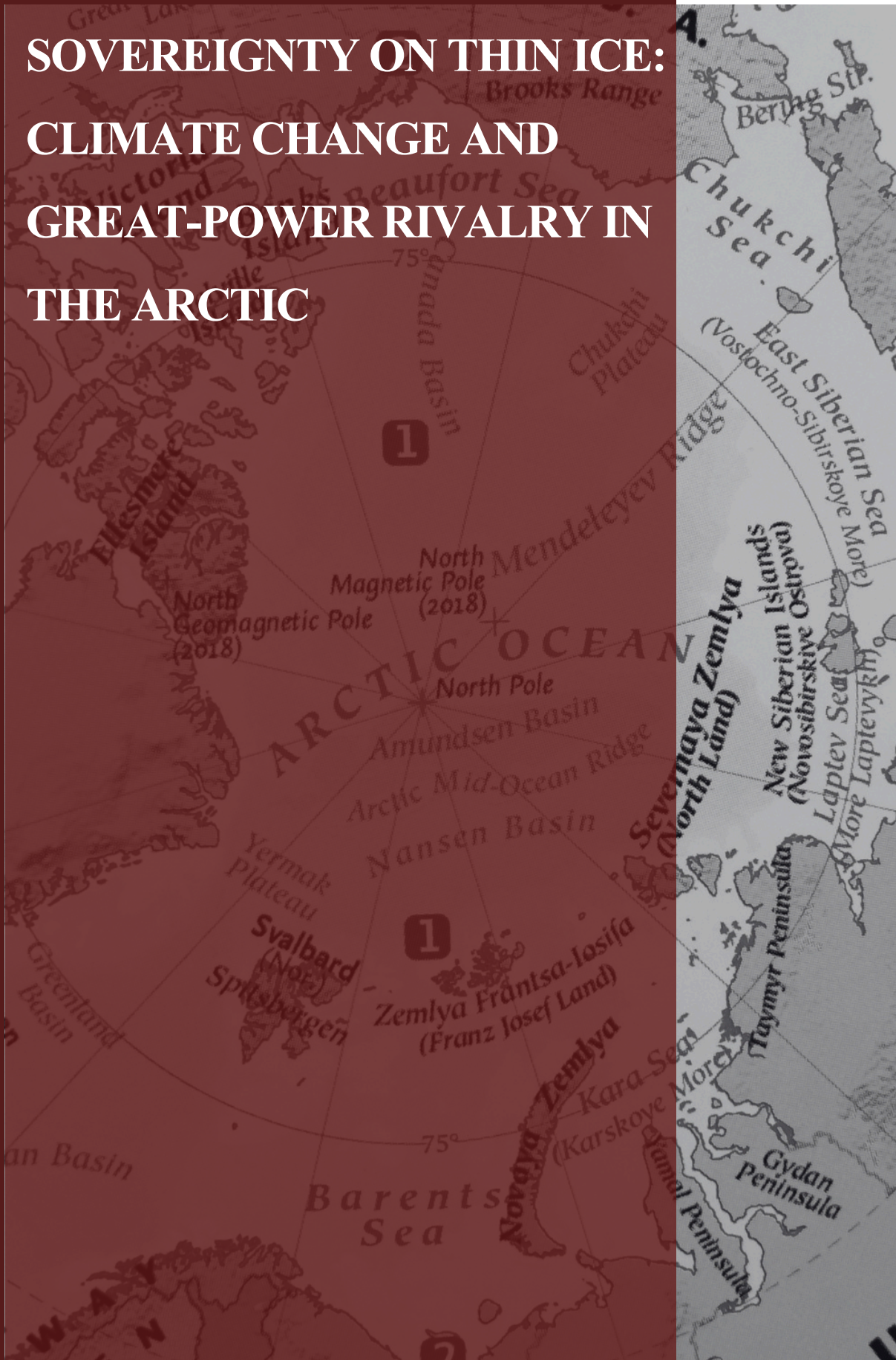


# SOVEREIGNTY ON THIN ICE: CLIMATE CHANGE AND GREAT-POWER RIVALRY IN THE ARCTIC



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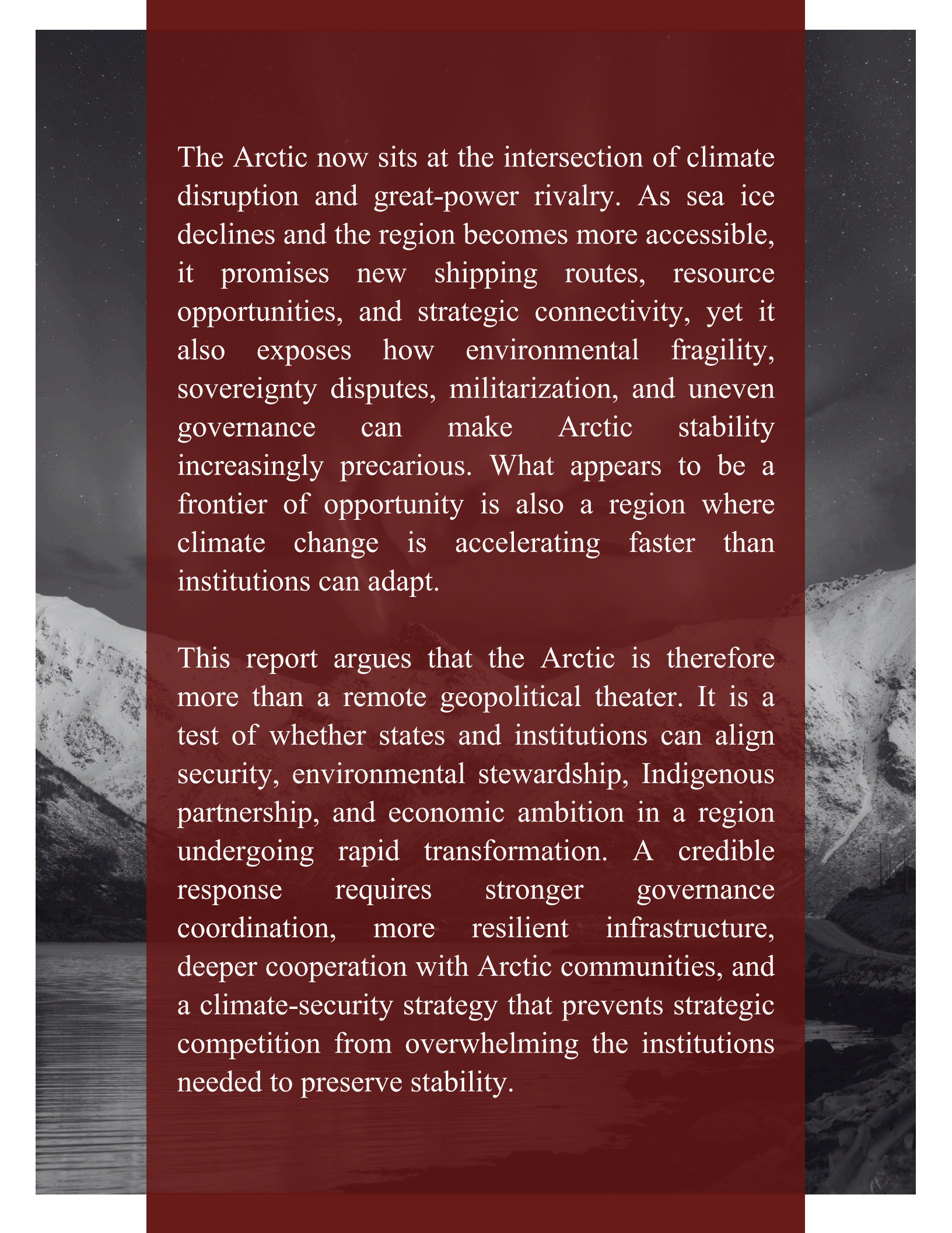


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The Arctic now sits at the intersection of climate disruption and great-power rivalry. As sea ice declines and the region becomes more accessible, it promises new shipping routes, resource opportunities, and strategic connectivity, yet it also exposes how environmental fragility, sovereignty disputes, militarization, and uneven governance can make Arctic stability increasingly precarious. What appears to be a frontier of opportunity is also a region where climate change is accelerating faster than institutions can adapt.

This report argues that the Arctic is therefore more than a remote geopolitical theater. It is a test of whether states and institutions can align security, environmental stewardship, Indigenous partnership, and economic ambition in a region undergoing rapid transformation. A credible response requires stronger governance coordination, more resilient infrastructure, deeper cooperation with Arctic communities, and a climate-security strategy that prevents strategic competition from overwhelming the institutions needed to preserve stability.

# Table of Contents

Executive Summary	08
I. Introduction	10
II. Climate Change in the Arctic	11
III. Strategic Interests and Actors	14
IV. Areas of Great Power Competition	37
V. Policy Options and Recommendations	46
VI. Conclusion	51
Bibliography	52



# **Sovereignty on Thin Ice: Climate Change and Great-Power Rivalry in the Arctic**

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## Executive Summary

The interaction of two inseparable forces is reshaping the Arctic: rapid climate change and rising great-power competition. As warming accelerates, sea ice declines, permafrost thaws, glaciers retreat, and ecosystems shift across the circumpolar North. These environmental changes are not only ecological. They are also strategic. More accessible waters, longer navigation seasons, and growing interest in energy, shipping, critical minerals, and infrastructure are increasing the Arctic's geopolitical significance, even as the region remains environmentally fragile and institutionally uneven.

This report argues that the Arctic should not be understood simply as a new theatre of military rivalry or as a frontier of economic opportunity, but as a region in which physical transformation, strategic competition, and governance stress now reinforce one another. Climate change is making the region more accessible, but also more unstable. States are expanding surveillance, icebreaking, ports, defence planning, and industrial cooperation, yet governance institutions remain partly rooted in an earlier period when the Arctic was more insulated from global geopolitical confrontation.

The report examines the Arctic across five main dimensions. First, it explains how Arctic amplification, sea-ice decline, and cryospheric change are altering ecosystems, infrastructure, and Indigenous livelihoods. Second, it analyses the strategies of key actors, especially the United States, Russia, China, Canada, and Denmark/Greenland, while also highlighting the strategic importance of Inuit leadership and multinational corporations. Third, it assesses great-power competition across military, economic, and technological-scientific domains. Fourth, it reviews the region's governance architecture, with particular attention to the United Nations Convention on the Law of the Sea (UNCLOS), the Arctic Council, and the growing mismatch between institutional mandates and regional realities. Finally, it identifies policy options to preserve stability while adapting governance to a more contested Arctic.

Several core findings emerge. Russia remains the dominant military actor in the Arctic, with the Northern Fleet, Arctic bases, nuclear deterrence logic, and the Northern Sea Route at the centre of its strategy. At the same time, its economic Arctic ambitions face significant constraints from sanctions, access to technology, and growing dependence on Chinese demand and partnerships. The United States has shifted toward a more integrated Arctic strategy, emphasising deterrence, domain awareness, infrastructure, and allied cooperation, especially through the North American Aerospace Defence Command (NORAD), NATO, and icebreaker capacity. China's role is more indirect but increasingly significant, relying on scientific presence, infrastructure partnerships, and long-term positioning through the language of Arctic governance and the Polar Silk Road. Canada's Arctic strategy is shaped by the interplay of sovereignty, continental defence, and Indigenous-centred legitimacy. At the same time, Denmark/Greenland occupies a pivotal position due to its strategic geography, alliance relevance, and evolving constitutional politics. Across all of these cases, Arctic strategy is no longer just about territory; it is also about legitimacy, infrastructure, logistics, and the ability to govern amid rapid environmental change.

The report also finds that the Arctic governance system is layered but fragmented. UNCLOS continues to provide the basic legal framework for maritime zones, continental shelf claims, navigation, and jurisdiction over resources. The Arctic Council remains the principal forum for environmental protection, scientific cooperation, and Indigenous participation. Specialised instruments such as the Polar Code, the Central Arctic Ocean Fisheries Agreement, and the Arctic Coast Guard Forum fill important operational

and regulatory gaps. Yet no single institution integrates climate change, shipping, infrastructure, Indigenous governance, and strategic competition in a coherent way. The Russia-West rupture since 2022 has further exposed the vulnerability of Arctic governance to geopolitical spillover.

The central policy conclusion of the report is that the Arctic does not need a wholly new governance order so much as a stronger and more coherent use of the tools that already exist. National governments need better implementation capacity, more resilient infrastructure, and stronger Indigenous partnerships. International institutions need protection where they still work, stronger specialisation where risks are concrete, and better coordination where fragmentation remains high. Climate strategy and security strategy must be brought into the same frame. The actors most likely to shape a stable Arctic will not simply be those with the strongest rhetoric or the greatest physical presence, but those best able to align law, legitimacy, resilience, and strategic discipline in a region changing faster than its inherited institutions were built to handle.

## I. Introduction

The Arctic is no longer a peripheral region in global politics. It is increasingly a space where environmental transformation, economic opportunity, and strategic rivalry intersect. For much of the post-Cold War period, the Arctic was often described as an exceptional region, one defined more by scientific cooperation, environmental governance, and diplomatic pragmatism than by overt geopolitical competition. That image is now under growing strain. The Arctic remains a region of important cooperation. Still, it is also becoming a region in which climate change is reshaping geography, maritime access, infrastructure, resource politics, and the strategic calculations of major powers.

At the centre of this transformation is the pace of Arctic warming. The region is heating significantly faster than the global average, with consequences that extend well beyond temperature rise alone. Sea ice is declining, the cryosphere is becoming more unstable, permafrost degradation is threatening infrastructure, and climate change is reorganising Arctic ecosystems in ways that directly affect local communities, especially Indigenous populations. These environmental changes matter not only because of their ecological consequences, but also because they are altering the material conditions under which states, firms, and institutions operate. In the Arctic, climate change is not just a background environmental condition; it is one of the main forces redefining the region's political and strategic significance.

As the Arctic becomes more accessible, it is also becoming more contested. To an increasing extent, States view the region through the lenses of sovereignty, maritime access, resource development, infrastructure, deterrence, and strategic logistics. Russia has deepened its military and economic Arctic posture around the Northern Fleet, the Northern Sea Route, and Arctic energy infrastructure. The United States has adopted a more integrated Arctic strategy focused on homeland defence, allied cooperation, and enabling capacity. China, while not an Arctic coastal state, has steadily expanded its role through scientific presence, diplomatic participation, infrastructure partnerships, and long-term geoeconomic positioning. At the same time, Canada and Denmark/Greenland are seeking to align sovereignty, governance, defence, and local legitimacy in ever more complex northern environments. Arctic politics is therefore no longer confined to territorial claims or symbolic presence; it now unfolds through infrastructure, institutions, resource chains, industrial capacity, and the ability to govern amid rapid change.

This report examines the Arctic as a region where climate change and great-power rivalry are increasingly intertwined. It begins by explaining how climate change is reshaping the Arctic's physical environment and the region's environmental-economic conditions. It then analyses the strategic interests of key actors, including the United States, Russia, China, Canada, Denmark/Greenland, Inuit communities, and multinational corporations. The report next assesses the principal areas of great-power competition in the Arctic, focusing on military, economic, and technological-scientific dimensions. It then turns to governance and legal frameworks, particularly the United Nations Convention on the Law of the Sea (UNCLOS), the Arctic Council, and the institutional gaps exposed by recent geopolitical developments. Finally, it proposes policy options to strengthen implementation, improve institutional coordination, and integrate climate and security strategies more effectively.

The report's central argument is that the Arctic should not be understood either as a purely cooperative environmental region or as a simple new battleground of strategic competition. It is both more complex

and more politically consequential than either characterisation suggests. The Arctic is becoming a region in which physical transformation, strategic rivalry, Indigenous governance, and institutional adaptation are unfolding simultaneously. Understanding that interaction is essential to assessing not only what is changing in the Arctic, but what kind of regional order may emerge from those changes.

## **II. Climate Change in the Arctic**

### **A. Scientific Overview**

#### **Arctic Amplification and Regional Warming**

The Arctic is warming significantly faster than the global average, a phenomenon scientists widely call Arctic amplification. Over the past several decades, the Arctic climate system has undergone rapid transformation as rising global temperatures interact with feedback mechanisms unique to high-latitude environments. Recent assessments indicate that Arctic surface temperatures have increased at approximately three times the global average since the late twentieth century, making the region one of the fastest-warming areas on Earth.<sup>1</sup>

Several interconnected mechanisms explain this accelerated warming. One of the most significant is the ice–albedo feedback, whereby melting snow and sea ice reduce the Arctic environment's reflectivity. Snow and ice normally reflect a large proportion of incoming solar radiation back into space. As these surfaces melt, darker ocean and land areas are exposed and absorb greater amounts of solar energy, increasing regional heat retention and further amplifying warming.<sup>2</sup>

Observational data show that Arctic air temperatures have increased substantially since the 1980s, triggering widespread environmental change across atmospheric, terrestrial, and oceanic systems.<sup>3</sup> Rising temperatures influence the formation and stability of sea ice, alter ocean circulation patterns, and accelerate glacier melt across the region. These processes are mutually reinforcing and contribute to the persistent warming trend observed across the Arctic.

The implications of Arctic amplification extend beyond regional temperature increases. Because the Arctic plays a crucial role in regulating global climate systems, changes in Arctic atmospheric and oceanic conditions can influence weather patterns and ocean circulation far beyond the polar region. Understanding the dynamics of Arctic amplification is therefore essential for assessing both regional environmental change and broader global climate impacts.

#### **Declining Sea Ice and the Transformation of the Arctic Cryosphere**

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<sup>1</sup> Arctic Monitoring and Assessment Programme, *Arctic Climate Change Update 2024*, 3–5.

<sup>2</sup> Intergovernmental Panel on Climate Change, *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*, 203–205.

<sup>3</sup> Moon, Druckenmiller, and Thoman, *Arctic Report Card 2024*, 4–6.

