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SCIENCE AND TECHNOLOGY  
COMMITTEE

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THE HIGH NORTH:  
EMERGING CHALLENGES AND  
OPPORTUNITIES

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REPORT

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## I. INTRODUCTION

1. The Arctic region is rapidly warming due to global climate change (see figure 1 for a geographic overview of the region)<sup>1</sup>. As temperatures increase and ice and snow melt, the Arctic has received increased political attention as a potentially strategic region. This is largely a result of the opportunities and challenges presenting themselves.

2. New opportunities and challenges arise for the Arctic states as well as the international community as a whole. Arctic oil and gas projects could alter the global energy market. New maritime sea routes connecting the Atlantic and the Pacific could change and even increase global trade. Increased economic investment in the region, for example in the tourist and fishing industries, could lead to significant development of Arctic communities. However, all of these opportunities harbour challenges, including dangers to the environment, a lack of search and rescue (SAR) capabilities to cope with increased human activity, and threats to traditional ways of life. Moreover, the unlocking of the region's enormous economic potential could also have significant geopolitical implications. The Arctic enjoys good regional co-operation, but differences in policies, maritime delimitation, and international politics unrelated to the High North<sup>2</sup> could lead to competition and perhaps even confrontation over time.

3. Even though five Allies are Arctic states, NATO as an organisation does not have a specific Arctic policy, as Allies differ on the degree to which the Arctic should feature on their common agenda. However, as a forum looking at the whole range of transatlantic issues, the NATO Parliamentary Assembly needs to address how a changing Arctic affects the Euro-Atlantic area. Indeed, the High North has a central place on the Assembly's agenda. Between 2010 and 2015, the Assembly held 15 activities in Arctic countries and wrote four reports on the region.<sup>3</sup> This report of the Science and Technology Committee's Sub-Committee on Energy and Environmental Security is a result of a number of committee visits to the Arctic over the last years. It looks at the state, prospects, and impact of climate change in the Arctic; emerging opportunities and challenges in the High North; as well as a general overview of Arctic relations.

## II. CLIMATE CHANGE IN THE ARCTIC

4. Climate change is raising the average temperature of the entire planet, but the Arctic region is warming more than any other region on Earth – at twice the global average since 1980. Inter alia, Arctic warming is causing tremendous loss of sea ice, snow cover, and permafrost, triggering significant consequences at the global level. Regional impacts include increasing storm and shore erosion hazards; changes in the diversity, range, and distribution of animal species; as well as shifts of vegetation zones.

5. The extent of Arctic sea ice melting has surprised scientists. During the first half of the 20<sup>th</sup> century, sea ice cover was steady and reliable. Over the past 30 years however, Arctic sea ice has lost half its area and three quarters of its volume. The year 2012 was a particular low point: the Arctic Ocean was covered with 45% less ice than the 1979-2000 average; its volume was less than 30% of the 1979-2010 mean; and multi-year ice (the kind of ice that is virtually impassable for ships) experienced a 75% loss in volume compared to the average.

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<sup>1</sup> For a NATO PA overview of climate change, see the 2015 STC Special Report [Climate Change, International Security and the Way to Paris 2015 \[178 STC 15 E\]](#)

<sup>2</sup> The terms "High North" and "Arctic" are used synonymously in this report.

<sup>3</sup> For reports on our activities, see our [Mission reports webpage](#). You may find any Committee report in the [Document section](#) of our website : <http://www.nato-pa.int> .

6. The 2014 International Panel on Climate Change’s (IPCC) climate scenario of very high greenhouse gas emissions projects (at medium confidence levels) that a nearly ice-free Arctic Ocean during the summer is likely in the mid-century. It could not, with confidence, make projections for its other (lower-emission) scenarios. However, some recent research suggests that ice-free summers could already occur between 2020 and 2035. The ice could theoretically grow back, but at this point, it is less and less likely that Arctic sea ice will approach past coverage.

