



## **POLICY OPTIONS FOR ARCTIC ENVIRONMENTAL GOVERNANCE**

**Prepared by the Shipping Working Group**

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### **Background**

The global maritime industry has come to the Arctic during the past decade. Natural resource development (oil & gas, hard minerals), Arctic marine tourism, and scientific/exploration voyages are driving increased numbers of ships in Arctic coastal seas. Early in the 21st century, surface ships have operated during summer in all regions of the Arctic Ocean, including scientific voyages in the central Arctic Ocean and tourist voyages to the North Pole. Destination marine traffic dominates summer operations in the Canadian Arctic and around the east and west Greenlandic coasts. Year-round Arctic marine transport in the Russian Arctic has been maintained since 1978-79 between the port of Dudinka on the Yenisey River and Murmansk. There have been only a small number of trans-Arctic voyages in summer for science and tourism across the Northwest Passage and the Northern Sea Route since 2000. No commercial icebreaking ships have operated in winter in the central Arctic Ocean. Arctic marine transport systems (ports and Arctic ships) in Northwest Europe have already been developed. LNG has been shipped to Spain and the U.S. East Coast from the Snovit/Hammerfest complex in the Norwegian Arctic; oil from the Varandey terminal in the Pechora Sea is being shipped to Murmansk using icebreaking tankers. There is an anticipated increase in oil and LNG tankers along the coasts of Iceland and Norway as these commodities are shipped westbound out of Northwest Europe to world markets.

Arctic sea ice has been observed to decrease in extent and thickness during the past five decades. Arctic sea ice has also been observed to be much younger during the past two decades; the area of multi-year sea ice is significantly smaller with the oldest ice remaining just north of the Canadian Archipelago. Sea ice thicknesses today have been observed to be as much as 40% thinner than those of the late 1950's with the thickest ice remaining, as noted, along the northern coasts of the Canadian Arctic and Greenland. A new minimum extent of Arctic sea ice was attained on ~ 16 September 2007; a deep water route through Lancaster Sound to McClure Strait along the Northwest Passage was observed to be ice-free for several weeks during September 2007. The minimum extent for 2008 appears to be greater in area compared with 2007, illustrating a key challenge to future Arctic navigation ~ the inter-annual variability of Arctic sea ice. Simulations of Arctic sea ice in recent global climate models (GCMs) indicate decreasing coverage throughout all Arctic coastal seas during the century. Several GCM sea ice simulations also show a short summer ice-free period for the entire Arctic Ocean perhaps before 2040; such an occurrence would mean all multi-year sea ice would disappear. All the GCM simulations show a

6-8 month winter ice-cover extending from the Bering Sea to Svalbard throughout the century. These changes in sea ice suggest greater marine access throughout the Arctic Ocean and potentially longer seasons of navigation, especially in the Arctic's coastal seas.

The Arctic Council has embarked on a comprehensive Arctic Marine Shipping Assessment (AMSA) under the technical working group Protection of the Arctic Marine Environment (PAME). AMSA focuses on marine safety and marine environmental protection, and is circumpolar in perspective. The AMSA team has recognized that there are many stakeholders involved in the future of Arctic marine navigation. There are also many key uncertainties that will influence future Arctic marine transport; these uncertainties are outlined in a scenarios creation effort as part of the AMSA research. Globalization of the Arctic, in terms of natural resource development and the current high prices of key commodities, is considered a significant driver of increased Arctic marine traffic.

### **Recent Developments in the United States**

The U.S., along with Canada and Finland, is a Lead Country in the Arctic Council's Arctic Marine Shipping Assessment (AMSA). AMSA will be released at the April 2009 Arctic Council Ministerial meeting in Tromsø, Norway.

In July 2008 the U.S. Geological Survey (USGS) released a new study of Arctic oil and gas, titled 'Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle.' The study provides a strategic look at potential Arctic oil and gas developments that will influence future Arctic marine operations.

U.S. Government and industry interests continue to explore the EEZ and extended continental shelf off the north coast of Alaska.

On 9 January 2009, President Bush signed the U.S. Arctic Region Policy. The policy states that the top priorities in the Arctic region are “a. to facilitate safe, secure, and reliable navigation; b. to protect maritime commerce; and c. to protect the environment”. The policy provides four specific action items to implement the policy as it relates to maritime transportation in the Arctic region.

