

BRATISLAVA MODEL UNITED NATIONS 2013



UN Environment Programme

Arctic Environmental Protection

Study Guide

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Letter from the Chair

Honorable Delegates,

It is my greatest pleasure to welcome you to this year's BratMUN Conference, especially to the United Nations Environment Programme, which I have the joy to chair.

It is going to be my second year as a BratMUN attendee. If you thought it means the requirements will be lessened, you would be mistaken. I want to hear a great and fruitful discussion, which best prerequisite is preparation! Unless you are already a professional in the subject of our topic, you are not going to meet my expectations without thorough study of the topic. Therefore I want you to go through the study guide carefully and visit all the links provided. I promise it will not kill you, but it will give you enough information to release your beastly characters during our discussion.

Personally, I like to have fun, and I encourage you to enjoy our meetings, though when the situation requires serious behaviour, I do not like to make exceptions. That is what I expect of you, dear delegates, as well. Enjoy discussion, but take it seriously. As a normal student, and not a chairman, I like to dedicate my time to board games, sports and friends.

Furthermore, I am very fond of meeting new people so I am really looking forward to our rendezvous even outside the committee.

I hope I have not startled you much. I believe that the more ambitious of you have just been motivated to come and show me that you are by no means little chicks, and that my threats mean nothing to you. I will try my best writing this study guide, so please, return the favour by trying your best in preparation for our meeting.

If you have any questions regarding the background guide or the committee, please do not hesitate to contact me on jakub.schrimpel@gmail.com

Everything has been said, so enjoy the reading. I wish you good luck!

(Remember, do not forget to study!)

Jakub Schrimpel

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Introduction

The Arctic is experiencing a profound transformation that will have important impacts on the region and the world as a whole. Driven largely by interacting forces of climate change and increased human activities, the Arctic region is changing rapidly. Warming in the Arctic has increased at twice the global average since 1980. As the region warms, melting sea ice will allow greater human access to the region with the potential for increased maritime transport, greater exploitation of natural resources such as oil and gas, minerals, fisheries, and increased tourism. While this may provide some new economic opportunities for the region, it also presents significant challenges to a once remote area. How will the Arctic look like in the face of the future? Can we risk the possible perils? To what extent can we use it and to what extent should we protect it?

Defining the Arctic

The Arctic is generally defined as the region within the Arctic Circle, the line of latitude that runs 66 degrees, 33' 44" (or 66.5622 degrees) north of the Equator. Geographically, the Arctic Circle includes the Arctic Ocean and land areas in parts of Canada, Finland, Greenland (as a part of Denmark), Iceland, Norway, Russia, Sweden and the United States (Alaska).

Only five countries: Russia, Norway, the United States, Canada and Denmark (through its jurisdiction over Greenland) have a right to territorial claims in the Arctic Ocean pursuant to the UN Convention on the Law of the Sea (UNCLOS). Much of the area in the Arctic Ocean has been claimed as territorial seas. Under UNCLOS the territorial seas of nations extend 12 nautical miles from shore and are considered to be sovereign territory of the controlling nation. The exclusive economic zone (EEZ) extends from the country's baseline up to 200 nm and gives nations control of natural resources, primarily fisheries and seabed resources, such as oil and gas.

Subject to UNCLOS, ships of all States, whether coastal or landlocked, enjoy the right of innocent passage through the territorial sea and freedom of navigation through the EEZ. Beyond national EEZs are the "high seas," for which all states have a right to navigate, overfly, fish and undertake other activities specified in UNCLOS, subject to additional restrictions in treaties to which such States are party, such as fisheries agreements.

Exploitation of Natural Resources

Major longstanding developments include oil drilling on the North Slope of Alaska, natural gas or methane extraction on Russia's Yamal peninsula, and mining of metals around Norilsk, Russia, the world's largest source of nickel and palladium. But as ice and snow recede, making access and transport easier, the Arctic is expected to play a greatly expanded role in world energy and minerals supplies.

The United States Geological Survey estimates that 30 per cent of the world's undiscovered natural gas is in the Arctic, mostly on the continental shelves beneath the Arctic Ocean. More than 70 per cent of the undiscovered oil resources are estimated to occur in northern Alaska, the Amerasian Basin, the eastern side of Greenland, the eastern Barents Sea region, and the Davis Strait of Greenland and Canada. An estimated 84 per cent of the undiscovered oil and gas in the Arctic occurs offshore. The largest gas resources are likely to be off the coast of western Siberia in the Kara Sea region.

