that investments in one strengthened the other, and vice versa. Redundant infrastructure would support stronger soceities, and Northerners actively shaping their governments and economies would bolster resilience.

Strategic Foresight Presentations and Discussion

Breakout groups presented their findings to the larger workshop at the end of the SFA. Group 1, moderated by Troy Bouffard, discussed the environmental sector of security and emphasised the detrimental effects that Russia's action in Ukraine was having on scientific research across the circumpolar Arctic and raised the risk of environmental damage. New research initiatives such as the monitoring of black carbon in the Arctic had already been shelved in the wake of Russia's initial 2014 invasion of Ukraine. The renewed invasion of 2022 was now rolling back research cooperation across the Arctic. Countries will continue their research projects but data sharing with their Russian colleagues will cease. Long-running science projects that suffer even small breaks in research could end in failure, harming not just Arctic research but larger studies of global climate change. The group also noted that coast guard agencies that not only helped facilitate environmental science but also

protected the environment will have to continue these efforts without their forum coordinating their interactions across the region. Russia had been good with sharing their large icebreaker fleet with their circumpolar neighbours – a resource now lost. This would increase regional disaster and risk management concerns due to this lack of circumpolar cooperation.

Group 2, moderated by Dr. Kari Roberts, presented its discussions on the military sector of security. It was highlighted by this group that while Russia's military might be struggling in Ukraine, the sorts of strategic forces it kept in its Arctic with which to threaten North America were a very different weapons set. This required new infrastructure in the North American Arctic and better strategic messaging to deter the use of these weapons in the Russian Arctic. New defence infrastructure was needed in the North that should be accessible for civilian use when appropriate, however it was noted that it is difficult to build in the North and a lack of persistent attention to the region had made it hard to determine exactly what was needed. The group recognized the need to communicate with Russia but that the trust between that country and its Arctic neighbours was gone now. Communicating had to be restarted "from the ground up," being cognisant that actions in the Arctic would now be perceived in a different way.

Group 3, moderated by Dr. Maria Ackrén, discussed political security and focused on whether the Arctic Council's underlying norms and principles were still applicable in a changed geopolitical context. The group agreed that the "pause" was necessary due to the breach of trust by Russia with norms and rules elsewhere – to continue as before would undermine the values on which the region had been built. The group noted that it was hard to imagine an Arctic Council without Russia and that any replacement forum would offer little value due to the web of agreements that now exist across the region. The group anticipated a balancing act over the next two years as the like-minded Arctic state sought to punish Russia while needing to protect and help Arctic communities thrive across the region.

Dr. Whitney Lackenbauer of Trent University presented Group 4's findings on the economic sector of security. The hardening relations with China and Russia dominated the presentation, with the notion that strategic competition may limit future trade between these countries and the larger world. Given the loss of trust, the group noted that the longer the competition framework dominates in the Arctic, the more that Arctic resources may gain weight in larger geostrategic discussions. Like a good economist, the group noted that on one hand this would hurt the development of critical infrastructure across the (especially Russian) North. On the other hand, regionalized pools of energy from which a future and fragmented world might draw on could cause the Arctic states (especially Russia) to revisit old developments.

Group 5, moderated by Dr. Andrew Bresnahan of NAADSN, reflected on societal security. The group looked at the crisis of equity in the North American Arctic and the pattern of disinformation coming from Russia (and other actors) via social media that highlighted Western hypocrisy. It was stressed that openness and better governance were strong protections against cynical disinformation attacks. It was noted that good governance

is aligned with the social interests of Northerners. Devolution and new structures, such as the Inuit-Crown Partnership Committee, could help create stronger societies in the Arctic.

Discussions following the SFA Panel presentations focused on what issues are not receiving enough attention and potential vulnerabilities that are missing from contemporary policy discussions. What happens we do less or more in the Arctic? Talk about doing more could lead to escalation with Russia. If less is done, Russia could argue that it scared the West out of the Arctic. Discussion turned to when communications could be restarted with Russia in the Arctic through academic and research channels. If there is an interest in opening this cooperative space, how do we time and scale it appropriately?

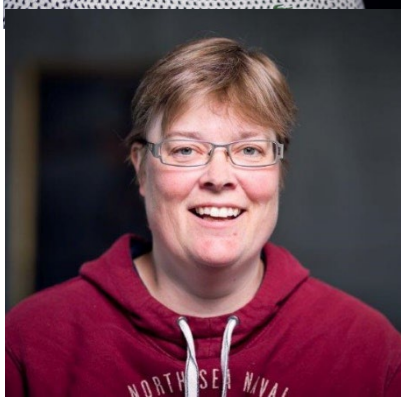
Discussion also noted that communications with Russia do not have to be about cooperation. Deterrence and coercion theory also require communication forums and transparent dialogue, though the tone of this sort of messaging is different.

Key Takeaways from the SFA:

- Russia's war on Ukraine is having detrimental effects scientific research across the circumpolar Arctic and has raised the risk of environmental damage.
- New defence infrastructure is required in the North American Arctic, as is new strategic messaging to deter Russia.
- Arctic states must balance punishing Russia internationally against the need to protect and help Arctic communities to thrive across the region.
- Strategic competition will limit Arctic economic development in the short run, but the region could gain greater attention in the long run in a world of regionalized markets.
- Openness and better local governance are strong protections against disinformation attacks conducted through social media and other channels.

Source: Forsvaret/Danish Defence

Day 2: 25 March 2022



Opening Keynote

Rasmus Leander Nielsen and Maria Ackrén, Nasiffik/Ilisimatusarfik

Dr. Whitney Lackenbauer introduced the first keynote speakers. **Dr. Rasmus Leander Nielsen** is an assistant professor in the Institute of Social Science, Economics & Journalism, within the Department of Arctic Social Science & Economics at Ilisimatusarfik (the University of Greenland) where he is the Head of Nassiffik – the Centre for Foreign & Security Policy. He is a leading expert on comparative politics and circumpolar affairs, the EU, and Greenlandic politics, and is currently doing some fascinating work on Arctic exceptionalism. **Dr. Maria Ackrén** is an associate professor in political science who has worked at Ilisimatusarfik since 2011, having previous taught at Åbo Akademi in Finland and at Mid Sweden University. Her research looks at autonomous areas in the world, with a special focus on the Nordic autonomous territories of Greenland, the Faroe Islands, and Åland, and she is a leading expert on international relations in an Arctic / Greenlandic context, regional parties, and qualitative methods.

In their keynote presentation, Nielsen and Ackrén introduced Nasiffik, a new research centre at Ilisimatusarfik that keeps a close eye on a world that has increasingly turned its attention to Greenland and the Arctic. The name – which means "observation post" – reflects their plans to create a Greenlandic hub for research in the field of foreign and security policy, including specific projects on Indigenous rights, climate change, and the Arctic Council (presuming that it survives the Russia-Ukraine conflict). By establishing a locally-based research centre on Arctic foreign and security policy, the core group collects, analyzes, and disseminates knowledge on Greenlandic foreign policy as an umbrella concept. Over the last ten years, "Greenlandization" has continued, and they noted a new foreign policy strategy that is under development (and will update the 2011 strategy) as well as the opening of Greenlandic representation in Washington. The centre also examines themes of diplomacy and low tension in the Arctic – against the backdrop of changing geopolitical dynamics and climate change.

Through local anchoring and cooperation with foreign actors, Nasiffik's vision is to develop analytically based and/or solution-focused knowledge and to share it with different target groups locally and internationally. For example, Nasiffik works closely with the Inuit Circumpolar Council (ICC) and with the Greenlandic parliament, Inatsisartut, as well as partners abroad – including NAADSN and the TSC. These relationships help to strengthen

the knowledge base in Greenland at the university but also in society at large through conferences, workshops, and other ways of disseminating research.

Noting that the War in Ukraine is complicating Greenlandic involvement in foreign policy, Nielsen and Ackrén spoke to the results of a survey that they conducted with 700 people around Greenland about foreign and defence relations that they released in February 2021 – the first opinion poll of its kind involving a representative sample of Greenlanders. It yielded important insights into what the population actually thinks about international relations and cooperation, as well as challenges in international and Arctic affairs. The poll demonstrates that foreign and security policy garners relatively little attention in Greenlandic public debates, with results showing that Greenlanders tend to be more worried about internal matters (such as unemployment, the economy, and rising costs of living) than they do about international affairs. These findings are in line with the political debates that have taken place in the parliament, Inatsisartut, which also focus primarily on domestic issues.

Nielsen and Ackrén explained that the poll results indicate that Greenlanders are not overly concerned about geopolitical games that the great powers (the United States, Russia, and China) are playing in the Arctic. Comparatively, other Nordic countries have expressed more concern about the new strategic competition in the Arctic. NATO as a security partner is seen as a natural shelter for Greenland, given that the US still has Pituffik/Thule Air Base at its disposal. The survey also suggests that Greenlanders do not see China as a major threat – in contrast to negative depictions of China's Arctic aspiration in various Western media outlets. Approximately 53% of the Greenlanders see China's increasing influence in the world as a positive development, whereas almost 47% see it as negative. With regards to investments from China, however, the Greenlandic population is hesitant, with only 32.2% approving Chinese investment and 67.8% opposing them. Many Greenlanders seem positive about China's influence within international organizations (58.1%), with 41.9% seeing this as negative. In short, there is no clear-cut picture in relation to Greenlandic views about the Asian power, with 46.4% preferring less cooperation with China and 38.7% preferring more cooperation with that country.

