

CANADIAN ARCTIC MARINE TRANSPORTATION ISSUES, OPPORTUNITIES AND CHALLENGES

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SUMMARY

Climate change is inducing a steady decline of the extent of sea ice and a rapid decrease in the share of multi-year ice, giving way to younger, thinner sea ice and giving credence to modelled scenarios of ice-free summers during the 21st century. However, ice remains a hazard and an impediment to navigation.

Traffic statistics show that the trend of receding sea ice in the Arctic summer enables shipping to expand. Between 2013 and 2019, the number of ships entering the Arctic increased by 25 per cent. The expanding traffic is largely destinational vessels coming to the Arctic to perform an economic activity — fishing, tourism, community resupply or natural resources extraction — and then going back southwards. Transits are a rare occurrence, although the Arctic route shortens the distance between the Atlantic and the Pacific.

Although a moratorium currently prevents the development of oil and gas extraction projects, and is likely to continue to do so in the foreseeable future, mineral extraction is gradually taking off. As mining sites open up, they generate increasingly heavy traffic, in terms of both voyages and tonnage. Inland mining sites, faced with complex and costly land transportation due to melting permafrost, may further drive marine transportation if mining companies opt for the construction of new ports, and railways or roads connecting them to the mining sites. However, fluctuating world prices for commodities, not the extent of sea ice, is the main driver — or constraint — of mining activities.

The development of extractive activities in the Arctic may be technically feasible, but uncertain profitability of such ventures may be a limiting factor.

Shipping in the Canadian Arctic is thus mainly driven by fishing, mining activities and community resupply. Fishing, mostly carried out by vessels based in Newfoundland and still less developed than in Greenland, is gradually moving north to Baffin Bay.

Community resupply and ore transportation are expanding, but strategies pursued by the four shipping companies involved differ. MTS took over from bankrupt NTCL in 2016 with a more limited service. Coastal Shipping Ltd., Desgagnés and NEAS all expanded westwards and opted for larger, heavier vessels without expanding frequency of service. The lack of port infrastructure in the Canadian Arctic hampers the development of commercial shipping, fishing, cruise tourism and extractive industries.

The four companies dedicated to community resupply are determined to take advantage of business opportunities in the Canadian Arctic, just as shipping companies involved in mining operations are responsible for a fast expansion of their traffic. In these conditions, northern corridors inland could possibly support the development of improved community resupply, as well as mining operations, provided they can service clusters of mines and communities.

The lack of port infrastructure in the Canadian Arctic hampers the development of commercial shipping, fishing, cruise tourism and extractive industries. Community resupply in the region relies on large vessel sealifts, which enable companies to service several communities with few voyages to secure economies of scale. Given the absence

of infrastructure in the communities, goods are unloaded on the beach using tugboats and barges carried by the vessel. In this respect, the Canadian Arctic differs strikingly from the Greenlandic, Norwegian or Russian Arctic, where communities benefit from deep-sea ports that greatly facilitate loading and unloading operations and prove conducive to the development of economic activities. In the Canadian Arctic, companies have adapted to these logistical constraints and may even benefit from the fact that they act as a barrier to entry into the small, specialized market.

Traffic generated by mining activities is likely to keep expanding, provided no severe collapse of world commodity prices occurs. Several mining sites are being actively explored and havens have been built in Hope Bay and Bathurst Inlet. However, these mining projects concern precious metals or gems that require little transport capacity, with traffic mostly generated by the resupply of mining operations. Extraction of industrial metals — generating huge volumes of ore — requires the construction of deep-sea ports and connecting land transport infrastructure.

Community resupply may also experience continued expansion. However, expansion may be contingent on improved port facilities in the Canadian archipelago. The development of deep-water wharves in selected communities, such as Churchill and Iqaluit, could simplify operations and enable improved shipping services, lowering prices of consumer goods and providing the opportunity to ship locally produced goods to southern markets. These ports could develop into regional hubs similar to those that once flourished in Churchill, Moosonee and Cambridge Bay during NTCL's heyday. NEAS and Desgagnés are considering this option for Churchill.

In this context, northern land corridors may support the development of community resupply by facilitating the reloading of ships while already positioned in Arctic waters. They could also help support mining activities but would have to face the test of profitability given the expensive investments they imply.