One of the clearest indicators of Arctic climate change is the rapid decline in Arctic sea ice extent and thickness. Satellite monitoring since 1979 has revealed a long-term downward trend in sea-ice coverage, particularly during the late summer melt season when ice reaches its annual minimum.<sup>4</sup>

Recent observations confirm that Arctic sea-ice levels have reached some of the lowest extents recorded since satellite observations began. The past two decades have produced several of the lowest minimum extents on record, reflecting a sustained reduction in the Arctic ice cover.<sup>5</sup> These trends are consistent with rising regional temperatures and increasing ocean heat content.

Equally notable is the structural transformation of Arctic sea ice. Historically, the Arctic Ocean was dominated by multiyear ice, thick ice formations that survived multiple summer melt seasons and contributed to a relatively stable ice pack. However, long-term monitoring indicates that the proportion of this older ice has declined dramatically. In the mid-1980s, roughly one-third of Arctic sea ice was older than 4 years. By 2019, this category accounted for only a small fraction of the total ice cover.<sup>6</sup>

As a result, the Arctic ice pack is increasingly composed of thinner first-year ice, which forms during winter and melts more easily during summer. This shift makes the Arctic cryosphere more vulnerable to further warming and contributes to greater seasonal variability in ice coverage.

In addition to sea-ice decline, land-based ice systems are also responding rapidly to rising Arctic temperatures. The Greenland Ice Sheet has experienced sustained mass loss over the past several decades and is now a major contributor to global sea-level rise. According to recent assessments, Greenland lost an average of approximately 250 gigatonnes of ice per year between 2010 and 2020, accounting for roughly 0.7 millimetres of global sea-level rise annually.<sup>7</sup>

Ocean warming plays an important role in this process. Warmer subsurface waters entering Greenland's fjords can increase melting at glacier fronts, accelerating ice discharge into the ocean and destabilising glacier systems.<sup>8</sup> These ocean-glacier interactions illustrate how atmospheric warming and changing ocean circulation jointly contribute to cryospheric change in the Arctic.

The decline of sea ice and glacial ice has important implications for the future Arctic system. As ice coverage diminishes, Arctic waters become increasingly accessible for maritime navigation and economic activity, altering both the environmental and geopolitical dynamics of the region.

## **Ecological Transformation and Impacts on Arctic Communities**

Environmental changes in the Arctic are also transforming regional ecosystems and biodiversity. Declining sea ice and rising ocean temperatures are altering marine habitats and influencing species distribution throughout the Arctic Ocean.

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<sup>4</sup> National Snow and Ice Data Center, "About the Data."

*The NSIDC provides the satellite monitoring datasets widely used to measure long-term Arctic sea-ice trends.*

<sup>5</sup> National Snow and Ice Data Center, "2025 Arctic Sea Ice Minimum Squeezes into the Ten Lowest Minimums."

<sup>6</sup> Richter-Menge, Druckenmiller, and Jeffries, *Arctic Report Card 2019*, 5–7.

*This report provides a long-term comparison of changes in multiyear sea ice relative to historical conditions.*

<sup>7</sup> Druckenmiller, Thoman, and Moon, *Arctic Report Card 2025*, 28–30.

<sup>8</sup> Wood et al., "Feedbacks Between Fjord Circulation, Melt, and the Subglacial Discharge Plume," 3–5.

*Fjords are narrow coastal inlets formed by glacial erosion and filled with seawater, where many Greenland glaciers terminate.*

Longer open-water seasons allow greater sunlight penetration into the ocean surface, which can increase primary productivity in some regions of the Arctic marine environment.<sup>9</sup> At the same time, warming ocean conditions have contributed to northward shifts in the distribution of certain fish species and marine organisms.<sup>10</sup> These ecological changes alter food webs and affect the broader functioning of Arctic marine ecosystems.

For Arctic communities, particularly Indigenous populations, these ecological transformations have direct implications for livelihoods and cultural practices. Many communities rely on marine mammals, fish, and other natural resources for subsistence and economic activity. Changes in sea-ice conditions and shifting wildlife migration patterns have already created new challenges for traditional hunting and fishing practices.<sup>11</sup>

Climate change, therefore, affects not only Arctic ecosystems but also the human systems closely connected to them. Environmental transformations influence food security, infrastructure stability, and economic opportunities across Arctic societies.

As environmental conditions evolve and ice coverage declines, the Arctic is becoming more accessible for shipping, resource exploration, and strategic activity. The physical transformation of the Arctic environment is therefore closely linked to emerging economic and geopolitical dynamics in the region.

## **B. Environmental and Economic Implications**

Climate change is transforming the Arctic at an unprecedented rate. Rising global temperatures have accelerated ice melt, reduced sea ice coverage, and ecological disruption across the region. Satellite observations show a consistent decline in Arctic sea ice since the late 1970s, with significant reductions in both summer ice extent and winter formation. The stability of the infrastructure has weakened substantially, because of the environmental implications.<sup>12</sup>

Greenhouse gases such as carbon and methane are released as a result of permafrost thawing.<sup>13</sup> These environmental changes are also reshaping the Arctic's economic and geopolitical significance. The retreat of sea ice has made new maritime routes more accessible, particularly the Northern Sea Route (NSR) along Russia's northern coast and the Northwest Passage through the Canadian Arctic. These routes have the potential to shorten shipping distances between Europe and Asia, creating new possibilities for global trade and maritime logistics. Estimates suggest that the low ice levels would reduce the travel time between Europe and the North Pacific region by fifty per cent.<sup>14</sup>

The Arctic is increasingly viewed as one of the most significant remaining frontiers for global hydrocarbon resources. Rising interest in the region stems from the retreat of polar ice, technological

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<sup>9</sup> Moon, Druckenmiller, and Thoman, *Arctic Report Card 2024*, 110–112.

<sup>10</sup> Druckenmiller, Thoman, and Moon, *Arctic Report Card 2025*, 45–47.

<sup>11</sup> Broek, *The Arctic Is Hot*, 2–4.

<sup>12</sup> Arctic Monitoring and Assessment Programme (AMAP), *Arctic Climate Change Update 2021: Key Trends and Impacts. Summary for Policy-makers* (Tromsø, Norway: Arctic Monitoring and Assessment Programme, 2021).

<sup>13</sup> “Economic, Energy, and Environmental Interests,” in *Arctic Imperatives: Reinforcing U.S. Strategy on America's Fourth Coast* (January 1, 2017), 27–43.

<sup>14</sup> G. P. Peters, T. B. Nilssen, L. Lindholt, M. S. Eide, S. Glomsrød, L. I. Eide, and J. S. Fuglestedt, “Future Emissions from Shipping and Petroleum Activities in the Arctic,” *Atmospheric Chemistry and Physics* 11 (2011): 5305–20.

advances in energy extraction, and limited exploration opportunities elsewhere. To better understand this potential, the U.S. Geological Survey conducted the Circum-Arctic Resource Appraisal (CARA), a geologically based assessment of petroleum resources across the Arctic region. The Arctic Circle covers roughly six per cent of the Earth's surface, including large continental shelf areas that remain relatively unexplored but are considered highly prospective for oil and gas development. By 2007, more than 400 oil and gas fields had already been discovered north of the Arctic Circle, particularly in Russia's West Siberian Basin and Alaska's North Slope.<sup>15</sup> However, the CARA assessment focused on larger undiscovered accumulations exceeding 50 million barrels of oil equivalent and used probabilistic geological modelling to estimate future resource potential across 69 Arctic sedimentary basins.<sup>16</sup> While the assessment found deep ocean basins to have lower petroleum potential, it identified continental shelf regions as some of the largest remaining areas for future hydrocarbon exploration.

At the same time, the Arctic's environmental vulnerability raises serious concerns. Increased shipping activity, energy extraction, and infrastructure development could pose risks to fragile ecosystems and indigenous livelihoods. The Arctic Council has highlighted that declining sea ice is already enabling longer navigation seasons and greater access to previously difficult-to-reach regions, contributing to increased maritime activity in Arctic waters. As a result, the Arctic has become a space where environmental concerns intersect with economic opportunities, creating complex governance challenges for Arctic and non-Arctic states alike.

### **III. Strategic Interests and Actors**

#### **A. United States**

##### **Strategic Logic and Policy Frame**

The United States now treats the Arctic as a strategic region where climate-driven change intersects with heightened great power rivalry. The operational reality is that reduced sea ice, longer navigable seasons, and growing maritime activity increase the demand for surveillance, safety, and response capacity. At the same time, Russia's force posture in the High North and China's expanding Arctic engagement raise the strategic value of access, awareness, and credible deterrence.<sup>17</sup>

The Biden administration's National Strategy for the Arctic Region anchors this shift in a whole-of-government approach. It sets four priority areas: security, climate and environmental protection, sustainable economic development, and international cooperation and governance.<sup>18</sup> The strategy also recognises that Russia's war against Ukraine has made normal government-to-government cooperation in the Arctic "virtually impossible" under current conditions, reducing the scope for routine risk reduction

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<sup>15</sup> Donald L. Gautier, Kenneth J. Bird, Ronald R. Charpentier, Arthur Grantz, David W. Houseknecht, Timothy R. Klett, Thomas E. Moore, Janet K. Pitman, Christopher J. Schenk, John H. Schuenemeyer, Kai Sørensen, Marilyn E. Tennyson, Zenon C. Valin, and Craig J. Wandrey, "Assessment of Undiscovered Oil and Gas in the Arctic," *Science* 324, no. 5931 (2009): 1175–79.

<sup>16</sup> *Ibid.*

<sup>17</sup> The White House, *National Strategy for the Arctic Region* (Washington, DC, October 2022).

<sup>18</sup> The White House, *National Strategy for the Arctic Region*.

through cooperation.<sup>19</sup> In policy terms, this places greater weight on allied coordination, resilience investments in Alaska, and credible capability to monitor and respond in the northern approaches.<sup>20</sup>

The Department of Defence (DoD) Arctic Strategy aligns with this framing and narrows the defence concept to a “monitor and respond” posture.<sup>21</sup> In this context, monitoring refers to domain awareness supported by intelligence, sensors, and communications. Responding refers to the ability to deploy forces, sustain operations, and manage escalation when required.<sup>22</sup> This approach signals that the United States is not seeking an Arctic defined by permanent large-scale deployments, but by readiness, presence, and reinforcement capacity.

## **National Security Interests in the Northern Approaches**

The Arctic is central to the United States’ homeland security because it lies along the shortest routes for many long-range aerospace threats and because Alaska borders Russia across a narrow maritime corridor. Arctic security, therefore, begins with warning, tracking, and command-and-control. The United States also has a direct interest in ensuring that increased Arctic maritime activity does not create gaps in sovereignty protection, safety, or emergency response capacity.<sup>23</sup>

Early warning modernisation is tightly linked to the United States cooperation with Canada through the North American Aerospace Defence Command (NORAD). Public timelines for NORAD modernisation emphasise new surveillance architectures, including Polar Over the Horizon Radar. Over-the-horizon radar refers to systems that detect targets at long range by using radio wave propagation beyond the line of sight. This capability is intended to improve early warning coverage across the northern approaches to North America.<sup>24</sup>

Proximity and escalation risk also shape deterrence in the Arctic. The logic is not only to counter specific systems, but to reduce incentives for coercion and reduce the risk of miscalculation in a region where response timelines can be short. DoD’s Arctic Strategy emphasises that persistent awareness and the ability to reinforce are prerequisites for stability in the region.<sup>25</sup> In practical terms, this requires logistics, communications, and capabilities configured for cold-weather operations that can function reliably at a distance and in severe conditions.

## **Investment in Arctic Infrastructure and Capabilities**

A sustained theme in United States Arctic policy is that strategic intent must be matched by enabling capacity. The most visible gap has been icebreaking and polar-capable surface presence, which directly affects access, response, and credibility. In February 2026, the United States Coast Guard announced completion of contract awards for eleven Arctic Security Cutters, framed as a major expansion of United

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<sup>19</sup> The White House, *National Strategy for the Arctic Region*.

<sup>20</sup> The White House, *2022 National Strategy for the Arctic Region Implementation Report* (Washington, DC, January 2025).

<sup>21</sup> United States Department of Defense, *2024 Department of Defense Arctic Strategy* (Washington, DC, July 2024).

<sup>22</sup> *Ibid.*

<sup>23</sup> *Ibid.*

<sup>24</sup> Government of Canada, “NORAD modernization project timelines,” accessed February 18, 2026.

<sup>25</sup> United States Department of Defense, *2024 Department of Defense Arctic Strategy*.

States icebreaking capacity.<sup>26</sup> This programme is designed to improve presence in polar waters, support sovereignty and safety missions, and enable sustained operations in conditions that conventional surface fleets cannot reliably handle.

Industrial and allied pathways are also becoming part of the capability story. Finland's shipbuilding sector has been engaged to support the delivery of icebreaker capacity for the United States Coast Guard, reflecting a broader pattern of using trusted partners to accelerate production.<sup>27</sup> This approach aligns with the logic that Arctic capability is not only about platforms, but also about the industrial base that can build, maintain, and upgrade them at scale.

Port and logistics investments translate presence into sustainability. A central project is the Port of Nome Modification Project in Alaska. In August 2025, the United States Army Corps of Engineers Alaska District announced a construction contract for Phase 1A, funded under the Infrastructure Investment and Jobs Act, valued at approximately \$399.4 million.<sup>28</sup> An expanded and more capable Port of Nome is significant because it can support Coast Guard and other federal operations, expand response capacity in the Bering Strait area, and improve maritime safety as traffic increases.

Domain awareness and communications connect the components of the "monitor" pillar. DoD's Arctic Strategy places strong emphasis on intelligence collection, sensing, and communications as prerequisites for effective response.<sup>29</sup> In a region characterised by distance and harsh conditions, degraded communications and limited coverage can turn routine incidents into strategic vulnerabilities. For that reason, investments in warning systems through NORAD modernisation and related surveillance programmes are operational enablers rather than technical upgrades.<sup>30</sup>

Greenland also remains a critical position in the wider Arctic and North Atlantic security architecture. In April 2023, Thule Air Base was renamed Pituffik Space Base, with the Space Force emphasising the installation's role and its location deep inside the Arctic environment.<sup>31</sup> Pituffik supports missions linked to space and warning functions, reinforcing that United States Arctic security depends on strategic detection capabilities and is integrated into transatlantic defence planning.

## **Partnerships, Governance, and Institutional Strategy**

United States pursues its arctic interests through alliances and institutions that combine deterrence, interoperability, and legitimacy. NATO has increased its public focus on Arctic security and the High North, particularly following the accession of Finland and Sweden. NATO's Arctic security topic page highlights alliance activity and describes efforts to strengthen deterrence and defence across the region.<sup>32</sup> For the United States, NATO provides operational depth, shared planning, and routine exercises that improve readiness in northern environments.

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<sup>26</sup> United States Coast Guard, "U.S. Coast Guard completes the President's contract awards for eleven Arctic Security Cutters," press release, February 2026.

<sup>27</sup> Reuters, "Finland's RMC to build two icebreakers for the U.S. Coast Guard," December 30, 2025.

<sup>28</sup> United States Army Corps of Engineers Alaska District, "USACE awards construction contract for portion of Port of Nome modification project," press release, August 15, 2025.

<sup>29</sup> United States Department of Defense, *2024 Department of Defense Arctic Strategy*.

<sup>30</sup> Government of Canada, "NORAD modernization project timelines."

<sup>31</sup> United States Space Force, "Thule Air Base gets new name," April 6, 2023.

<sup>32</sup> North Atlantic Treaty Organization, "Arctic security," accessed February 18, 2026.

The United States relationship with Canada remains foundational because North American warning and defence are structurally integrated through NORAD. Canada's published NORAD modernisation timelines underline that the modernisation effort is long-term and focused on surveillance improvements across the northern approaches.<sup>33</sup> The United States' stake is direct: improved detection and tracking in the North strengthen homeland defence and reduce the risk of strategic surprise.

Arctic governance also matters because competition is not only military in nature. It is also institutional, involving rules, norms, and the credibility of regional cooperation. The Arctic Council remains the principal forum for Arctic cooperation on environmental and human issues, even as geopolitical rupture has constrained normal operations since 2022. Council communications marking thirty years of cooperation emphasise the separation of security issues from the Council's mandate, which is a stabilising feature for continued cooperation on non-military files.<sup>34</sup> The Kingdom of Denmark's 2025 to 2027 chairship programme similarly stresses keeping the Council "vibrant and resilient," with emphasis on Indigenous Peoples and Arctic residents.<sup>35</sup> For the United States, this governance space supports legitimacy and reduces risk, even as hard security concerns are managed elsewhere.

An additional partnership layer is industrial cooperation. The Icebreaker Collaboration Effort (ICE Pact) between Canada, Finland, and the United States frames icebreaking capacity as a shared strategic requirement tied to economic, climate, and national security interests.<sup>36</sup> This is notable because it links alliances to production capacity, which is increasingly decisive in long-term competition.

## **Domestic Actors and Implementation**

Implementation of the United States Arctic strategy spans agencies with distinct mandates. The White House sets overarching direction through the *National Strategy for the Arctic Region* and its implementation reporting, which includes a whole-of-government catalogue of actions and investments.<sup>37</sup> The Department of Defence sets defence posture and operational priorities through its Arctic Strategy and related planning.<sup>38</sup> The United States Coast Guard leads day-to-day presence, maritime safety, and surface capability acquisition, including icebreaking programmes.<sup>39</sup>

Civilian agencies shape the scientific and environmental base that underpins decision-making. The National Oceanic and Atmospheric Administration (NOAA) Arctic Vision and Strategy frames resilience and science-based decision making as central to Arctic outcomes, with emphasis on partnerships and stewardship.<sup>40</sup> Infrastructure agencies, including the United States Army Corps of Engineers, translate strategic priorities into enabling projects such as Nome.<sup>41</sup> In Alaska, the feasibility and legitimacy of federal action also intersect with local governance and the priorities of Arctic communities, including safety, cost of living, and infrastructure reliability.

