Briefing Note

What can a shipyard tell us about Arctic safety?

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In mid-July, I noticed a twitter feed coming from an Industry and Technology minister of the Republic of Turkey, Mustafa Varank. He was attending the launch event of a state-of-the-art fishing vessel, *Calvert*, built by Tersan Shipyard, one of the biggest in Turkey, for Ocean Choice International, a Canadian fishing company. In this event, Mr. Varank was proudly standing by the vessel and promoting its capacity along with the Turkey's centuries old shipbuilding tradition and how it would meet today's niche Arctic market demand.

Watching this launch event, I wondered if there was a potential role for the shipbuilding and repair industry, and the companies that were ordering vessels or requesting repairs, in the protection and safety of the Arctic marine environment, particularly for biodiversity and ecosystem services relied upon by Indigenous people. The next day, I called the Tersan and talked to Mr. Mehmet Gazioglu, general manager of the company. I asked him if they had other orders coming from the Arctic region and what he can tell me about them in general. I was surprised to learn that since 2010, they have actually received 45 orders from the five Arctic Coastal States (the US, Russia, Canada, Norway, and Greenland/Denmark). Most of them are delivered, but there are still a few in the building process. Additionally, he stated that they have noticed a significant increase in the number of orders coming from the Arctic since 2015, and even though they are capable of building all kinds of vessels and offshore structures, the orders were mostly

Launch Event for "Calvert"

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for fishing vessels, offshore support vessels (prior to the 2015 drop in oil prices), and passenger vessels, such as ferries, though not ice strengthened.

I think the information provided above is significant in the context of international maritime law, Arctic policy, environmental law, and maritime economics.

First of all, the recent increase in Arctic vessel orders can be explained by two factors. These include the decline in permanent sea ice and certainty in regulatory infrastructure of the Arctic Ocean.

At least for the last 30 years, we have been talking about the decline in the sea ice and potential economic advantages that the Arctic navigation may provide, such as transit transportation of goods, Arctic fishing, eco-tourism, and intra-Arctic shipping, particularly carrying resources from offshore installations to the refineries or southern markets. However, just recently, a decade ago, perhaps after the release of Arctic Marine Shipping Assessment (AMSA) Report, we have started to observe an ice-free Arctic Ocean. For example, computer models from a recent study published by J.A. Screen and C. Decer in early 2019 suggest that the Arctic Ocean is expected to become ice free in the summer as early as 2030. This is a very important incentive for companies to invest in their fleets in the region.

The other reason for the increase in vessel orders in the Arctic is the legal certainty. Legal certainty is about the predictability of the possible legal outcome of the actions. Companies do not only make economic calculations when they make an investment decision, they make legal calculations as well. For example, if they do not know all the risks and possible outcomes or cannot calculate them, they would not invest in any kind of Arctic project, including ordering vessels for Arctic marine operations. There is still a great deal of legal uncertainty in the Arctic Ocean, and I will shortly touch upon this topic. However, there has also been a significant improvement in the development of the legal infrastructure of the Arctic Ocean in recent years. The most important improvement is the establishment of the IMO-Polar Code. Since the beginning of 2017, we have had a mandatory set of rules for the environmental protection and safety of the marine transportation in the polar regions. The Polar Code specifically allows only certain types of vessels to enter into the polar region. Therefore, companies either strengthen the capacity of their vessels or order new ones in line with the Code's requirements. Similarly, in 2018, Arctic Coastal States together with China, the European Union (EU), Iceland, Japan, and South Korea signed an Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (CAOF or CAOFA) in Ilulissat, Greenland. Additionally, we know that with the leadership of the Arctic Council, there are several regional agreements signed for the environmental protection and safety of the Arctic Ocean, such as the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, signed in 2013; and the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, signed in 2011. These recent legal developments create an environment for companies to confidently invest in the Arctic region.