One insurance company expects up to US\$100 billion in Arctic investment in the coming decade, largely in the minerals sector. Exploration and mining are already accelerating, triggering construction of roads, ports and new settlements. In 2012 Shell constructed a new oil rig offshore of Alaska's Arctic National Wildlife Refuge and the Canadian government gave the green light for a giant iron-ore mine at the Mary River, which will be linked to a port on Baffin Island by the world's most northerly railway. Another target for early economic development will be the southwest coast of Greenland, which may have the world's largest deposits of rare earths.

While foreign companies are keen to exploit Arctic reserves, indigenous and local communities hope that some of the profits will benefit their development and employment opportunities. In 2012 the Inuit-owned Nunavut Resources Corporation began raising money on Wall Street to prospect for gold and other minerals in the Kitikmeot region. Public funding is often essential to such enterprises. Russia reportedly spent US\$19.3 billion subsidizing its oil and gas industries in 2010. Even so, not all schemes are realized. In August 2012 Statoil decided to pull out of the US\$15 billion Shtokman gas project in the Barents Sea due to rising costs and falling global gas prices. The start of this project in one of the world's largest gas fields is now delayed until at least 2017.

First, even if nothing goes wrong, there would be unavoidable impacts from each phase of oil development in Arctic Ocean – seismic exploration, exploratory drilling, production platforms, pipelines, offshore and onshore terminals, and tankers.

Offshore oil development will include airplanes, helicopters, support ships, drill ships, platforms, artificial islands, icebreakers, waste streams from ships and rigs, lights and noise, extensive coastal infrastructure construction (ports, roads, causeways, staging areas), subsea pipelines, geotechnical coring, and noise from underwater seismic surveys. These industrial activities will add significant disturbance in an Arctic ecosystems already endangered by warming.

The acoustic disturbance to marine mammals from offshore oil development is of particular concern, as underwater noise can affect communication, migration, feeding, mating, and other important functions in whales, seals, and walrus. As well, noise can affect bird and fish migration, feeding and reproduction, and can displace populations from essential habitat areas. Some of these impacts can be reduced or mitigated with lease stipulations, but most cannot.

And of course, beyond these unavoidable operational impacts, there is the very real risk of a large oil spill from exploration drilling, production, pipelines, terminals, and tankers. In fact, for development off Alaska's Arctic coast, U.S. government authorities project the risk of a major spill at about 30 - 50 per cent, and that a worst-case blowout could release some 1.3 million barrels (58 million gallons) of oil.

So if drilling proceeds in the Arctic Ocean, then everything possible to reduce risk should be required. This highest safety standard would include best available and safest technology for all components of an offshore drilling program - blowout preventers with redundant shear rams, well design and integrity verification, proven seabed well capping equipment, independent well control experts on rigs, rigorous cementing and pressure testing procedures, dual well control barriers, immediate relief well capability on stand-by, state-of-the-art seabed pipeline design and monitoring, tanker traffic monitoring, strict seasonal drilling windows allowing sufficient time for response to late-season spills, robust spill response plans, rigorous government permitting and inspection, and Citizens Advisory Councils to provide effective citizen oversight. As well, financial liability for offshore oil spills in the Arctic should be unlimited, thereby motivating companies to incorporate the highest safety standards possible.

Maritime Transport and Shipping

Receding sea ice is opening the Northern Sea Route and Northwest Passage for shipping. In 2011 the Northern Sea Route was open for five months. More than 30 ships passed through, including Russian gas tankers and Nordic iron ore carriers. In September 2012 the icebreaker *Xue Long*, or *Snow Dragon*, became the first Chinese vessel to complete the route. The Northern Sea Route is a substantially shorter passage (35-60 per cent savings in distance) for shipping between northern European ports and those of the Far East and Alaska than routes through the Suez or Panama Canals. The implications for global trade could be considerable, as some 17 000 ships per year pass currently through the Suez Canal. In 2011 the then Prime Minister of Russia, Vladimir Putin, announced that Russia intends to turn the Northern Sea Route into a shipping highway “of global importance” with a 40-fold increase in shipping by 2020. In June 2012 a new Russian federal law regulating commercial shipping in the Northern Sea Route was signed. There will be a new hydrographic survey to improve seabed mapping, and ten search and rescue centers along the Arctic coast. Another major development will be the opening of a route away from the coast through deeper waters north of the New Siberian Islands.

