

ARCTIC SHIPPING

THOUGH DECADES AWAY FROM FULL DEVELOPMENT, AN ARCTIC SHIPPING NETWORK IS BEGINNING TO TAKE SHAPE.

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MarEx

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KNOTS IN



COMMERCIAL SHIPPING IN THE ARCTIC

THE ICE

BY MIA BENNETT



In the Arctic, melting sea ice is bringing a centuries-old dream within grasp for shipping companies eager to make use of shorter routes between Europe, Asia and North America. Yet climate change is just one force behind the increase in Arctic maritime activities.

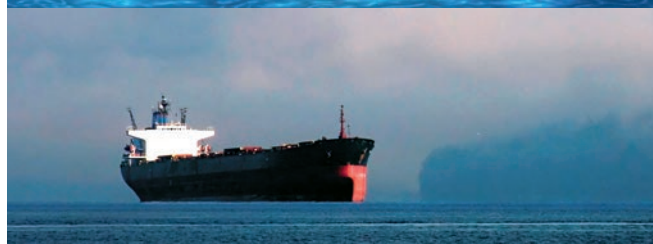
Global demand for Arctic resources – its hydrocarbons, minerals and spectacular vistas, to name a few – is perhaps a more important factor driving the shipping, offshore and tourism sectors. Companies like Tschudi Shipping, Gazprom and Shell and adventure tourism outfitters are all looking north to an area known informally as the last or final frontier. It is certainly the latest frontier.

The Arctic, however, is not all booming. Canada's Northwest Passage (NWP) remains at least decades away from becoming a commercially viable shipping route due to persistent, thick, multiyear sea ice. This obstacle also hinders the development of offshore oil and gas as well as tourism.



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ARCTIC SHIPPING

By contrast, the Northern Sea Route (NSR), skirting Russian's coastline and the Norwegian and Barents Seas at its western terminus, are more commercially appealing. The Russian government is investing in infrastructure along the route, which cuts the distance between Yokohama and Rotterdam by 40 percent compared with the typical Suez Canal route.

Unlike the NWP, the NSR is mostly covered by first-year ice, which "melts faster and poses less danger to ships, leading to longer navigation seasons," says Scott Stephenson, an Arctic shipping expert at the University of Connecticut. Given the NSR's proximity to operational oil and gas fields like Norway's Snøhvit and Russia's Prirazlomnoye, the route also offers opportunities for energy exports to Asian and European markets.

When Russia's Yamal LNG project comes online beginning in 2017, gas will be shipped east to Asia in summer, when the NSR is navigable, and west to Europe in winter. The prominence of hydrocarbon shipments along the NSR illustrates the coupled nature of energy and shipping in this part of the Arctic. Liquid fuel and LNG composed nearly three-quarters of the cargo transiting the entire route in 2013, much of it going to Japan, South Korea and China.

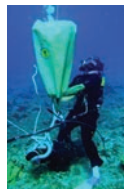
ICE-CLASS TECHNOLOGY

Arctic shipping, however, is not possible without ice-class technology, and a number of countries are trying to get in on the game. Frédéric Lasserre of Laval University observed, "Ice-class shipbuilding is a very competitive market and includes firms from Japan, Korea, China, India, Turkey, Croatia, Finland, Germany and Bangladesh." Japan and South Korea are arguably at the head of the pack, not just in developing ice-class ships but also in chartering Arctic routes.