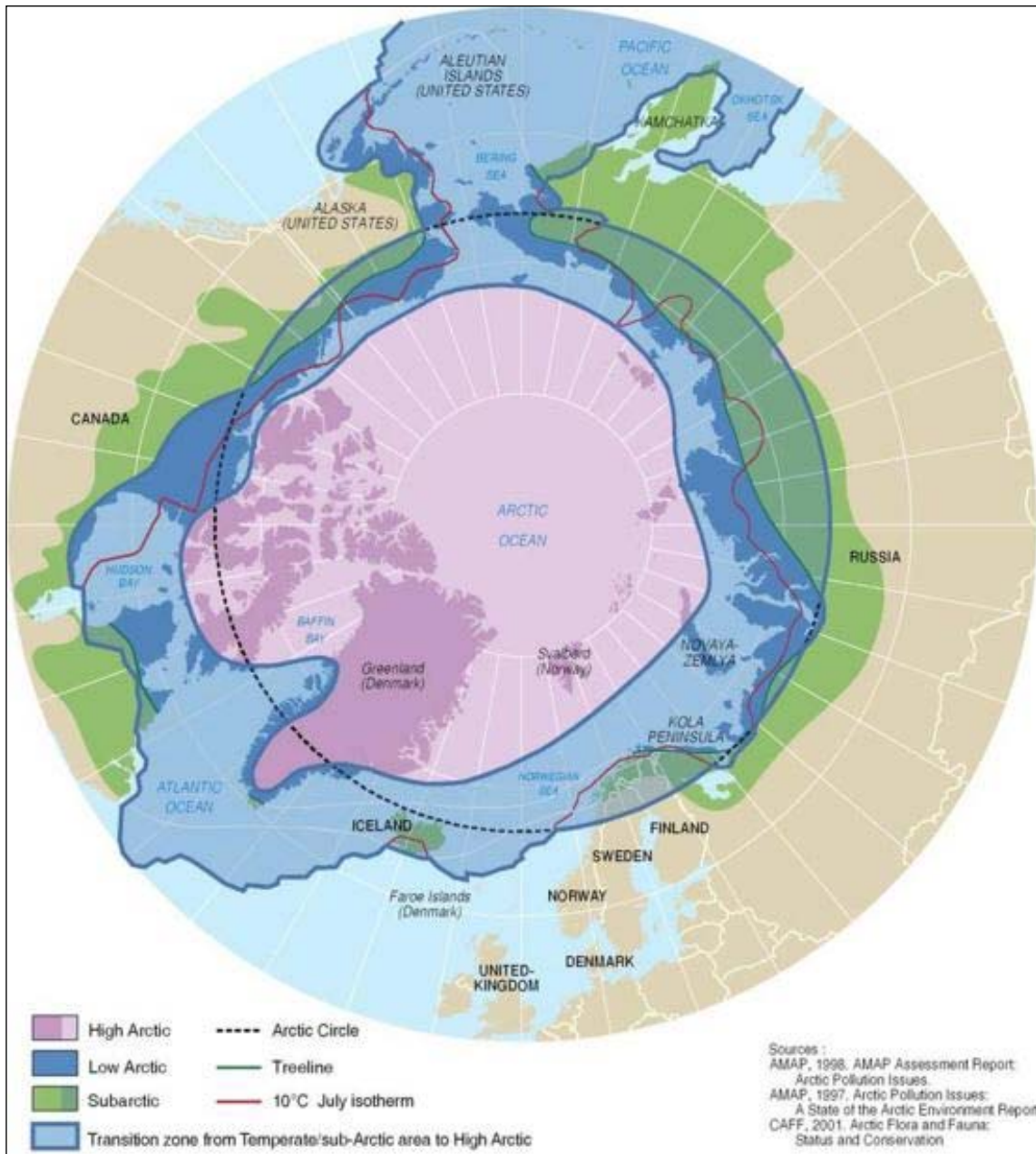


Figure 1: Arctic Geography Overview <sup>4</sup>

7. Eighty-one percent of Greenland is covered by ice, making it the world’s second largest glacier after Antarctica. The rate at which Greenland unloads ice and water into the ocean is high, and estimates are rising. Over the past five years, the annual loss of ice has doubled, albeit with significant year-on-year variations. In 2012, Greenland recorded its hottest summer in 170 years: its ice sheet experienced more than four times as much surface melting as the average over the

<sup>4</sup> Author: Philippe Rekacewicz, UNEP/GRID-Arendal : [http://www.grida.no/graphicslib/detail/definitions-of-the-arctic\\_12ba](http://www.grida.no/graphicslib/detail/definitions-of-the-arctic_12ba)

previous three decades, with 97% of its ice cap subjected to surface melting. Studies show that such large melting normally takes place every 150 years. However, over the last few years, they have taken place almost annually. Recent studies evoke further concern over Greenland ice sheet. Scientists may have underestimated the erratic behaviour of the ice. Indeed, it is increasingly likely that the melting of Greenland's ice will follow a non-linear, less predictable path, rather than slow, even melting.

8. Arctic melting and warming could have far-reaching global consequences. The IPCC expects global sea levels to rise between 26 and 82 cm by the end of the century. The loss of Arctic ice contributes to changing the global water and atmospheric circulation, which in turn could affect the Atlantic Ocean Gulf Stream's movement and global weather patterns.

9. The release of chemicals and greenhouse gases stored in Arctic permafrost could be equally disastrous. An estimated 1,700 gigatonnes (Gt) of carbon, twice the amount currently in the Earth's atmosphere, are trapped in permafrost. A global temperature increase of 3°C would lead to a 6°C increase in the Arctic, which would result in a 30 to 85% loss of near-surface permafrost. As the permafrost thaws, CO<sub>2</sub> and methane gas are released into the atmosphere, further accelerating global warming. Estimates indicate that thawing permafrost could emit 43 to 135 Gt of CO<sub>2</sub>-equivalent by 2100 and 246 to 415 Gt by 2200. Although uncertainties are significant, emissions from thawing permafrost could start within the next few decades and continue for several centuries. Since the organic material trapped within was buried and frozen several thousand years ago, its release would be irreversible on human time scales.

10. The Arctic and Antarctic are often called the refrigerators of the world, as they give off more heat to space than they absorb, due to the high albedo (reflectivity) factor of the ice cover. As the ice melts, darker water and land is revealed. Darker spots on the Earth's surface have a lower albedo factor, thus absorbing more sun energy and amplifying global warming. In addition to greenhouse gas emissions, warming in the Arctic is influenced by so-called short-term pollutants, such as black carbon (a major component of soot). Black carbon is the second largest human contributor to climate change, with about two-thirds of the climate impact of CO<sub>2</sub>. The effect of black carbon is even more powerful in certain regions, including the Arctic, because deposition on snow and ice reduces the surface's albedo factor.