The Northwest Passage through the Canadian Arctic was open in 2011, but partially blocked by ice throughout 2012. It, too, may soon be sufficiently free of ice to allow ships to pass during part of the year. Meanwhile, the Arctic is set to become a growing tourist destination, particularly for cruise ships. More shipping will, however, increase the likelihood of accidents and of environmental damage.

In case of a major spill, it will travel with currents, in and under sea ice during ice season, making it very hard to contain or recover. Even with robust oil spill response capability, a major spill could easily become a transnational event.

A large spill would undoubtedly cause extensive acute mortality in plankton, fish, birds, and marine mammals. As well, there would be significant chronic, sub-lethal injury to organisms - physiological damage, altered feeding behavior and reproduction, genetic injury, etc. - that would reduce the overall viability of populations.

There could be a permanent reduction in certain populations, and for threatened or endangered species, a major spill could tip them into extinction. Seabirds and polar bear and seal pups are particularly sensitive to oil and can quickly die of hypothermia if it gets into their feathers or fur. Whales, as well as walruses and seals, can have a harder time communicating, foraging and avoiding prey in noisy waters.

The lengthening of the shipping season will put migrating animals into more frequent contact with ships. Bowhead and beluga whales share a narrow corridor with ships in the Bering Strait between Alaska and Russia and could be disturbed.

There is also greater risk of introducing invasive species through ballast water, cargo, or on ships’ hulls. “Introduction of rodent species to islands harboring nesting seabirds, as evidenced in the Aleutian Islands, can be devastating,” the report states. Shipping between the

North Pacific and the North Atlantic is of particular concern, because it could transport species between areas with similar environmental conditions.

Last but not least, with low temperatures and slow degradation rates, if not cleaned up properly, oil spilled in the Arctic could persist for decades. And a major oil spill in the Arctic Ocean could severely damage subsistence harvest opportunities, and forever change the lives of coastal peoples.

Fishing

The Arctic is already the base for large commercial fisheries, including salmon and walleye pollock in the Bering Sea and cod and haddock in the Barents Sea. Future decades may see a boom thanks to warmer waters nurturing growing stocks, as well as more open ocean in which to catch fish. One modeling study projects that, by 2055, fish catches at high latitudes, including in the Arctic, could increase by 30-70 per cent, while those in the tropics decrease by 40 per cent. A widely predicted northward shift in subarctic fish species, including Atlantic and Pacific cod, is now being detected. Six species have recently extended their ranges through the Bering Strait into the Beaufort Sea. The number of voyages by fishing vessels in the Canadian Arctic increased seven-fold between 2005 and 2010. Not all the effects will be beneficial for fishing. In the Bering Sea longer warm periods with less ice cover are expected to reduce walleye pollock stocks, while higher sea temperatures may increase winter mortality of juvenile sockeye salmon.

Meanwhile, these movements can create international tensions. The northward migration of North Atlantic mackerel has caused disputes between Iceland and other countries. The movement of fish stocks can also be bad news for local fisheries. The village of Narsaq in southern Greenland once prospered due to catching and processing of local shrimps. But as local waters warmed, the shrimps headed north, the fleet of eight vessels was reduced to one, the shrimp factory closed, and the village's population was halved.

Some northern communities, dependent on subsistence fisheries, could be crowded out by the arrival of commercial vessels. The currently fragmented fisheries management in the Arctic is not up to the task of either managing such issues or protecting stocks. As ecosystems change and economic opportunities are pursued, there is an urgent need to reassess fisheries management in the Arctic.

Management of fisheries and ecosystems

The management of Arctic fisheries is currently based on a patchwork of regional conventions, agreements and regimes. This is unsatisfactory now that melting ice is allowing passage, particularly as there is considerable uncertainty about how fish will respond to the ecosystem changes under way. The United States has reacted to this uncertainty by placing a moratorium on all fishing in its Arctic Ocean waters until research is completed. The Canadian government and the Inuvialuit, the Inuit of the Canadian Western Arctic, signed a formal agreement in 2011 to freeze expansion of fishing in the Canadian Beaufort Sea. As ecosystems change, current approaches to the management of wildlife and conservation of

habitats within countries will no longer be adequate. The risks to ecosystems are great because many changes may be sudden and unforeseen.

