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The Canadian Arctic is increasingly important to both international trade and Canadian national security. As Arctic sea ice declines due to climate change, the waterways that run through Canada's Arctic archipelago are becoming navigable for longer periods of the year, raising both the strategic and economic value of the region. Since 1979, the Arctic has warmed at approximately four times the global average, accelerating environmental transformation and opening previously inaccessible maritime routes (Rantanen et al., 2022). The warming is creating new economic opportunities, but it is also increasing the urgency of ensuring Canadian security and sovereignty in the Arctic.

The Canadian Arctic is immense in scale and uniquely difficult to govern. Canada possesses the longest Arctic coastline in the world, over 160,000 kilometres, and administers an Arctic region of roughly 4 million square kilometres, an area approximately twenty times the size of the United Kingdom (Government of Canada, 2019). Yet this vast territory is sparsely populated, with only about 150,000 residents across the three northern territories, many of whom live in small, remote communities (Statistics Canada, 2022). The extreme climate, vast distances, and lack of transportation networks make the construction and maintenance of infrastructure in the region extraordinarily expensive and logistically difficult. Arctic development is made difficult by a 'tyranny of distance,' where remoteness significantly increases costs and slows project delivery (Atlantic Council, 2025). This has caused Canadian Arctic infrastructure to severely lag behind what is needed to secure sovereignty and economic opportunities.

The consequences of Canada's limited Arctic infrastructure are twofold. First, Canada must have the capacity to monitor, patrol, and defend an immense, sparsely populated region if it hopes to maintain effective sovereignty over the Arctic. This requires infrastructure capable of supporting sustained operations, including ports, refuelling facilities, surveillance systems, and transportation networks. Second, Canada must develop infrastructure to capitalise on emerging economic opportunities, including increased shipping, resource development, and northern economic activity.

Canada's Arctic investments, while significant given past investments, remain limited in the international context. The United States spends more on defence than all NATO allies combined, while Russia maintains a far larger military posture in the Arctic. Even smaller states such as Norway allocate resources more intensively, with higher per capita defence spending and a stronger regional concentration of capabilities (Atlantic Council, 2026).

While Canada has recently announced major investments in Arctic defence and infrastructure, the country continues to face an implementation gap between announced projects and operational capability. Examining how other Arctic states successfully build northern infrastructure highlights lessons that could help Canada translate funding commitments into a sustained Arctic presence and the enforcement of sovereignty.

The Strategic Importance of the Canadian Arctic

The Arctic's growing importance stems from the intersection of environmental change, growing economic opportunities, and geopolitical tensions. Climate change is transforming the region at an unprecedented rate, with Arctic warming significantly outpacing global averages (Rantanen et al., 2022). As sea ice declines, maritime routes such as the Northwest Passage are becoming more accessible, raising the possibility of new global shipping corridors linking Europe and Asia. These routes could significantly reduce travel distances compared to traditional pathways through the Suez Canal.

Beyond shipping, the Arctic contains substantial natural resource potential. The United States Geological Survey estimates that the Arctic holds approximately 13 per cent of the world's undiscovered oil and 30 per cent of its undiscovered natural gas reserves, much of it located offshore (US Geological Survey, 2008). Canada's northern regions also contain critical mineral deposits essential to modern industrial and energy technologies, including nickel, copper, and rare-earth elements. Rare earth minerals are becoming more accessible, lowering costs and increasing the benefits of attempts to access, mine, and transport them (Atlantic Council, 2026).

The Arctic is also central to North American security. During the Cold War, the region was viewed as the most direct route for Soviet bombers and missiles approaching North America. This led to the creation of joint defence systems such as the North American Aerospace Defence Command (NORAD) and the North Warning System, a network of radar installations designed to detect incoming threats over the polar region (Department of National Defence, 2022). Today, as geopolitical competition intensifies, the Arctic remains a critical domain for early warning and strategic deterrence.

The security of the Arctic is a crucial aspect of Canadian interests, and could be under threat in the future. The United States has taken a more aggressive stance on Arctic affairs recently, with President Trump issuing threats to assert control over Greenland to bolster American presence in the Arctic. The long-standing American position that the NWP is international waters could also be an issue in the future. President Trump's threats of establishing Canada as the 51st American state position America as a direct threat to Canadian sovereignty and interests, and the Arctic could prove to be yet another justification (Gridneff, 2026). The Canadian government has also directly identified Russia as a threat to the Canadian Arctic and has pledged not to work cooperatively with Russia following the 2022 invasion of Ukraine (Government of Canada, nd).