Their presentation also highlighted various findings related to Greenland's impressions of military and defence relations. 70% of respondents do not think that Greenland should have its own military, but 75.5% believe that NATO is a positive alliance (compared to 59% support in the Faroe Islands and 40.9% support in Iceland), and 68% believe that Greenland should continue its existing alliances when pursuing its foreign policy. Most Greenlanders perceive the relationship with the United States as positive, with 69% desiring more cooperation with the superpower (only 18.1% would like less cooperation and 12.8% do not know). When asked if Greenland

should follow US policy with respect to China, Greenlanders are reluctant to do so, with only 18.4% favoring the same policy as the US and 81.6% against that option.

The presenters noted that they have published their results in the Danish journal *Okonomi & Politik* and in English and Greenlandic reports. They also hope to write an article in English with counterparts from Iceland and the Faroe Islands, comparing polling results with those from these other jurisdictions.

During the discussion period, participants noted that foreign policy is not a central consideration in Greenlandic elections or parliament, but it is something that Greenland should be discussing. Most Greenlandic politicians assume (and support the idea) that Greenland will join NATO once independent, with some consideration of an Icelandic model.

Opening Keynote:

Mininnguaq Kleist, Deputy Minister of Foreign Affairs and Permanent Secretary, Department of Foreign Affairs, Government of Greenland

Dr. Whitney Lackenbauer introduced the second opening keynote speaker, **Mininnguaq Kleist,** who served as a member of the constitutional and international law working group under the North Atlantic Group in the Folketinget while completing his MA at the University of Aarhus in Denmark. After serving as Secretary to a Greenlandic Member of the Parliament in Denmark, he was Advisor to the Chair of the Constitutional and International Law Work Group under the Greenland-Danish Self-Government Commission, then held a succession of prominent positions with the Government of Greenland: as Head of Department of the Self-Government Office in the Premier's Office; Head of Department in the Department of Foreign Affairs; Head of Office for Climate, Trade and the EU in the Department of Foreign Affairs; and as Deputy Permanent Secretary in the Premier's Office. In 2016, he became the Head of Greenlandic Representative to the European Union, where he was involved in all the different agreements and relations Greenland has with the EU, including the EU-Greenland partnership agreement, the Fisheries Partnership Agreement, and the Letter of Intent on mineral resources. He currently serves as Deputy Minister of Foreign Affairs and Permanent Secretary with the Department of Foreign Affairs, Government of Greenland. Kleist explained that he could not join the workshop from his office because the Government of Greenland was under cyberattack – so he had to connect from home.

Kleist began by emphasizing the burgeoning international interest in the Arctic region. Since 2019, this includes a tremendous amount of attention on the role of the Arctic and Greenland in security policy. The Russian invasion of Ukraine has only made the situation more complex. Greenland is part of NATO, and the US has a military presence at Thule (Pituffik) Air Force Base. At the same time, the Greenlandic people are peaceful, and Inuit are a "peace-loving people." Accordingly, Greenlanders want their homeland and the Arctic more generally to be an area of peace – that is a fundamental premise. Nonetheless, Kleist explained that a united Greenland had chosen to stand with its allies politically and followed EU sanctions against Russia – the first time that Greenland has done so. This clear statement of Greenland's position and its support from Ukraine and the Western Alliance against Russia's actions has elicited significant attention in Greenland, both in the public sphere and on social media. There is concern that the conflict will spread as the world finds itself in a situation that it has not been in for a long time.

The deputy minister noted that everyone is worried with the deteriorating international situation, but it demands that "difficult choices must be made in Greenland too." In the face of Russia's unacceptable activities in Ukraine, countries like Germany are fundamentally changing their policies and approach. Sweden and Switzerland are moving away from their longstanding neutrality, Finland has chosen a side, and the seven like-minded states in the Arctic Council have decided to pause their involvement in the circumpolar forum. These "principled choices" serve as reassurances, but Greenlandic decision-makers face a new situation with new challenges. Kleist suggested that defence and security policy, which has traditionally been a Danish responsibility, now requires further involvement of Greenland in accordance with Greenland self-government act. Security and defense discussions in Danish parliament are "no longer just about soldiers," they are "also about Greenlandic society and its home."

In the future, Greenland's defence priorities and positions will need to be clarified. Greenland's foreign and security policy committee, created in 1998, focused almost entirely on the American presence in Greenland until 2018/19. Now the Government of Greenland is working to develop a broader knowledge base about these issues, which will entail hiring and training more people. Both the War in Ukraine and the pandemic have exposed vulnerabilities in Western economies and societal stability. One can envisage value chain disruptions that might affect security of supply for Greenland. Climate change can lead to destructive weather that might interrupt the country's power supply, giving rise to concerns about disruptions and vulnerabilities in communication systems. Furthermore, almost one-half of Greenlandic fisheries exports go to non-allied countries, with concomitant economic vulnerabilities.

Economic challenges and opportunities were discussed further during the question and answer period. What new opportunities might Greenland's North American neighbours – the United States and Canada – explore with their Greenlandic counterparts? Kleist explained that Greenland does not have any bilateral trade agreements, but it has been able to trade with outside world in a privileged way through the EU (as it is

considered part of the EU family). Although the United Kingdom has decided to leave the EU, it remains an important market, and bilateral free trade agreement talks between Nuuk and London are ongoing. He hoped that this experience in trying to develop free trade agreements (FTAs) can be used with Canada and the US because trade with them is limited but there is potential to expand it. This can lead to a more diverse – and less vulnerable – Greenlandic economy.

The second question asked what impact activities such as establishing and reopening the US consulate in Nuuk, coast guard port calls, and international exercises around Greenland have on the population and on the government. Kleist explained that Greenland is part of the Kingdom of Denmark, with Denmark holding competencies over several areas, but he emphasized that Denmark cannot decide things that involve Greenland without consulting Greenlanders – who often have "strong views on how to do things." He noted that the opening of the new US consulate was a major development, facilitating "more direct talks and information sharing in a way that wasn't possible before. To understand Greenland, you need to be in Greenland," Kleist explained, "and if you want to understand what happens here, you must be here." In terms of international exercises around Greenland, Kleist stressed that citizens want to know what is happening in advance and "you don't want it to be a surprise."

The third question asked what areas thinkers associated with ACCUSARS – which is a mix of practitioners and academics – might prioritize to support Greenland and the Kingdom of Denmark in thinking about the current security environment. Kleist explained how, through history and through connection with Denmark and the EU, much of Greenland's legislation and political systems mirrored European ways of doing things. He saw value in exploring how Greenland's political traditions, legislation, and systems might also align with those of Canada and the US to facilitate better interactions. He also noted standards and obligations which inhibit free travel between Greenland and Canada – with Greenlandic Inuit very interested in more freedom of movement with their western neighbours. Discussions were ongoing with the Government of Canada to develop mechanisms to enable these movements. "As the world becomes more polarized, allies and friends need to make sure they are close, and freedom of movement and exchange will help," Kleist argued. The surveys conducted by Rasmus and Maria showed that there is a solid basis of popular support for taking this route.

Panel 3: Arctic Residents of Greenland, Canada, and Alaska: Arctic Security Starts Here

Dr. Peter Kikkert, Assistant Professor of public policy at St. Francis Xavier University, introduced the panelists and moderated the third session. **Dr. James Morton** is an assistant research professor with the Center for Alaska Native Health Research (CANHR) within the Institute of Arctic Biology at the University of Alaska Fairbanks, where his research centers on strength-based approaches to suicide prevention with Native veterans and military service members stationed in rural and remote areas. He also serves as a Lieutenant Colonel in the US

Army Reserves assigned to Alaskan Command as a Native advisor, as well as supporting the Vice Chancellor of Research office at UAF in its effort to foster research opportunities with the Department of Defense and other related national security agencies. He has been on active duty as a Special Forces operator and an Intelligence Officer in various special operations forces organizations. **Major Lenny Dunn** joined the Canadian Armed Forces as an Armour Officer in 2000 and graduated from the Royal Military College of Canada in 2004. Over the course of his 22-year military career, he has held various positions including troop commander in an armoured regiment, a counter-improvised explosive device (C-IED) team leader in Afghanistan, various staff jobs in Ottawa, Missile and Space Domain Deputy in NORAD HQ, and a Company Commander in the Canadian Army 3rd Canadian Division Training centre. He is currently the Deputy Commanding Officer of the 1st Canadian Ranger Patrol Group, headquartered in Yellowknife, Northwest Territories. **Christian Bertelsen** is the Regional Director of the Canadian Coast Guard's new Arctic Region, based in Yellowknife, where he works with Inuit and other Northern partners to create a region that serves residents and conducts operations in the North, by the North, for the North. A proud northerner and public servant, Christian has nearly two decades of research and public service experience with federal, provincial, and territorial governments in the fields of communications, policy, Aboriginal and treaty rights, environment and wildlife conservation, economic development, systems implementation and program administration across the North. He is dedicated to helping build a future Canada where Indigenous and non-Indigenous citizens alike see themselves recognized, reflected, and fully represented.

The principle message of **Dr. Morton**'s presentation was the importance for political leaders and military planners to recognize and engage with Arctic Indigenous peoples with a collaborative mindset that recognizes their sovereignty. This entails moving beyond a consultation paradigm to one that is more collaborative. Focusing on the relationship between Native people and the US military in Alaska, Morton shared insights based on his experiences working with Alaska Native tribes, as a researcher, and as a Native Liaison officer with the National Guard in Alaska. He noted that the 229 federally-recognized tribes in Alaska represented 40% of the US total (574). The situation is unique given that the state has the largest percentage of Native people in the country and the existence of twelve Native corporations which contribute a large percentage of Alaska's Gross Domestic Product (GDP). Most of the Native population lives in rural Alaska, comprising 82% of the population in areas beyond the road network. Furthermore, the state boasts the highest per capita involvement of Indigenous people in military service, representing five times the participation rate of any other demographic in Alaska. In short, Alaska Native people and organizations have a significant and important role to play in the state.