11. Scientists are also increasingly concerned about so-called tipping points, i.e. critical moments in time when a small change has large and possibly irreversible impacts that tip Earth's climate into a new state. Arctic tipping points include an ice-free Arctic summer, irreversible melting of the Greenland ice sheet, the melting of permafrost in the Alaskan tundra, the acidification of the oceans, and shifts in the Atlantic Ocean's circulation.

12. Climate change has already resulted in discernible changes in marine Arctic ecosystems. Less ice in the Arctic has a severe impact on the survival of some animals and plant life. For example, polar bears, certain seal species, seabirds, walrus, and certain algae are all dependent on sea ice. However, other animal and plant species thrive under Arctic warming. Marine fisheries are highly sensitive to water temperatures, particularly larger temperature variations. Whereas some fish stocks thrive with increased temperatures, others will see displacements or declines in stock. Changes in animal populations may also negatively affect local and indigenous peoples. For example, Inuit hunting and food sharing culture risks being disrupted or even ruined.

13. The impact of climate change on forestry is also of importance. There will be a longer growing season and increased forest growth. While forests are "carbon sinks", i.e. they absorb more CO<sub>2</sub> than they emit, new Arctic forests will likely be of reduced quality. A changing Arctic climate furthermore leads to more precipitation which could carry pollution from other regions.

### **III. NEW OPPORTUNITIES, NEW CHALLENGES**

14. Climate change will not only have profound effects for the Arctic ecosystem, it will also lead to opportunities and challenges for human activity in the region. Arctic warming will most likely:

- alter the ecological balance with significant implications for Northern communities;
- enhance the accessibility of abundant energy and mineral resources;
- open valuable maritime shipping routes;
- change fish stocks and fishing patterns;
- increase environmental risks; and
- strain SAR capacities.

15. These developments are likely to prompt significant investment in the Arctic states, in particular their northernmost regions. The region is, in general, conducive to economic development. With the exception of Russia, all of the Arctic states have healthy fiscal balance sheets, good business environments, and democratic values conducive to peaceful relations. Moreover, Arctic relations are generally characterised by good co-operation, as states turn to international law and negotiations rather than confrontation to settle disputes. However, future developments may lead to competition and the risk of confrontation if the Arctic states and others operating in the region cannot agree on how to manage the opportunities and challenges as well as their partially conflicting interests and territorial and maritime claims (see Chapter IV).

#### **A. ENERGY RESOURCES**

16. The High North is considered an economically promising region. Rich in gold, zinc, iron, copper, and precious gemstones, its economic attraction is largely due to massive oil and gas deposits. The Arctic contains an estimated 13% of the world's undiscovered conventional oil resources; 30% of its undiscovered conventional natural gas resources; and 20% of its undiscovered natural gas liquids according to the US Geological Survey (see figure 2 for map of Arctic oil and gas basins).

17. Global warming and progress in offshore technology make Arctic oil and gas extraction increasingly possible and attractive. Most potential fields are located offshore in a depth of less than 500m of water. More than 400 on- and offshore oil and gas fields already exist in the Arctic, producing 40 billion barrels of oil, 1,136 trillion cubic feet natural gas, and 8 billion barrels of natural gas liquids. Companies are currently targeting oil rather than gas, because of the relative ease of transport. While costs will go down as fields are developed over time, Arctic energy resource development remains a high-cost and high-risk business because of a number of factors, including:

- high cost of rig construction (up to USD 5-8 billion for the most expensive operations);
- harsh weather conditions;
- poor soil conditions necessitating additional site preparations;
- obstacles and danger presented by ice packs to offshore facilities as well as to the shipment of personnel, materials, equipment, and oil;
- long supply lines from manufacturing centres;
- limited transportation access and poor infrastructure; and
- higher salary requirements.

18. Currently, the unpredictable Arctic climatic conditions, high operating costs, the fall in oil prices, environmental concerns, and the sanctions against Russia all pose challenges for the development of the energy industry in the region.

19. Due to the added costs of operating in the High North, energy companies are particularly sensitive to shifts in the global market. Offshore Arctic exploration only occurs when oil prices are high. Even when prices were over USD 100 in the last few years, companies made few substantial finds. For example, in the Barents Sea, the most promising area of the Arctic, there were only nine

discoveries from 14 wells in 2014. After oil prices fell by more than 50% in 2014, exploration in the Arctic has been stalling – at least temporarily. For example, Statoil, Norway’s biggest energy group, has indicated that they are not likely to drill in the Arctic in 2015, which could delay the development of the huge *Johan Castberg* oil field. Together with Denmark’s Dong Energy and France’s GDF Suez, they have also handed back licences in Greenland. American Chevron has put their plans to drill in the Beaufort Sea on hold indefinitely.



**Figure 2: Oil and Natural Gas Basins in the Arctic<sup>5</sup>**

20. Exploitation is also challenged by growing environmental opposition by groups such as Greenpeace and country-specific environmental laws and restrictions. One example of regulating exploration came in January 2015 when US President Barack Obama presented plans for additional protections against drilling in parts of the national wildlife refuge in Northern Alaska, which holds an estimated 10.4 billion barrels of oil.

21. Current sanctions against Russia aim to coerce its leadership to end fuelling the military conflict in Ukraine. To that end, they also target a number of Russian oil and gas enterprises. They thus hinder, at least in part, the Russian state owned companies Rosneft and Gazprom as well as the privately owned Lukoil from exploiting the vast resources off Russia’s Northern coast. American ExxonMobil, for example, had to leave a joint venture exploration with Rosneft.