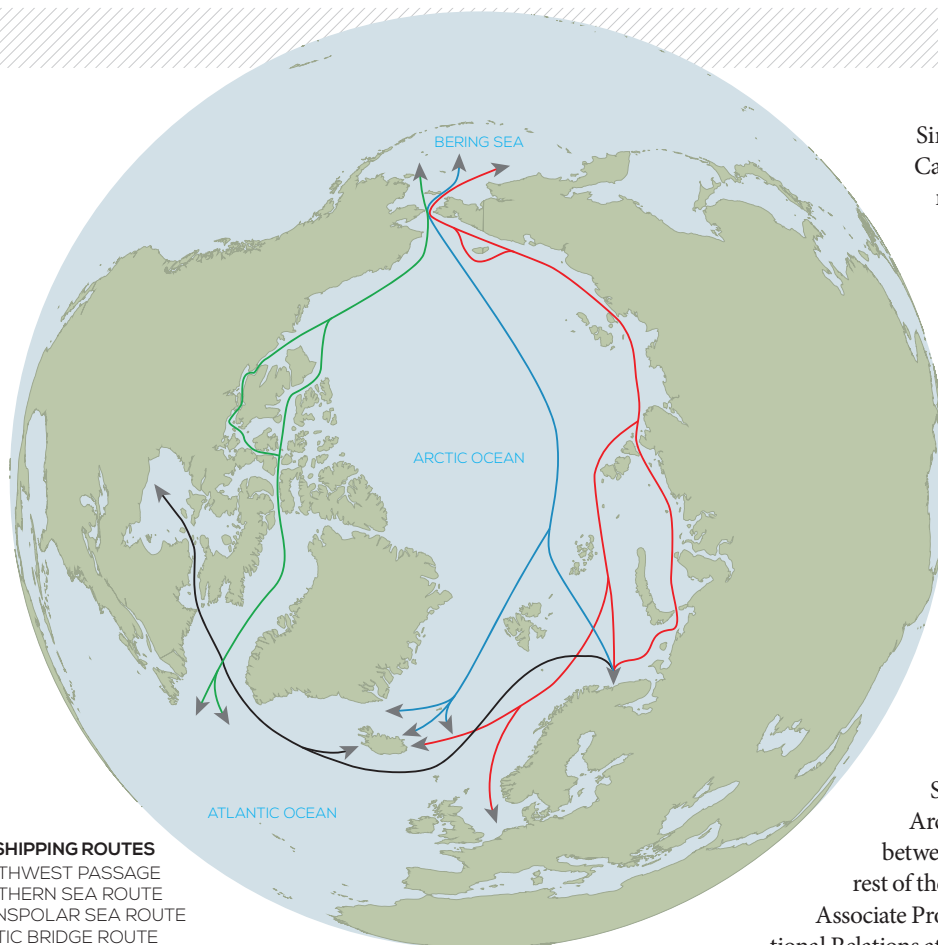
Asian and European demand and Scandinavian shipping skills promise a powerful combination in the Arctic. Last autumn, South Korean company Hyundai Glovis chartered Swedish shipping company Stena Bulk's MV Polaris to bring 44,000 tons of naphtha from Ust-Luga, a booming port near St. Petersburg, to Yeosu, South Korea. On the opposite side of the Arctic, Denmark's Nordic Bulk Carriers' Nordic Orion made the first bulk carrier voyage along the NWP, bringing coal from Vancouver to Pori, Finland. The trip shaved four days off the Panama Canal route. Though the media trumpeted these breakthroughs, Captain David Snider of Martech Polar Consulting, specialists in ice pilotage, put a different spin on things: "We see 'expeditionary' or 'trial' voyages and a few specialty cargo trans-Arctic voyages, but hardly much else."



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ARCTIC SHIPPING ROUTES

- NORTHWEST PASSAGE
- NORTHERN SEA ROUTE
- TRANSPOLAR SEA ROUTE
- ARCTIC BRIDGE ROUTE

Simply put, the Suez and Panama Canal routes continue to dominate global shipping patterns.

Only 75 ships transited the NSR last year compared to the 16,596 and 12,045 vessels, respectively, that sailed through the Suez and Panama canals. Aside from sea ice, escort fees and high insurance rates, the lack of markets and ports enroute in the Arctic hinders the marketability of shipping routes in this sparsely populated part of the world.

DESTINATIONAL SHIPPING

Still, the ports that do exist in Arctic Russia could foster trade between resource-rich Siberia and the rest of the world. Nadezhda Kharlampeva, Associate Professor in the School of International Relations at St. Petersburg University, spoke

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of the potential of the port of Tiksi in her native Sakha Republic. "It unites Europe and Asia," she said. It's one of the six largest ports along the NSR, and commodities like gold and mammoth ivory, for which there is demand in China, are dug up nearby."

This type of destination shipping to extract Arctic resources, rather than transit shipping, may be the key to the development of polar routes. Lasserre, who has interviewed many Chinese shipping companies regarding their interest in Arctic sea routes, found, "Almost all the Chinese shipping firms we surveyed mentioned destination traffic would be far more attractive than transit shipping."

Just as the amount of bulk shipping does not live up to the hype, the same is true for Arctic cruise shipping. Though the number of cruise vessel passengers at Svalbard, an archipelago north of Norway, has increased, tourism figures for other parts of the Arctic have remained static over the past ten years. Svalbard benefits from the warming effects of the Gulf Stream and the ample port infrastructure along the Norwegian coast, which together make travel more accessible and less expensive than in Arctic Canada or Russia.

ENERGY – THE BIG STORY

South of Svalbard, the largely ice-free Norwegian and Barents Seas and the fossil fuels below are attracting oil and gas majors. Two decades after Shell's abortive attempts to drill for oil off northern Alaska, the rise of commodity prices is again making

the region's offshore resources economically feasible to extract. Geopolitical concerns over the security of Middle Eastern resources are also motivating countries to look to the Arctic for energy diversification.

Unlike onshore drilling in the Arctic, which has a long legacy in places like Alaska and Siberia, offshore drilling is still in its infancy. But it is proceeding, and it is contentious, for it is even riskier than land-based extraction.