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<sup>33</sup> Government of Canada, "NORAD modernization project timelines."

<sup>34</sup> Arctic Council, "Kicking off thirty years of Arctic Council cooperation," February 2026.

<sup>35</sup> Arctic Council, "Kingdom of Denmark's Chairship, 2025 to 2027," accessed February 18, 2026.

<sup>36</sup> Public Services and Procurement Canada, "Icebreaker Collaboration Effort (ICE Pact)," accessed February 18, 2026.

<sup>37</sup> The White House, *2022 National Strategy for the Arctic Region Implementation Report*.

<sup>38</sup> United States Department of Defense, *2024 Department of Defense Arctic Strategy*.

<sup>39</sup> United States Coast Guard, "U.S. Coast Guard completes the President's contract awards for eleven Arctic Security Cutters."

<sup>40</sup> National Oceanic and Atmospheric Administration, "2025 Arctic Vision and Strategy," accessed February 18, 2026.

<sup>41</sup> United States Army Corps of Engineers Alaska District, "USACE awards construction contract for portion of Port of Nome modification project."

## Takeaway

Taken together, the United States Arctic strategy prioritises stable deterrence, improved awareness, and targeted infrastructure investment, delivered through alliances and governance frameworks. This posture shapes how competition will unfold across military and economic dimensions. Icebreaking, ports, warning systems, and allied coordination are not only defensive measures. They also signal long-term intent and affect the balance of access and influence as the Arctic becomes more active and more connected.<sup>42</sup>

## B. Russia

### Strategic Logic and Policy Frame

Russia occupies the most central position in Arctic geopolitics because it combines the region's longest Arctic coastline with the densest network of ports, military facilities, energy projects, and state institutions dedicated to the High North. Moscow does not treat the Arctic as a peripheral frontier. It treats it as a strategic core space where national development, sovereignty, deterrence, and great-power status intersect. Russia's 2020 Arctic strategy, through 2035 and building on the 2020 Basic Principles, later amended in 2023, presents the Arctic as vital to economic development, resource extraction, infrastructure expansion, and national security.<sup>43</sup> In that framework, climate change is not only an environmental issue. It is also a strategic development that opens economic opportunities while simultaneously creating new security vulnerabilities along Russia's northern flank.

This strategic logic helps explain why Russia's Arctic policy has long had a dual structure. On one side, Moscow seeks to transform the Russian Arctic into a major engine of national growth through hydrocarbons, logistics, and industrial development. On the other hand, it seeks to harden control over the region through military modernisation, surveillance, and legal-administrative instruments. As one analysis notes: the Kremlin wants the Arctic's abundant resources, especially oil and gas, and hopes in the longer term to establish the Northern Sea Route as a new global shipping artery, but it also worries that a more accessible Arctic creates territorial and military exposure that must be managed through force posture and infrastructure.<sup>44</sup>

### Security Interests and Sovereignty Logic

For Russia, Arctic security begins with sovereignty, territorial control, and regime resilience. The Russian leadership views the Arctic not simply as an oceanic space but as a national zone of development whose stability must be guaranteed from Murmansk to Chukotka. This calculus links the Arctic directly to domestic political control. Many of Russia's most important Arctic projects, settlements, and military installations are in remote, climatically severe regions that rely heavily on state planning, subsidies, and

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<sup>42</sup> United States Department of Defense, *2024 Department of Defense Arctic Strategy*.

<sup>43</sup> Janis Kluge and Michael Paul, "Russia's Arctic Strategy through 2035: Grand Plans and Pragmatic Constraints," *SWP Comment* 2020/C 57 (November 26, 2020); President of Russia, "Changes to Basic Principles of State Policy in the Arctic until 2035," February 21, 2023.

<sup>44</sup> Kluge and Paul, "Russia's Arctic Strategy through 2035."

infrastructure support. As a result, Moscow tends to frame Arctic development and Arctic security as mutually reinforcing rather than separate policy fields.<sup>45</sup>

That same rationale also shapes Russia's approach to navigation and governance. Moscow sees the Northern Sea Route not merely as a commercial opportunity, but as a corridor whose administration reinforces state control over adjacent Arctic waters and infrastructure.<sup>46</sup> Russia's legal and operational approach to the route reflects an effort to consolidate authority over shipping, access, and adjacent strategic space.<sup>47</sup> This matters because the NSR is not only about trade. It is also about the political geography of the Russian Arctic. Control of ports, icebreaker escort, navigation services, and emergency response allows Russia to convert geography into influence.

## **Military Posture, the Northern Fleet, and Arctic Force Structure**

The military centre of gravity of Russia's Arctic strategy lies on and around the Kola Peninsula, which is home to the Northern Fleet, naval bases, air-defence systems, and strategic nuclear assets. For years, the Northern Fleet held special status inside Russia's command architecture. Although Moscow reorganised that structure in 2024 by dissolving the Northern Fleet Military District and redistributing ground and air components under the re-established Leningrad and Moscow military districts, the underlying strategic reality did not change: the High North remains one of the most heavily militarised and sensitive regions in Russian defence planning.<sup>48</sup> The Arctic is where Russia protects its maritime nuclear deterrent, secures the approaches to the Barents Sea, and preserves its ability to project naval power into the North Atlantic.<sup>49</sup>

Analysts often describe this military posture through the language of bastion defence. The basic idea is that Russia seeks to create defended zones around the Barents Sea and the Kola Peninsula in which its most important assets, especially ballistic-missile submarines and supporting naval forces, can survive a crisis and maintain second-strike capability. Russia's approach in the Arctic is defensive in orientation but prepared for rapid escalation.<sup>50</sup> This is an important distinction. Moscow is not trying to occupy the Arctic in a conventional sense. It is trying to make the region sufficiently protected, monitored, and militarily costly that adversaries cannot operate there freely in wartime or crisis.

## **Submarines, Deterrence, and Pressure on Other Actors**

Submarines are central to this strategy because they connect Arctic geography to nuclear deterrence and great-power competition. Russia's Arctic-based strategic submarines are a cornerstone of its retaliatory capability, and the Northern Fleet hosts a large share of the sea-based nuclear forces that underpin that role. In 2024, Russia's Northern and Pacific Fleets operated Borei submarines carrying Bulava missiles,

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<sup>45</sup> Michael Paul and Göran Swistek, *Russia in the Arctic: Development Plans, Military Potential, and Conflict Prevention*, SWP Research Paper 3 (Berlin: Stiftung Wissenschaft und Politik, February 2022); Kluge and Paul, "Russia's Arctic Strategy through 2035."

<sup>46</sup> Paul and Swistek, *Russia in the Arctic*.

<sup>47</sup> Mathieu Boulègue, "The Central Arctic, the NSR and the North Pole," in *The Militarization of Russian Polar Politics* (London: Chatham House, June 6, 2022).

<sup>48</sup> Russia Maritime Studies Institute, *Decree on the Military Districts* (Newport, RI: U.S. Naval War College translation, February 26, 2024); Reuters, "Russia Has More Arctic Military Bases than NATO," November 16, 2022..

<sup>49</sup> Paul and Swistek, *Russia in the Arctic*.

<sup>50</sup> Paul and Swistek, *Russia in the Arctic*.

while strategic analysis continues to describe the Arctic bastion as essential to the survivability of Russia's second-strike deterrent.<sup>51</sup>

Submarine activity also matters below the nuclear threshold. It is one of the main ways Russia can challenge the practical exercise of other states' sovereignty and freedom of manoeuvre in the wider Arctic and North Atlantic. In October 2019, NATO tracked ten Russian submarines south of Iceland, an operation that demonstrated Moscow's capacity to break out into the North Atlantic and threaten the maritime routes linking North America and Europe.<sup>52</sup> That does not change legal sovereignty in a formal sense. But it does challenge other states' ability to monitor, enforce, and operate securely in contested waters. In other words, submarines allow Russia to convert Arctic military depth into pressure far beyond the immediate Arctic coastline.

Recent exercises reinforce that point. In June 2024 nuclear-powered submarines of the Northern Fleet reportedly launched Kalibr and Granit cruise missiles during drills in the Barents Sea.<sup>53</sup> Such exercises carry strategic weight because they demonstrate readiness, signal Russia's capacity for escalation, and remind adversaries that Russian Arctic forces extend beyond symbolic presence or homeland defence. They are tied to long-range strike systems and operational coercion.

## **Control of the Northern Sea Route and the Role of Icebreakers**

The Northern Sea Route occupies a special place in Russian Arctic strategy because it links economics, state control, and military logistics. Moscow has long hoped to develop the NSR into a major transport route connecting Europe and Asia, and official Russian planning treats the route as one of the pillars of Arctic development. Yet the political importance of the NSR exceeds its current commercial scale. For Russia, the route is a mechanism for consolidating administrative authority, promoting regional development, and showcasing Arctic state capacity.<sup>54</sup>

Russia's icebreaker fleet is indispensable to that project. Russia remains the only country operating a nuclear icebreaker fleet, and Rosatom reported in 2025 that the fleet consisted of eight nuclear icebreakers, including the newest Project 22220 vessels. Rosatom and Kremlin-linked statements also continue to describe this fleet as a unique national instrument for year-round Arctic navigation.<sup>55</sup> The economic significance is clear because shipping and energy exports depend on escort and access, but the strategic implications are equally significant. Icebreakers make state presence visible, support logistics, sustain Arctic infrastructure, and help transform a difficult environment into a governed space.

Russia has used that fleet to increase cargo volumes along the route. Cargo shipped along the Northern Sea Route reached nearly 37.9 million tonnes in 2024, a record level.<sup>56</sup> At the same time, the route remains far from becoming a full commercial rival to the Suez Canal or southern shipping corridors.

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<sup>51</sup> Reuters, "Russia Puts Submarine-Launched Bulava Intercontinental Missile into Service," May 14, 2024; Katarzyna Zysk, Kari Aga Myklebost, and others, "Arctic Spillover? Military Signalling in the European Arctic," *Scandinavian Journal of Military Studies* (2025).

<sup>52</sup> Heather A. Conley and Matthew Melino, "The Ice Curtain: Modernization on the Kola Peninsula," Center for Strategic and International Studies, March 23, 2020.

<sup>53</sup> Reuters, "Russia Nuclear-Powered Submarines Launch Missiles in Barents Sea Drills," June 19, 2024.

<sup>54</sup> Kluge and Paul, "Russia's Arctic Strategy through 2035"; Paul and Swistek, *Increase Russia in the Arctic*.

<sup>55</sup> Rosatom, "Nuclear Icebreaker Fleet," 2025; President of Russia, "Keel-Laying Ceremony for the Stalingrad Nuclear Icebreaker," November 18, 2025.

<sup>56</sup> Rosatom, "New Record Set for Volume of Cargo Shipped along the Northern Sea Route," January 10, 2025

Reportedly only about 3 million tonnes of transit cargo moved along the NSR in 2024, while the route remained costly, seasonal, and dependent on specialised support, making it viable only in limited circumstances.<sup>57</sup> While Moscow frames the NSR in global terms, its strongest current role is still as a state-backed passage for Russian energy, minerals, and strategic logistics rather than as a universally attractive global trade lane.

## **Energy Strategy, Arctic Infrastructure, and Economic Ambition**

Hydrocarbons remain the economic backbone of Russia's Arctic strategy. The Russian Arctic is expected to supply a significant share of the country's future oil and gas production, and this is why Arctic development plans consistently prioritise extraction, transport corridors, ports, and export terminals. The Arctic energy strategy extends beyond extractable resources. It is about building the infrastructure that allows Russia to monetise them under Arctic conditions. This includes ports, LNG terminals, roads, rail links, airports, and the ice-capable fleet needed to move output to market.<sup>58</sup>

Yamal LNG, the large-scale Arctic LNG project on the Yamal Peninsula, has a nameplate capacity of 17.4 million tonnes per annum.<sup>59</sup> It also describes Arctic LNG 2 on the Gydan Peninsula as a second major large-scale Arctic project intended to further expand Russian LNG production to the east. Together, these projects show how central LNG has become to Russia's effort to turn the Arctic into a long-term export platform. They also show the close relationship between state goals and corporate implementation, since private and quasi-private firms operate inside a strategic framework set by the Kremlin and supported by state infrastructure policy.<sup>60</sup> The combination of state direction and corporate implementation gives Russia's Arctic energy strategy a coherence that few other Arctic actors can match, though sanctions and technology restrictions have increasingly tested that model.

## **Sanctions, China, and the Limits of Russian Arctic power**

At the same time, sanctions, financing problems, technology denial, and market shifts are increasingly constraining the economic pillar of Russia's Arctic strategy. In December 2025, Russia had pushed back its goal of reaching an annual LNG output of 100 million tonnes by several years because sanctions had affected projects such as Arctic LNG 2.<sup>61</sup> In March 2026, supplies from the sanctioned Arctic LNG 2 plant rose to 1.2 million tonnes in 2025, but all of the cargoes went to China.<sup>62</sup> This illustrates the current constraints on Russia's Arctic LNG ambitions. Russia has not abandoned its Arctic LNG ambitions, and some sanctioned projects continue to operate. But the model is narrower, more dependent on Asian demand, and much more exposed to logistical and technological bottlenecks than Russian strategic rhetoric suggests.

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<sup>57</sup> *Financial Times*, "Shipping Lines Go Cool on Arctic Ocean Route," 2024; Reuters, "Azerbaijan-Managed Vessel En Route to China via Northern Sea Route," August 26, 2024.

<sup>58</sup> Kluge and Paul, "Russia's Arctic Strategy through 2035"; Paul and Swistek, *Russia in the Arctic*.

<sup>59</sup> PAO NOVATEK, "Yamal LNG," accessed March 29, 2026.

<sup>60</sup> PAO NOVATEK, "Arctic LNG 2 Project," accessed March 29, 2026.

<sup>61</sup> Reuters, "Russia Delays LNG Output Target of 100 Million Tons per Year Due to Sanctions," December 25, 2025.

<sup>62</sup> Reuters, "Russia's Pipeline Gas and LNG Exports," March 5, 2026.

China's role is therefore becomes especially significant in this context. Russia increasingly needs Chinese capital, demand, shipping cooperation, and political alignment to keep parts of its Arctic economic strategy viable. Yet this relationship is not one of equals inside the Arctic itself. Russia still controls the coastline, ports, regulations, and military environment. China contributes financing, market access, and selective commercial support, but it does so within a Russian-led geographic and security order. The result is a partnership of convenience in which Russia gains an alternative outlet under sanctions, while China gains deeper entry into Arctic infrastructure and logistics without having to challenge Russian territorial primacy directly.<sup>63</sup>

## Domestic Actors and Implementation

Implementation of Russia's Arctic strategy spans a state-centred system in which political control remains highly centralised. The Kremlin sets strategic direction through presidential decrees and long-term policy frameworks. The Ministry of Defence shapes force posture and Arctic military readiness. Rosatom plays a uniquely important role as infrastructure operator for the Northern Sea Route and as manager of the nuclear icebreaker fleet. Energy firms such as NOVATEK carry out key LNG projects, but sanctions, state priorities, and the need for official support significantly constrain their operational autonomy. This means that Russian Arctic policy is not simply the sum of separate military and commercial initiatives. It is an integrated state project in which development, coercive capacity, and logistics are deeply intertwined.<sup>64</sup>

## Takeaway

Taken together, Russia's Arctic strategy is the most mature and the most structurally ambitious in the region. It combines a powerful military core, especially around the Northern Fleet and submarine deterrent, with an equally strong drive to control shipping corridors, energy infrastructure, and Arctic logistics. Icebreakers, bases, ports, LNG terminals, and submarine patrols all serve the same overarching objective: to ensure that the Arctic develops on terms favourable to Russian sovereignty, Russian revenue, and Russian military security. But this strategy also faces significant limits. The Northern Sea Route remains less commercially transformative than official rhetoric implies, Arctic energy expansion is slowed by sanctions and technology constraints, and increasing dependence on China narrows Russia's room for manoeuvre. Russia, therefore, remains the dominant Arctic military actor, but one whose economic ambitions are more vulnerable than its security posture.<sup>65</sup>

## C. China

### Strategic Identity and Arctic Legitimacy

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<sup>63</sup> Reuters, "Russia's Pipeline Gas and LNG Exports," March 5, 2026; Reuters, "Russia's Rosatom, UAE's DP World Plan Logistics Joint Venture in Russia," March 27, 2026.

<sup>64</sup> President of Russia, "Changes to Basic Principles of State Policy in the Arctic until 2035," February 21, 2023; Paul and Swistek, *Russia in the Arctic*; PAO NOVATEK, "Yamal LNG"; PAO NOVATEK, "Arctic LNG 2 Project"; Rosatom, "Nuclear Icebreaker Fleet," 2025.

<sup>65</sup> Kluge and Paul, "Russia's Arctic Strategy through 2035"; Paul and Swistek, *Russia in the Arctic*; Reuters, "Russia Delays LNG Output Target of 100 Million Tons per Year Due to Sanctions," December 25, 2025; Reuters, "Russia's Pipeline Gas and LNG Exports," March 5, 2026.

China's Arctic strategy operates under an important structural constraint. Unlike the Arctic coastal states, China has no territorial presence in the region and cannot exercise sovereign jurisdiction over Arctic maritime spaces. Beijing has therefore pursued influence primarily through diplomatic positioning, economic investment, and scientific engagement rather than through territorial claims or military presence.

China formally articulated its Arctic approach in its 2018 policy white paper, which describes the country as a "near-Arctic state" and argues that environmental change in the Arctic has global implications that affect non-Arctic countries.<sup>66</sup> The document maintains that non-Arctic states possess legitimate rights under international law to participate in scientific research, navigation, and resource-related activities in the Arctic Ocean.<sup>67</sup> By framing the Arctic as a region of global environmental and economic significance, China positions itself as a stakeholder whose interests extend beyond geographic proximity.