The second issue is about the type of vessel orders. Orders are being made mostly for fishing vessels, not for the containerships, bulk carriers or offshore installations which would be described as mobile and fixed structures including facilities which are intended for exploration, drilling, production, processing, and storage of hydrocarbons. The reason for receiving more fishing vessel orders is that despite recent developments, legal uncertainty is still quite high in the Arctic. First of all, the legal regime for the Arctic, except for the Polar Code, is made up of "soft law" that has no means of

enforcement. There is no possibility that private sector actors, such as oil companies and shipbuilders will follow or consider soft law norms. Even though most of the hydrocarbon reserves is found in the Exclusive Economic Zones (EEZ) of the Arctic Coastal states, border disputes, unresolved overlapping continental shelf claims, and political tensions between States prevent private companies to invest this region. For example, the Canada-US border dispute in the Beaufort Sea is the main reason for oil companies not to invest in there. The problem is not only the border disputes. There are also other legal issues that most of us are unaware of. For example, we don't have an international or regional legal liability regime to deal with the transboundary oil pollution from offshore installations in the Arctic Ocean. Simply put, if there is oil pollution caused by offshore installations due to problems, such as a wellhead blow out (similar to the BP oil spill in the Gulf of Mexico), fire, and hit by storm, we don't know how to deal with the compensation and damages issues related to this oil pollution. Some Arctic States such as the US and Norway have fairly strong domestic legal regimes to deal with the problem, but there is an apparent lack in international law in this aspect. Additionally, in terms of maritime economics, harsh weather, a 4 to 5 months operational window, draft restrictions, long project lead times, lack of infrastructure, lack of maps, drop in oil prices, and volatility in global trade in general have affected investment decisions. As a result of this legal and economic uncertainty, investors are reluctant to invest in marine transportation and hydrocarbon development projects and place orders for containerships, bulk carriers, offshore installations, and support vessels for the Arctic region. In other words, commercial fishing is a relatively risk-free business model in the Arctic and investments in new fishing vessels are the proof of this fact.

The third issue that I want to raise is about the responsible investment. Responsible investment implies that investors value more than mere financial returns as they are not only investors but also customers, workers and citizens, and in those other roles they might be hurt by social and environmental harm caused by their investments. This concept essentially means passing on to future generations undiminished environmental/natural capital, such as clean water, predictable climate, an intact ozone layer, productive soils and ample biodiversity. Industry leaders and global companies in the maritime sector, such as Lloyds of London and BP, can exert influence on other industry players that are involved in Arctic operations. This would be, for example, to dissuade a company from initiating a project that is environmentally harmful, to make modest adjustments to its operations or even to encourage a business to take positive measures to improve its sustainability performance. Accordingly, smaller companies can also make responsible investments. For example, fishing vessels are not included in the Polar Code, therefore, commercial fishing vessels are not required to obtain a Polar Water Operational Manual to approve vessel's operational capabilities and limitations, or Polar Water Certification to ensure the quality of the crew in the Arctic. However, I think commercial fishing companies should take responsible investment concept into account when increasing their fleets and operating their vessels. They can simply order fishing vessels that are compatible with the Polar Code requirements and hire experienced and certified crew members because vessels have approximately 30 years of life-span and the expectation is that the Polar Code will soon, through amendments, include commercial fishing vessels anyway. Additionally, heavy fuel oil, complete stoppage of sewage, and minimization or even complete prevention of introduction of alien species are some of the other areas that can be taken into account.

Shipbuilding and repair companies also have responsibilities. Shipyards in general generate large quantities of wastes. For example, steel and other metals, paints, solvents, and grinding and sandblast

residues are strongly related to the raw materials used by the shipbuilding and repairing industry. A large variety of chemicals for the preparation and finishing of surfaces are in use, such as de-greasing solvents, acid and alkaline cleaning agents, and metal covering solutions. Thus, managing this pollution is very important for marine environmental protection. Additionally, low freight rates and declining new building prices have a detrimental effect on maritime safety and the protection of the marine environment. Therefore, a more transparent, uniform, efficient and independent system of technical surveys of vessels has to be promoted. A quality assessment scheme for shipyards at a world-wide level should be developed, covering newbuilding and repair. Maintaining and strengthening shipbuilding and repair capabilities is important to ensure a high level of transport safety and environmental protection. And in order to cope with all these problems and meet the future demands coming from niche markets, such as the Arctic, shipbuilding and repair companies have to invest in research, development and innovation efforts.

Lastly, shipbuilding is of strategic importance in many respects. It develops advanced technologies that offer considerable spin-offs to other sectors and it provides essential means of transport for international trade. Therefore, I think a larger research regarding shipbuilding and repair industry and Arctic operational safety and environmental protection can be done to get a clearer global view. I did not get into the topic of eco-tourism in this paper, however, eco-tourism is also on the rise in the Arctic Ocean. Additionally, there remains a few critical questions for the future research. For example, what are the advanced technologies and innovations shipbuilding companies can offer today and what are the possible future coopetations they might establish with startup companies to solve some of the well-known safety and environmental problems, such as oil spills in the Arctic Ocean (and all the other oceans in general).