



ACCESS
Arctic Climate Change
Economy and Society



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ACCESS

Arctic Climate Change, Economy and Society

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D2.82 – Identification of WP2 governance related issues on Arctic Shipping and Tourism

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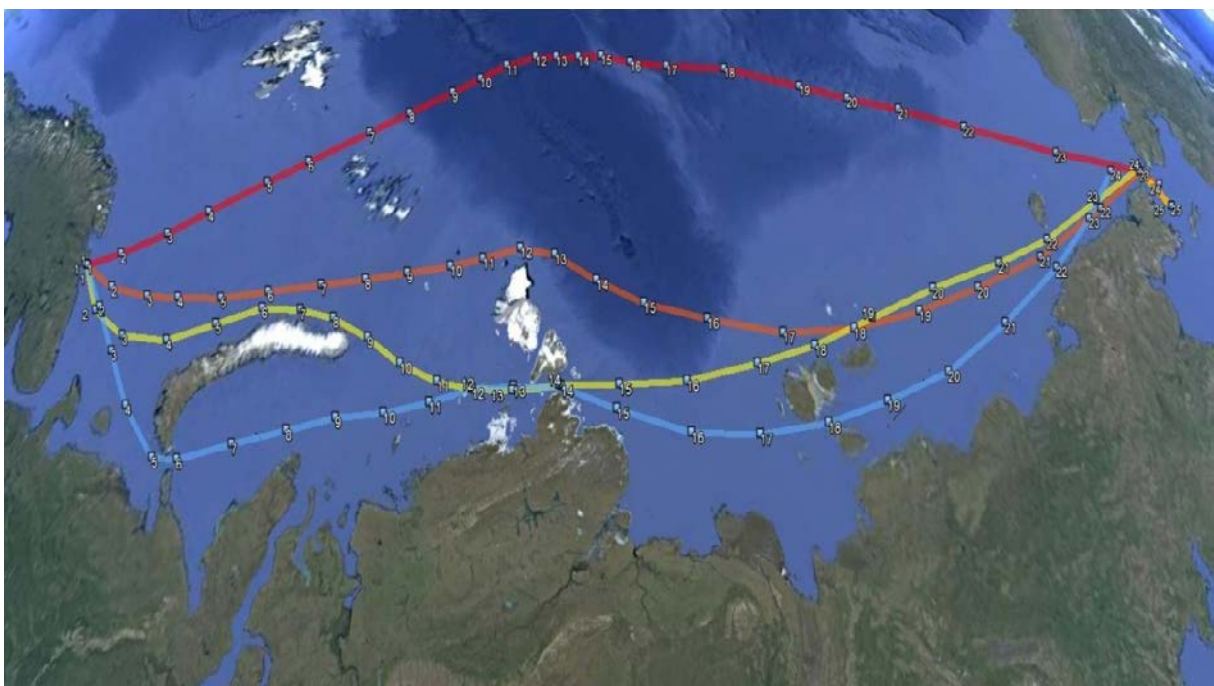
Identification of WP2 Governance related issues

On Arctic Shipping and Tourism (D2.82)

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Introduction

The temperature rise on earth in recent years has caused a significant decrease of the ice in the Arctic Ocean. Until some years ago the Central Arctic Ocean was covered year round with the so called multiyear ice, which had thicknesses of 3m and more and was therefore a barrier for Transpolar Shipping. According to research results by the Denver University, Colorado, the summer ice volume in the entire Arctic has decreased in recent years by 75 %. Due to this situation the maximum level ice thickness of the one-year ice in the Arctic is only up to 2 m, which is manageable by strong icebreakers such as the Russian Atom-Icebreakers. In the summer and autumn months shipping is possible also across the North Pole (red line on Fig. below; ref. D2.42), which is about 300 nm shorter than the NSRs.



Legal Framework for Arctic Shipping

The legal framework for all Arctic shipping and marine operations is the UN Law of the Sea Convention (UNCLOS). It is UNCLOS which provides a legal regime for shipping using a set of maritime zones including the 12-nautical mile territorial sea and a 200-nautical mile Exclusive Economic Zone (EEZ). The 'freedom of navigation' for commercial shipping, of global importance for international trade, is maintained by the right of innocent passage for foreign ships through Arctic

state sovereign waters (territorial seas). There is also an international high seas region in the central Arctic Ocean, where there is no coastal state authority. Presently, the International Maritime Organization (IMO) is the competent UN organization that develops rules and regulations for the global maritime industry using UNCLOS as a fundamental framework for legal guidance.

Two key UNCLOS articles have direct applicability for the ACCESS project and Arctic marine operations:

- Article 234 of UNCLOS – This allows the coastal state the right to adopt and enforce non-discriminatory pollution prevention, reduction and control laws within the EEZ regions that are ice-covered most of the year. Both Canada and Russia have used Article 234 as justification to adopt Arctic ship rules/regulations for shipping in their respective Arctic marine areas.
- Article 76 of UNCLOS – This allows the coastal state under certain geological conditions to extend their continental shelf beyond their EEZs and gain sovereignty over the seabed (but not the water column). This article applies anywhere in the global oceans and certainly applies to the Arctic Ocean. The five Arctic Ocean coastal states are conducting exploratory operations and collecting geological data to support their submission to the Commission on the Limits of the Continental Shelf in New York.