This framing serves an important strategic function. As Arctic sea ice declines and economic activity increases, regional governance is growing more politically consequential. China's diplomatic emphasis on global participation seeks to ensure that Arctic governance structures remain open to non-Arctic actors and that the region does not become an exclusive domain of the Arctic coastal states. In this sense, China's claim to "near-Arctic" status functions as a normative strategy designed to legitimise a long-term role in Arctic governance.

At the same time, Beijing consistently emphasises respect for Arctic states' sovereignty, sovereign rights, and jurisdiction in the region.<sup>68</sup> This language reflects a deliberate diplomatic balancing strategy. Rather than challenging the existing governance framework, China has pursued participation through multilateral institutions such as the Arctic Council, where it obtained observer status in 2013. Although observers do not participate in decision-making, this status allows China to contribute to working groups and scientific initiatives while gradually expanding its institutional presence in Arctic affairs.<sup>69</sup>

## **Economic Strategy and the Polar Silk Road**

China's Arctic engagement is closely linked to its wider economic and trade strategy. As one of the world's largest trading nations, China depends heavily on maritime shipping to sustain global supply chains. More than sixty per cent of China's international trade moves by sea, which makes the security and diversification of maritime routes a core economic concern.<sup>70</sup>

The potential opening of Arctic shipping routes due to climate change has attracted considerable attention in Chinese strategic planning. The Northern Sea Route (NSR) runs along Russia's Arctic coastline from the Barents Sea to the Bering Strait. It represents the most developed Arctic shipping corridor connecting East Asia and Europe. Because this route substantially reduces the distance between major global markets, it has the potential to reshape global shipping patterns as Arctic sea ice continues to decline.<sup>71</sup>

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<sup>66</sup> State Council Information Office, *China's Arctic Policy*, 2. *The 2018 white paper is China's first official Arctic strategy document and outlines Beijing's legal and diplomatic justification for Arctic engagement.*

<sup>67</sup> State Council Information Office, *China's Arctic Policy*, 2–3.

<sup>68</sup> State Council Information Office, *China's Arctic Policy*, 3.

<sup>69</sup> Finger and Heininen, *The Global Arctic Handbook*, 84–86.

<sup>70</sup> Kopra, *The Arctic Institute's China Series 2020*, 28.

<sup>71</sup> Sheng, "The Polar Silk Road and the Belt and Road Initiative," 145–147.

China incorporated Arctic shipping into its global connectivity strategy through the concept of the Polar Silk Road, which the country integrated into the Belt and Road Initiative (BRI) in 2017. The Polar Silk Road envisions Arctic maritime routes as a northern extension of global trade networks linking Asia, Europe, and North America.<sup>72</sup> Within Chinese strategic thinking, Arctic shipping routes could provide an additional trade and energy transport corridor while reducing dependence on vulnerable maritime chokepoints, such as the Strait of Malacca.

Despite this potential, seasonal ice conditions, limited infrastructure, and high operational costs continue to constrain Arctic shipping. For this reason, Chinese policymakers generally treat Arctic maritime routes as a long-term strategic investment rather than an immediate commercial alternative to existing shipping lanes.<sup>73</sup> The importance of Arctic shipping lies less in current commercial traffic and more in its potential role within China's global trade architecture.

## Scientific Presence and Strategic Knowledge

Scientific research represents one of the most visible dimensions of China's Arctic engagement. Since the early 2000s, China has developed a growing research presence in the region, including permanent scientific infrastructure and regular polar expeditions.

China established its first permanent Arctic research station, the Yellow River Station, in Ny-Ålesund on the Norwegian archipelago of Svalbard in 2004.<sup>74</sup> The station conducts research into meteorology, marine ecosystems, glaciology, and atmospheric conditions, contributing to international scientific efforts to understand Arctic climate change.<sup>75</sup> China has also developed additional research partnerships in Iceland and across the Nordic region, expanding its scientific footprint across Arctic research networks.<sup>76</sup>

Scientific participation serves multiple purposes within China's Arctic strategy. On one level, participation in international research programmes allows Chinese scientists to contribute to global knowledge about climate change and environmental transformation in the polar regions. At the same time, scientific infrastructure also provides strategic benefits. Research stations, satellite observation systems, and environmental monitoring networks generate detailed data about Arctic geography, weather patterns, and maritime conditions.

These activities may also have broader security implications. Arctic scientific installations can support observation systems capable of monitoring maritime and aerospace activity in the region. Analysts therefore note that some Chinese scientific investments in the Arctic could provide dual-use capabilities, allowing China to observe military activity and infrastructure operated by NATO states and other Arctic actors.<sup>77</sup> In this sense, these activities contribute not only to environmental research but also to the gradual development of situational awareness in a strategically sensitive region.

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*The Northern Sea Route runs along Russia's Arctic coastline from the Barents Sea to the Bering Strait and is currently the most operational Arctic shipping corridor.*

<sup>72</sup> Sheng, "The Polar Silk Road and the Belt and Road Initiative," 146–148.

<sup>73</sup> Finger and Heininen, *The Global Arctic Handbook*, 84.

<sup>74</sup> Pezard et al., *China's Economic, Scientific, and Information Activities in the Arctic*, 17.

<sup>75</sup> Pezard et al., 18.

<sup>76</sup> Pezard et al., 19.

<sup>77</sup> Pezard et al., 27–28.

## Strategic Partnerships and Geopolitical Implications

China's Arctic strategy ultimately depends on cooperation with Arctic states. Without territorial access to Arctic waters or infrastructure, China must rely on partnerships to participate in shipping routes, research programmes, and energy development projects.

Russia has become China's most important partner in this regard. With the longest Arctic coastline and administrative control over the Northern Sea Route, Moscow exercises significant control over the region's shipping infrastructure and regulatory environment. Sino-Russian cooperation has grown notably in recent years, particularly in the energy sector. Chinese firms have played an important role in financing major Arctic energy projects such as the Yamal LNG development, one of the largest joint economic ventures in the Russian Arctic.<sup>78</sup>

This cooperation reflects complementary interests between the two countries. Russia provides territorial access, infrastructure, and control over resources, while China contributes investment capital, technology, and access to Asian energy markets. At the same time, the relationship remains asymmetrical. Russia maintains primary strategic and regulatory control over Arctic infrastructure and navigation, while China's role remains primarily economic.

China's Arctic strategy reflects a steady expansion of influence through diplomatic participation, economic investment, and scientific engagement. Rather than seeking territorial control, Beijing is positioning itself to participate in the emerging governance and economic structures of the Arctic. As climate change increases access to Arctic shipping routes and natural resources, these forms of engagement allow China to embed itself within the region's evolving institutional and economic networks.

### Takeaway

Taken together, China's Arctic strategy is about gaining influence without territorial control. Beijing uses the language of science, trade, climate governance, and lawful participation to legitimise a long-term Arctic role, while relying heavily on partnerships, especially with Russia, for access to routes, energy projects, and infrastructure. Its approach is therefore incremental rather than openly coercive: China is embedding itself in Arctic governance and economic networks now so that it has greater strategic leverage as the region becomes more accessible. The key limit is that China's Arctic position remains dependent on Arctic states' willingness to provide access, meaning its influence is growing but still structurally constrained.

## D. Canada

### Strategic Logic and Policy Frame

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<sup>78</sup> Železný, "The Dragon and the Bear on the Polar Silk Road," 369–371; Stensdal and Heggelund, *China-Russia Relations in the Arctic*, 3–5.

Canada treats the Arctic as both a homeland space and a defining test of sovereignty. Its current policy architecture rests on the idea that climate change, great-power competition, and technological change are making the North more accessible, more strategically valuable, and more vulnerable at the same time. Both Canada's Arctic Foreign Policy, launched in December 2024, and *Our North, Strong and Free*, the 2024 defence policy update, make this logic explicit.<sup>79</sup> Together, these documents frame the Arctic not as a distant periphery, but as a core national priority where diplomacy, defence, infrastructure, Indigenous partnership, and environmental resilience must reinforce one another. Canada's position is distinct from that of many other Arctic actors: it is simultaneously defending a territorial homeland, managing a rapidly changing internal region, and responding to a more competitive external strategic environment.

This policy frame also reflects a specifically Canadian concern with presence and legitimacy. Ottawa's Arctic strategy is not based only on military deterrence. It is equally concerned with demonstrating effective governance, maintaining year-round domain awareness, supporting northern communities, and ensuring that the Arctic remains governed through law and partnership rather than through unilateral actions by outside powers. The 2024 Arctic Foreign Policy states that Canada must strengthen sovereignty, broaden its international engagement, and integrate northern Indigenous knowledge into foreign and security policy.<sup>80</sup> The defence policy update complements this by arguing that the changing Arctic physical environment is creating new threats and vulnerabilities that require stronger continental defence, better surveillance, and improved mobility across the North.<sup>81</sup>

## **Sovereignty, the Northwest Passage, and the Defence of the North**

Canada's sovereignty logic emerges most clearly in its position on the Northwest Passage. Ottawa maintains that the waters of the Canadian Arctic Archipelago, including the various channels that make up the Northwest Passage, are internal waters of Canada by virtue of historic title and in accordance with international law. This is a central and repeatedly stated element of Canadian Arctic policy.<sup>82</sup> The 2024 Arctic Foreign Policy restates this position clearly and links it to the broader claim that Canada's sovereignty extends across Arctic land, sea, and ice.<sup>83</sup> That position matters not only legally, but strategically: as Arctic waters become more accessible, the question is not simply whether vessels can transit northern routes, but under whose rules those transits occur.

The sovereignty issue connects to a familiar but unresolved divergence with the United States. Canada considers the Northwest Passage part of its internal waters, while the United States has traditionally viewed it as an international strait subject to transit rights. Ottawa's strategy has been to strengthen its legal position through regulation, presence, surveillance, and practical governance rather than through confrontation with Washington.<sup>84</sup> In the current strategic environment, this issue has become more important, not less. Increased commercial interest, greater navigability, and a growing maritime activities in Arctic waters all raise the political value of demonstrating that Canada is capable of administering, monitoring, and defending its Arctic waters.

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<sup>79</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy* (Ottawa: Government of Canada, 2024); Department of National Defence, *Our North, Strong and Free: A Renewed Vision for Canada's Defence* (Ottawa: Government of Canada, 2024).

<sup>80</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*.

<sup>81</sup> Department of National Defence, *Our North, Strong and Free*.

<sup>82</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*.

<sup>83</sup> Global Affairs Canada, "Minister Joly Launches Canada's Arctic Foreign Policy," December 6, 2024.

<sup>84</sup> Global Affairs Canada, "Minister of International Trade Briefing Book," 2019; Global Affairs Canada, *Canada's Arctic Foreign Policy*.

## National Security Interests and Continental Defence

For Canada, Arctic security is inseparable from North American defence. The North is one of the main approaches to the continent for advanced aerospace threats, including cruise missiles, hypersonic weapons, and surveillance platforms.<sup>85</sup> That is why the Arctic occupies such a central place in Canada's recent defence planning. *Our North, Strong and Free* explicitly states that the most urgent and important task facing Canada is asserting sovereignty in the Arctic and northern regions, where changing physical and geopolitical conditions have created new vulnerabilities.<sup>86</sup> The document also notes more Russian activity in the Arctic and greater interest from competitors in routes, resources, critical minerals, and intelligence collection.

This continental dimension is most clearly expressed through NORAD modernisation. Canada's June 2022 commitment to spend C\$38.6 billion over 20 years on continental defence and NORAD modernisation remains one of the largest defence investments in a generation. Official Canadian timelines organise the effort around five major lines of investment, including enhanced surveillance and threat detection, command-and-control modernisation, infrastructure and support capabilities, research and development, and future-force readiness.<sup>87</sup> These investments aim to ensure that the Arctic and northern approaches do not become avenues of attack against North America.<sup>88</sup> In practice, this means Canada sees Arctic defence not as a narrow regional matter, but as part of the strategic shield protecting the continent as a whole.

## Investment in Arctic Infrastructure and Capabilities

Canada's recent Arctic strategy places unusual emphasis on enabling infrastructure, reflecting an important strategic judgment: sovereignty in the North cannot be sustained through legal claims alone. It requires mobility, logistics, communications, and a permanent operational presence. The 2024 defence policy update and related departmental planning documents emphasise improvements in reach, mobility, and Arctic operational capability. Canadian defence planning now explicitly links Arctic policy, the Arctic Foreign Policy, and the NORAD modernisation plan to efforts to improve the Department of National Defence and Canadian Armed Forces capabilities in the North.<sup>89</sup>

A visible part of that infrastructure story is icebreaking and shipbuilding. Canada joined the Icebreaker Collaboration Effort (ICE Pact) with the United States and Finland in 2024. By late 2025, the three countries had signed both a joint statement of intent and an MOU to deepen cooperation on the design, production, and maintenance of Arctic and polar icebreakers. Canada's own official materials present the pact as a way to strengthen industrial capacity and support the design and construction of best-in-class Arctic and polar vessels. The strategic significance is clear: icebreakers are not only civilian or

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<sup>85</sup> Department of National Defence, "2026-27 Departmental Plan."

<sup>86</sup> Department of National Defence, *Our North, Strong and Free*.

<sup>87</sup> Department of National Defence, "NORAD Modernization Project Timelines"

<sup>88</sup> Department of National Defence, "Annex C: Canada's NORAD Modernization Plan"; Department of National Defence, "Funding for Continental Defence and NORAD Modernization."

<sup>89</sup> Department of National Defence, "2026-27 Departmental Plan"; Department of National Defence, *Our North, Strong and Free*; Global Affairs Canada, *Canada's Arctic Foreign Policy*.

coast-guard assets. In Arctic conditions, they are enablers of sovereignty, logistics, emergency response, and year-round operational credibility.<sup>90</sup>

Recurring exercises and Arctic deployments reinforce operational presence. Operation NANOOK, for example, remains one of the most visible expressions of Canada's sovereignty posture in the North. The 2025 defence release on Operation NANOOK-NUNALIVUT described it as a sovereignty-and-defence operation in the High Arctic, explicitly aimed at asserting Canada's sovereignty and enhancing defence capabilities.<sup>91</sup> These recurring operations are significant because they signal that Canada's Arctic policy is not merely declaratory. They create familiarity with harsh operating conditions, improve readiness, and help demonstrate that Canadian forces can operate alongside northern communities and allied partners in remote Arctic environments.<sup>92</sup>

## **Indigenous Partnership, Inuit Nunangat, and the Legitimacy of Canadian Arctic Policy**

A defining feature of Canada's Arctic strategy is that it increasingly presents Indigenous partnership, especially with Inuit, as a foundational element of Arctic security. This goes beyond reconciliation rhetoric. It reflects the basic reality that large parts of Canada's Arctic sovereignty are lived, governed, and observed through Inuit Nunangat. The 2024 Arctic Foreign Policy states directly that it is built on the knowledge and perspectives of Indigenous Peoples and acknowledges the dark legacy of forced relocations and other colonial policies in the Arctic.<sup>93</sup> This makes the Canadian case somewhat different from many traditional state-centric Arctic strategies: legitimacy itself is treated as a strategic asset.

This logic has been sharpened further by Inuit Tapiriit Kanatami's 2025 position paper, *An Inuit Vision for Arctic Sovereignty, Security and Defence*, which argues that Canada would not be an Arctic state without Inuit and that Arctic security must be pursued through Inuit-led priorities, infrastructure, and governance.<sup>94</sup> That argument has strategic consequences. It means that the defence of the North cannot be reduced to sensors, ships, and forward operating locations. It also requires housing, transportation, communications, education, and community resilience. Inuit actors increasingly describe these elements as part of a broader conception of security in which human security and national security reinforce one another.

This Indigenous-security connection is visible in concrete institutional arrangements as well. Nasittuq, a majority Inuit-owned firm, operates and maintains the North Warning System, the radar network that supports North American air sovereignty and continental security across Canada's North.<sup>95</sup> Government of Canada materials on the North Warning System contract also emphasise that this arrangement delivers

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<sup>90</sup> Public Services and Procurement Canada, "Icebreaker Collaboration Effort"; Public Services and Procurement Canada, "Joint Statement of Intent for the Icebreaker Collaboration Effort," November 26, 2025; Public Services and Procurement Canada, "Memorandum of Understanding Among the Government of Canada, the Government of the Republic of Finland, and the Government of the United States of America," November 25, 2025.

<sup>91</sup> Department of National Defence, "Operation NANOOK 2025: Strengthening Arctic Defence and Sovereignty," February 23, 2025.

<sup>92</sup> Department of National Defence, "Op NA-NU 26 Puts Focus on Canada's Arctic Sovereignty," February 23, 2026.

<sup>93</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Crown-Indigenous Relations and Northern Affairs Canada, "The Government of Canada Launches Co-Developed Arctic and Northern Policy Framework," September 10, 2019.

<sup>94</sup> Inuit Tapiriit Kanatami, *An Inuit Vision for Arctic Sovereignty, Security and Defence* (Ottawa: ITK, 2025).

<sup>95</sup> Nasittuq Corporation, "North Warning System"; Nasittuq Corporation, "About Us."

socioeconomic benefits to Inuit and northern communities while supporting surveillance of the North. This is important because it shows that Indigenous participation in Arctic security is not simply consultative. It is operational and infrastructural.<sup>96</sup>

## Partnerships, Alliances, and Arctic Diplomacy

Canada's Arctic strategy is pursued through both alliance structures and regional diplomacy. The alliance dimension is most obvious in NORAD and NATO. Through NORAD, Canada is structurally integrated with the United States in continental warning and defence. Through NATO, Canada situates its Arctic concerns within the wider Euro-Atlantic security environment, especially as Russian militarisation and instability in the High North increasingly affect the broader North Atlantic.<sup>97</sup> *Our North, Strong and Free* frames Arctic security as part of North American and allied security, and more recent departmental planning continues to link Canadian Arctic priorities to NATO deterrence posture.