The legal status of the Northwest Passage (NWP) has long been a point of contention between Canada and the United States. Canada maintains that the waterways of the Arctic archipelago constitute internal waters, granting Ottawa full authority to regulate transit. The United States and several maritime powers instead argue that the passage is an international strait, where ships enjoy the right of transit passage under international law (O'leary, 2014). Under the United Nations Convention on the Law of the Sea, coastal states exercise sovereign rights within a 200-nautical-mile Exclusive Economic Zone, but the classification of internal waters versus international straits remains critical in determining regulatory authority (United Nations, 1982). As Arctic shipping becomes more viable, Canada's ability to demonstrate effective control over the Northwest Passage will be central to reinforcing its sovereignty claims.

Current state of Canadian Arctic policy

Canada's current Arctic policy is defined by a renewed effort to assert control over its vast northern territory while positioning the country to capitalise on the economic opportunities created by climate change. The Canadian Prime Minister, Mark Carney, has identified the Arctic as an issue crucial to Canadian national security. A core element of this approach is the government's recent emphasis on 'nation-building projects,' large-scale infrastructure and resource initiatives designed to enhance Canadian economic independence and strategic autonomy (Government of Canada, 2025). The first grouping of these projects, announced in September 2025, included several Arctic initiatives explicitly described as early-stage and lacking detailed implementation plans (Government of Canada, 2025). Among these were proposals for a network of 'all-weather, dual-use, land and port-to-port-to-port infrastructure' across the Arctic, intended to support both defence and northern development, as well as the expansion of infrastructure links to the port of Churchill (Government of Canada, 2025). However, the scale and vagueness of these proposals raise questions about their feasibility, particularly given Canada's mixed track record in delivering Arctic infrastructure. The Nanisivik Naval Facility, originally proposed as a year-round deepwater naval port, has been significantly scaled back to a seasonal refuelling station after years of delays and cost overruns, illustrating the persistent gap between announced ambition and operational reality (Dean and Lackenbauer, 2025).

This pattern persists even as the federal government dramatically expands Arctic investment. In March 2026, Carney announced a major Arctic strategy backed by tens of billions in funding, including approximately $32 billion for upgrades to forward operating locations in Yellowknife, Inuvik, and Iqaluit, alongside the development of new infrastructure at Deployed Operating Base 5 Wing Goose Bay, a Royal Canadian Air Force base in Newfoundland (Prime Minister's Office, 2026). Additional investments include $2.67 billion for new Northern Operational Support Hubs and Nodes designed to enable year-round military deployment. As well, a further $294 million will be invested in

Arctic airport upgrades to improve both civilian and military mobility (Prime Minister's Office, 2026). These initiatives are complemented by broader infrastructure proposals, including the Mackenzie Valley Highway, the Greys Bay Road and Port, the Arctic Economic and Security Corridor, and the Taltson hydro expansion project, all of which are intended to connect northern communities, unlock critical mineral resources, and strengthen Canada's logistical capacity in the Arctic (Prime Minister's Office, 2026). These investments come after the Canadian government committed $38.6 billion over twenty years to NORAD modernisation across the country, including new radar systems and surveillance networks designed to improve early warning capabilities in the North (Department of National Defence, 2022).

Taken together, these initiatives represent what analysts have described as a 'generational investment' in Arctic infrastructure, reflecting the growing recognition that Canada's northern infrastructure has historically lagged behind its strategic ambitions (Atlantic Council, 2025). However, while these investments significantly expand the scale of Canada's Arctic policy, they do not directly address the structural factors that have historically limited implementation. The persistence of delays, rescoping, and incomplete projects suggests that the central challenge facing Canadian Arctic policy is not a lack of funding but the difficulty of delivering infrastructure in a region characterised by extreme environmental conditions, logistical complexity, and challenging governance. As a result, despite more investment, Canada continues to face a gap between its Arctic strategy and its ability to translate that strategy into sustained operational capability.

Canada's Arctic Infrastructure Implementation Gap

Despite Canada's past and current commitments to funding Arctic infrastructure projects, past experience suggests that funding and ambition alone don't guarantee success. The Nanisivik Naval Facility provides a clear example. Originally announced in 2007 as a year-round deepwater naval port, the project was scaled back to a seasonal refuelling station due to high costs and logistical challenges. Nearly two decades later, it has yet to even open, facing numerous logistical and practical challenges

such as the supply road washing out, microbial corrosion and a short construction season (Dean and Lackenbauer, 2025).