22. Despite all these challenges, the world’s energy consumption is still on the rise, thus the enormous Arctic deposits are likely to become central to the global supply of conventional oil over time. Despite the negative trends cited above, there are examples of continued interest in developing Arctic oil and gas. In January, Norway’s government wanted to invite firms to drill for oil and gas further inside the Arctic Circle than previously allowed for by launching a new licencing

<sup>5</sup> Sources: Geology.com and MapResources, <http://geology.com/articles/arctic-oil-and-gas/>

round. However, their proposal to move the drilling boundaries further north was rejected by the Norwegian Parliament and will now be sent back for a more thorough environmental assessment by 2020. Also, contrary to the general trend, Shell is planning to drill off the coast of Alaska in 2015, at a cost of EUR 0.9 billion (and under new, stricter regulations based on the lessons learned from negative experiences of its Arctic drilling in 2012).

## B. SHIPPING

23. While commercial shipping across the Arctic was unfeasible only a decade ago, the last number of years has seen the advent and impressive growth of shipping through the High North. The Northwest Passage and the Northern Sea Route (see below – figure 3) are becoming increasingly accessible, opening alternative maritime routes between European and Asian markets.

24. By using Arctic passages for shipping, companies can significantly reduce costs on fuel consumption and transportation time, with corresponding emissions reductions. A 2009 Arctic Council report estimated that the Northern Sea Route cuts the distance between Europe and the Far East by 35 to 60%; and that the Northwest Passage can reduce distance by 25% between Rotterdam and Seattle. Shipping on these routes also avoids the risk of piracy near the Horn of Africa or in the Straits of Malacca as well as other areas of political instability. Furthermore, pressure on congested transcontinental navigation routes could be eased and overall trade increased. In addition, these new shipping routes carry the potential to accelerate Arctic resource development.

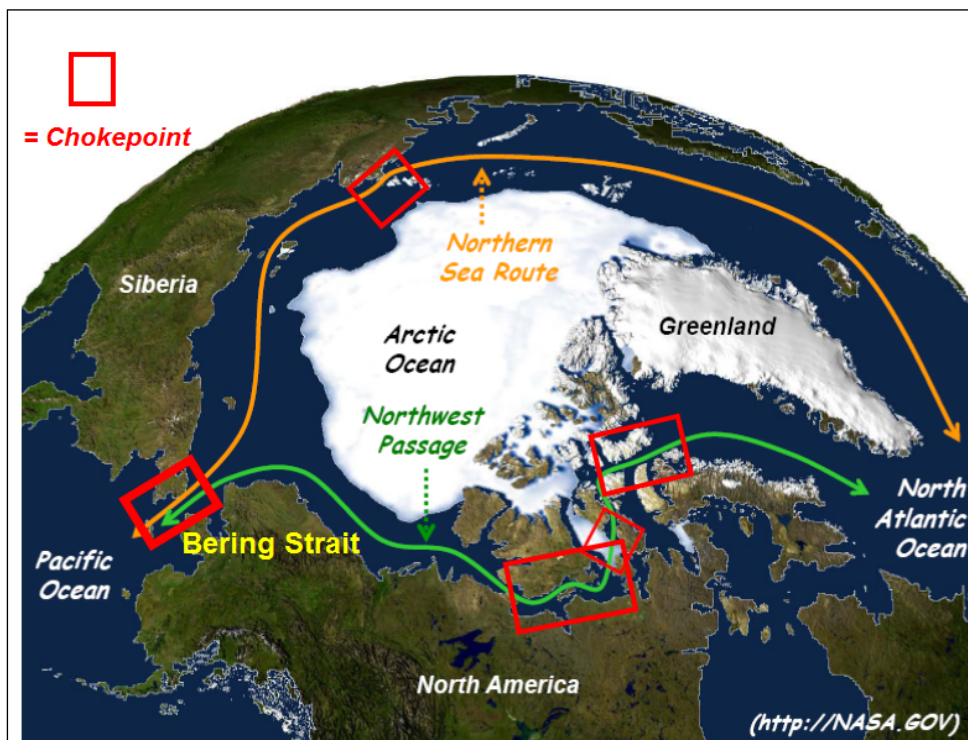


Figure 3: Arctic Shipping Routes<sup>6</sup>

25. Russia has already established a Northern Sea Route Office, which handles shipping permits, monitors maritime weather and ice conditions, and installs navigational equipment. In 2010, four commercial vessels sailed from Europe to Asia via the Northern Sea Route for the first time. By 2013, the number had increased to 71 cargo vessels. The same year the first commercial

<sup>6</sup> Sources: NASA and Fran Ulmer; presentation during STC visit to Alaska in September 2014.



Chinese vessel and the first containership transited. However, in 2014, despite an earlier opening date than the previous year, the number of cargo ships and the total cargo volume decreased dramatically: 23 vessels carried about 20% of the 2013 tonnage. It is unclear whether this was a one-time drop or if more fundamental factors are at play. Russian Prime Minister Dmitry Medvedev recently approved a development plan for the Northern Sea Route, aiming to increase its capacity by 20 times over the next 15 years.