### **Recent Developments in Europe**

Following representations from stakeholders consulted in the build-up to the new EU's maritime policy (including the standing committee of parliamentarians of the Arctic region) the EU's Blue Book on maritime policy adopted by the European Commission in October 2007 and welcomed by the Council in December 2007, the Commission undertook to prepare a Communication on the Arctic, which was adopted on 20 November 2008. It covers inter-alia the Commission's objectives related to shipping and associated safety and environmental standards, defends the freedom of navigation and the right of innocent passage in newly opened routes and areas, and highlights the importance of sustainable tourism in the Arctic. The Communication identifies four specific proposals for action related to transport and two proposals for action related to tourism in the Arctic.

Partly because of concern about poor communications in high latitudes such as the Arctic, the Commission has initiated a pilot project on setting up a space-based system for AIS reception. The project started in December 2008 and will last 2 years. The contractor will develop a maritime traffic density map and assess how well present and planned sensors can pick up signals in different seas under different maritime traffic densities.

## Analysis of policy shortcomings

- The IMO has developed voluntary, but not mandatory, 'Guidelines for Ships Operating in Arctic Ice-covered Waters'. These guidelines are now under review.
- The U.S. is not currently a Party to the UN Law of the Sea Convention.
- The cruise ship industry has recently sailed in Arctic waters where adequate maritime infrastructure and a reasonable safety net do not exist. Cruise ships include many of the largest ships in the world that are not equipped for Arctic conditions.
- There is an overall lack of maritime infrastructure to support high levels of Arctic marine traffic. [Infrastructure: charting, hydrography, communications, ports, environmental monitoring, search & rescue, salvage, aids to navigation, oil spill response, supplies and spares, and more].
- There is a lack of policy attention to the impact of climate change on Arctic coastal zones in regard to maritime infrastructure, for example thawing permafrost, sea level rise and coastal erosion etc.
- Funding mechanisms do not exist to adequately address the infrastructure needs of the 8 Arctic states and the global maritime industry.
- There is a lack of an integrated and holistic approach to marine environmental protection in the Arctic Ocean.
- There are no international training standards for mariners navigation in Arctic waters.
- There is a notable lack of available economic research on trans-Arctic navigation/routes making evaluation of the potential of these voyages difficult.
- New Arctic marine transport systems have already come on line without comprehensive policy responses to deal with environmental response and environmental protection.

## Key policy options

The U.S. and the European Union could:

- Work closely at IMO to strengthen the existing voluntary 'Arctic Guidelines' and develop a strategic plan with a timetable to make the guidelines mandatory.
- Work close to maintain freedom of navigation within the framework of the UN Law of the Sea Convention, including issues of non-discrimination, fair competition, transparency of fees etc.
- Encourage inclusion of Arctic residents in maritime economic activities, including increasing training and education opportunities and facilitating the use of local knowledge for near-shore shipping.
- Work closely with IMO and the cruise ship industry to develop special guidelines for cruise ships operating in polar waters; consider potential 'self-regulation' measures such as regional 'pairing' of large cruise ships in Arctic regions.
- Distribute AMSA widely and work to implement the key AMSA recommendations approved by the Arctic Ministers (April 2009).
- Foster development of an international Arctic Search & Rescue (SAR) agreement.
- Explore funding options for maritime infrastructure including joint government & industry approaches to support increased Arctic marine operations.
- Encourage global use of the seven new polar classes of ships, as published by IMO and agreed to by the International Association of Classification Societies.
- Strengthen Arctic environmental monitoring as an International Polar Year (IPY) legacy; enhance the participation of operational as well as science agencies in this endeavor.
- Develop policies for the sharing of maritime surveillance of Arctic traffic.
- Encourage ongoing collaboration of the national ice services to enhance availability and quality of ice information.
- Expand research into the future use and implications for the Arctic Ocean of new types of ships (for example, large tankers, container ships, bulk carriers & drill ships) that have not voyaged previously in Arctic ice-covered waters.
- Explore and research a potential designation by the IMO of the central Arctic Ocean as a Particularly Sensitive Sea Area (PSSA).