Self-determination for Alaska Natives is a central concern, with sovereignty perceived in the sense of cultural security and the ability to make cultural decisions central to many Alaskans. Priorities include access to means of subsistence, which is foundational to developing and securing Native economies, and access to natural resources which makes land holdings and land management of core importance. Dr. Morton also noted various

health and social disparities, including high suicide rates, concerns about quality of life, lack of potable water, sewage, and housing, and energy concerns (about how to access sources that can empower economies and provide safety). Other concerns relate to the environment: climate change, coastal erosion, permafrost degradation, access to safe water, and threats to infrastructure. All are tied to economic development and community resilience. Morton emphasized that there is not just one Indigenous voice in Alaska: "there can be very contrarian positions" amongst Native Alaskans about key debates.

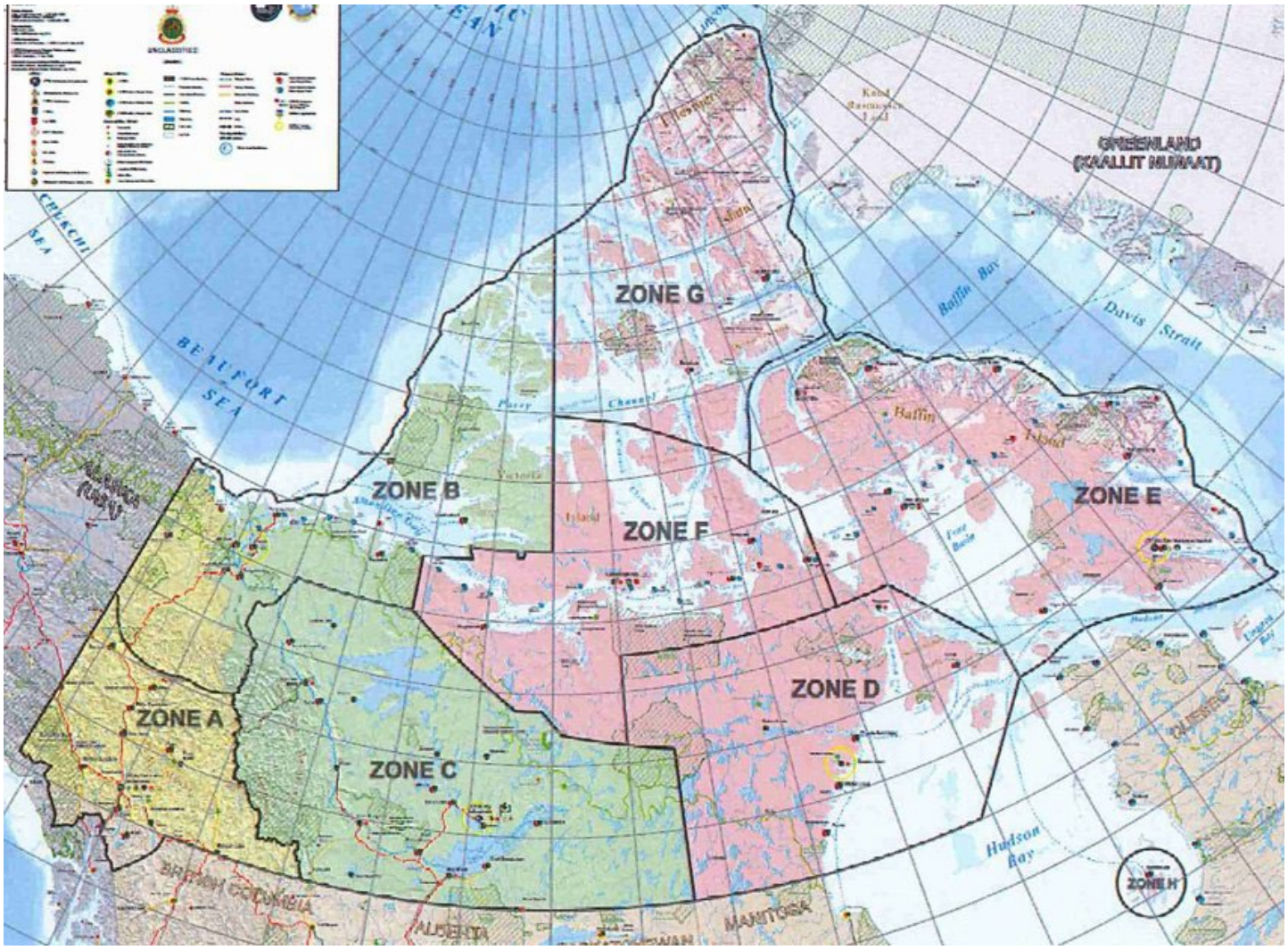
Dr. Morton highlighted concerns about addressing past grievances and dealing with historical and intergenerational trauma. How do you restore and transform relationships? He noted the Department of Defense's responsibilities towards federally-recognized tribes and Native corporations, and this requires a clear understanding of obligations and direction to service components about how to meet them. As military leadership moves towards collaborative relationships that are more about "how to be engaging and learning from one another," a paradigm shift is occurring towards a shared sense of duty to homeland defense.

Why do we need to recognize Indigenous People in Alaska and in the Arctic more generally? Morton noted that this is essential to heighten the political influence required to secure the homeland. Building an enduring trust relationship, rather than transactional relationships, is an essential precondition. The obligation to consult is there and is rooted in the reality that Alaska Natives have lived on the since land time immemorial. Beyond that, however, it is within DoD's authority to validate Native self-determination and self-government. "We have an opportunity to learn and co-construct new knowledge," Morton noted. Larger opportunities include identifying and addressing historical traumas, building transformative relationships of trust, reframing activities in that trust mindset, looking at economic development opportunities for Alaskan Native corporations, and finding ways for the military to better understand community needs.

In thinking about our relationship and how it is expressed in Native-military partnerships, Dr. Morton encouraged us to reframe how we view Indigenous sovereignty, and what it means to have economic security, cultural security, and legitimacy to manage resources. An enhanced partnership can expand opportunities and capacities for coordination and collaboration. Search and rescue and dual-use infrastructure agreements are obvious examples. Climate change management also requires shared knowledge and understandings. Morton built a compelling argument of why leaders at all levels should adopt a healing and collaborative approach that promotes strength, embraces Native legitimacy, and empowers Indigenous peoples to secure their homeland.

Major Dunn's brief on the Canadian Rangers in the 1st Canadian Ranger Patrol Group (1CRPG) provided an overview of the "eyes, ears, and the voice of the Canadian Armed Forces (CAF) in the North." He explained the Rangers are members of the CAF who provide a military presence in sparsely populated areas but are not a tactical force and do not do vital point security or assist police in apprehending criminals. Instead, 1CRPG's mission is to "provide lightly equipped mobile forces in the Yukon, Northwest Territories, Nunavut, and northern BC," as well as to deliver a successful Junior Canadian Ranger program throughout the North. There are 61

Map of 1st Canadian Ranger Patrol Group (1CRPG)



Ranger patrols across 65 communities, with an establishment strength of 2100 personnel, and 44 Junior Canadian Ranger patrols in 61 communities with an overall strength of 1200 youth. The size of Ranger patrols can be tailored to a community's population, with some patrols as small as 12 Rangers and larger ones having up to 50 serving members.