Bringing together science and the traditional knowledge of indigenous and local communities to better monitor and understand ecosystem changes is vital. At the same time, monitoring and understanding are of little use without the ability to respond. Marine spatial planning is emerging as an important ecosystem management tool. As many species migrate to the Arctic from other parts of the world, there may also need to be changes in the management of such species outside of the Arctic.

The importance of addressing multiple stressors to the marine environment in an integrated way has long been recognized. A successful example is the Barents Sea Management Plan, which provides a framework for managing the oil and gas industry, fishing and shipping. The plan requires strict regulation of activities in ecologically valuable areas. To reduce conflict between fisheries and shipping, Norway has applied to move shipping lanes outside Norwegian territorial waters. Some areas may be restricted or closed to oil and gas exploration and exploitation in order to avoid future conflict. There are also plans to extend marine protected areas and seasonally close areas to protect fish reproduction.

Points to Think About

1. What is the stance of your country to the economic development of Arctic?
2. Should be Arctic declared as “global sanctuary”?
3. Should natural resources exploitation, shipping and fishing be prohibited?
4. What restrictions need to be ensured and what policies implemented to protect the Arctic environment?

Closing Remarks

The transformations occurring in the Arctic require the people who live there to find ways to adapt to inevitable climate change. However, as in other parts of the world, the contribution of local and traditional knowledge is essential. Those living and working in the Arctic know the region's environment best, and so are eminently placed to observe changes and respond accordingly.

It is also vital that no steps are taken to "exploit" the new environmental state of the Arctic without first assessing how exploitation would, intentionally or unintentionally, affect ecosystems, the peoples of the North and the rest of the world. In view of the potential for major environmental damage, a precautionary approach to economic development needs to be carefully considered. Such an approach requires measures such as development moratoriums until full assessments have established risks to the environment and human systems, and until adequate management frameworks have been put in place. The moratoriums imposed by Canada and the United States on expansion of commercial fishing in the Beaufort Sea, pending assessment of sustainability and ecological and economic costs and benefits, could serve as models.

The challenges posed by climate change and, in turn, by social and economic development in the Arctic require a long-term vision and innovative policy responses. There is a need to assess options in areas such as maritime trade and shipping, tourism, commercial fisheries, and oil, gas and minerals development. Such assessments should explicitly include indigenous peoples and other stakeholders of the Arctic, as well as non-Arctic countries. Arctic climate change will have major and irreversible impacts on the livelihoods and well-being of indigenous peoples and other Arctic communities.

Further Research and Useful Links

Loads of environmental info

<http://www.grida.no/graphicslib/regions>

Arctic Future Symposium in Brussels

http://www.polarfoundation.org/projects/detail/arctic_futures_symposium

Article by the Ba Ki-Moon, Secretary General of UN, calling for action

<http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=596&ArticleID=6316&l=en>

“Protecting Arctic Biodiversity by UNEP”

http://www.unep.org/pdf/arcticMEAreport_screen.pdf

Alarming Greenpeace report

<http://www.greenpeace.org/international/Global/international/planet-2/report/2009/7/polar-oceans-in-peril.pdf>

Risks and potential impacts of oil exploration by Greenpeace

<http://www.greenpeace.org/international/Global/international/publications/climate/2010/ArcticBriefingFINAL.pdf>

Useful statistics and policies

<http://www.oecd.org/greengrowth/>

On arctic marine transport

http://www.arctic.gov/publications/arctic_marine_transport.pdf

Bibliography

Box, Jasson: The Dangers of Arctic Oil, viewed 1 October 2013

www.greenpeace.org/international/en/campaigns/climate-change/arctic-impacts/The-dangers-of-Arctic-oil/

Milkowski, Stefan: The Environmental Risks of Arctic Shipping, viewed 1 October 2013

http://green.blogs.nytimes.com/2009/06/29/the-environmental-risks-of-arctic-shipping-ready-for-tom-to-publish-mon/?_r=1

Steiner, Rick: Why Arctic Ocean oil drilling is a risky choice, viewed 1 October 2013

http://www.theecologist.org/blogs_and_comments/commentators/other_comments/1096998/why_arctic_ocean_oil_drilling_is_a_risky_choice.html

United Nations, UNEP, What Future for the Arctic? , viewed 1 October 2013

<http://www.unep.org/gc/gc27/Docs/se/What%20Future%20for%20the%20Arctic.pdf>