26. Although the Northwest Passage has experienced some increase in activity as well, its prospects as a major international sea route will likely be more modest than those of the Northern Sea Route. Canada's Arctic Archipelago is a main impediment for the Northwest Passage, as it is one of the most complex geographies on the planet and lacks appropriate harbour facilities should ships require repair. Nevertheless in 2013, a bulk freighter was the first of its kind to transit the Passage, transporting coal from Vancouver to Finland. In 2014, a cargo ship made the first unassisted trip from Canada's Deception Bay to Alaska's Point Barrow, but the ship is in fact capable of year-round operations in first-year ice.

27. Challenges to Arctic shipping remain, including high operating costs, the need for ships to be reinforced, difficulties and expenses in obtaining insurance, and obstacles related to restrictions on ship sizes due to shallow passages. There are also still great uncertainties regarding expenses and duration, due to the unpredictable and harsh weather conditions as well as some uncertainty related to national shipping policies. For example, transit through the Northern Sea Route requires a mandatory escort by Russia's state-operated nuclear-powered icebreaker fleet, which comes with a fee.

28. One response to the increasing Arctic shipping potential came from the International Maritime Organization (IMO), established in 1948 to develop and maintain a comprehensive regulatory framework for shipping. At the turn of the century, it spent years negotiating an Arctic Code to improve the conditions for shipping. Ultimately, the Code was downgraded to a set of voluntary Guidelines for Ships Operating in Arctic Ice-Covered Waters (adopted in 2002). However, the Guidelines provide uniform safety, pollution prevention, and security standards for ocean carriers.

29. Varying depths and incomplete hydrographic surveying for certain areas further limit route options. Some states are furthermore limited by a lack of ships that are powerful enough to navigate the Arctic year-round. The United States, for example, is lagging behind in this regard. None of the US Navy's current surface ships qualifies for the Arctic. Whereas the US Coast Guard does have three adequate ships, one is currently inoperative, one is approaching retirement, and the last one has been compared to a floating laboratory, designed to conduct research. In comparison, Russia owns 30 icebreakers and Canada has 13. Even China and South Korea have icebreakers of their own.

30. Although the Arctic offers shorter routes than traditional courses, the overall costs are not necessarily cheaper. The cost of escort through the Northern Sea Route, for example, is roughly the same as that of passing through the Suez Canal. From a commercial perspective, ship owners and industries need more information regarding the routes, their availability, and their significance in order to realise the Arctic potential.

### **C. FISHING**

31. Some of the world's richest fishing stocks have their home in the Arctic, representing a highly valued economic resource for the Arctic states. In total, North Atlantic and North Pacific fisheries account for about 40% of commercial fish landings globally. Changes in fish stocks and their availability may thus have important consequences for the world's food supply.

32. Arctic fish stocks may become increasingly available for exploitation as the areas suitable for fishing are expanding. Furthermore, they are migrating northward, including species not previously found in the region. Recent studies have found that more than 800 commercial species are moving towards the poles at up to 26 km per year, an effect particularly pronounced in the Arctic. The number of cod has for example increased substantially, and the species is now found much further north than before. As parts of Svalbard have become ice-free in wintertime, large clusters of edible mussels, cod, herring, and mackerel are appearing on the archipelago. Consequently, the risk of over-fishing in the Arctic is a real and increasingly pressing issue. To illustrate, according to a study by the University of British Columbia, fish catches in the Arctic totalled 950,000 tonnes from 1950 to 2006 – almost 75 times the amount officially reported to the United Nations Food and Agriculture Organization during the same period.

33. To mitigate possible negative environmental effects of expanding Arctic fisheries, Canada and the United States have implemented a ban on new commercial fisheries in parts of the Arctic until more research is available. Under Canada's recent policy, new commercial fisheries in the Beaufort Sea will only be considered after research has demonstrated surplus and sustainable stocks. The policy is developed with local indigenous groups and also gives local Inuvialuit priority on new licences granted.

#### **D. TOURISM**

34. Increased maritime access is opening the Arctic to greater numbers of visitors. Today, more tourists visit the Arctic, over and for longer periods, as well as in more locations than ever before. The prevalence of cruise tourism in particular has increased throughout Alaska, Canada, Greenland, and Norway.

35. Concern has however been expressed about the dangers of Arctic travel for cruise ships that are often travelling in unchartered waters and unprepared for local conditions. Any rescue operation would rely on the extremely limited means deployed in the area and would be dramatically complicated by the vast geography and harsh climate. As the STC learned during its visit to the US Coast Guard Academy's Center for Arctic Policy and Strategy, the Coast Guard has already started preparations during the summer of 2015 for the cruise ship *Crystal Serenity's* 2016 traversal of the Northwest Passage. Nevertheless, Frigg Jørgensen, Executive Director of the Association of Arctic Expedition Cruise Operators, however argues that "expedition cruise tourism can be a driver of environment protection and a better local economy – if measures are based on facts and if operators, local communities and regulators work together".

36. In addition to cruise tourism, Arctic tourism includes sports fishing and hunting, nature tourism, adventure tourism, and cultural and heritage tourism. The decrease of ice opens up for new seasons and destinations, such as the North Pole, the Northwest Passage, the Northern Sea Route, wildlife habitats, and heritage sites.

#### **E. ENVIRONMENTAL RISKS**

37. Section II of this report focused on environmental concerns stemming from climate change. However, environmental risks will also increase as a result of increased human activity. The exploration of natural resources in particular is associated with considerable risk for the environment. In addition to the challenges of cleaning up a potential oil spill in icy conditions, a major concern is the impact of such emergencies on the fragile Arctic ecosystem. Environmental disasters in the Arctic would be significantly more problematic and cause considerably more damage than elsewhere.