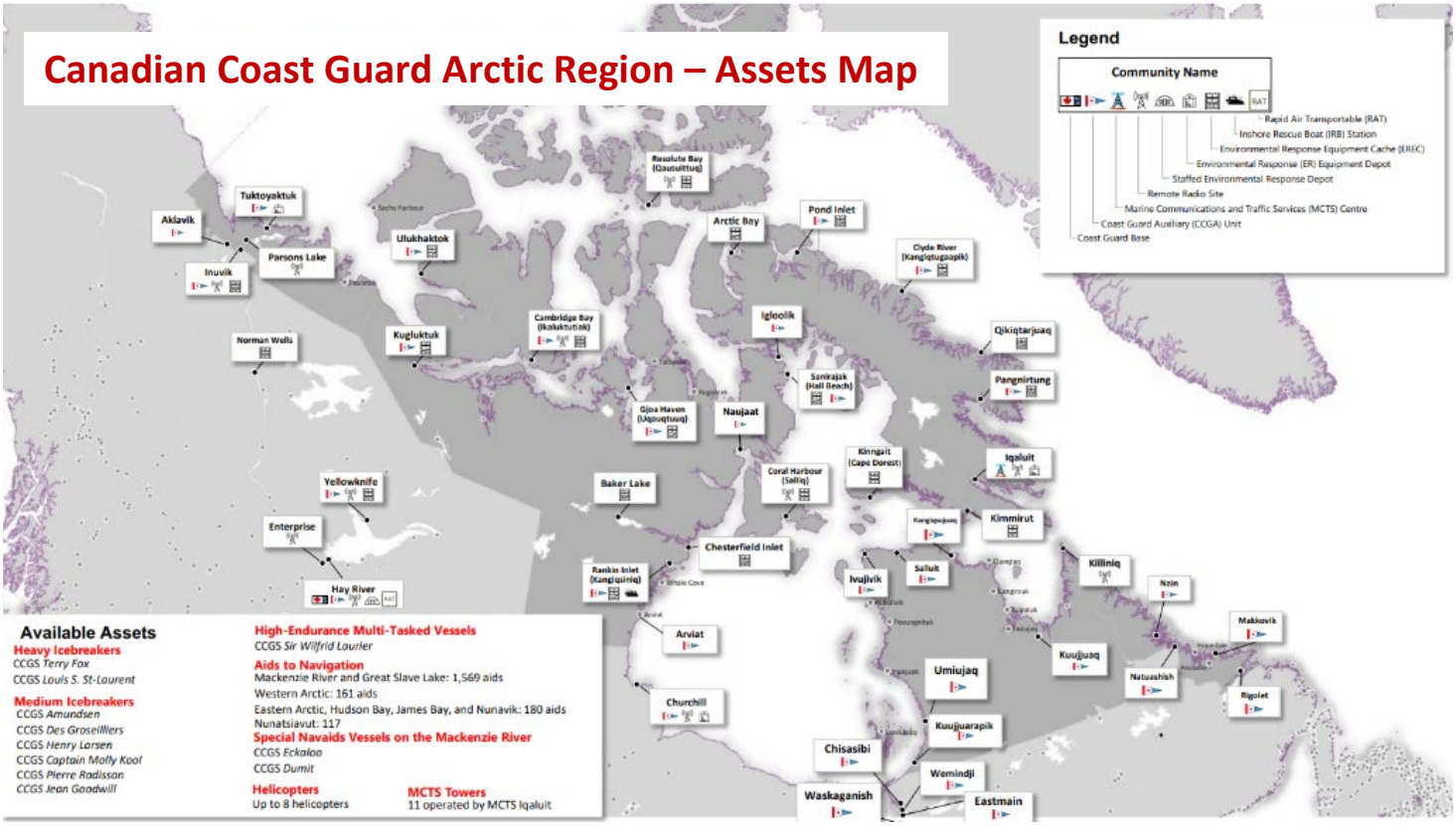
The Rangers' tasks are threefold. First, they conduct and provide support to sovereignty operations and patrols, provide training to southern units that deploy north, and are on alert 24-hours a day to report suspicious activities in and around their communities. Second, they assist with CAF domestic operations through their presence, local and traditional knowledge, and guidance both in terms of the physical and human terrain (given their knowledge of internal power dynamics in their communities and regions). They also provide community-

based support to search and rescue and disaster response as a persistent CAF presence in local communities, as well as instructing Junior Rangers and periodically support local events.

Canadian Rangers are considered trained upon enrollment and have lower formal requirements to join the military than other elements. Rangers need to be at least eighteen years of age, have knowledge of surviving on land, be in good health (although there are not medical tests administered prior to enlisting), be a Canadian citizen, and be of "good character." There is no compulsory retirement age, which allows elders to continuing serving as long as they are able and willing to do so. In terms of equipment and uniforms, Rangers are issued a red hoodie, baseball hat, combat pants, boots, a .308 rifle, and 200 rounds of ammunition a year. There are expected to use their own transportation equipment, such as snowmobiles, quads, and boats, for which they are compensated when used for Ranger training or taskings. Their support to the Junior Canadian Rangers promotes traditional skills (eg. hunting, fishing, berry picking, beadwork) practiced by their community, Canadian Ranger skills (eg. first aid, navigation, fire safety, drill movements), and life skills (eg. public speaking, anger management, nutrition) in a structured, community-based, culturally relevant program. In providing youth with a path for guidance and self-development, the JCR program is important to maintain community resiliency and to address systemic problems at the community level.

Recent Ranger operations include Operation LASER (the CAF response to COVID), VECTOR (CAF support for vaccine distribution), and responses to natural disasters (particularly flooding) in various Northern communities. The unit's priorities include maintaining an operational focus for Rangers as the eyes, ears, and voice in the North by providing 12-14 days of training each year. Reinstalling a sense of pride in Ranger service is key after pandemic-related constraints inhibited activities over the past few years. This can be accomplished by engaging with patrol leadership and reinforcing the JCR program. Uniquely within the CAF, Canadian Ranger patrol leaders are elected by other members of their community serving in the unit. This reflects traditional values and ensure a high degree of community buy-in and control over the local patrol.

Bertelsen offered a Canadian Coast Guard (CCG) perspective on advancing maritime security priorities in close cooperation with Arctic Indigenous peoples. He observed how climate change was causing significant sea ice loss, which affects sea ice predictability and safety of navigating in Arctic waters. He anticipates that marine traffic will continue increasing in both the number and types of users (tourism, support to communities, and commercial), and he notes new trends in the expedition industry such as greater use of helicopters and submersibles. With these changing patterns of activity, the CCG works with myriad partners and community responders to manage risks. Industry cooperation occurs through various boards, councils, and a dedicated exercise program through which the CCG works with cruise ship operators and partners in the United States and Greenland to better understand each other's processes and collective incident response capabilities. This must and will local responders given the important community dimension.



Bertelsen focused on human security needs in the Arctic and the North. This includes resupply for food security and provision of housing, search and rescue (SAR) services to ensure the safety of harvesters, environmental disaster response, and ensuring that underwater noise pollution does not disrupt fauna and traditional hunting. Addressing these challenges must adhere to the spirit of "nothing about us without us" – that they be led in the North and by Northerners. Accordingly, the Government of Canada is working with local communities and Inuit, Metis, and First Nations governments and organizations. The frameworks produced will guide decision-making and actions, with funding available to support communities and organizations. In the interim, the CCG has provided $2 million in funding to Indigenous people for capacity building, training, and equipment. Over the last seven years, the focus has been on community-based capacity developments: expanding the CCG Auxiliary from 11 to 32 units, with 451 members and 46 vessels; the SAR Community Boats Project; changing the business model to establish Arctic districts with Northern leadership; and employing a new training model that certifies Northern instructors to train new members. The CCG has embraced the need to adapt conventional programs to reflect Northern priorities and fit with Northern realities.

Increased traffic and users mean increasing demands on the coast guard, which is deploying more resources to the region. Bertelsen explained that the overall ship presence plan sees an increase for the upcoming year. Cultural familiarization training will be provided to crews, including intercultural awareness and a clear

articulation of reconciliation goals. He highlighted that the Arctic has long been understood as peaceful, and the CCG must cooperate with domestic and international partners to respond to Arctic emergencies. Historically, the coast guard represented the only federal presence in Canada's Arctic waters, but this is changing with Canadian Royal Navy's new Arctic and Offshore Patrol Ships. Accordingly, operational plans should be generated as a whole-of-government effort, framed around ensuring benefits to Northern residents. Emphasizing the need to modernize the CCG fleet (with two new polar icebreakers slated to be built), Bertlesen explained that definitions of security are context-dependent, and that capabilities to address both hard and soft security needs are required. In this light, the CCG will adapt, with its vessels continuing to represent a method of exercising Canadian sovereignty while also facilitating cooperation with local communities to enhance their capabilities and resilience.

During the question and answer period, panelists discussed best practices and lessons learned from innovative programs. Morton emphasized the importance of educating tribal and local governments on opportunities, engaging political leadership on funding programs, co-constructive knowledge, and of having military institutions or units know which of their training objectives could also be of service to tribal communities. The US Army's Arctic strategy has placed importance on relationships with Native communities in the region, and being able to actualize those relationships is key to living and thriving (rather than simply surviving) in the Arctic. Dunn also highlighted the benefits of working collaboratively and educating local governments, including on how to request assistance to receive certain effects (rather than asking for specific resources). The best models serve and advocate from the Arctic itself, and are comprised of Northerners. Bertelsen emphasized the co-production of knowledge and the value of marrying local knowledge with federal processes, citing the CCG's Rankin Inlet Inshore Rescue Boat Station (opened in 2018 with funding from the Oceans Protection Plan) as an example of a success story that forms an important part of the marine emergency response system. During the boating season, crews ensure 24/7 search and rescue services to the Nunavut communities of Rankin Inlet, Chesterfield Inlet, and Whale Cove. Inuit also comprise 100% of the new environmental response team in Iqaluit. The key lesson is the importance of being ready to tailor and adapt processes because what is done "south of 60" does not always translate well to the North.

