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The Arctic is changing very fast, with the rapid melting of the ice come new business opportunities, but at the same time environmental and societal challenges. The Arctic is home to 4.5 million people that are affected by the consequences of climate change and more recently COVID-19 pandemic. This article focuses on Arctic development in light of climate change and COVID-19 impact.

ARCTIC DEVELOPMENT IN LIGHT OF CLIMATE CHANGE AND THE COVID-19 IMPACT

Introduction

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The Arctic has multiple definitions but often it is referred to as land and sea areas of eight Arctic states Russia, Canada, Iceland, Norway, Sweden, Finland, Denmark (via Greenland), and the USA. Additionally, the Arctic includes the territory of the High Arctic Seas, that is, international waters of the Arctic Ocean at least 200 nautical miles away from the shores of the Arctic coastal states (see the Map).



Source: Central Intelligence Agency (CIA)

Climate change affects the Arctic region disproportionately, the Arctic is warming twice as fast as the rest of the world. The Arctic Ocean has lost more than 40% of its summer ice since the 1980s and is expected to be ice-free as early as in summers of the 2030s. The Arctic is rich in natural resources, such as oil and gas, minerals, and bioresources. However, exploration of the Arctic resources requires substantial investments in infrastructure including roads, airports, social and urban infrastructure. In many cases, such infrastructure is currently non-existent. Guggenheim Partners estimated that infrastructure requirements alone are expected to reach US\$1 trillion over the next 15 years¹. The Russian gross regional product (GRP) amounts to 70 percent of the total Arctic economy and the population share of the Arctic is similarly high². Russia is actively developing oil and liquefied natural gas (LNG) projects in the Arctic. Russia had 8% of the global LNG market in 2018 and expects to reach 20% by 2035³. The Arctic LNG-2 project in the Yamal Peninsula in Russia received a final investment decision (FID) of \$21 billion in 2019.

Climate change and Arctic projects:

- 1) Melting permafrost: Permafrost is any ground that remains completely frozen for at least two consecutive years and is prevalent in the Northern Hemisphere occurring between latitudes of 60°N and 68°N. As a result of climate change permafrost is thawing, releasing carbon dioxide and methane contained within. Thawing permafrost leads to the collapse of infrastructure. In Russia alone thawing permafrost affecting buildings, pipelines, and other infrastructure is estimated to result in the economic loss of \$2.3 billion⁴. Hence, investment in the Arctic should factor additional costs needed for permafrost stable constructions or remediation costs. Melting permafrost can potentially release ancient

pathogens and viruses, something that already happened in 2016 in the Siberian Yamal Peninsula where Anthrax bacteria released from melting permafrost killed more than 2,000 reindeer and led to the hospitalization of 90 residents and death of one child⁵.

- 2) Financing of fossil-fuels projects: The Development of Arctic projects could be under threat if major financial institutions refuse to provide financing for fossil fuel projects. For instance, the European Investment Bank declared that it will stop financing fossil fuel energy projects from the end of 2021⁶. The largest asset management company Blackrock announced in January 2020 that it would exit investments with high environmental risks, including thermal coal⁷. Moreover, some of the biggest banks such as Morgan Stanley, Goldman Sachs, JP Morgan Chase, Wells Fargo, and Citigroup announced that they will not support new financing for Arctic energy projects⁸. These factors, combined with investors' expectations for meaningful Task Force on Climate-Related Disclosures reporting, as well as lawsuits against Arctic oil drilling by NGOs, are likely to create challenges for raising funding for Arctic oil and gas projects.

COVID-19 impact on the Arctic

Arctic regions are in general sparsely populated with the density of population often below 5 citizens per 1 km². Hence the Arctic regions can have an advantageous position in terms of the spread of the virus. On 6 May there were 9,139 confirmed coronavirus infections in all eight Arctic states combined and 106 confirmed deaths, of which 48% in the North of Sweden and 29% in the Russian Arctic regions⁹.

- 1) Arctic projects: Big projects in the Arctic rely on a workforce that is often employed on a flight-in flight-out basis. While the density of population is low in the Arctic, in the Arctic projects people are engaged in close-proximity physical work. For instance, in Belokamenka, a small village 25 km away from Murmansk, Novatek is building a plant for the construction of gravity-based structures designed for its future Arctic LNG-2 project with more than 10,000 flight-in flight-out workers. As of 4 May 2020, there were 1,680 workers diagnosed with COVID-19. Other oil and gas projects affected by the COVID-19 outbreak include; the Bovanenkovo gas field, the Priobskoe oil field, the Medvezhye gas field, and the Ety-Purovskoe oil field¹⁰, whereby challenges in maintaining production at expected levels are being experienced. Remoteness from the urban centers with medical support further exacerbates the problem.

- 2) Broadband and submarine cables investments: As countries introduce restrictions and lockdown measures, work and teaching are being transferred online. This requires stable and high-speed broadband. The Arctic regions especially in Russia experience disparities in broadband accessibility and speed¹¹. Pandemic is likely to initiate discussions on investments for better provision of broadband in the Arctic. The Arctic does not have a backbone optical cable connecting it to the rest of the world. The efforts to bring a submarine telecommunications cable across the Arctic Sea have been led by the Finnish company Cinia. The pandemic can reinforce the significance of such a cable connecting Europe, coastal regions of northern Russia, Japan and North America.

While being geographically remote the Arctic is integrated into the world economy and is essential for future economic development and research. Climate change, pandemic risks and the current oil price collapse could all impact the future of Arctic development and should be carefully addressed by the Arctic stakeholders.

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