

CMEC - Maritime Knowledge Lecture Series

Arctic : Routes , Resources and Services

By - Dr Vijay Sakhujia, Reva University, Bengaluru

Chair – Prof. PK Joshi, School of Environmental Sciences, JNU

12 Jun 2025, IHC, New Delhi



Background

1. The Arctic, though smaller than other oceans, is emerging as a vital epicentre of geopolitical, geoeconomic, and geostrategic shifts. A recent lecture presentation titled “*Arctic: Routes, Resources and Services*” explored how the rapidly changing climate, melting sea ice, and untapped resources are reshaping the significance of the Arctic in global affairs. The lecture highlighted the strategic ambitions of Arctic states, the rise of new shipping lanes, the scramble for energy and minerals, and India’s growing involvement in this icy expanse.

Geographic dominance and climate alarm

2. The Arctic is governed by a group of eight nations commonly referred to as the Arctic 8: the United States, Canada, Denmark, Finland, Sweden, Iceland, Norway, and Russia. Of these, Russia commands over 53% of the Arctic coastline, making it a dominant stakeholder in the region. However, this frozen frontier is melting literally and alarmingly. Climate change is accelerating the retreat of sea ice, with Arctic sea surface temperatures rising and sea levels increasing due to the thawing of terrestrial permafrost. This thaw is also releasing vast quantities of greenhouse gases, aggravating the climate crisis. Notably, the winter sea ice extent recorded on March 21, 2025, was the lowest since 1979. The summer of 2024 was recorded as the wettest in Arctic history.

Opening of Arctic shipping routes

3. The retreating ice is creating new navigable waters and potential trade corridors. By 2030, specialized ice-breaking cargo ships could traverse the North Pole, and with continued warming, even standard cargo vessels may sail through these waters by mid-century. The Northern Sea Route (NSR), a maritime path along Russia's Arctic coast, is becoming increasingly viable for commercial navigation. From July to November each year, when the ice recedes, international interest peaks. As of May 27, 2025, nearly 200 applications had been submitted for foreign-flagged vessels to navigate the NSR. Cargo traffic is booming—container turnover in 2024 reached 193,800 TEU, up 17.7% from 2023. Russia, in response, is building 16 deep-water ports and 10 Arctic Search and Rescue stations to manage this growing activity. It will be significant for India to collaborate with Russia and other Arctic nations for the oil and cargo movement, through these routes.

Energy and Mineral riches: The White Eldorado

4. Beneath the Arctic's icy veneer lies untold wealth—an estimated \$35 trillion in untapped oil and gas reserves. It also holds a "treasure map" of minerals worth approximately \$2 trillion. This resource bounty is intensifying international competition. Russia continues to lead with large-scale LNG (liquefied natural gas) projects such as Yamal LNG and Arctic LNG 2, even amidst Western sanctions. Interestingly, a "shadow fleet" of vessels is reportedly transporting sanctioned Russian energy to global markets. Meanwhile, other countries like Canada, Finland, and the U.S. are investing in building icebreakers to enhance their Arctic capabilities.

The Human Factor: Training and Regulations

5. With increasing Arctic maritime activity, safety and environmental standards are becoming critical. The International Maritime Organization (IMO) has established the Polar Code, covering ship design, construction, equipment, operations, and training for vessels in polar waters. Several institutions—including Russia's Admiral Makarov SUMIS and Novikontas Training Center—are training a new cadre of seafarers capable of navigating the Arctic's challenging environment. It will be important for India to tie-up for Polar training and provide skilled manpower.

China's Polar Silk Road and Russia's connectivity dreams

6. China, though not an Arctic state, is expanding its Arctic footprint via its "Polar Silk Road" initiative. This is part of its broader Belt and Road strategy to build geo-economic and strategic influence through Arctic interdependencies. In 2023, China and Russia set up a joint working body to develop the NSR further. President Putin envisions connecting Arctic and Baltic seaports with the Persian Gulf and Indian Ocean, creating a massive North-South trade corridor.

India and the Arctic: From scientific curiosity to strategic vision

7. India's engagement with the polar regions began with its Antarctic research program in 1981. Following its successes there, India turned its gaze northward. In 2007, India

established the Himadri research station in the Norwegian Arctic town of Ny-Ålesund. India became an observer in the Arctic Council in 2013 and released its Arctic Policy in 2022 titled “*India and the Arctic: Building a Partnership for Sustainable Development.*”

8. The lecture emphasized India’s maritime aspirations outlined in *Maritime Vision 2030* and *Maritime Amrit Kaal Vision 2047*. India is working on building non-nuclear icebreakers, developing ice-class ships in domestic shipyards, and collaborating with Russia's Far Eastern Shipping Company for container transport logistics. India is also investing in training Arctic-ready seafarers and strengthening its participation in international polar programs.

9. A proposed joint feasibility study for operationalizing the NSR includes collaboration on R&D in Arctic shipping, navigational technology, and Polar Research vessels etc. India’s aim is to ensure safe, secure, and sustainable Arctic shipping while aligning this initiative with her strategic maritime vision.

Conclusion: The Arctic’s strategic nexus

10. The Arctic is no longer a remote, desolate ice desert. It is a dynamic region where climate science, maritime innovation, global trade, and geopolitical rivalries intersect. Often referred to as the “White Eldorado,” the Arctic’s resource wealth, new shipping lanes, and strategic positioning make it crucial for the 21st-century global order.

11. For India, the Arctic presents not just scientific opportunities but also economic, environmental, and diplomatic stakes. As the nation seeks to realize its Maritime Amrit Kaal Vision by 2047, its Arctic engagements will be central to securing its role as a global maritime power in an increasingly multipolar world.