Panel 4: The Arctic Economic Security Environment: Navigating Uncertainty

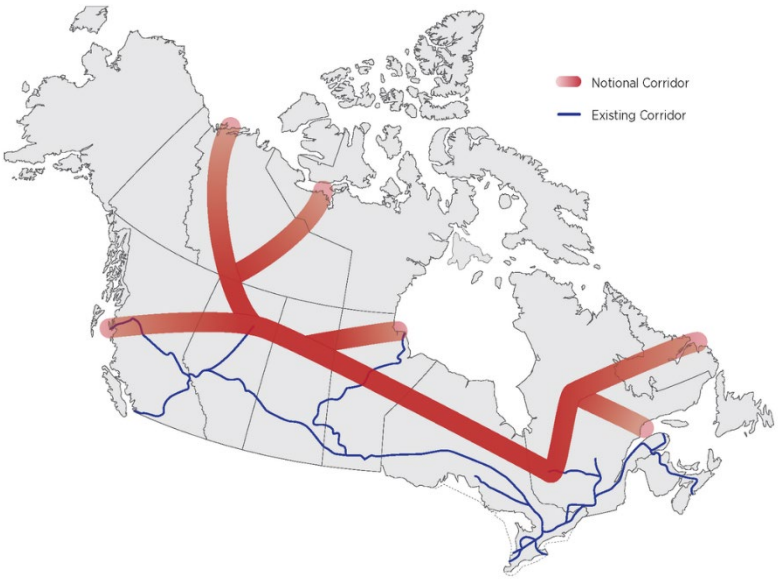
Dr. Rasmus Leander Nielsen of Ilisimatusarfik introduced and moderated the fourth panel. **Dr. Katharina Koch** is a postdoctoral associate in the Canadian Northern Corridor Program in the Energy and Environment division at the School of Public Policy at the University of Calgary. In her current role, she is working on a variety of research themes connected to the Northern Corridor, including governance, security, nation-building as well as broadband infrastructure and the digital divide in the Canadian North and Arctic. Previously, she was affiliated with the RELATE project at the Geography Research Unit at the University of Oulu in Finland in which she also

conducted her doctoral thesis research on Finnish-Russian cross-border cooperation. **Madeleine Redfern** is an Indigenous woman involved in innovation and transformative technologies in telecommunications, transportation, and energy. She is the president of Amautiit: Nunavut Inuit Women's Association, president of the Ajungi Consulting Group, chair of the Nunavut Legal Services Board, advisor to the Canadian Nuclear Laboratories, co-chair of the Gordon Munk Arctic Security Program, and a board member of Maliiganik Legal Aid. As a businesswoman and a strong social advocate for transformative initiatives, Madeleine has a great deal of governance and volunteer experience with Indigenous and Inuit organizations, and she was the executive director of the Qikiqtani Truth Commission. **David Connelly**, CD, MBA, has more than 45 years of senior project finance, strategic planning, project development, logistics solutions and community, Indigenous and government relations experience, initially internationally and for the last 27 years based in Northern Canada. David is the owner of Ile Royale Enterprises Ltd., chair, board member, and strategic planner and engagement consultant to Aboriginal, natural resource, and cleantech businesses. As an investor and advocate for responsible economic development, David led turnarounds and structured many successful strategic alliances. He helped pioneer groundbreaking alliances and impact benefits agreements and is an advocate of Indigenous equity participation. Most recently, as Cheetah Resources Corp. and Vital Metals' Vice President of Strategy and Corporate Affairs, he was part of the team that developed the Nechalacho Rare Earth Mine, Canada's first rare earth mine. **Dr. Adam Lajeunesse** is the Irving Shipbuilding Chair in Canadian Arctic Marine Security Policy and an Assistant Professor at the Brian Mulroney Institute of Government, St. Francis Xavier University, in Nova Scotia. His research centres on issues of sovereignty and security in the Canadian North, with a particular focus on the history of the Canadian Armed Forces in the region, Canadian-American relations and the status of the Northwest Passage, and the evolution of Canadian Arctic maritime policy. **Cornell Overfield** is an associate research analyst at the Center for Naval Analyses where he focuses on US strategy and narratives, how international law intersects with US foreign policy, and European political economy. He holds an M.A. in European and Russian Studies from Yale University and a B.A. in History and International Relations from the University of Pennsylvania.

Dr. Koch provided an overview of her work pursuant to the Canadian Northern Corridor (CNC) project, which envisions an infrastructure network in the form of multimodal rights-of-way through Canada's northern and Arctic regions accompanied by an appropriate regulatory and governance structure. The Government of Canada emphasizes the relevance of essential infrastructure development in its recent strategic policy frameworks, including *Strong, Secure, Engaged*, and its Arctic and Northern Policy Framework. Therefore, infrastructure development in the context of a potential CNC reflects the national priority to improve accessibility within and to the North. Infrastructure enables Canada's nation-wide economic activities and promotes regional prosperity, as well as bringing various security and defence benefits. Linear infrastructure, such as roads, railways, pipelines and energy transmission lines, bolsters Canadian security (broadly defined) but also represents vulnerabilities, particularly in remote northern contexts. Conversely, CNC infrastructure can be a double-edged sword,

facilitating resource development and enhanced access for security providers, while also introducing or exacerbating risks.

A possible strategy to ensure the CNC's success is to promote smart leveraging of dual-use infrastructure for both civilian and defence purposes. In this way, Koch outlined some key elements of her report with Dr. Lackenbauer about how the CNC might serve national defence and security agendas while simultaneously improving accessibility to northern communities and opening economic opportunities. To achieve the benefits of a synchronized approach, a dual-use strategy must be articulated and embraced before implementation of the corridor begins. Some investment opportunities cannot be retrofitted, particularly in the domain of critical security and defence infrastructure — and some dual-use opportunities may be negated by projects involving foreign investment (such as China). If the CNC is implemented through foreign investment, critical infrastructure and related activities (i.e., forestry and mining) may undergo national security review processes. Such considerations are particularly relevant from a Canadian northern and Arctic perspective, given the (geo)political, strategic and environmental nex us outlined in this paper. Thus, governance and implementation frameworks must account for security considerations by emphasizing benefits that promote Canadian prosperity and identifying vulnerabilities that may adversely affect Canada's northern and Arctic security. Furthermore, any CNC plans must involve thorough impact assessments of infrastructure development on remote and northern communities, including how these projects may expose Indigenous Peoples to cultural, human and environmental security risks or threats for which they may not have sufficient capacity to respond. In these conversations and consultations, Canadian defence and security actors also represent important stakeholders.



A map of the notional route for the Canadian Northern Corridor.
Source: School of Public Policy, University of Calgary

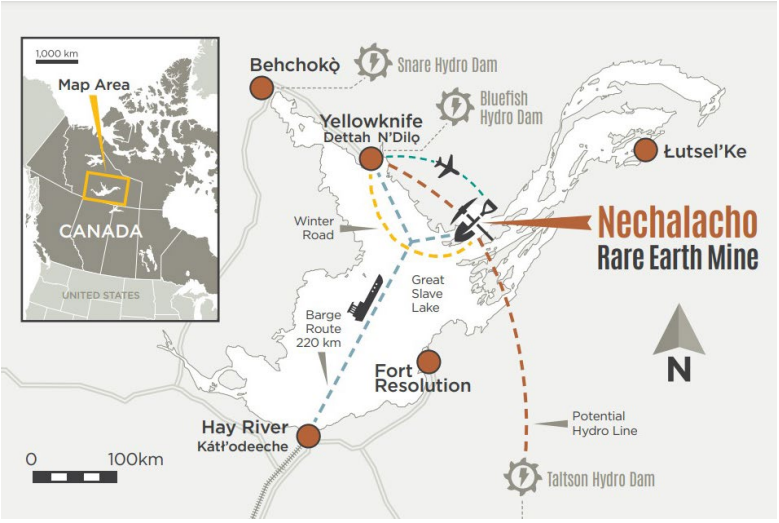
Redfern argued that Arctic economic development requires a significant ramping up of effort. Sustainable and prosperous communities rely on having economies that can support basic necessities, such as health and safety. Today, communities in the Canadian North, much like other remote locations in the world, continue to experience higher costs and poorer outcomes for almost the entire range of goods and services. This has had dramatic effects on traditional well-being indicators from literacy to employment to life expectancy. More than

80% of Nunavut's water infrastructure is in poor condition, and the notional CNC that Dr. Koch outlined leaves out most of Nunavut. Fish caught in Nunavut are landed in Greenland or in Atlantic Canada owing to the absence of infrastructure in the territory. The Iqaluit deep sea port is not yet operational year-round, and she noted that it is not transformative infrastructure. All of this points to the need for substantial investments in basic infrastructure in Nunavut – but in the absence of a Canadian strategy, there is a lack of clarity on where, why, how, how much, and by whom. Canada's "Arctic ghettos" are a sharp contrast to Greenland, which is building its sixth hydro plant, boasts two fibre optic cable connections to Europe, and is expanding and improving its airport infrastructure. Alaska enjoys reliable, stable, secure, abundant, and affordable energy that benefits both residents and businesses, which has been costed out at the macro- and micro-levels which enabled funding from Washington.

Canada's lack of an Arctic infrastructure strategy is also why we lack an Arctic economic strategy. Redfern highlighted three specific technologies gaining support in the Canadian North that show promise in making major contributions to enhancing key energy, transportation, and communications infrastructure. Fibre-optic networks would not only improve connectivity and knowledge transfer, they also would make distance learning, telehealth and remote work more functional. Small modular reactors would reduce community dependence on diesel and provide energy for industrial applications. Airships could reduce the cost of freight and allow for sustainable, year-round transportation. The North has been burdened by expensive infrastructural systems designed for very different geographies and demographics, maladapted to their realities. New technologies and prioritizing Indigenous businesses to build and own their own infrastructure can create a very different paradigm that enables and unleashes the full potential of the North. This requires vision, investment and acceptance. Fortunately, the Canadian Department of National Defence (DND) and Canadian Armed Forces (CAF) require basic infrastructure to perform their mandate roles in the Arctic, with innovative technologies – ideally led by Indigenous businesses – offering the potential to help mitigate and adapt to further climate change as well as creating the means for building sustainable and prosperous Arctic communities. There is no call from Northerners to turn their vibrant, unique communities into poor replicas of southern ones, much less replicas of the 20th century.

Connelly reflected on the importance of rare earth elements (REEs) and how these connect to both Indigenous leadership and the desire for improved transportation infrastructure in the Canadian Arctic. Vital Metals and its subsidiary, Cheetah Resources, have been mining the Nechalacho site, about 100 kilometres southeast of Yellowknife, which has large deposits of valuable metals used in modern technology. Cheetah is working with the Det'on Cho Nahanni Construction Corporation, owned by the Yellowknives Dene First Nation (YKDFN), which is managing and operating on-site extraction activities. The YKDFN are one of the first Indigenous groups in Canada to be responsible for mineral extraction on their traditional territory, and this project is helping stimulate the economy and creating employment opportunities for Northerners and Indigenous Peoples.