At the same time, Canada remains heavily invested in Arctic governance as a stabilising framework. The 2024 Arctic Foreign Policy presents Canada as supporting international law, pragmatic Arctic diplomacy, and the inclusion of Indigenous voices in regional governance. Ottawa has also continued to treat the Arctic Council as a central venue for cooperation on environmental protection, science, and sustainable development, even though the Russia-West rupture has sharply constrained the Council's functioning since 2022.<sup>98</sup> For Canada, this institutional track remains important because it preserves a rules-based approach to Arctic affairs and helps prevent the region from being defined solely by military competition.

## Domestic Actors and Implementation

Implementation of Canada's Arctic strategy spans a broad network of state and regional entities. Global Affairs Canada now plays a larger role through the Arctic Foreign Policy and the strengthening of Arctic diplomacy. National Defence and the Canadian Armed Forces drive surveillance, mobility, operations, and continental defence planning. Public Services and Procurement Canada is central to shipbuilding and the ICE Pact. Crown-Indigenous Relations and Northern Affairs Canada remains important because the Arctic and Northern Policy Framework was co-developed with northern and Indigenous partners and continues to provide a broader governance framework.<sup>99</sup> This distributed implementation model reflects the reality that Canadian Arctic policy is not only about defence. It is about connecting diplomacy, security, infrastructure, Indigenous partnership, and domestic state capacity.<sup>100</sup>

## Takeaway

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<sup>96</sup> Department of National Defence, "Government of Canada Awards In-Service Support Contract for North Warning System," January 31, 2022.

<sup>97</sup> Department of National Defence, *Our North, Strong and Free*; Department of National Defence, "2026-27 Departmental Plan."

<sup>98</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Global Affairs Canada, "Backgrounder: Deliverables of Canada's Arctic Foreign Policy," December 6, 2024.

<sup>99</sup> Crown-Indigenous Relations and Northern Affairs Canada, "Northern and Indigenous Partners Meet at the Fifth Annual Arctic and Northern Policy Framework Leadership Committee Meeting," October 17, 2024.

<sup>100</sup> Global Affairs Canada, "Backgrounder: Deliverables of Canada's Arctic Foreign Policy"; Public Services and Procurement Canada, "Icebreaker Collaboration Emodernisation, Arctic infrastructure, and Inuit partnership."

Taken together, Canada's Arctic strategy is shaped by a distinct combination of sovereignty politics, continental defence, and Indigenous-centred legitimacy. Ottawa's central challenge is not merely to deter threats, but to demonstrate that it can govern, monitor, defend, and develop the North on its own terms. This is why the Northwest Passage, NORAD modernisation, Arctic infrastructure, and Inuit partnership all sit so close together in Canada's current strategy. Canada does not possess Russia's military density in the Arctic, nor does it seek to dominate the region through force. Its approach instead aims to turn governance, alliance integration, operational presence, and northern partnership into a credible sovereignty posture. The success of that strategy will depend on whether Canada can convert recent policy ambition into durable capability, especially in mobility, surveillance, infrastructure, and long-term investment in Arctic communities.<sup>101</sup>

## E. Denmark & Greenland

### Strategic Logic and Constitutional Frame

The Kingdom of Denmark occupies a distinctive place in Arctic politics because it is not a unitary Arctic actor in the usual sense. Its Arctic position is shaped by the relationships among Denmark, Greenland, and the Faroe Islands, with Greenland carrying the greatest strategic weight due to its size, geography, and proximity to North American and North Atlantic defence routes. This means that Denmark/Greenland functions both as a security actor and as a constitutional arrangement. Greenland exercises extensive self-government in the fields it has assumed under the 2009 Self-Government Act, with legislative and executive authority resting in Inatsisartut (Greenland's parliament) and Naalakkersuisut (Greenland's government) in those areas, while the Kingdom framework continues to shape defence, foreign affairs, and overall sovereignty.<sup>102</sup> As a result, Arctic policy in this part of the region unfolds across two levels: the strategic needs of the Kingdom and the political aspirations of Greenland itself.<sup>103</sup>

That constitutional structure carries strategic weight because Greenland is not simply a Danish territory in the conventional sense. It is a self-governing Arctic polity whose domestic politics are increasingly shaping the Kingdom's external position as a whole. Recent Greenlandic politics illustrate this clearly. After the March 2025 election, Greenland's Democrats formed a broad coalition government, and the new leadership favoured a gradual path toward independence while strengthening ties with Denmark in the meantime.<sup>104</sup> At the same time, the March 2026 Danish parliamentary election gave Greenland's pro-independence Naleraq party its first seat in Copenhagen, showing that the constitutional future of the island remains politically contested.<sup>105</sup> This matters for Arctic security because any Denmark/Greenland strategy must balance immediate defence and diplomatic requirements with a longer-term question about sovereignty, autonomy, and the future structure of the Kingdom itself.

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<sup>101</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Department of National Defence, "NORAD Modernization Project Timelines"; Inuit Tapiriit Kanatami, *An Inuit Vision for Arctic Sovereignty, Security and Defence*; Public Services and Procurement Canada, "Icebreaker Collaboration Effort"; Department of National Defence, "2026-27 Departmental Plan."

<sup>102</sup> *Act on Greenland Self-Government*, Act No. 473 of 12 June 2009.

<sup>103</sup> Prime Minister's Office, "Greenland," Government of Denmark.

<sup>104</sup> Reuters, "Greenland Parties Announce Broad Coalition Government amid Trump Pressure," March 28, 2025; Reuters, "Greenland Strengthens Danish Ties as it Eyes Independence," March 31, 2025.

<sup>105</sup> Reuters, "Greenland Independence Party Wins Seat in Danish Parliament at Key Moment," March 25, 2026.

## Strategic Geography and Security Significance

The Kingdom's Arctic significance rests above all on geography. Danish official security analysis emphasises that Greenland and the Faroe Islands form part of the Arctic/North Atlantic security complex and are central to both U.S.-Russia nuclear deterrence and access between the Arctic and the North Atlantic.<sup>106</sup> Greenland lies along the projected path of intercontinental missiles between Russia and the United States. At the same time, Greenland and the Faroes also sit near the Greenland, Iceland, and United Kingdom (GIUK) gap, the maritime corridor between Greenland, Iceland, and the United Kingdom through which Russian submarines and warships must pass to reach the North Atlantic. In other words, Denmark/Greenland matters strategically not because it fields a great-power military of its own, but because it occupies terrain through which great-power deterrence, warning, and maritime movement are structured.

This geography helps explain the enduring significance of Pituffik Space Base in northwestern Greenland. Pituffik is the Department of Defence's northernmost installation which supports force protection, space superiority, and Arctic operations for the United States and its allies.<sup>107</sup> The base serves as a key early-warning site because the shortest missile and aerospace approaches between Eurasia and North America run over or near Greenland. As a result, Greenland is not simply an Arctic landmass of symbolic value. It is a real piece of continental-defence geography whose significance rises when relations between major powers deteriorate.<sup>108</sup>

## Defence Posture and Recent Investment

For of the post-Cold War period, the Kingdom's Arctic posture combined geopolitical significance with relatively thin capabilities. That imbalance has become much harder to sustain. Denmark itself acknowledged it had neglected Greenland's defence for years, even as international attention to the island intensified.<sup>109</sup> Copenhagen has since moved to strengthen its Arctic and North Atlantic posture through a series of defence agreements that are significant not only in budgetary terms, but also in what they reveal about Denmark's changing strategic priorities.<sup>110</sup>

The first major step was the allocation of DKK 14.6 billion for Arctic and North Atlantic initiatives in the 2024-2033 period. The second step came in October 2025, when Denmark announced a Second Agreement on the Arctic and North Atlantic worth DKK 27.4 billion. The package includes two additional Arctic vessels, a maritime patrol aircraft capability, a new headquarters for the Joint Arctic Command in Nuuk, a new military unit in Greenland, additional drones, access to icebreaker capability, and a North Atlantic undersea cable.<sup>111</sup> The agreement was also developed in close collaboration with the governments of Greenland and the Faroe Islands, which is significant because it shows that the

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<sup>106</sup> Ministry of Foreign Affairs of Denmark, *Danish Security and Defence towards 2035* (2022).

<sup>107</sup> U.S. Space Force, "Pituffik SB, Greenland."

<sup>108</sup> Reuters, "Denmark Boosts Arctic Defence Spending by \$2.1 Billion, Responding to US Pressure," January 27, 2025.

<sup>109</sup> Reuters, "What Are the Military Assets in the Arctic?" January 22, 2026.

<sup>110</sup> Reuters, "Greenland Parties Announce Broad Coalition Government amid Trump Pressure," March 28, 2025; Reuters, "Greenland Strengthens Danish Ties as it Eyes Independence," March 31, 2025; Reuters, "Greenland Independence Party Wins Seat in Danish Parliament at Key Moment," March 25, 2026.

<sup>111</sup> Danish Ministry of Defence, "The Second Agreement on the Arctic and North Atlantic Strengthens the Operational Effectiveness of the Danish Armed Forces with New Acquisitions Totalling DKK 27.4 Billion," October 10, 2025.

Kingdom's Arctic defence posture is increasingly being framed as a shared North Atlantic project rather than a purely Copenhagen-directed policy.<sup>112</sup>

These investments suggest an important change in strategic logic. Denmark is no longer treating Greenland mainly as a remote responsibility whose defence can be managed solely through limited presence and reliance on alliances. It is moving toward a posture centred on awareness, mobility, and local anchoring. A new Joint Arctic Command headquarters in Nuuk has obvious symbolic value, but it also reflects the operational reality that Arctic command and response cannot remain too distant from the theatre itself. Likewise, maritime patrol aircraft, Arctic vessels, drones, and undersea connectivity are not isolated acquisitions. Together, they point toward a strategy aimed at better surveillance, stronger operational endurance, and greater capacity to support both national tasks and allied requirements in the Arctic and North Atlantic.<sup>113</sup>

## Greenland as a Political and Economic Actor

Greenland must also be treated as an independent political actor in its own right because it increasingly pursues external economic and diplomatic positioning within the space allowed by self-government. This is especially visible in the island's approach to critical minerals. Greenland's 2025-2029 Mineral Resources Strategy explicitly calls for implementing strategic cooperation with the European Union on sustainable value chains, renewing the 2019 agreement between Greenland and the United States, and using the Minerals Security Partnership forum to support projects tied to politically sensitive supply chains.<sup>114</sup> These are not the goals of a passive territory. They reflect a government trying to translate resource endowment into bargaining power, external partnerships, and greater room for manoeuvre in a competitive geopolitical environment.

This economic dimension matters because Greenland's geopolitical relevance is no longer defined only by military geography. It is also tied to rare earths, critical minerals, logistics, and infrastructure. The island's mineral potential attracts attention from the United States, European partners, and other external actors who see Arctic resources as part of broader industrial and supply-chain security. That dynamic creates opportunity, but also risk. For Greenland, outside interest can be leveraged to support economic development and future self-reliance. For the Kingdom, however, it also creates pressure, because underinvestment in local infrastructure or governance can make external actors more influential, complicating both security policy and constitutional politics. Greenlandic politics reflects this tension well: Greenland's current leadership has emphasised closer ties with Denmark in the near term, even as the long-term goal of greater sovereignty remains politically salient.<sup>115</sup>

## Governance, Diplomacy, and the Kingdom's Arctic Role

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<sup>112</sup> Danish Ministry of Defence, *Fact Sheet: Second Agreement on the Arctic and North Atlantic* (2025).

<sup>113</sup> Danish Ministry of Defence, "The Second Agreement on the Arctic and North Atlantic Strengthens the Operational Effectiveness of the Danish Armed Forces with New Acquisitions Totalling DKK 27.4 Billion," October 10, 2025; Danish Ministry of Defence, *Fact Sheet: Second Agreement on the Arctic and North Atlantic* (2025).

<sup>114</sup> Government of Greenland, *Greenland Mineral Resources Strategy 2025–2029* (Nuuk: Government of Greenland, 2025), 28–29

<sup>115</sup> Reuters, "Greenland Parties Announce Broad Coalition Government amid Trump Pressure," March 28, 2025; Reuters, "Greenland Strengthens Danish Ties as it Eyes Independence," March 31, 2025; Reuters, "Greenland Independence Party Wins Seat in Danish Parliament at Key Moment," March 25, 2026.

The Kingdom of Denmark's Arctic role extends beyond hard security. It is also an important governance actor. This is especially evident in its 2025-2027 chairmanship of the Arctic Council, which is formally presented as a Kingdom-wide chairmanship involving Denmark, Greenland, and the Faroe Islands. The official Arctic Council chairship page lists five core priorities: Indigenous Peoples and Communities of the Arctic, Sustainable Economic Development and Energy Transition Solutions, Oceans, Climate Change in the Arctic, and Biodiversity.<sup>116</sup> The page also highlights that the chairship is meant to keep the Council "vibrant and resilient," with special emphasis on Indigenous knowledge and the human dimension of Arctic governance. Notably, the Arctic Council lists Greenland's Foreign Minister Vivian Motzfeldt as Chair, which underscores that Greenland is not merely represented within the Kingdom framework but occupies a visible leadership role in one of the Arctic's main institutions.

This governance role carries strategic weight because Denmark/Greenland sits at the intersection of two competing Arctic logics. One is the security logic of deterrence, surveillance, and alliance management. The other is the governance logic of environmental stewardship, Indigenous participation, and regional cooperation. The Kingdom's chairship priorities show that Copenhagen and Nuuk are trying to preserve the second logic even as the first becomes more intense.<sup>117</sup> That balancing act is one of the defining features of Denmark/Greenland's Arctic position. It is not trying to become a military power comparable to Russia or the United States. Instead, it is trying to combine alliance credibility, local legitimacy, and institutional relevance in a region where all three are becoming harder to sustain simultaneously.

## Takeaway

Taken together, Denmark/Greenland are a pivotal Arctic actor because they combine exceptional geography with an unusually complex political structure. Greenland gives the Kingdom strategic depth in continental defence, the GIUK gap, and Arctic governance.<sup>118</sup> At the same time, Denmark provides the alliance links, state resources, and diplomatic framework through which those advantages are managed. Yet this position also creates a structural tension: the Kingdom must strengthen Arctic defence, respond to great-power pressure, respect Greenlandic self-government, and navigate a long-term independence question that remains open. Recent defence investments and the Kingdom's Arctic Council chairship show a clear effort to move from symbolic presence toward more credible capability and more visible political inclusion. The durability of that strategy will depend on whether Denmark and Greenland can keep security cooperation, economic development, and constitutional legitimacy aligned as external interest in the island and the wider Arctic continues to intensify.

## F. Other Key Actors

### Security Through Partnership: Inuit Leadership in the Arctic

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<sup>116</sup> Arctic Council, "Kingdom of Denmark's Chairship, 2025-2027"; Arctic Council, "The Kingdom of Denmark Presents its 2025-2027 Arctic Council Chairship Program," April 11, 2025.

<sup>117</sup> Arctic Council, "Kingdom of Denmark's Kingdom of Denmark's Chairship, 2025 to 2027"; Arctic Council, "The Kingdom of Denmark Presents its 2025-2027 Arctic Council Chairship Program," April 11, 2025.

<sup>118</sup> Danish Ministry of Defence, "The Second Agreement on the Arctic and North Atlantic Strengthens the Operational Effectiveness of the Danish Armed Forces with New Acquisitions Totalling DKK 27.4 Billion," October 10, 2025; Danish Ministry of Defence, *Fact Sheet: Second Agreement on the Arctic and North Atlantic* (2025).

As a shared and increasingly contested space, the Arctic has rapidly become a critical geopolitical arena.<sup>119</sup> Demands from US President Donald Trump for Greenland to become part of the United States, alongside growing Russian and Chinese engagement in the region, illustrate how the Arctic is evolving into a high-stakes environment in which states compete to assert political, economic, and military dominance. Some strategic actors in this partnership, however, are easily. As longstanding occupants of the Arctic, the Inuit are not merely historical inhabitants of the region but principal contemporary actors whose presence is central to questions of governance, sovereignty, and, security within the Arctic.<sup>120</sup>

The centrality of Inuit communities to Arctic security is further reinforced by the geographic scale of Inuit Nunangat, the Inuit homeland, which encompasses approximately 40 per cent of Canada's landmass and 72 per cent of its coastline. Inuit use and occupancy of this territory underpin Canada's legal claims to key areas of the Arctic, including the Northwest Passage. Inuit communities' interests are also represented by Inuit Tapiriit Kanatami (ITK), a national representative organisation that advocates for Inuit rights, policies, and community development across Inuit regions<sup>121</sup>. In this sense, Inuit communities function as both geographical and political anchors through which Canada asserts legitimacy in the Arctic.

Inuit communities play a crucial role in legitimising Canada's presence in the region through several mechanisms. While geography alone might appear sufficient to classify Canada as an Arctic state, legal and political legitimacy is also grounded in the longstanding Indigenous occupancy of Arctic coastlines. As Inuit leader Natan Obed has emphasised, Canada's status as an Arctic state is inseparable from Inuit presence and expertise in the region.<sup>122</sup> Inuit communities possess extensive knowledge of Arctic land, sea, and climate systems, making them among the foremost experts on the region. As holders of extensive environmental and territorial knowledge, Inuit communities contribute not only to the legitimacy of Canada's sovereignty but also to its long-term security and defence objectives in the North. Additionally, Inuit serve as the primary observers across vast areas of the Arctic. In this region, the Canadian Armed Forces and the Canadian Coast Guard maintain only a limited presence. Hunters, harvesters, and researchers from Inuit communities regularly monitor thousands of square kilometres of land and marine territory, providing essential observational knowledge and in-kind support to military and security institutions that lack the capacity to monitor such a large and remote region independently.<sup>123</sup>

Inuit communities also contribute directly to Arctic defence operations through Inuit-led organisations involved in key security infrastructures. For instance, the Inuit-owned Nasittuq Corporation operates the majority of the sites within the various North Warning System, a critical aerospace surveillance network. Additional initiatives such as Sapujjijit Inc., the first Inuit-led defence corporation, as well as the proposed Inuit Nunangat University, further demonstrate how Inuit-led research, entrepreneurship, and economic development can contribute to the monitoring and defence of the Arctic.<sup>124</sup>

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<sup>119</sup> Julia Nesheiwat, "Why the Arctic Matters to the United States," Atlantic Council, February 25, 2026.