The dangers of an oil spill in a cold place like the Arctic, where bacteria breaks down oil more slowly than in a warm place like the Gulf of Mexico, are high. So too are the stakes. Many of the Greenpeace protestors arrested by the Russian Coast Guard after scaling Gazprom's *Prirazlomnaya* rig, the first to operate north of the Arctic Circle, were at the Port of Rotterdam in April to protest the arrival of the first barrels of oil from Prirazlomnoye. Such civil disobedience could represent the new face of conflict between extractive and environmental interests at sea.

While tensions erupt over the future of offshore drilling in the Norwegian and Barents Seas, a number of countries – Japan, South Korea, the U.S. and Canada – are cracking open a new resource frontier off the coasts of Alaska and the Northwest Territories: methane hydrates. These ice-like substances exist throughout the world's oceans, particularly on the continental margins and in permafrost. Several known deposits exist in the Arctic, and Japan – the only country to successfully produce energy from the resource – sent its icebreaker to the Beaufort Sea for further

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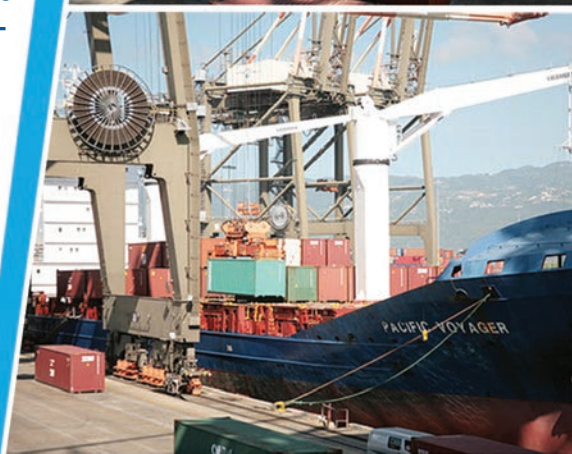
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research last summer. Methane hydrates are one area where progress is being made in the western, rather than eastern, Arctic.

THE POLAR CODE

With new frontiers rapidly being broken in the shipping and offshore sectors, international regulatory bodies are struggling to keep up. The International Maritime Organization is preparing the much-delayed Polar Code, which will be mandatory for ships sailing in the Arctic and Antarctic.

Lee Adamson, head of the IMO's Public Information Services, explained, "The Polar Code will cover the full range of design, construction, equipment, operational, training, search-and-rescue and environmental protection matters relevant to ships operating in the inhospitable waters surrounding the two poles to ensure that the appropriate safety and environmental standards are in place." Martech Polar's Captain Snider is skeptical, however. With draft after draft watered down, he noted that "The latest version of the IMO Polar Code is, sadly, a shadow of its former self."

The Polar Code also will not regulate heavy fuel usage by ships in the Arctic even though it is already banned in Antarctica. "A proposal to extend the ban to the Arctic did not receive sufficient support from IMO member states," stated Adamson. So while the weak Polar Code may necessitate complementary guidelines from classification societies, insurers, and possibly even coastal states to ensure human safety at sea, separate measures may also be needed to protect the Arctic environment. Heavy fuel emits black

carbon, which can exacerbate climate change.

Arctic shipping expert Scott Stephenson explained that emissions from summer shipping, which occur when ice concentrations are low, do not pose a big threat. "Most of the black carbon from these ships is deposited in open ocean, where it will not reduce albedo (whiteness) and amplify global warming." It's the ships entering ice-covered waters, of which there are more and more each year, that pose a greater danger. Stephenson warned that these icebreakers and their escorts are "more likely to contribute to this climate feedback as some of their black carbon emissions will fall on ice and snow."

STILL A DISTANT DREAM

While sixteenth-century explorers could never have envisioned today's level of commercial polar shipping, a full-fledged Arctic shipping network is still a distant dream. Captain Snider emphasized, "It is telling that two of the largest container companies in the world, COSCO and Maersk, have both said quite clearly they see no economic advantage to Arctic shipping for decades to come."

Yet this month Japan's Mitsui O.S.K. Lines announced plans to ship LNG from Yamal, the coastal Siberian project under development, beginning in 2018. For now, energy – not containers – holds the future to Arctic shipping.

MarEx

A Ph.D. candidate in Geography at the University of California, Los Angeles (UCLA), Mia Bennett writes regularly on maritime topics. This is her first appearance in the magazine.

General Manager/Chief Executive Officer

Our Client, the Port Authority of Trinidad and Tobago (PATT) is seeking a General Manager/Chief Executive Officer (GM/CEO) to lead PATT and its three (3) subsidiaries:- Port of Port-of-Spain; Port-of-Spain Infrastructure Company; and Trinidad and Tobago Inter-Island Transportation Company. The Port of Port-of-Spain is the largest commercial port in Trinidad & Tobago, and is well positioned to leverage the North/South trade.

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