Seventy percent of the directors of Vital's board are Indigenous, most of its employees are Indigenous residents of the NWT, and it procures mainly from Indigenous companies.



Source: Vital Metals

Connelly emphasized that minerals and security are inextricably linked in the circumpolar world, with China – which accounts for roughly 60% of global REE output and an even greater share of the REE refining process – representing the most significant risk. Cheetah is the first Canadian producer of REE oxides, which are used in technologies that are helping move Canada to a low carbon economy, such as the manufacturing of electric vehicles, the production of semi-conductors, solar panels, wind turbines and several other components that are vital to achieve the world's clean energy objectives. REEs refers to the group of 15 lanthanide elements and 2 other elements (scandium and yttrium), all of which are usually found in the same ore bodies (but seldom in sufficient concentrations that they can be processed responsibly). The most important use/application of REEs is in the manufacture of permanent magnets (an essential component of many modern electronics, military equipment, and high-tech devices), but their magnetic properties make them hugely difficult to separate. In light of the Peoples Republic of China's deliberate strategy to control the value chain of REEs within that country, Canada and other Arctic countries rich in critical minerals are poised to play a pivotal role in the development of secure development supply chains outside of China. Connelly argued that Alaska, Greenland, and Canada must exploit their significant REE reserves and resources (measured and indicated) in order to reduce dependence on China and Russia.

Dr. Lajeunesse looked to the Russian Arctic, contextualizing that we are now navigating uncertainty in that region that we have not witnessed since the collapse of the USSR. When Russian tanks crossed the Ukrainian border in February 2022, the Western world's perception of great-power conflict changed overnight. Formerly a competitor, Russia has unambiguously transformed itself into an enemy. Russia's further invasion of Ukraine has brought early signs of Western companies fleeing from the Russian Arctic, which is likely to have significant implications for the Russian economy given its overwhelming dependence on hydrocarbons. As Russian transitions from a strategic competitor to an outright adversary, it will no longer be a reliable source of oil and gas for Europe.

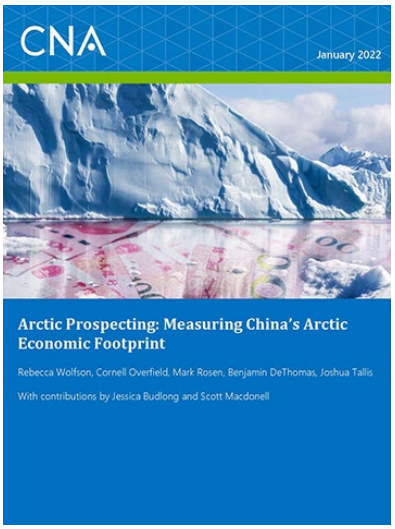
In the wake of Russia's February 2022 invasion of Ukraine, China – while officially neutral in the conflict – appears to be quietly supportive of Russia's aggression. Its officials and state-media are broadly critical of NATO

actions and Western sanctions, suggesting also that Moscow has valid historical and strategic grievances justifying action against Ukraine. In February 2022, a Chinese propaganda directive instructed national media to avoid information "disadvantageous to Russia or sympathetic to the West." The same directive instructed them to use only official news releases from the state-run *People's Daily*, *Xinhua News Agency*, and *China Central Television*. Content sharing deals struck between these official state media sources and their Russian counterparts mean that those official news releases are also shaped by Russian narratives. It is important to watch how Chinese state media and Foreign Ministry representatives treat Russian propaganda surrounding NATO's role in the crisis and Moscow's security concerns.

Lajeunesse expects various implications for the Arctic, with a significant dislocation of the Russian economy. Russia is losing chosen partners in the West and is pivoting towards China, upon which it will become increasingly dependent for investment capital, out of necessity. Resource development and investment opportunities are at the heart of China's interests in the Russian Arctic. Following the imposition of Western sanctions in 2014, Russia began to actively seek out Chinese partnerships to backfill its loss of Western funds and since then Chinese state-owned Enterprises (SOE) and banks have emerged as major investors, shareholders, and development partners. It remains unclear how the PRC will replace the West as a primary investor and market for Russia, but the Chinese are already paying lower gas prices which will force Russia to increase production. Furthermore, the changed geopolitical context means that Russia will lose its leverage owing to fewer alternatives. Accordingly, China is likely to become a more influential actor in the Russian Arctic and, by extension, the Arctic more broadly.

Overfield provided overviews from four reports recently completed by the Center for Naval Analysis on China's Arctic investment and economic footprint. The first looks at the nature and scope of Arctic foreign direct investment (FDI), which he clarified is an important but targeted tool that China has only used in the Russian Arctic (energy investments). The low level of Arctic FDI from PRC-based firms suggests that FDI screening mechanisms are currently effective and afford policy-makers a window of opportunity to address future risks. In terms of the efficacy of mechanisms for screening FDI, he explained that most jurisdictions have some combination of broad criteria and broad application requirements to incoming FDI. Most Arctic states require transparency when proposed investments are blocked through FDI screening systems, and all FDI screening systems in the Arctic test investments against their threat to national security in a broad sense. Covered investments range from all investments with controlling stakes (Canada, the US, Iceland) to investments in only security sectors (Russia, Norway). Of the five states with FDI screening mechanisms, four have laws permitting mitigation measures, and three have legislation explicitly authorizing monitoring. No state in the Arctic applies special rules to screening investments in its Arctic territory. Instead, states have national FDI screening regimes that apply equally and uniformly to Arctic and non-Arctic regions. Canada represents a major success story in its robust FDI screening mechanism, while Greenland lacks a formal FDI screening system (as Denmark's recently

introduced screening regime does not apply to that country). Currently, investment in Greenland can be scrutinized or blocked only through indirect means, such as refusing land or mining permits. The study concluded that Greenland would likely suffer from capacity shortcomings if it adopted a screening law, but that it does have restrictions on foreign land purchases. Areas for improvement include increased information sharing between like-minded Arctic states, as well as exempt investor state status for selected countries.



The report on China's Arctic economic footprint distinguished between FDI and other forms of economic activity, revealing that FDI in the Arctic from PRC-based sources appears to be an important but niche tool, whereas large-scale economic activities with Arctic implications and involvement by PRC-based firms are more substantial. Consequently, concerns about FDI from PRC-based entities are likely spurred in part by the accurate perception of broadly high overall PRC regional economic activity. Furthermore, the US and other Arctic policy-makers have a clear window within which to implement further rules or structures to mitigate risks of highly concentrated investments controlled by PRC-based entities. Finally, policy-makers concerned with overall PRC economic activity in the Arctic face a much broader and more complex set of obstacles to implementing countervailing policy measures.

With respect to the relationship between China's Arctic investment and its broader national strategy, PRC leaders see the region as important to achieving overarching strategic objectives, including: sustaining economic development; defending national sovereignty, security, and development interests; and reforming the global system to align with PRC interests. Economic tools play a unique role in Beijing's efforts to advance its interests in the Arctic, given its dependence on the Arctic states for access to pursue its interests there. PRC-based firms with deep pockets and state backing are uniquely positioned to take on large, risky Arctic projects. Indeed, the financial power of China's firms— particularly its state-owned enterprises—is a relative advantage over other states with interests in Arctic investment. Furthermore, the party-state exerts control over both state-owned and private PRC-based companies to ensure that their investments in Arctic countries further Beijing's interests. Because of the PRC government's investment screening regulations, PRC-based firms are likely to focus on projects related to the extraction of natural resources and the development of the infrastructure necessary to make Arctic shipping routes commercially viable. Despite China's wide-ranging efforts, its success in the Arctic to date has been limited by various constraints, including pushback from Arctic states, Beijing's counterproductive use of economic coercion, the lack of profitability, and stalled projects and continued lack of port access.

The CNA project concluded that low levels of FDI contrast with overall PRC economic activity in the Arctic, which remains robust. Many announced projects ultimately fail to be consummated, with deals collapsing owing to

state scrutiny and economic considerations. FDI in the Arctic from PRC-based entities is largely concentrated in extractive industries (energy and mining), as well as sectors related to developing future Arctic shipping routes. Broader economic activity, which does not necessarily qualify as FDI, also includes transactions in the telecommunications industry and service contracts for infrastructure construction. PRC FDI, strictly defined, is most evident in the Russian Arctic, and almost nonexistent in most other Arctic regions. Based on Beijing's stated policies, Overfield expects PRC attempts to secure Arctic FDI projects to grow. Economic tools are central to Beijing's broader political intentions to achieve greater regional influence. China accomplishes this targeting in part through state-owned enterprises, which are important actors in PRC Arctic FDI and broader economic activity. PRC FDI takes place within a relatively effective regulatory framework among Arctic nations. Nevertheless, economic statecraft will remain a centerpiece of PRC policy in the Arctic, and future PRC acquisitions or activities are sure to spark concerns. Overfield highlighted that Western policymakers should use the breathing room afforded by current FDI screening policies to tackle challenges posed by China's broader, non-investment economic activity in the Arctic, with particular focus on preventing or modifying PRC investments and activities assessed to pose high risks to national security. These concerns can come from PRC investments in strategically important individual projects, such as REEs in Greenland, but also from the steady accumulation of economic and political influence in Arctic states. Investments that may support future PRC military activities through infrastructure and dual-use ownership may also trigger national security concerns.