<sup>120</sup> Karla Jessen Williamson, "Inuit | People, Meaning, Greenland, Language, Food, Definition, History, Culture, & Facts | Britannica," *Britannica*, January 12, 2026.

<sup>121</sup> Inuit Tapiriit Kanatami, *An Inuit Vision for Arctic Sovereignty, Security and Defence* (June 2025): 3.

<sup>122</sup> Arty Sarkisian, "Give Inuit Greater Role in Arctic Security or Risk 'Malicious' Foreign Investment: Obed," Nunatsiq News, November 21, 2025.

<sup>123</sup> Inuit Tapiriit Kanatami, *An Inuit Vision for Arctic Sovereignty, Security and Defence* (June 2025): 3.

<sup>124</sup> Arty Sarkisian, "Give Inuit Greater Role in Arctic Security or Risk 'Malicious' Foreign Investment: Obed," Nunatsiq News, November 21, 2025.

Analysts and Inuit leaders warn that persistent underinvestment in northern communities may create infrastructure and economic gaps that external actors, particularly states such as China or Russia, could attempt to exploit through strategic investments.<sup>125</sup> Thus, strengthening Inuit-led projects, governance institutions, and regional infrastructure would help reduce these vulnerabilities by ensuring that development within Inuit Nunangat remains under the leadership of both Canadians and Inuit.

This perspective also challenges more traditional understandings of Arctic security that focus primarily on military presence. Inuit leaders increasingly argue that security in the Arctic must also incorporate human security considerations such as housing, healthcare, education, and infrastructure.<sup>126</sup> Persistent gaps in these areas can create vulnerabilities that foreign actors may exploit through economic influence or infrastructure investments. As a result, Inuit organisations advocate for a dual-use model of Arctic investment, in which infrastructure built for defence purposes, such as ports, runways, communications systems, and transportation networks, simultaneously strengthens the resilience and well-being of Inuit communities.<sup>127</sup>

Institutionally, Inuit leadership is also becoming more involved in shaping Arctic governance and security policy. The establishment of the Inuit-Crown Partnership Committee in 2017 created a formal mechanism through which Inuit leaders and federal cabinet ministers jointly establish priorities and coordinate policy decisions affecting Inuit Nunangat.<sup>128</sup> Ultimately, Inuit prosperity and Arctic security are not competing objectives but mutually reinforcing ones. Federal planners pursued earlier Arctic militarisation without adequate consideration for Inuit communities, contributing to forced relocations and other colonial interventions intended to reinforce Canadian sovereignty and dismantle the Inuit way of life.<sup>129</sup> Future Arctic security strategies must avoid repeating these patterns and instead pursue sustainable security rooted in Inuit self-determination, regional development, and Inuit leadership in shaping the North's future.

## **Multinational Corporations and Strategic Infrastructure in the Arctic**

Multinational corporations play an important role in the Arctic because they are often the actors that transform state ambition into material presence. Governments may define Arctic strategy in terms of sovereignty, security, development, or connectivity. Yet, private and state-linked firms frequently build the ships, ports, energy terminals, mines, and communications systems that make those strategies operational.<sup>130</sup> In this sense, corporations are not peripheral to Arctic geopolitics. They are among the main vehicles for exercising influence on the ground and at sea. Arctic business networks themselves increasingly frame private investment as central to regional development, especially in sectors such as energy, mining, infrastructure, technology, and shipping.<sup>131</sup>

Their importance is particularly visible in the energy sector. In the Russian Arctic, firms such as NOVATEK drive the economic logic of Arctic development. NOVATEK describes Yamal LNG as a

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<sup>125</sup> Inuit Tapiriit Kanatami, *An Inuit Vision for Arctic Sovereignty, Security and Defence* (June 2025): 3.

<sup>126</sup> *Ibid.*, 9.

<sup>127</sup> *Ibid.*, 10.

<sup>128</sup> *Ibid.*, 6.

<sup>129</sup> *Ibid.*, 4.

<sup>130</sup> Arctic Economic Council, *Sustainable Investment Opportunities in the Arctic* (2022).

<sup>131</sup> Arctic Economic Council, *Arctic Investment Protocol: Guidelines for Responsible Investment in the Arctic* (2017).

large-scale Arctic LNG project with a nameplate capacity of 17.4 million tonnes per annum, and the project has become one of the clearest examples of how corporate capacity, state infrastructure, and Arctic shipping routes are tied together.<sup>132</sup> At the same time, recent reporting shows that the profitability and direction of Arctic LNG flows remain heavily shaped by sanctions, shipping constraints, and access to buyers, demonstrating that corporate activity in the Arctic is deeply entangled with international politics rather than insulated from it.<sup>133</sup>

Corporations also shape the Arctic through shipping and industrial logistics, but not always in the way optimistic Arctic-route narratives suggest. The number of ships operating in the Arctic reached a record high in 2025, according to Arctic Council shipping data, showing that commercial activity is expanding.<sup>134</sup> Yet major shipping firms have historically remained cautious about treating Arctic routes as true alternatives to conventional East-West corridors because seasonality, insurance costs, specialised vessels, and uncertain infrastructure still constrain the Northern Sea Route. This means that corporate decisions help determine whether Arctic routes become globally transformative trade corridors or remain more limited, state-backed channels tied mainly to bulk cargo, energy exports, and niche logistics.<sup>135</sup>

A similar dynamic is emerging in strategic infrastructure and resource extraction. Mining companies, shipbuilders, and digital-infrastructure developers matter because they can create long-term dependencies through financing, ownership structures, processing chains, or control over technical systems. Recent reporting on Greenland's critical minerals sector, for example, illustrates how corporate projects can quickly take on geopolitical significance when they intersect with rare-earth supply chains, foreign investment scrutiny, and broader competition over critical resources.<sup>136</sup> Even when firms are formally private, their projects can carry national-security implications because the infrastructure they build can affect access, industrial resilience, and external leverage in the Arctic.<sup>137</sup>

For this reason, multinational corporations should be understood not simply as economic actors, but as strategic intermediaries in Arctic politics. They influence the pace of development, the viability of shipping routes, the structure of energy and mineral supply chains, and the standards by which Arctic investment is judged. At the same time, their growing role raises important governance questions. If Arctic development is increasingly carried out through corporate actors, then issues such as environmental accountability, Indigenous consultation, community benefit, and infrastructure ownership become even more important to regional security. Corporate activity can strengthen Arctic resilience, but it can also deepen dependency and external influence if it is not embedded within robust legal, social, and political safeguards.<sup>138</sup>

## IV. Areas of Great Power Competition

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<sup>132</sup> PAO NOVATEK, "Yamal LNG," accessed March 29, 2026.

<sup>133</sup> Reuters, "Russia's Yamal LNG Resumes Transshipments near Murmansk, Data Shows," February 12, 2026; Reuters, "Russia's Options to Reroute LNG from Europe Limited by High Shipping Costs, Contract Structure," March 27, 2026.

<sup>134</sup> Arctic Council, "Arctic Shipping Update: 40% Increase in Ships in the Arctic," February 12, 2026.

<sup>135</sup> Reuters, "Maersk Sends First Container Ship Through Arctic Route," August 24, 2018; Reuters, "Maersk Explores Arctic Shipping Route with Russia," June 14, 2019.

<sup>136</sup> Reuters, "Critical Metals Approves \$30 Million for Greenland Rare Earth Project Development," March 10, 2026.

<sup>137</sup> Center for Strategic and International Studies, "Greenland, Rare Earths, and Arctic Security," January 8, 2026; Reuters, "Greenland Approves 30-Year Mining Permit for EU-Backed Graphite Project," December 9, 2025.

<sup>138</sup> Arctic Economic Council, *Arctic Investment Protocol: Guidelines increase raise for ReTwo interacting realities shape great power competition in the Arctic*; Arctic Economic Council, *Sustainable Investment Opportunities in the Arctic*; Arctic Council, "Arctic Shipping Update: 40% Increase in Ships in the Arctic," February 12, 2026.

Great power competition in the Arctic is shaped by two interacting realities. First, climate change is altering physical access and operational conditions, which expands activity at sea, increases the demand for surveillance and emergency response, and raises the value of enabling infrastructure. Second, geopolitical rivalry has increased the strategic weight of the High North as a region tied to homeland defence, nuclear deterrence, and maritime routes connecting the North Atlantic and North Pacific.<sup>139 140</sup>

Competition does not necessarily imply imminent conflict. It is more accurately understood as a sustained contest over access, influence, and the rules that govern activity in a region. That contest is pursued through military posture, economic investment, technology, and institutional positioning. In the Arctic, it is also constrained by harsh operating conditions, high costs, and significant legal and environmental obligations.<sup>141</sup>

## A. Military Competition

### Why the Arctic Matters Militarily

The Arctic's military significance is primarily geographic and strategic. It is a northern approach to North America and a corridor that affects long-range aerospace warning and maritime access. It also borders the core of Russia's Northern Fleet on the Kola Peninsula, which has been central to Russian maritime power and strategic deterrence.<sup>142</sup> This geography means that Arctic security is not a discrete theatre. It is closely connected to North Atlantic security, North American homeland defence, and the broader credibility of NATO deterrence.

United States defence planning increasingly frames the Arctic through a "monitor and respond" concept. Monitoring refers to domain awareness. Responding refers to the ability to surge capability, sustain operations in extreme conditions, and manage escalation in a crisis.<sup>143</sup> The emphasis is on readiness and reinforcement rather than on large, permanent deployments, but it still requires a credible presence, reliable communications, and adequate infrastructure.

### Russia's Posture: Remilitarisation, Bastion Defence, and the Northern Fleet

Analysts often describe Russia's Arctic posture as a remilitarisation of the High North. This includes the restoration and modernisation of bases, improvements in air defence and coastal defence systems, and expanded training and operational activity.<sup>144</sup> The drivers are both defensive and competitive. From Moscow's perspective, the Arctic is tied to sovereignty, economic development along the Northern Sea Route, and the protection of strategic nuclear forces based in the north.<sup>145</sup>

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<sup>139</sup> The White House, *National Strategy for the Arctic Region* (Washington, DC, October 2022), 1-4.

<sup>140</sup> U.S. Department of Defense, *2024 Department of Defense Arctic Strategy* (Washington, DC, July 2024), 1-6.

<sup>141</sup> North Atlantic Treaty Organization, "Arctic Security," accessed February 18, 2026.

<sup>142</sup> Gunilla Plans, *Russia's Arctic Strategy through 2035* (Berlin: Stiftung Wissenschaft und Politik, November 2020), 2-4.

<sup>143</sup> U.S. Department of Defense, *2024 Department of Defense Arctic Strategy*, 7-11.

<sup>144</sup> Johannes Kjellén, "The Russian Northern Fleet and the (Re)militarisation of the Arctic," *Arctic Review on Law and Politics* 13 (2022): 1 to 22.

<sup>145</sup> President of Russia, "Changes to Basic Principles of State Policy in the Arctic until 2035," February 21, 2023.

A defining feature of Russian military logic has been the protection of strategic assets and sea lines of communication linked to the Kola Peninsula. Analyses of Russia's Arctic strategy through 2035 underline the priority of the Northern Fleet and the role of the Northern Sea Route in guaranteeing access to the Atlantic and Pacific.<sup>146</sup> This connects operational posture to broader maritime strategy, including the ability to protect bastion areas. While expert debate continues over the precise wartime viability of a bastion approach, the underlying strategic objective remains clear: to protect key assets and raise the cost of adversary operations in the region.<sup>147</sup>

Russia's Arctic posture also benefits from geography. Much of its northern infrastructure lies near strategic hubs, and the region hosts assets related to nuclear deterrence and maritime operations. This creates a structural sensitivity to perceived threats. It can also produce escalatory dynamics, particularly if incidents occur near high-value assets or if Russia interprets surveillance activity as preparation for coercion.

## **United States and Allied Posture: Deterrence, Presence, and Integration**

For the United States and its allies, the core objectives are deterrence, reassurance, and crisis stability. NATO's own framing emphasises that the Alliance has long had an Arctic presence, and that Finland and Sweden's membership strengthens its posture and capability in the region.<sup>148</sup> The implications are practical. The Alliance now has deeper High North geography, improved opportunities for joint training, and stronger interoperability among Nordic partners.

The United States anchors its contribution in national strategy and defence strategy documents. The White House Arctic strategy explicitly states that Russia's war against Ukraine has made government-to-government cooperation in the Arctic virtually impossible under current conditions, which increases the salience of allied coordination and risk management.<sup>149</sup> The Department of Defence Arctic strategy then translates this into operational emphasis on awareness, cooperation with allies, and the ability to deploy and sustain forces when required.<sup>150</sup>

A key point is that allied posture is not only a function of combat platforms. It is also a function of enabling systems and procedures. Interoperability, logistics, cold weather training, and resilient communications are decisive in the Arctic because distance and climate amplify friction. The region, therefore, rewards investments in readiness and sustainment, even when headline force numbers remain stable.

## **China's Role In the Military Competition: Limited Presence, Strategic Alignment, and Dual-Use Pathways**

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<sup>146</sup> Plans, *Russia's Arctic Strategy through 2035*, 4-6.

<sup>147</sup> Henrik Stålhane Hiim, "Russian Northern Fleet Bastion Revisited," *Journal of Advanced Military Studies* (Marine Corps University Press), accessed February 18, 2026.

<sup>148</sup> North Atlantic Treaty Organization, "Arctic Security," accessed February 18, 2026.

<sup>149</sup> The White House, *National Strategy for the Arctic Region*, 5.

<sup>150</sup> U.S. Department of Defense, *2024 Department of Defense Arctic Strategy*, 2 to 4. high-consequence

China is not an Arctic coastal state, but it has framed itself as a “near Arctic state” and an active participant in Arctic affairs.<sup>151</sup> China’s Arctic policy emphasises scientific research, shipping routes, and participation in governance, while also highlighting the importance of security and stability in the region.<sup>152</sup>

China’s direct military presence in the Arctic remains limited compared to Russia and NATO states. The strategic concern is less about immediate force projection and more about long-term positioning, especially through dual-use pathways. Research activity, polar-capable vessels, satellite coverage, and commercial engagement can collectively build familiarity, access, and influence. In a competitive environment, these capabilities can complement broader state objectives even when presented publicly as civilian activities.

For many Arctic stakeholders, the most consequential China-related military dynamic is indirect. It concerns how Sino-Russian cooperation and alignment might affect risk perception, information sharing, and the future balance of access and influence in polar regions.

### **Grey Zone Activity and Escalation Pathways**

Modern competition increasingly operates below the threshold of open conflict. Grey zone activity can include aggressive patrol patterns, coercive signalling, cyber operations, disinformation, and pressure on critical infrastructure. In the Arctic, the grey zone is amplified by three factors.

First, the operating environment is unforgiving. Small incidents can become high-consequence events due to distance, limited rescue capacity, and severe weather. Second, attribution can be difficult in certain domains, particularly cyber and undersea infrastructure. Third, the political symbolism of sovereignty in the Arctic can heighten domestic pressure to respond quickly, even when the facts are incomplete.

The Arctic Council has historically served as a venue for cooperation on non-military issues, but the broader Russia-West rupture has constrained its functioning since 2022. Arctic states publicly paused participation in meetings hosted by Russia following the invasion of Ukraine, and later pursued a limited resumption of work on projects that do not involve Russia.<sup>153</sup> This institutional context matters because fewer routine channels can increase the risk that incidents are managed through securitised frameworks rather than cooperative ones.

Escalation risks in the Arctic should be understood as interaction effects. Surveillance operations, exercises, and patrols are normal in a deterrence environment, but their meaning can shift in a crisis. If one side interprets monitoring as preparation for an attack, or if an incident results in casualties, the pace of escalation can outstrip diplomatic control.

### **Capability Competition in the Arctic: Awareness, Mobility, Survivability**

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<sup>151</sup> State Council Information Office of the People’s Republic of China, *China’s Arctic Policy* (Beijing, January 2018).

<sup>152</sup> State Council Information Office of the People’s Republic of China, *China’s Arctic Policy*.

<sup>153</sup> U.S. Department of State, “Joint Statement on Arctic Council Cooperation Following Russia’s Invasion of Ukraine,” March 3, 2022; Global Affairs Canada, “Joint Statement on Limited Resumption of Arctic Council Cooperation,” June 8, 2022.

The Arctic rewards specific capability sets more than raw force numbers. Three categories consistently prove decisive.

First is awareness. Persistent sensing, communications, and data fusion determine whether decision makers can distinguish routine activity from escalatory moves. This is a central theme in the United States defence strategy for the region.<sup>154</sup>

Second is mobility and logistics. The Arctic punishes fragile supply chains and limited sustainment. Forces require specialised equipment, redundant communications, and infrastructure that can support refuelling, maintenance, and emergency response.

Third is survivability and resilience. Dispersal, redundancy, and hardening lower incentives for preemption. These approaches are underpin crisis stability because they reduce the perceived advantage of early escalation.