This reflects a broader pattern of implementation challenges. Arctic infrastructure projects are often delayed by permitting processes, fragmented governance, and technical challenges in Arctic construction. External factors such as the 2008 financial crisis and the COVID-19 pandemic have also disrupted timelines. As a result, Canada's Arctic infrastructure remains limited relative to its strategic ambitions.

While recent investments represent a significant policy shift, analysts have noted that Canada's infrastructure has historically lagged behind its strategic goals. The Atlantic Council argues that Canada's northern infrastructure has not kept pace with growing geopolitical demands, and that improving infrastructure is essential for both defence and economic development (Atlantic Council, 2025). Without addressing the underlying causes of implementation failure, new investments risk repeating past shortcomings.

International Lessons in Arctic Infrastructure Development

The Canadian government has historically designated funding for Arctic infrastructure and security without addressing the underlying factors that have led to repeated project delays and underperformance. The Nanisivik Naval Facility serves as a clear case study of these challenges. By contrast, several other Arctic states have been more successful in delivering and sustaining northern infrastructure.

Norway, in particular, demonstrates a more effective model of Arctic development. Norway treats the Arctic not as a remote frontier, but as a core national region integrated into its economic and security systems. Its Arctic territory contains a much higher percentage of the population and is more densely populated, enabling infrastructure to be built to support civilian needs and economic activity. This ensures that infrastructure is continuously used, economically justified, and politically sustainable, something largely absent in Canada's Arctic projects. The 'High North is central to

security considerations in Norway,' meaning that infrastructure investment is driven by the need for continuous operational presence rather than symbolic assertions of sovereignty (Østhagen et al, 2018). This approach is supported by other Norwegian public policy, which emphasises the development of northern communities, integration of civilian and military infrastructure, and sustained economic activity in the region (Østhagen et al, 2018). Furthermore, Norway has historically faced more credible and immediate threats to its Arctic security, particularly due to its proximity to Russia, which has incentivised the development of reliable and operational infrastructure. While these differences in threat perception have shaped Norway's approach, the incentives gap between Norway and Canada is shrinking.

At the same time, Norway benefits from structural advantages that are less easily replicable in Canada, including a smaller Arctic territory and a denser population, which facilitate the integration of infrastructure systems. However, there are clear lessons that Canada can adopt to close its implementation gap. Most importantly, Norway's success highlights the need to move away from isolated, project-based investments toward a more integrative approach that combines infrastructure with economic activity, local communities, and long-term strategic planning (Østhagen et al, 2018). Rather than constructing standalone military facilities with limited use, Canada should prioritise dual-use infrastructure that serves both civilian and military needs, ensuring it remains in use and strengthening the case for investment. Additionally, improved coordination across federal, territorial, and Indigenous governments is necessary to reduce delays and streamline project delivery. Ultimately, closing the implementation gap will require not simply greater funding, but a fundamental shift in how Arctic infrastructure is planned, integrated, and executed.

Conclusion

The Canadian Arctic is becoming increasingly central to global trade, resource development, and geopolitical competition. Climate change is opening new opportunities while simultaneously raising new security challenges. Canada has responded with renewed investment in Arctic

infrastructure, yet a persistent implementation gap continues to limit its ability to translate policy into operational capability.

A comparative example from Norway demonstrates that successful Arctic infrastructure development requires integrated planning, sustained investment, and effective coordination. Closing Canada's implementation gap will be essential not only for reinforcing sovereignty over the Northwest Passage but also for ensuring that the country can fully capitalise on the economic and strategic opportunities emerging in the Arctic.

The Canadian Arctic is emerging as a region of increasing importance, shaped by climate change and increasing geopolitical competition. While Canada has responded with substantial new investments in Arctic infrastructure and defence, this article has argued that another important obstacle to Arctic policy is not a lack of funding, but an implementation gap between announced projects and operational capability.

Closing Canada's implementation gap will therefore require more than increased financial commitments. It demands a shift toward an approach that prioritises integration between civilian and government infrastructure, coordination, and sustained execution. This includes linking infrastructure to economic activity and population centres, expanding dual-use capabilities, and improving coordination across federal, territorial, and Indigenous governance structures.

Canada's ability to assert sovereignty over the Northwest Passage and capitalise on emerging Arctic opportunities will depend both on the scale of its investments and its ability to translate strategy into effective and continued presence. Without addressing the structural causes of implementation failure, future investments risk replicating past construction failures such as the Nanisivik Naval Facility. With changes to policy, Canada has the opportunity to transform its Arctic policy from one defined by ambition to one defined by delivery.

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