During the question and answer period, panelists discussed various aspects of Chinese involvement in the region and national security implications. Panelists suggested shifting perceptions of China in Greenland and Nunavut, as well as expectations about which level of government is responsible for screening and assessments of risk. Some Inuit leaders who originally did not oppose Chinese foreign investment with justification (including respect for human rights) are less enthusiastic or open in light of deeper understandings of the PRC's autocratic political regime and its long-term visions and goals (including in the Arctic). Panelists also discussed the link between infrastructure, mining, and the tourism sector; the implications of COVID-related disruptions of the global economy and their implications for Arctic investment (including China's ability to close deals over the past two years); and how North Americans might leverage long-term agreements with European countries to provide wheat, oil, and other bulk commodities to finance strategic transportation infrastructure.

Panel 5: Energy Security: Risks, Opportunities, Constraints

Dr. Cameron Carlson, the founding director of the Homeland Security and Emergency Management program and Assistant Director of the Center for Arctic Security and Resilience (CASR) at the University of Alaska Fairbanks, introduced and moderated the fifth panel. **Dr. Andrew Bresnahan** is a Special Advisor and Research Scientist at Polar Knowledge Canada (Government of Canada), Director of Circumpolar Affairs with the North American and Arctic Defence and Security Network (NAADSN), and a postgraduate student in International

Affairs and Strategic Studies at King's College London. He was born in Nunatsiavut, on the north coast of Labrador, where he learned and practiced as a resident physician. He also conducted anthropological fieldwork on social determinants of health in the Gwitch'in and Inuvialuit homelands, and worked as an analyst and Special Advisor to Qikiqtani Inuit leader P.J. Akeeagok from 2019-2022. **Dr. Sergey Sukhankin** is a Senior Fellow at the Jamestown Foundation, an Advisor at Gulf State Analytics in Washington, D.C., and a NAADSN Postdoctoral Fellow. His areas of interest include Russian information and cyber security, A2/AD and its interpretation in Russia, the Arctic region, the development of Russian private military companies, and economic issues (the Northern Sea Route and oil/LNG projects) in the Arctic region. He is based in Edmonton, Alberta, Canada. **Dr. Wilfrid Greaves** is Assistant Professor of International Relations at the University of Victoria. His research examines global security theory and politics with respect to climate change, resource extraction, and Indigenous peoples; Canadian foreign policy and Canada-US relations; and the politics of the circumpolar Arctic. His monograph on Arctic security and climate change is forthcoming from University of Toronto Press. **Mike McEleney** is Senior Policy Advisor with responsibility for Arctic issues at the Arctic Energy Office. He coordinated the first senior Department of Energy (DOE) visits to Iceland and Greenland and assisted in the planning and creation of AEO. Prior to his service in the Department of Energy he served as a Policy and Strategy Analyst for the Under Secretary of the Navy with responsibility for Arctic and Nuclear issues. **Gwen Holdmann** is the Director of the Alaska Center for Energy and Power (ACEP), which is an applied energy research program based at the University of Alaska Fairbanks focusing on both fossil and renewable/alternative energy technologies. Prior to joining the University of Alaska, Gwen served as the Vice President of New Development at Chena Hot Springs Resort near Fairbanks where she oversaw the construction of the first geothermal power plant in the state, in addition to numerous other innovative energy projects ranging from hydrogen production to cooling a 10,000ft^2 ice museum year-round using 150°F hot water. Gwen has been the recipient of several awards throughout her career, including an R&D 100 award, Project of the Year from Power Engineering Magazine, the Alaska Top 40 Under 40 Award.

Dr. Bresnahan approached questions of climate risk and energy security in the Arctic from the standpoint of Northern people for whom the stakes of a secure energy system are the highest. Four themes framed his comments: 1) the global context of energy markets, climate, and conflict; 2) energy systems in circumpolar context; 3) energy infrastructure options in Arctic Canada; and 4) the political economy of critical minerals and other inputs for energy infrastructure and Arctic energy security. Arctic energy security implies connections with global supply chains, and policy contexts of climate change, conflict, and renewed great power competition. He opened by considering compound climate-fragility risks threatening states and societies, including resource competition, livelihood insecurity and migration, increased frequency and severity of extreme weather, volatile food prices and supplies, transboundary management challenges, sea-level rise and coastal erosion, and the unintended effects of climate policies. Low-income countries are most exposed to climate risk and least able to

adapt, while most likely to be fragile and conflict-affected. Similarly, Arctic Canada is warming four times faster than the rest of the world, while facing steep gradients in social and economic inequity.

Presenting Arctic Canada's energy systems in comparative context, Dr. Bresnahan reviewed the energy mix of oil, natural gas, coal, hydropower, wind, geothermal, biomass, and nuclear energy used in Greenland, the Faroe Islands, Iceland, Jan Mayen, Svalbard, and the Nordic countries, along with their associated grids and critical infrastructure. He then detailed Canada's electrical grids and primary energy production systems, demonstrating to what extent Canada's Arctic energy systems and critical infrastructure are distinct within Canada. As a case study, he then examined energy security in Nunavut, Canada, which is 100 percent reliant on diesel combustion for electricity generation, with bulk fuel delivery by marine transport. He described an energy system with an estimated generating capacity of 54 MW, managed by the Government of Nunavut's Petroleum Products Division, and entirely generated and delivered by Qulliq Energy Corporation (QEC). In Nunavut, fuel prices are a function of the commodity price, processing, transport, and storage costs, taxes, and public fuel subsidies for seniors and harvesters. This means that fuel commodity prices are less than 50 per cent of total energy costs in Nunavut, an energy system completely dependent on diesel fuel.

Informed by the policy context of 2019 and 2021 ministerial mandate letters supporting the transition of northern, remote, and Indigenous communities from reliance on diesel power to clean, renewable, and reliable energy by 2023, Bresnahan then considered clean energy options for Arctic Canada. He reviewed options for Arctic hydroelectricity, wind and solar, and nuclear energy, assessing constraints, risks and opportunities, and existing and prospective projects across Arctic Canada. This assessment included analysis of the political economy of global trade in critical minerals. In sum, he demonstrated that energy systems in Arctic Canada are to a large extent dependent on marine transport to supply fossil fuel inputs. Where geography permits, hydroelectric development can offer reliable, abundant energy. Intermittent renewables can modestly offset fossil fuel consumption, while deepening dependence on fossil fuels to meet baseload demand. At scale, nuclear energy is essential for deep decarbonization and energy security. For all energy options, global political economy matters.

Dr. Sukhankin focused his comments on Russian liquified natural gas (LNG) goals. In the spring of 2021, the Russian government adopted the "Long-Term Program on the Development and Production of LNG," which highlights the strategic role of the Arctic region in achieving Russia's goal of securing a 20 percent share in the global LNG industry by 2035. The instructions outlined in the Program, combined with other already-observable indicators, suggest that Russia plans to drastically change its position in the global LNG sector by implementing three key objectives. First, it will need to activate the economic potential of the Russian Arctic/High North and Far East by exploiting regional gas resources on the Yamal and Gyda peninsulas, the northern part of Krasnoyarsk Krai, and the Arctic shelf. It also will involve upgrading the LNG-processing facilities in both the Arctic (the Yamal and the Arctic LNG-2 projects) and the Kamchatka regions. The High North is inseparable from the area's direct

connection to Russia's largest natural gas deposits, while the development in Kamchatka signifies the country's determination to create a direct connection to the lucrative Asia-Pacific markets for LNG by reducing transportation costs and risks of delay. Russia's ambitious LNG-related plans are further tied to the Arctic region because of the government's determination to upgrade the transportation capabilities of the Northern Sea Route (NSR). According to Russian plans, the transportation of LNG could constitute approximately 80 percent of the overall cargo load (160 million tons) shipped yearly via the NSR by 2035. To achieve this vision, Moscow has launched an ambitious icebreaker-building program and envisages the construction of 26 unique LNG carriers capable of operating in Arctic waters.

Map showing Yamal and Arctic LNG II sites and transport routes to Europe and Asia with new transshipment hubs. *Source:* Malte Humpert.

The second major objective for Moscow is to strategically orient Russia toward the Asia-Pacific markets, with an emphasis on China. Russia perceives the massive and burgeoning Chinese market as crucial to being able to increase its LNG export potential. The Russian side welcomes growing friction between Beijing and Washington, which hinders American prospects for gaining a solid foothold in the Chinese gas sector. Russian also expects that souring political and economic ties between China and Australia bolster its prospects of becoming China's top LNG supplier. To reach its goal of a 20 percent share of the global LNG market, however, Russia forecasted strong supply volumes to the European Union. Has its brutal invasion of Ukraine undermined its ability to carry out its strategy? Novatek is the main loser because 90% of its technologies are foreign and hard to replace. Western companies were key stakeholders in several of the Sakhalin projects where constraints on technology transfer will severely impact developments. Thus, while experts agree that Russia has the potential to dramatically increase its LNG exports, the country's ability to attain the declared strategic goal of becoming one of the world's top three LNG exporters is much less certain. To be successful, Russia must also decrease transportation costs along the NSR and qualitatively upgrade the level of domestic LNG and transportation infrastructure. While these issues remain unresolved, Russia's ambitious LNG strategy will continue to encounter serious challenges.