## **Defence Industrial Capacity and Ice-Capable Fleets as Strategic Variables**

In the Arctic, industrial capacity is not a background detail. Ice-capable fleets and polar shipbuilding directly affect presence, access, and response. The Icebreaker Collaboration Effort, known as the ICE Pact, is an example of how allies are treating icebreaking as both an operational and strategic capability. The United States Department of Homeland Security describes the ICE Pact as a trilateral agreement with Canada and Finland that combines knowledge and industrial capacity to strengthen polar vessel design and construction.<sup>155</sup>

The strategic logic is straightforward. Without sufficient icebreaking and sustainment capacity, even well-resourced states struggle to translate interests into a persistent presence. In a competitive environment, gaps in presence can become gaps in influence. Industrial collaboration is therefore part of deterrence signalling, not only procurement.

### **Military competition implications**

Military competition in the Arctic is a contest over access, awareness, and control of escalation. Russia's posture is shaped by the operational sensitivity of the Kola Peninsula and the Northern Fleet. In contrast, the United States and NATO orient their posture around homeland defence, alliance credibility, and crisis stability. China's posture is currently more indirect, but it contributes to strategic ambiguity through long-term positioning and dual-use pathways. The most acute risks are likely to stem from incidents, misperceptions, or grey-zone activity that trigger rapid escalation under conditions of limited trust.

## **B. Economic Competition**

### **Economic Competition as Strategic Positioning under Arctic Constraints**

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<sup>154</sup> U.S. Department of Defense, *2024 Department of Defense Arctic Strategy*, 8 to 10.

<sup>155</sup> U.S. Department of Homeland Security, "Icebreaker Collaboration Effort (ICE) Pact," accessed February 18, 2026.

Economic competition in the Arctic is not a simple race for resources. It is better understood as a contest over who can build sustainable access, shape standards, and translate economic activity into long-term influence. The Arctic is an expensive operating environment. Projects face high costs, seasonal limits, environmental risk, and political scrutiny related to Indigenous rights, sustainability, and legitimacy. These constraints mean that “influence” is often generated through infrastructure, logistics, and governance, rather than extraction alone.

From a great power perspective, the economic dimension matters for three reasons. First, it affects fiscal capacity and defence-enabling infrastructure. Second, it creates dependencies through finance, technology, and supply chains. Third, it influences governance norms and the credibility of rules for navigation, environmental protection, and investment.

### **Shipping Routes: Opportunity, Uncertainty, and Control of Enabling Infrastructure**

One driver of economic competition is the prospect of increased Arctic shipping. Reduced sea ice has expanded seasonal navigation windows, particularly along Russia’s Northern Sea Route. However, the economic reality remains complex. Insurance costs, infrastructure gaps, search-and-rescue capacity, and environmental risk continue to limit the scale and predictability of Arctic shipping relative to established routes. Even when transit becomes technically possible, it may not be commercially attractive at scale.

The broader value of Arctic shipping is therefore linked to control of enabling infrastructure. Ports, icebreaking services, navigation support, and telecommunications can determine which routes become viable and who benefits economically. In this context, state-backed investment can function as strategic positioning, particularly when it links commercial activity to sovereignty claims and security posture.

Russian strategy documents and analysis commonly treat the Northern Sea Route as a national priority tied to development and maritime access.<sup>156</sup> For Moscow, route development supports economic aims and also reinforces state control over adjacent waters and infrastructure.

### **Energy, Hydrocarbons, and the Limits of the “Arctic Bonanza” Narrative**

Hydrocarbons remain part of Arctic economic competition, but their significance must be assessed carefully. The United States Geological Survey estimated in 2008 that areas north of the Arctic Circle may contain significant shares of global undiscovered conventional oil and gas, including substantial undiscovered gas resources.<sup>157</sup> Analysts often cite these estimates as evidence of vast opportunity. Yet large-scale extraction faces multiple constraints, including high costs, technology requirements, environmental sensitivity, and price volatility.

The professional literature around the Circum Arctic Resource Appraisal also stresses feasibility constraints and market context.<sup>158</sup> Some Arctic gas resources may be unattractive under certain price conditions, and infrastructure costs can be prohibitive. The issue is therefore not only about how much

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<sup>156</sup> Plans, *Russia’s Arctic Strategy through 2035*, 3-7.

<sup>157</sup> U.S. Geological Survey, “Estimates of Undiscovered Oil and Gas North of the Arctic Circle,” Fact Sheet 2008 to 3049 (July 2008).

<sup>158</sup> Donald L. Gautier and Thomas E. Moore, “Introduction to the 2008 Circum Arctic Resource Appraisal,” in *The 2008 Circum Arctic Resource Appraisal*, U.S. Geological Survey Professional Paper 1824 (2017 to 2020), discussion of feasibility constraints.

resource exists. It is about who can finance, build, and sustain projects under environmental and political constraints.

Since 2022, sanctions and geopolitical rupture have further altered the economics of Arctic energy. Restrictions on technology, finance, and markets can delay projects and increase costs, while also pushing adaptation and the search for alternative partners. This creates a complex competitive landscape in which economic policy tools directly influence Arctic capacity and development.

## **Critical Minerals and Supply Chain Competition**

Critical minerals now sit at the centre of economic competition because they shape industrial resilience and technological leadership. Arctic and sub-Arctic regions contain mineral deposits relevant to batteries, aerospace, and advanced electronics. Economic competition, therefore, extends into mining, refining, and transport logistics, as well as into environmental and social licensing.

Strategically, the most important leverage point is often not the mine but the processing chain. Geographic concentration of refining capacity makes supply security vulnerable to disruption or coercion. This dynamic encourages diversification strategies, investment screening, and industrial policy aimed at domestic or allied processing capacity. The result is a closer integration of economic planning and national security planning.

## **Infrastructure Investment as Influence: Ports, Telecommunications, and Undersea Connectivity**

Infrastructure is the clearest channel through which economic competition becomes strategic. Ports, runways, power systems, and digital connectivity shape the feasibility of both commercial activity and emergency response. They also shape which partners become embedded in local economies through contracts, maintenance, and technology ecosystems.

This is the core logic behind many state-driven Arctic development plans. Infrastructure investment can reduce transaction costs, attract business activity, and support communities. It can also create dependencies if financing, maintenance, and digital systems are controlled externally.

China's Arctic policy explicitly links its Arctic engagement to shipping routes and broader economic connectivity, including the idea of developing Arctic shipping routes as part of a "Polar Silk Road."<sup>159</sup> While the commercial viability of this vision remains constrained, the significance lies in intent and positioning. Arctic infrastructure and connectivity can create long-term presence, influence standards, and influence access to data and logistics.

## **Governance, Standards, and Legitimacy as Economic Battlegrounds**

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<sup>159</sup> State Council Information Office of the People's Republic of China, *China's Arctic Policy*.

Governance regimes and norms mediate economic competition in the Arctic. Environmental standards, labour practices, Indigenous participation, and transparency requirements affect which projects proceed and on what terms. This can advantage actors able to meet high compliance requirements, but it can also be used strategically through narrative competition and regulatory pressure.

The Arctic Council is not a security forum, but it remains the principal forum for non-military governance and cooperation. The post-2022 constraints on Arctic Council cooperation illustrate how geopolitical rupture can spill over into governance and development, even when institutions try to preserve functional work streams.<sup>160 161</sup> Reduced cooperation can slow certain joint projects, complicate scientific coordination, and increase the transactional nature of Arctic governance. It can also increase competition for legitimacy, as actors seek to portray their development models as responsible, sustainable, and beneficial to Arctic communities.

In practice, legitimacy can be as important as capital. Projects that lack community consent or that generate environmental backlash can become politically unsustainable. Great power competition, therefore, operates through social and political channels, not only through finance.

## **Economic Security and the Militarisation of Economic Tools**

Economic competition increasingly involves tools that once belonged to trade policy but now function as strategic instruments. Export controls, investment screening, sanctions, and industrial subsidies can shape Arctic development capacity by controlling access to capital, equipment, and markets.

In the Arctic context, these tools matter for high-cost projects that require specialised equipment and long supply chains. Restrictions can delay development, raise costs, and shift partnerships. At the same time, they can strengthen allied supply chain security and reduce exposure to coercion. The challenge is to balance resilience with openness, and to avoid fragmentation that undermines long-term economic efficiency.

## **Economic Competition Implications**

Economic competition in the Arctic is best understood as a contest over enabling infrastructure, standards, and long-term positioning, not simply a rush for extraction. Resource potential exists, but practical constraints are significant and highly sensitive to politics, prices, and access to technology. Shipping routes offer opportunity, but also uncertainty and high operating costs. Infrastructure investment, including ports and digital connectivity, is therefore a primary battleground for influence. Governance and legitimacy shape outcomes because projects require social and environmental consent to succeed over time. China's approach emphasises participation, connectivity, and long-term positioning, while Russia links route development to sovereignty and state control. The United States and its allies increasingly treat industrial capacity, standards, and resilient infrastructure as part of economic security.

## **C. Technological and Scientific Competition**

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<sup>160</sup> U.S. Department of State, "Joint Statement on Arctic Council Cooperation Following Russia's Invasion of Ukraine."

<sup>161</sup> Global Affairs Canada, "Joint Statement on Limited Resumption of Arctic Council Cooperation."

Technological and scientific competition in the Arctic is not simply a secondary dimension of great-power rivalry. It is one of the main ways states convert environmental change into strategic advantage. Unlike conventional military competition, which is often visible through exercises, bases, and force posture, technological-scientific competition operates through data collection, polar logistics, satellite coverage, ice-capable platforms, telecommunications, modelling capacity, and control over specialised infrastructure. These capabilities determine who can see, move, forecast, communicate, and respond in the Arctic. In a region defined by distance, extreme weather, sparse infrastructure, and rapidly changing physical conditions, knowledge itself becomes a strategic resource.<sup>162</sup>

The Arctic Council and its working groups helped institutionalise a post-Cold War model of Arctic cooperation centred on environmental protection, scientific exchange, and sustainable development.<sup>163</sup> That cooperative model remains important, but it now operates under greater strain. Since 2022, the wider rupture between Russia and Western Arctic states has weakened several channels of routine scientific cooperation, even where the underlying problems, such as sea-ice loss, black carbon, permafrost thaw, methane release, ecosystem disruption, and maritime safety, still require shared information. The resulting tension is not that science has replaced geopolitics, but that science has become embedded within it. Arctic research now performs two functions at once: it generates public knowledge about climate change, while also producing operational knowledge that can support navigation, surveillance, infrastructure planning, and state presence.

This is why Arctic science should be understood as a form of strategic infrastructure. Research stations, oceanographic vessels, ice-capable ships, autonomous sensors, undersea mapping systems, satellite ground stations, and remote-sensing networks allow states to build familiarity with the Arctic operating environment. That familiarity has direct civilian value, especially for climate modelling, disaster response, search and rescue, and environmental monitoring. But it also has dual-use implications. The same systems that measure sea-ice thickness, ocean temperature, and atmospheric change can improve maritime domain awareness, support military mobility, identify infrastructure vulnerabilities, and track activity across remote waters.<sup>164</sup> In this sense, the line between scientific capacity and strategic capacity is increasingly difficult to draw.

The most important technological contest is therefore not over symbolic presence, but over persistent awareness. Arctic geography makes awareness difficult. Vast maritime spaces, limited ports, poor communications coverage, magnetic interference, polar darkness, and severe weather complicate routine monitoring. States with superior satellite constellations, radar systems, acoustic monitoring, weather forecasting, and data-fusion capacity can interpret Arctic activity more quickly and accurately than competitors. This matters for commercial shipping and environmental protection, but it also matters for deterrence and crisis stability. If decision-makers cannot distinguish a research vessel from an intelligence-gathering platform, or a routine patrol from a coercive signal, the risk of misperception increases. Technological capability therefore shapes not only power projection, but also escalation control.

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<sup>162</sup> Intergovernmental Panel on Climate Change (IPCC), *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate*, ed. H.-O. Pörtner et al. (Cambridge: Cambridge University Press, 2019)

<sup>163</sup> Arctic Council EPPR, *RADSAR: Sharing of Competence within Search and Rescue in a Maritime Radiological/Nuclear Scenario* (Tromsø, Norway: Arctic Council Secretariat, 2021).

<sup>164</sup> Transportation Research Board and National Research Council, "Arctic Oil Spill Response Research," in *Responding to Oil Spills in the U.S. Arctic Marine Environment* (Washington, DC: National Academies Press, 2014)

Icebreaking and polar shipbuilding are another core element of this competition. Icebreakers are often discussed as transport assets, but their strategic significance is broader. They make presence possible. They support scientific expeditions, escort vessels, enable emergency response, maintain access to remote communities, and sustain activity in waters where ordinary ships cannot operate safely. Russia's large icebreaker fleet gives it a structural advantage along the Northern Sea Route, not merely because it can move ships through ice, but because it can provide escort, logistics, regulation, and route management in a way that reinforces state authority. By contrast, the United States, Canada, and allied partners increasingly treat icebreaking capacity as an industrial and strategic gap. The ICE Pact between Canada, Finland, and the United States reflects this shift: polar shipbuilding is now understood not only as procurement, but as a measure of allied resilience and long-term Arctic access.<sup>165</sup>

Satellite systems play a similarly important role. Remote sensing is essential for tracking sea-ice conditions, mapping coastal erosion, monitoring vessel traffic, detecting pollution, and supporting search-and-rescue operations. Yet satellite infrastructure also strengthens strategic surveillance. Ground stations, polar-orbiting satellites, and communications networks can improve both civilian environmental monitoring and defence-related awareness. This is especially important because the Arctic is a region where conventional infrastructure is thin and where space-based systems often compensate for the absence of roads, ports, radars, and reliable terrestrial communications. As a result, the actor with the strongest space-based architecture may enjoy disproportionate influence over Arctic information flows.

China's Arctic role illustrates the political importance of scientific and technological presence. Beijing's 2018 Arctic policy frames China as a "near-Arctic state" and emphasises scientific research, climate knowledge, shipping, and participation in Arctic governance.<sup>166</sup> This language allows China to justify a regional role without making territorial claims. Its research stations, polar expeditions, satellite capabilities, and icebreaker development help create legitimacy for Chinese participation while also building technical familiarity with Arctic conditions. This does not mean that all Chinese scientific activity is military in purpose. It means that scientific activity can generate strategic options over time. For a non-Arctic state, research is one of the few politically acceptable pathways into the region.

Russia's position is different. Moscow already possesses geography, coastline, military infrastructure, and administrative control over the Northern Sea Route. Its technological-scientific priorities are therefore closely tied to state control, energy development, military survivability, and logistics. Arctic mapping, ice forecasting, icebreaker operations, hydrographic data, and communications systems all support Russia's ability to govern and militarise its northern space. However, Russia also faces constraints. Sanctions and export controls can restrict access to advanced technology, offshore energy equipment, specialised vessels, and digital systems. This means technological competition is not only about who can innovate, but also about who can deny competitors access to critical inputs. In the Arctic, export controls and sanctions can slow projects as effectively as military pressure.

For the United States and its allies, the main technological challenge is integration. The issue is not only whether they possess advanced technology in general, but whether they can apply it coherently in Arctic conditions. Domain awareness, NORAD modernisation, polar communications, unmanned systems, ice-class vessels, port infrastructure, and climate-resilient logistics all have to work together. A satellite

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<sup>165</sup> U.S. Department of Homeland Security, "Icebreaker Collaboration Effort (ICE) Pact," accessed February 18, 2026

<sup>166</sup> State Council Information Office of the People's Republic of China, *China's Arctic Policy* (Beijing, January 2018)

network is less useful if communications fail during an emergency. An icebreaker fleet is less effective without ports and maintenance capacity. Climate models have limited strategic value if they are not incorporated into infrastructure standards and defence planning. Arctic power therefore depends on systems integration rather than isolated platforms.

Technological competition also extends into digital infrastructure. Undersea cables, satellite internet, data centres, sensor networks, and secure communications are increasingly important to Arctic governance and security. These systems support communities, research, emergency response, commercial activity, and military coordination. They also create vulnerabilities. Cable damage, cyber intrusion, data manipulation, or dependence on foreign-controlled telecommunications systems could produce strategic leverage below the threshold of armed conflict. Because Arctic infrastructure is sparse, disruption of a single node can have outsized consequences. Digital resilience should therefore be treated as part of Arctic security, not merely as a commercial or administrative concern.

Scientific cooperation remains indispensable despite these competitive dynamics. The Arctic cannot be governed effectively without reliable shared data. Remote sensing is powerful, but it cannot fully replace in situ measurements collected through field stations, buoys, vessels, Indigenous observation, and long-term monitoring networks. The loss or politicisation of scientific exchange would weaken climate modelling, shipping safety, fisheries management, pollution response, and infrastructure planning. This is one of the central paradoxes of Arctic competition: the more strategically important the region becomes, the more states need scientific cooperation to manage its risks. Science diplomacy is therefore not a sentimental leftover from an earlier cooperative era. It is a practical risk-reduction mechanism.<sup>167</sup>

The policy implication is that Arctic technological competition should not be treated as inherently destabilising, but it must be governed carefully. Some technologies strengthen safety, resilience, and transparency. Others increase surveillance, dual-use ambiguity, and coercive potential. The key challenge is to preserve cooperation around environmental data, emergency response, search and rescue, and climate monitoring, while recognising that research infrastructure and advanced technology can also serve national strategic objectives. The Arctic's future balance of power will not be determined only by territory or military platforms. It will also be shaped by who controls data, who builds resilient infrastructure, who can operate reliably in extreme conditions, and who can convert scientific knowledge into legitimate governance.

Technological and scientific competition in the Arctic is best understood as a contest over knowledge, access, and operational reliability. States that can collect data, forecast conditions, communicate across remote space, and sustain ice-capable operations will have greater influence than states that rely only on legal claims or strategic rhetoric. At the same time, the dual-use nature of Arctic science creates persistent ambiguity. Research stations, satellites, icebreakers, autonomous sensors, and communications networks can support climate science and public safety, but they can also strengthen surveillance and strategic positioning. The central governance challenge is therefore to protect scientific cooperation where it reduces shared risks, while managing the security implications of technologies that increasingly shape Arctic power.