38. Little is known about how oil behaves in the Arctic, as previous spills have taken place in temperate environments. A report of the US Committee on Responding to Oil Spills in the US Arctic Marine Environment therefore suggests conducting controlled spills to learn how to

manage larger oil spills. It further emphasizes the need for increased Coast Guard presence, increased co-operation with Russia on maritime traffic management and joint oil spill response exercises, as well as a plan for wildlife affected by an oil spill. The rehabilitation of wildlife is especially complicated due to Arctic conditions, the importance of marine mammals for subsistence by indigenous peoples, and safety hazards related to dealing with wounded animals.

39. In 2013, members of the Arctic Council signed an Agreement on Co-operation on Marine Oil Pollution Preparedness and Response in the Arctic. The agreement provides a framework for co-operation in the event of an emergency, including guidelines on how to communicate, co-ordinate personnel, and divide tasks between the Arctic states.

40. Increased oil and gas production, shipping and other human activities in the area are furthermore likely to increase the sources of black carbon in the Arctic. Tourism may also increase disturbance of marine mammals and damage fisheries, introduce invasive species, disrupt wildlife during breeding and migratory seasons, and increase solid waste disposal and noise pollution.

## **F. SEARCH AND RESCUE CHALLENGES**

41. A major challenge to all Arctic activity is the large distance between SAR facilities. Indeed, the extension of the SAR network is key to reduce potentially negative and dangerous impacts of increased human activity. Full implementation of the Arctic Search and Rescue Agreement of 2011, elaborated under the auspices of the Arctic Council, could improve the situation. The agreement establishes measures for improved collaboration should a state request international assistance, by co-ordinating international SAR coverage and response, and establishes the area of SAR responsibility for each state. However, the agreement does not allocate responsibility for the specific physical implementation of responses.

42. In 2012, the first live SAR exercise among Arctic states took place off Greenland's east coast, involving personnel, authorities, and assets from Canada, Denmark, the Faroe Islands, Greenland, Iceland, Norway, Russia, and the United States. Although the Arctic Council concluded that the exercise was an overall success, it also revealed areas for improvement both at the national level and with regards to state-to-state co-ordination.

43. The responsibility of maritime SAR and oil spill response typically falls to national coast guards. While their traditional tasks have been to save lives, enforce maritime law, and prevent environmental pollution, their responsibilities have expanded as Arctic navigation routes have opened. Added tasks include additional SAR operations, vessel monitoring, domain awareness, icebreaking, and environmental protection.

44. The structure, capabilities, and responsibilities of the coast guards vary significantly, which can pose challenges in ensuring qualitatively and quantitatively sound SAR coverage. Also, general technical challenges further complicate the issue, as communications equipment is limited above the 70<sup>th</sup> parallel. Additional challenges include complications with the use of satellites and the global positioning system (GPS); the lack or insufficiency of mapping of substantial parts of the Arctic; and the lack of a system that ensures that ships are using the most updated information. The US Department of Defence, in a report to Congress on Arctic Operations and the Northwest Passage, concluded that the existing communications architecture "is insufficient to support normal operational practices of a surface action group or any large-scale Joint Force operations".

## **IV. ARCTIC RELATIONS: A GENERAL OVERVIEW**

45. For most of the High North countries, their Arctic region is one of or their most important policy areas. The only partial exception is the United States, which historically has somewhat neglected its status as an Arctic state. This appears to be changing to a certain extent as the country has taken over the chairmanship of the Arctic Council in April 2015.

46. All Arctic states have explicit national Arctic policies. The launch of such policies is a fairly recent phenomenon. In the early 1990s, only two countries had explicit Arctic policies. Indeed, today even states outside the region have implicit or explicit Arctic policies. For example, China, India, Japan, Singapore, and South Korea have all staked out Arctic strategies.

47. Arctic policies are remarkably similar, but subtle and even important differences do exist. Generally speaking, they all stress the following goals (in no particular order):

- pursuing national interests and values;
- strengthening environmental security;
- maintaining a stable, rules-based regional co-operation regime;
- improving the well-being of indigenous and Northern communities;
- fostering sustainable resource management;
- developing economic potential;
- conducting intensified Arctic science, especially on environmental issues; and
- building up SAR capabilities.

#### **A. ARCTIC CO-OPERATION MECHANISMS**

48. One of the main differences in states' perspectives revolves around the geopolitical and security dimensions of a changing Arctic. Climate change projections and increasing human activity have sparked fears about competition and even conflict. All littoral states have expressed such fears in various policy documents, but they rarely discuss them in public. Some Arctic states are strictly against "militarising" the Arctic; while others do not see a contradiction between a strong defence posture and good co-operation or even see the latter as a precondition for the former.

49. Arctic countries have strengthened their defence postures in the High North, including through doctrine development, introducing forces and equipment, as well as increasing training and exercises. The general picture is one of limited modernisation rather than responses to perceived threats. Nevertheless, renewed Russian assertiveness in Europe could change this. It is not yet clear whether the Russian build-up in the Arctic (see below) is commensurate with the importance of its Arctic territory to its national well-being or whether it is part of a more aggressive build-up across its territory.