Dr. Greaves outlined the security implications of human-caused climate change for Canada, framing his comments around economic security (subsistence, food insecurity, jobs), physical security (direct threats to life, critical infrastructure, chronic social), and societal/cultural security (cultural links and self-determination). Human insecurity is particularly acute in the Arctic and sub-Arctic regions, and among Indigenous communities. Global warming is also undermining critical infrastructure across northern Canada, with thawing permafrost and coastal erosion destabilizing the ground on which many communities are built and damaging roads, bridges, airstrips, pipelines, homes, and sewage systems. The factors that affect people's climate-adaptation capacities intersect to render Indigenous people, especially Indigenous women, particularly vulnerable to human insecurity. Changes to the land affect subsistence practices on traditional territories, undermining multi-generational knowledge about weather and climate patterns, animal movements, and methods of hunting and gathering. These climate-related threats to human security have been inadequately addressed by governments in Canada, and Greaves anticipates that the failures of public planning across all levels of Canadian government are likely to produce both acute and chronic human insecurities in much the way that governance failures combine with exogenous events to produce humanitarian crises elsewhere around the world.

In addition to human security concerns, the Arctic faces other challenges that affect Canada's security interests. The rise of strategic competition is problematic for Canada's ability to defend its Northern interests, though all Arctic states still emphasize the absence of conventional military threats in the region and reaffirm their commitments to peaceful resolution of disputes there. Uniquely among the Arctic states, Canada remains insecure in its sovereignty over Arctic territory, including the disputed legal status of the Northwest Passage. Though a longstanding issue, the opening of the NWP to commercial shipping as a result of warming waters demonstrates how climate change aggravates existing security challenges. Concurrently, climate change has led to high-level concern and training and preparation for unconventional Arctic security issues – such as illegal shipping, smuggling, irregular migration, and even terrorism – in increasingly accessible Arctic waters. Environmental change also causes new threats, such as increased risk of damage to vessels and oil rigs from sea ice and unpredictable weather, and new objects of security, including the Arctic ecosystem itself. While there is little evidence that a warming climate will directly lead to interstate violence, the warming of the Arctic has generated a complex regional security environment characterized by renewed state competition, the pursuit of economic gains, and the risk of significant ecological and social harms. Greaves notes that most Canadians believe in human-caused climate change and are worried about it, but that climate opinion is unevenly divided by region, province, and partisanship. Accordingly, Canadians broadly agree on climate change, but disagree on the implications for energy policy.

McEleney explained that energy security is the culmination of economic, environmental, and global security, and that the DOE's Arctic efforts strive to be appropriately balanced and integrated across the three strategic

goals of energy, science, and security. In addition to ensuring US national security in the Arctic, DOE adopts a broader systems perspective on Arctic security that includes increased community resilience. McEleney highlighted the Bering Strait and Bering Sea region, which Russia sees as its "eastern Arctic." Russian shipments via the Bering Strait are essential for the country to maintain it s export markets, even under the most extreme geostrategic and geopolitical conditions. Increased maritime activity in the region heightens the risks for Alaskan coastal communities, such as pollution, accidents, and other adverse impacts. This requires expanded emergency capabilities including spill response, search and rescue, and emergency shelter. It also entails coordinating with Arctic inhabitants (including Indigenous Peoples), other Federal agencies, state and local organizations, and international partners and allies to ensure broad-based understanding of Arctic challenges and solutions. He also noted that President Biden, on this first day in office, reinstated the Task Force on the Northern Bering Sea Climate Resilience Area (NBSCRA) with its mandate to "enhance the resilience of the northern Bering Sea region by conserving the region's ecosystem, including those natural resources that provide important cultural and subsistence value and services to the people of the region." An Intergovernmental Tribal Advisory Council provides input and guidance on aspects related to: climate resilience; the rights, needs, and knowledge of Alaska Native tribes; the delicate and unique ecosystem; and the protection of marine mammals and other wildlife.

Source: Gabriel Ziegler (Creative Commons)

In terms of economic security, Alaska has some of the highest energy costs in the country. The rising prices of diesel and gasoline in remote villages has severe impacts – an issue shared in off-grid Canadian Northern communities. This heightens the importance of making opportunities for diverse research, development, and deployment of electric power technology more cost-effective to meet the needs of remote areas. A wide variety of energy resources and technologies, both traditional and innovative, are available in Alaska, including more than 200 microgrids. DOE also sponsors research on critical minerals in Alaska, as well as market studies to assess possible Arctic applications of the emerging micro nuclear reactor and small modular reactor systems

that complement efforts by the industry and defense sectors. He ended his comments with the suggestion that we keep a close eye on the Bering Strait region in light of its economic importance and the danger of energy coercion. Scenarios featuring adversarial activities that seek to meddle in or cut off access to communities – including inserting adversarial actors into community crises – should not be overlooked.

Holdmann's work with the ACEP seeks to develop and disseminate practical, cost-effective, and innovative energy solutions for Alaska and other regions with similar energy struggles. Varied programs have allowed the ACEP to delve into research specialties such as hydrokinetics, power systems integration with a focus on microgrids, development of innovative data collection techniques, and economic analysis for various energy-related purposes. She explained how the transition toward a low-carbon future based on renewable energy appears to be firmly underway in most industrialized and many developing countries, but economies of scale must be taken into account. When scaled down to the sub-national or community level, less uniform progress is evident – particularly in remote communities not connected to electrical grids. These communities often rely on imported, expensive, and high-emission diesel fuel to generate electric power locally. Accordingly, better understanding the barriers and enablers of transitioning from diesel-dependent energy systems to decarbonized and decentralized renewable energy offers unique incentives to geographically and culturally diverse remote communities as they look toward mitigating climate change.

She shared insights from her groundbreaking work on sociopolitical factors that enable sustainable and locally successful renewable energy transitions of remote communities. By adopting a multi-level perspective and shifting the focus to important social, community, and place-based contexts, Holdmann and her colleagues reveal drivers and necessary conditions for successful change, as well as societal consequences, at the local or community-scale to achieve community renewable energy (CRE). Sharing the findings from a dataset of 24 communities in remote Alaska that relied 100 percent on diesel fuel for local power generation at the beginning of our timeframe for analysis (2007), their systematic comparative analysis revealed community-centered conditions that enable or prevent CRE transitions. Notably, community capacity (for which they developed an empirically-measurable model) was instrumental. She observed how proponents (including governments) often focus on short-term project development rather than capacity building. Community leaders, energy champions and everyday citizens are essential to getting CRE projects off the ground and making them successful in the long term. Attentiveness to social and place-based context is critical to energy equity and energy justice, and may also ensure the longevity of the policies and programs that support such development. She also noted that leaders from remote Alaskan communities are now recognizing the potential benefits and increased economic viability of energy transitions, and that pooling for economies of scale across models such as cooperatives can benefit for communities looking to develop a CRE project.

Closing Keynote

Dr. Whitney Lackenbauer introduced **Major General (retired) Randy (Church) Kee**, Senior Advisor for Arctic Security Affairs in the US Department of Defense to assist with establishing the Ted Stevens Center for Arctic Security Studies (TSC) – one of the co-hosts of ACCUSARS III. Kee was a Commissioner to the U.S. Arctic Research Commission and the Executive Director of the Arctic Domain Awareness Center (ADAC), a U.S. Department of Homeland Security Center of Excellence in Maritime Research, hosted by the University of Alaska, until his latest appointment. He is also a Global Fellow of the Woodrow Wilson Polar Institute and a Network Coordinator with the North American and Arctic Defense and Security Network (NAADSN), amongst other organizations.

Kee introduced the TSC as a soft power complement to DoD's hard power investments in and across the Arctic Region. Founded in 2021 and based in Anchorage, the TSC is one of six DoD Regional Centers, which are direct reporting organizations of the Office of the Secretary of Defense for Policy (OUSD-P) charged with advancing regional priorities identified by OUSD-P and respective combatant commands in support of the US *National Defense Strategy*. Through analysis, education and engagement, the TSC seeks to advance awareness and understanding to promote collaborative security for the Arctic region. Kee noted that such endeavors will span from the geophysical to the geostrategic, with a mission to build strong, sustainable, domestic and international networks of security leaders and promote and conduct focused research on Arctic security to advance DoD security priorities in the circumpolar region. Through delivering relevant education, analysis and symposia, he explained how the TSC intends to prepare civilian and military security practitioners, propose useful solutions, and enhance people networks to ensure a stable, rules-based order in the Arctic that will benefit the United States and all Arctic nations. Meeting US objectives in the Arctic requires multilateral, whole-of-government approaches to which the DoD Regional Center model is well-suited, and the TSC will engage senior-level civilian and military policymakers and practitioners beyond traditional defence stakeholders, including inter-ministerial officials and key security stakeholders from non-governmental organizations and international organizations. This "all-ranks" approach includes the Arctic Regional Security Operator Course (ARSOC) serial convened by the Center. In addition to the education and multinational and multidiscipline convening elements, the TSC also will conduct studies, analysis and assessments to advance Arctic awareness and understanding.

In his presentation, Kee laid out the TSC's guiding principles:

- *Educate.* Expand knowledge about the Arctic, dispel myths and ensure understanding through creative and experiential learning.
- *Inquire and investigate.* As a DoD Education, Engagement & Research enterprise, seeking ever more insight is essential.

- *Value and respect.* The peoples, places and partnerships across the Arctic.
- *Inclusion.* Involve and invest stakeholders across and beyond the region.
- *Stewardship.* Achieving a peaceful and open Arctic requires commitment to care.
- *Humility.* Promote this vital attribute for learning, inclusion and innovation.
- *Protect.* Prepare and support security and defense practitioners with relevant programs for shared protection of our Nation.
- *Network.* The power of more…and built on Trust.

While the TSC is a US centre, Kee expressed his hope to integrate a Canada-US approach to the centre by working closely with NAADSN.