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<sup>167</sup> Kirsi Latola and Hannele Savela, eds., *The Interconnected Arctic: UArctic Congress 2016* (Cham: Springer, 2017)

## V. Policy Options and Recommendations

The Arctic now requires a policy response built around integration rather than compartmentalisation. The region's main risks no longer fall neatly into separate boxes called climate, security, shipping, sovereignty, or development.<sup>168</sup> They increasingly overlap. Melting sea ice expands access just as strategic rivalry deepens. Infrastructure built for adaptation may also become relevant for defence. Scientific cooperation remains essential even as political trust weakens. The core policy task, therefore, is not to invent an entirely new Arctic order, but to use the existing legal and institutional architecture more coherently, while correcting the governance gaps identified in the previous section.<sup>169</sup>

A sound Arctic policy agenda should proceed on three levels. First, national governments must improve implementation capacity in the North itself. Second, states must preserve international institutions where they remain effective and strengthen them where coordination is weak. Third, climate and security can no longer be treated as separate strategic files.<sup>170</sup> In the Arctic, they are already part of the same policy problem.

### A. For National Governments

The first priority for national governments should be to shift from broad declaratory strategies to implementation-focused Arctic statecraft. Most Arctic governments now publicly recognise that the region is becoming more accessible, more fragile, and more strategically relevant.<sup>171</sup> Recognition alone, however, does not amount to governance. States need the ability to monitor, move, regulate, and respond in northern space. That means sustained investment in domain awareness, hydrographic charting, weather and ice forecasting, search and rescue, ports, runways, emergency communications, fuel resilience, and ice-capable maritime assets. These are the practical foundations of sovereignty and crisis management in the Arctic. Without them, even strong legal claims or ambitious policy documents remain largely rhetorical.<sup>172</sup>

For North American governments, especially, Arctic planning should remain tied to continental defence modernisation, but it should not be reduced to that logic alone. NORAD modernisation is necessary because the northern approaches to the continent are strategically more exposed than they were in an earlier eras.<sup>173</sup> Yet Arctic policy will be weaker if every northern investment is justified only through military threat perception. A more sustainable approach is to treat Arctic infrastructure as part of a wider system that supports deterrence, emergency response, scientific observation, transport reliability, and community supply chains. Runways, ports, communications links, satellite systems, and fuel storage are most valuable when they strengthen both state presence and civilian resilience.<sup>174</sup>

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<sup>168</sup> David Balton and Stirling Haig, "Revitalizing the Arctic Council," Belfer Center for Science and International Affairs, February 24, 2026.

<sup>169</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy* (Ottawa: Government of Canada, 2024).

<sup>170</sup> Balton and Haig, "Revitalizing the Arctic Council."

<sup>171</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Global Affairs Canada, "Global Affairs Canada's 2025-26 Departmental Plan," Government of Canada, 2025.

<sup>172</sup> Department of National Defence, "NORAD Modernization Project Timelines," Government of Canada, accessed April 5, 2026.

<sup>173</sup> Department of National Defence, "NORAD Modernization Project Timelines"; Department of National Defence, *Our North, Strong and Free: A Renewed Vision for Canada's Defence* (Ottawa: Government of Canada, 2024).

<sup>174</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Department of National Defence, *Our North, Strong and Free*.

This points to a second recommendation: governments should adopt a dual-use doctrine for Arctic infrastructure. The Arctic is too expensive and too demanding an operating environment for rigid institutional silos. Infrastructure designed only for defence may lack political legitimacy and day-to-day utility. Infrastructure designed only for commercial or local purposes may fail under the stress of emergency or strategic demand. The more effective model is one in which Arctic ports, airfields, roads, telecommunications systems, and energy networks are designed from the outset to serve multiple functions. Such an approach would reduce duplication, improve political legitimacy, and make public investment more resilient over time. It would also better reflect the reality that, in the Arctic, community infrastructure and strategic infrastructure are often the same infrastructure.<sup>175</sup>

A third national priority should be to treat Indigenous partnership and northern community resilience as core elements of security policy. This is not simply a matter of normative inclusion. It is a matter of operational effectiveness. Arctic governance depends on local legitimacy, local knowledge, and a durable presence. Canada's Arctic Foreign Policy explicitly stresses early, meaningful, and sustained engagement with Indigenous governments and organisations, while the Kingdom of Denmark's current Arctic Council chairmanship places Indigenous Peoples and Arctic communities at the centre of its priorities.<sup>176</sup> That logic should be generalised. States that underinvest in housing, health systems, transportation, energy reliability, education, and digital connectivity in Arctic communities will weaken not only local well-being but also the legitimacy of their own northern governance.

National governments should also commit to legal firmness without legal escalation. Arctic coastal states have legitimate interests in defending continental shelf claims, regulating offshore resources, and preserving their interpretations of maritime rights. However, states should continue to advance those interests through UNCLOS procedures, technical mapping, legal diplomacy, and regulatory capacity rather than through unilateral gestures that risk converting legal disputes into diplomatic crises.<sup>177</sup> The stability of the Arctic has depended in no small part on the fact that claims have usually been framed through rules and institutions rather than through open territorial revisionism.<sup>178</sup> That tradition should be preserved. The most credible Arctic states will be those that can defend their positions through law, administration, and operational presence rather than through symbolic brinkmanship.

A final priority at the national level is stronger screening and regulation of Arctic investment and private-sector activity. In practice, corporations rather than states build many of the assets that shape Arctic power: ports, mines, LNG facilities, undersea cables, logistics hubs, and digital networks. Governments should therefore treat the Arctic investment review as a strategic function. This means tighter environmental review, stronger Indigenous consultation, better scrutiny of ownership structures and downstream dependencies, and more attention to the long-term governance consequences of infrastructure finance. In a region where capital, supply chains, and geopolitical leverage increasingly overlap, regulatory capacity is part of strategic capacity.<sup>179</sup>

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<sup>175</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairmanship Program* (2025).

<sup>176</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairmanship Program*.

<sup>177</sup> United Nations, *United Nations Convention on the Law of the Sea*, December 10, 1982, arts. 55-58, 76-79.

<sup>178</sup> "The Ilulissat Declaration," May 28, 2008.

<sup>179</sup> This recommendation is an inference grounded in current Arctic policy emphasis on resilient infrastructure, strategic supply chains, and governance capacity. See Global Affairs Canada, *Canada's Arctic Foreign Policy*; Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairmanship Program*.

## B. For International Institutions

The priority for international institutions should be to stabilise and incrementally reinforce the Arctic Council, while resisting the temptation to redesign it into something it was never meant to be. The Council remains the region's principal forum for scientific cooperation, environmental governance, and institutionally recognised Indigenous participation.<sup>180</sup> It is not a defence organisation, and states should not evaluate it as though it were one. Its value lies in its Working Groups, its knowledge production, its convening function, and its ability to preserve a circumpolar political framework even when broader relations deteriorate. After the disruption that followed Russia's 2022 invasion of Ukraine, the gradual resumption of project-level work and official Working Group activity demonstrated that the Council retains enough institutional durability to matter.<sup>181</sup> That resilience must now be protected.

The better strategy is not to ask the Arctic Council to solve every Arctic problem, but to reinforce the areas where it still has a clear comparative advantage. These include climate monitoring, biodiversity, black carbon and methane work, marine protection, sustainable development, and the incorporation of Indigenous perspectives into regional governance. The Kingdom of Denmark's 2025-2027 chairship already provides a workable basis for this, with its emphasis on Indigenous communities, climate change, oceans, biodiversity, and sustainable economic development.<sup>182</sup> The policy task is therefore less about institutional invention and more about protecting continuity, funding participation, and ensuring that project-level cooperation remains possible despite wider political strain.

At the same time, international institutions should rely more deliberately on specialised regimes that already exist. The IMO's Polar Code is especially important because it translates general concern about Arctic navigation into binding safety and environmental rules.<sup>183</sup> It addresses ship design, construction, equipment, operations, training, search and rescue, and environmental protection in polar waters. That is a major achievement.<sup>184</sup> Still, it states and regulators should treat it as a floor rather than a finished solution. As Arctic traffic grows and vessel types diversify, states and international regulators must keep the Code under active review, especially in relation to enforcement, coverage, and emerging operational risks.

The same logic applies to the Central Arctic Ocean Fisheries Agreement offers a model of precautionary governance.<sup>185</sup> Its significance lies in the fact that it restrains commercial pressure before a new fishery can develop in conditions of inadequate knowledge. This is precisely the kind of anticipatory governance the Arctic will need more of in the future. A region changing as quickly as the Arctic cannot rely entirely on reactive regulation. Where scientific uncertainty is high, and the ecological stakes are large, precautionary approaches may be wiser than permissive frameworks that assume institutions can catch up later.

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<sup>180</sup> Arctic Council, "Arctic Council Advances Resumption of Project-Level Work," February 28, 2024.

<sup>181</sup> Arctic Council Secretariat, *Arctic Council Secretariat Work Plan for 2026-2027* (Tromsø: Arctic Council Secretariat, 2025).

<sup>182</sup> Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairship Program*; Arctic Council Secretariat, *Arctic Council Secretariat Work Plan for 2026-2027*.

<sup>183</sup> International Maritime Organization, "International Code for Ships Operating in Polar Waters (Polar Code)," accessed April 5, 2026.

<sup>184</sup> International Maritime Organization, "Shipping in Polar Waters," accessed April 5, 2026; International Maritime Organization, *POLAR Code: Supplement, January 2026*.

<sup>185</sup> The precautionary governance logic of the Central Arctic Ocean Fisheries Agreement is discussed in current Arctic governance literature, including Balton and Haig, "Revitalizing the Arctic Council."

A further institutional priority is operational coordination below the level of high politics. The Arctic Coast Guard Forum matters because it is practical, flexible, and focused on the kinds of incidents that are most likely to test governance on short notice: pollution events, search and rescue, maritime accidents, and mass rescue scenarios.<sup>186</sup> It cannot replace a treaty-based regional security architecture, but it can reduce the implementation gap between formal rules and operational reality. International institutions and Arctic states must therefore expand joint exercises, incident communication procedures, and shared emergency-response planning wherever possible. In the Arctic, the distance between a routine incident and a major emergency is often very short.

Finally, international institutions should prioritise coordination over proliferation. The Arctic already has many relevant bodies, but too often they operate in parallel rather than in concert. The Arctic Council addresses science and governance, UNCLOS structures maritime law, the IMO governs shipping, fisheries arrangements govern specific resource risks, and operational bodies such as coast-guard forums fill narrow operational gaps.<sup>187</sup> The problem is not simply that the region lacks institutions. It is that its institutions do not always align with the cross-cutting nature of Arctic problems. A more effective international approach would create stronger links across these bodies, encourage shared reporting and strategic cross-referencing, and treat the Arctic as a governance ecosystem rather than a collection of unrelated files.

### **C. For Climate and Security Strategy**

The third pillar of Arctic policy should be a more explicit, disciplined integration of climate and security strategies. Climate change in the Arctic is not simply a humanitarian or environmental backdrop. It is altering coastlines, permafrost stability, infrastructure durability, sea-ice conditions, shipping seasons, and the strategic relevance of northern approaches. It is therefore reshaping the security environment itself. A credible Arctic strategy must incorporate climate projections directly into defence planning, infrastructure design, maritime governance, and emergency preparedness rather than treating adaptation as a separate file to be handled later.

A first step is to treat data, monitoring, and scientific exchange as strategic public goods. Effective Arctic governance depends on reliable information about sea ice, black carbon, methane, permafrost, biodiversity, weather, and coastal erosion. Yet such knowledge becomes harder to sustain as geopolitical relations deteriorate. The Arctic Council remains valuable partly because it has been one of the best avenues for accessing Russian climate data, and remote sensing cannot fully replace in situ measurement. That has implications well beyond science. Weak climate data undermines infrastructure planning, environmental response, shipping governance, and strategic foresight. In the Arctic, scientific opacity is itself a policy risk.<sup>188</sup>

A second recommendation is to focus on risk reduction rather than indiscriminate securitisation. There is a real danger that every Arctic issue, from ports to research stations to shipping routes, will be absorbed into military logic. Some degree of deterrence and strategic competition is unavoidable, but

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<sup>186</sup> Arctic Coast Guard Forum, "About the ACGF," accessed April 5, 2026.

<sup>187</sup> Arctic Council Secretariat, *Arctic Council Secretariat Work Plan for 2026-2027*.

<sup>188</sup> Balton and Haig, "Revitalizing the Arctic Council."

over-securitisation would be a mistake. It would narrow the space for exactly the forms of cooperation that remain most necessary, especially on environmental monitoring, maritime safety, pollution response, and community adaptation. Arctic strategy should therefore distinguish between problems that require deterrence and problems that still require cooperative risk management. Preserving practical cooperation in these latter areas is not naïveté. It is a way to prevent the Arctic from becoming more brittle as the region grows more volatile.

The climate-security strategy should also prioritise resilient infrastructure and climate stress testing. Permafrost thaw, coastal erosion, changing ice conditions, and more volatile weather threaten roads, runways, ports, fuel depots, telecommunications systems, housing, and military facilities alike. Governments should therefore subject Arctic infrastructure to regular climate-security audits, update engineering standards, and build greater redundancy into transport, communications, and energy systems. The Arctic rewards resilient systems more than ambitious plans.<sup>189</sup> Infrastructure that cannot withstand changing physical conditions will fail as both civilian and strategic infrastructure.

A final recommendation is that climate-security policy remain community-centred and legitimacy-centred. Arctic residents, especially Indigenous communities, face the greatest exposure to environmental disruption.<sup>190</sup> They are also among the most important sources of local knowledge, monitoring, and practical adaptation. Policies that exclude them are likely to be less accurate, less legitimate, and less durable. A strong Arctic strategy should therefore embed communities directly into adaptation planning, infrastructure decisions, monitoring systems, and maritime governance. The aim should be to align three things at once: state presence, local resilience, and institutional legitimacy. That is the most credible basis for long-term Arctic stability under conditions of rapid environmental change.

Taken together, these recommendations suggest that the Arctic does not need a wholly new governance order so much as a more coherent use of the tools already in place. National governments need stronger implementation, better coordination, and deeper investment in community capacity. International institutions need protection where they still work, stronger specialisation where risks are concrete, and better coordination where fragmentation remains high. Climate and security strategies need to be brought into the same frame rather than treated as separate policy domains. The states and institutions most likely to shape a stable Arctic will not be those that make the broadest claims, but those that can align law, capacity, legitimacy, resilience, and strategic discipline in a region changing faster than its inherited governance architecture was built to manage.

## VI. Conclusion

The Arctic is entering a period in which environmental transformation and geopolitical competition cannot be analysed separately. Climate change is altering the region's physical realities faster than institutions were built to handle, while geopolitical rivalry is increasing the value of access, infrastructure, surveillance, and legal positioning across the circumpolar North. The result is not the end of Arctic cooperation, but the end of any easy assumption that cooperation can remain insulated from wider power

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<sup>189</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairship Program*.

<sup>190</sup> Global Affairs Canada, *Canada's Arctic Foreign Policy*; Arctic Council, *The Kingdom of Denmark's 2025-2027 Arctic Council Chairship Program*; Justin Barnes, "Co-constituting the Arctic Council: The Role of the Permanent Participants," Belfer Center for Science and International Affairs, March 23, 2026.

politics. The Arctic is now a region where climate, security, economics, law, and legitimacy increasingly overlap.

Use this revised version with one added sentence on technological-scientific competition:

This report has shown that the region's main actors are responding in different but interconnected ways. The United States is building a more integrated Arctic posture based on domain awareness, deterrence, and enabling infrastructure. Russia continues to treat the Arctic as a core strategic space tied to sovereignty, nuclear deterrence, energy development, and the Northern Sea Route, even as sanctions and external dependence constrain its economic ambitions. China is pursuing a longer-term strategy of gradual influence through science, diplomacy, and infrastructure linkages rather than direct territorial presence. Canada and Denmark/Greenland are each seeking to align their sovereignty, governance, defence, and legitimacy amid increasing external attention and internal political complexity. Technological and scientific competition cuts across all of these strategies, as control over data, satellite systems, icebreaking capacity, polar logistics, and climate-monitoring infrastructure increasingly determines which actors can see, access, and operate effectively in the Arctic. At the same time, Inuit leadership and multinational corporations demonstrate that states do not solely shape Arctic politics. It is also shaped by local legitimacy, operational knowledge, capital, and ownership of infrastructure.

The report has also shown that the Arctic governance system remains both valuable and insufficient. UNCLOS continues to provide the basic legal grammar of maritime order, while the Arctic Council remains indispensable for science, environmental protection, and institutionally recognised Indigenous participation. Yet the governance architecture is fragmented. It was largely built for a lower-tension era and is less well suited to a region where climate change, great-power competition, shipping, critical infrastructure, and Indigenous governance increasingly interact. The central challenge is therefore not the absence of rules altogether, but the need to adapt, coordinate, and operationalise existing rules more effectively.

Ultimately, the Arctic's future will depend not simply on who has the most territory, the most rhetoric, or the strongest military posture. It will depend on which actors can best align state capacity, legal discipline, institutional resilience, community legitimacy, and climate adaptation in a region undergoing rapid and uneven transformation. The most durable Arctic strategies will be those that understand that sovereignty without legitimacy is fragile, development without governance is destabilising, and security without adaptation is incomplete. The three-level agenda set out in this report (stronger national implementation, more coherent international institutions, and integrated climate-security strategy) provides a practical basis for that work. In that sense, the Arctic is not only a test of strategic competition. It is also a test of whether states and institutions can govern effectively amid accelerating environmental and geopolitical change.

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