50. To date, the Arctic states have largely sought to deal with Arctic matters among themselves. Some argue that such an approach risks raising tensions over the Arctic and could prove strategically and economically counterproductive. Denmark and Finland, for example, adopt a more global perspective on co-operation.

51. Several institutional mechanisms for regional co-operation exist. The Arctic Council, established in 1996, is the principal forum for both intergovernmental and other cross-border co-operation. It should be noted that it does not deal with security questions. The Arctic Council member states are Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States. Observers on the Council are China, France, Germany, India, Italy, Japan, the Netherlands, Poland, Singapore, Spain, South Korea, and the United Kingdom. Out of a total of 4 million inhabitants of the Arctic, approximately 500,000 are indigenous peoples. The Arctic Council has therefore granted the status of Permanent Participants, with full consultation rights, to six indigenous organisations: the Arctic Athabaskan Council, Aleut International Association, Gwich'in Council International, Inuit Circumpolar Council, Russian Association of Indigenous Peoples of the North, and the Saami Council. The Permanent Participants have full consultation rights in connection with the Council's negotiations and decisions. The rotating chairs of the Arctic Council imbue their tenures with certain priorities. From 2013 to 2015, Canada served as the chair of the Arctic Council, focusing largely on economic development in the Arctic. The US chairmanship of the Council, from 2015-2017, will focus on climate change, ocean safety, and economy under the theme "One Arctic".

52. The Nordic Council is an inter-parliamentary body between Denmark, Finland, Iceland, Norway, Sweden, and the autonomous territories of the Åland Islands, the Faroe Islands, and Greenland. The Nordic Council of Ministers is its intergovernmental body. The Barents Euro-Arctic Council is a forum for intergovernmental co-operation on sustainable development in the Barents Region, with Denmark, Finland, Iceland, Norway, Russia, Sweden, and the European Commission as members. The Conference of Parliamentarians of the Arctic Region is a parliamentary body comprising delegations appointed by the national parliaments of the Arctic states and the European Parliament. The Pacific Northwest Economic Region Arctic Caucus was formed informally in 2010 as a loose alliance between Alaska and the Canadian Territories of Northwest Territories and the Yukon.

53. Disputes between Arctic states have also been resolved through bilateral negotiations. A prominent example is the longstanding border dispute in the Barents Sea between Norway and Russia. The first maritime boundary between Russia and Norway was signed in 1957, but tensions soon resurfaced after both countries made continental shelf claims. In 2010, Norway and Russia finally signed a treaty that effectively divided the disputed territory in half and also agreed to co-manage resources.

54. Multilateral co-operation has also taken place at the ministerial level, outside institutional structures. Foreign Ministers and other officials representing the five Arctic coastal states met in Greenland in May 2008 at the Arctic Ocean Conference and announced the Ilulissat Declaration. Considered a milestone in Arctic co-operation, the Declaration provides an indication of how the Arctic coastal states intend to pursue their interests as well as indicating their willingness to work together.

## **B. MARITIME DELIMITATION**

55. The United Nations Convention on the Law of the Seas (UNCLOS) is a key instrument for Arctic governance. The Convention allows countries to claim an Exclusive Economic Zone (EEZ) of 200 nautical miles (nm) beyond their shoreline. Large parts of the Arctic Ocean could thus, as is the case today, be claimed by more than one country. UNCLOS furthermore grants states exclusive rights to extract mineral resources on their continental shelves up to a distance of 350 nm from the baselines, provided that they can demonstrate that they have a “broad” continental shelf. The ongoing UNCLOS process of evaluating claims is multilateral and consensus-based. States have ten years following their ratification of UNCLOS within which to submit their claims to extended continental shelves.

56. All the Arctic Council member states except the United States have ratified the Convention. Although the United States signed the Convention in 1994, the Senate has not given advice and consent. The United States thus remains a non-ratifying state, although it does abide by the Convention in practice. All Presidents since Ronald Reagan have advocated for its ratification. The 2015 National Security Strategy thus states that “the ongoing failure to ratify this Treaty undermines our national interest in a rules-based international order”.



Figure

**4: Current Territorial Claims in the Arctic<sup>7</sup>**

57. All five Arctic coastal states, except Norway, have one or more overlapping claims over Arctic waters. Under the UN and bilateral processes, the countries are working towards untangling these claims, but as these processes unfold, the potential for confrontation is certainly a possibility.

58. There is currently only one territorial dispute in the Arctic region. Denmark and Canada are continuing to work on a solution for Hans Island in the Kennedy Channel, which has been claimed by both sides despite having agreed on about 3,000 km of delimitation between Greenland and Canada in 2012.

**C. INCREASED RUSSIAN MILITARY FOCUS ON THE ARCTIC<sup>8</sup>**

59. In terms of geography, Russia represents almost half of the Arctic Circle. Russia's national identity is indeed closely tied to its Arctic territories. They play a critical part in Russia's overall defence and security posture: the Arctic is Russia's only European access to the high seas that does not pass through enclosed seas. It is therefore not surprising that Russia is also increasingly focusing on the changing Arctic, particularly in light of significant infrastructural challenges in the Russian Arctic.