Two recent and key Arctic treaties also provide governance to Arctic shipping and tourism. The 2011 binding *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic* strengthens SAR cooperation and coordination and establishes zones or areas of SAR responsibility for each of the 8 Arctic states. The Agreement is signed by the Arctic states and they intend to exercise their regional SAR responsibility. A second treaty is the *Agreement on Cooperation on Maritime Oil Pollution Preparedness and Response in the Arctic* signed by the Arctic states in Kiruna, Sweden in May 2013. This treaty focuses on Arctic oil spills and issues of response, cross-border resource transfer, exercises, monitoring, and party notification. Both agreements are new forms of governance in the Arctic Ocean that are essential for expanded Arctic maritime use.

In ACCESS Report D2. 21 Rules and Regulations for Arctic Shipping are addressed and changes are recommended due to the climate change effects on Arctic sea ice and to increased shipping responding to Arctic globalization. These and other changes of rules and regulations for Arctic shipping will be considered in this Governance review chapter.

Various Rules and Regulations on Arctic shipping exist such as

- IMO Polar Code (to be implemented 2015-17)
- IMO SOLAS and MARPOL Conventions
- Ship Classification Societies
- Arctic State Administrations (e.g. rules in the Baltic Sea; Northern Sea Route is regulated by 8 laws and codes handled by the Russian Northern Sea Route

Administration, Canadian Arctic Shipping Pollution Prevention Regulations. U.S. Arctic specific shipping rules will come with the implementation of the Polar Code.)

It is suggested to harmonize these Rules under a “General Arctic Shipping Agreement” with special chapters for the regional conditions.

Safety Improvements in Arctic Shipping

In order to improve the safety of Arctic Shipping the various ice classification societies have defined new rules and regulations for ice class ship design and power levels for various ice conditions and operational guidelines for shipping alone or within a convoy behind an icebreaker. Our ACCESS partner NBC has used the NSR always within a convoy as most ships do in trans-arctic voyages in the Russian Maritime Arctic. (see Figure from NBC below)



The governance related issues covered by various classification societies are concentrated on the safety of ships and crews as well as the protection of the environment. This leaves room for specifications of internationally accepted values of safety, the protection of the crew and a closer cooperation of the Classification Societies in general or even by a merger of them.

As more and more shipping companies use their ships operating in winter in the Baltic or in other sub-arctic regions and in summer on the Northern Sea Route or on the North West Passage, there are dangerous situations possible, when heavy ice is moving down from northern cold regions into these Arctic Seaways. In order to reduce this danger and to improve the safety in Arctic shipping in general it is

recommended to use the new technologies of Ice-Forecast and Ice-Route-Optimization. Also standard practices of icebreaker convoy and rescue activities on Arctic Routes require the cooperation between the Arctic States and International Working Groups.

The various regional existing rules and regulations for safe shipping in ice covered waterways must be harmonized and implemented by international organizations such as the IMO. The new mandatory Polar Code for ships operating in Polar waters will provide a set of international rules and regulations for governance of commercial and passenger ships operating in Arctic waters. This is major step forward in harmonizing Arctic shipping rules. The Polar Code is composed of amendments to SOLAS and MARPOL IMO conventions, and an implementation phase for the Code will take place 2015-17. The Code will include several key elements: polar ship structural standards; marine safety equipment requirements; experience & training for polar mariners; requirements for a Polar Ship Certificate and Polar Operations Manual; and environmental provisions regarding no discharge of oil, sewage and garbage. A mandatory IMO Polar Code is a new governance regime for the Arctic and advances protection of Arctic peoples and the marine environment, and enhances Arctic marine safety.

Some existing rules and guidelines are defined for different icebreaking ships and for Arctic Sea Areas; their application area should be precisely defined. New ship designs and technologies of icebreaking ships need to prove their icebreaking capabilities before being accepted by certain ice classes.

In the past most of the rules and guidelines for ships operating in Arctic waters were defined by the Arctic States for certain regions. As the Climate Change has affected also the ice conditions these modifications –in most cases decrease of the ice thickness – have to be considered in the required adjustment of the new Arctic Shipping Rules defined by an international organization such as the IMO.

The various initiatives, i.a.by the EU-Council, to use LNG instead of black carbon fuel for ship engine power, need to provide enough LNG-service stations along the coasts of the Arctic seaways, for example along the NSR and the Northwest Passage. This is an urgent task for the Arctic Ocean coastal states and the maritime industry, because the conversion to LNG is scheduled by the EU for 2018.

Another most important issue for the safety of shipping in the Arctic in general is the development of reliable telecommunication. The present available communication needs to be improved by cooperation between the Arctic Ocean surrounding countries especially Russia, Canada and USA due to their longest Arctic coastlines. This and several other activities show the major influence of Russia, Canada, USA and northern countries of Europe on the effective use of the Arctic by shipping and offshore resource extraction.

Besides the improvement of the telecommunication it is also necessary to establish a search and rescue system in the Arctic Ocean in order to provide rapid response in case of accidents by grounding or collision of ships or by ramming icebergs or growlers. Also the number of gas stations along the Siberian Coast for refueling of the ships need to be enlarged. In all these activities the Indigenous people should be incorporated.

A special danger for Arctic Shipping is the grounding of ships due to the situation that maps on the depth of the Arctic Ocean are available only for small areas with heavy traffic along the Northern Sea Route. But if the warming trend of our Climate continues Arctic Shipping would like to cross the Arctic Ocean on the shortest way and that is across the area of the North Pole like this has been the case by a few ships in 2012. The danger of this present situation comes from the possibility of grounding on shallow rocks, which the navigation of the ship cannot avoid, because the rocks under the water surface are difficult to detect early enough before the ship collides with the rock or the rock could be trapped in ice, which makes the detection of the rock even more difficult.

In order to improve the safety and efficiency of Arctic Shipping the following activities are recommended to be prepared and installed:

- Extension of sea charting to the entire Arctic.
In order to make use of the reduced ice conditions and to avoid ground impact of ships sea charts should be available for the entire Arctic Ocean
- Access to harbors along the coastlines of the Arctic Ocean.
In recent years the access of cargo vessels to harbors along the coasts of the Arctic Countries has been a problem due to ice barriers along these mostly shallow coasts. In order to improve this situation it is recommended to develop and implement a system, by which this problem can be solved. Such problems have occurred in front of harbors in the Baltic Sea and offshore the harbor Sabetta/ Yamal.
- In order to improve the safety and economy of Arctic shipping it is recommended to improve the ice forecast and to develop and operate an Ice Route Optimization Center, which should send ice condition maps to the ships twice per day.
- It is recommended, that the EU organizes one of their next International Conferences with emphasis on “Safety and Economy of Arctic Shipping”
- In all these required activities for safe shipping the local Indigenous People should be incorporated
- With the increasing shipping along the Northern Sea Route and the Central Arctic Route Search and Rescue Stations (SAR) and navigational aids need to be increased, in order to shorten the distance for rescue help.
- Also the number of LNG-Stations along the Siberian Coast should be adjusted for safe shipping

The Arctic Shipping will increase also by the oil and gas production in the Arctic Ocean and along its coastal areas. So far there is enough oil and gas available onshore, but when these resources are running out, the Oil and Gas Industry will go offshore. However, the production facilities should be established at the sea bottom without large constructions sticking out of the water/ice surface. Hereby the production is cheaper and not so much affected by drifting ice. Any cooperation between the EU and Russia would be beneficial for these activities on technology and market issues.

Also the North-West Passage between Europe and Canada and Alaska shipping companies will use this shorter seaway for shipping cargo – especially oil and gas from offshore Alaska to Europe. When

these activities will increase also along the NWP more navigation assistances and SAR stations have to be installed.

Finally, since the Northern Sea Route and the North West Passage are used by regional and transit shipping, it is recommended to incorporate the Indigenous People in the development of the Arctic and the commercial activities like shipping, harbor operations and exploitation of resources.

In summary governance of shipping and marine operations in the Arctic involves a complex network and range of legal regimes (most notably UNCLOS), IMO conventions (and the Polar Code), Arctic state agreements, national rules (such as in Canadian & Russian Arctic waters), and a host of actors and stakeholders. Key actors are the largest flag states in global shipping and the suppliers of maritime labor from global sources, which do not border on the Arctic Ocean. The Arctic states must cooperate closely together with IMO and other international organizations (IHO, WMO, and IALA) to support the development of new governance and measures to protect Arctic peoples and the marine environment, and foster safe and secure Arctic marine operations. Due to the good relationship between the ACCESS board and the head office of IMO it is suggested to contact the IMO and initiate a meeting, at which our ACCESS results and recommendations are being presented and consequences are discussed and decided.

Outlook

If the warm climate conditions are getting stabilized the Northern Sea Route (NSR) will become a competitor by the North Polar Route (NPR) for ship transport between Northern Europe and East Asia. This requires in the Central Arctic a mobile station during the summer months with Supply and Rescue, and Telecommunication Service. This station needs to move to shore in winter and spring, because the level ice is getting about 2m thick with strong ridges and hummocks, which move around by wind and current. Such a mobile station would also be beneficial for the Oil and LNG production and transportation out of the Arctic Regions.

Arctic shipping will anyhow stay in focus and the EU should take any opportunity on the basis of ACCESS-results to be partner in this technological and economical enterprise.