60. Russia's Arctic policy mentions potential disagreement over maritime delimitation and outlines a plan for the development of Arctic forces under the Border Guard Service. However, the country sees its core task in exercising its sovereign rights in the northernmost regions of Russia, in particular to support its Northern Sea Route strategy. Russia does not envisage a role for its military in the Arctic areas beyond this role. Still, Russia's military interest in the Arctic in recent

<sup>7</sup> Sources: IBRU, Durham University; Ministry of Foreign Affairs of Denmark; The Economist; <http://www.economist.com/news/international/21636756-denmark-claims-north-pole-frozen-conflict>

<sup>8</sup> For a general assessment of Russian military modernization, see the 2015 STC General Report: [Russian Military Modernization \[176 STC 15 E rev. 1 fin\]](#). For Russia's "hybrid approach" approach to the Arctic, see the DSC General Report: [Hybrid Warfare: NATO's New Strategic Challenge? \[166 DSC 15 E bis\]](#)

years has increased significantly compared to the other Arctic states. Russia's Military Doctrine of 2014 for the first time included a reference to its Arctic territories as key areas. Euro-Atlantic leaders should therefore pay close attention to Russia's military posture in the Arctic and the purpose of its forces stationed in the region.

61. Russia plans to have 14 operational airfields in the Arctic by the end of 2015. The government has announced that ten new airfields will be constructed by the end of 2015, in addition to the four already in use. Some of these airfields will be newly built; others will be re-furbished legacy airfields. Russia is moreover constructing 10 Arctic SAR stations, 16 deep-water ports, and 10 air defence radar stations across its Arctic coast. The Cold War era military base at Alakurtti, about 50 km from the Finnish border, has also been reactivated. Most importantly, Russia has established an Arctic Joint Strategic Command which has been operational since December 2014. The military is increasing its Special Forces presence by more than 30%, a commando detachment is being trained specifically for Arctic warfare, and a second Arctic warfare brigade will be trained by 2017. In addition, Russia's Northern Fleet, based at Severomorsk close to Murmansk, represents two thirds of its Navy. Lastly, as already mentioned, the Russian icebreaker fleet is the world's largest. Currently, Russia is constructing an additional 14 icebreakers and planning for the construction of several more.

62. Recently, Russian troops have also tested rapid mobilisation and trained for deployment to Russia's most northern areas. In March 2015, a snap exercise was conducted in Russia's Arctic North, in parallel to Norway's Joint Viking drills, which had been announced long in advance. The Russian Navy's Northern Fleet was called to full combat readiness in exercises allegedly involving close to 40,000 troops, 100 aircraft, and more than 50 ships (including 15 submarines). In May 2015, Russia conducted another large-scale, unscheduled exercise in its northern Komi republic. The exercise was a "massive surprise inspection" to check combat readiness and involved around 250 aircraft and 12,000 service personnel. It was executed at the same time as Finland, Norway, and Sweden exercised with NATO and member states' forces as well as Switzerland under Arctic Challenge 2015, which had also been announced long in advance.

63. The current political tensions between Russia and the West, stemming from the illegal annexation of Crimea and its military aggression in eastern and south-eastern Ukraine, have begun to impact Arctic relations. While it must be underlined that bilateral and multinational co-operation continues to work well in broad terms, risks to generally good Arctic relations could be on the horizon. For the first time since the establishment of the Arctic Council, Russia's foreign minister abstained from the bi-annual meeting of the Council in April 2015, for example. Shortly thereafter, the Deputy Prime Minister and head of the new Russian Arctic Commission, Dmitri Rogozin, ignored EU travel sanction imposed on him and visited Norway's Svalbard archipelago, challenging Norwegian sovereignty of the archipelago and its legal status. As already noted, co-operative oil and gas projects with Russian and Western in the region, have furthermore been suspended, due to the sanctions against Russia.

#### **D. NATO**

64. Although five Allies are Arctic states, NATO as an organisation does not have a specific Arctic policy, as Allies do not agree on the extent to which the Arctic should feature on their common agenda. In 2013, when the North Atlantic Council visited Norway, then NATO Secretary General Anders Fogh Rasmussen noted growing concerns among Nordic and Baltic member states about the increased Russian military focus on its Arctic territories, but he argued that "[a]t this present time, NATO has no intention of raising its presence and activities in the High North."

65. Sceptics of greater NATO attention to - or presence in - the Arctic often argue that such a move could "militarize" Arctic relations. In addition, they often argue that this would risk including

non-coastal Arctic states as well as non-Arctic states into matters principally concerning only the five littoral Arctic states. Furthermore, the majority of Arctic disagreements are non-military in nature. It is also estimated that up to 95% of Arctic resources fall within the sovereign territories of Arctic states, thus limiting possibilities for tensions.

66. However, as NATO is a collective security alliance guaranteeing the territorial integrity of its member states, the Arctic territories of the Allied member states falls squarely within NATO's mandate. Some Allies are therefore advocating a greater NATO focus on the High North, particularly in light of deteriorated relations with a Russia, which has recently shown both the ability and the will to use military means to achieve political goals. Some argue that, while Russia's policies in the Arctic are currently based on a co-operative approach, its increasing military strength in the Arctic could put the Alliance in a position of weakness in the High North if Russia decided to become more assertive in the future. At the NATO PA's 2015 Spring Session in Hungary, NATO Deputy Secretary General Alexander Vershbow thus argued for further Allied reflections on the Arctic in light of Russian actions: "[W]ith the militarisation [of the Arctic] by Russia we will have to assess the implications for the Alliance in terms of freedom of navigation for our nations, in terms of ensuring that our capability to respond to threats in the Arctic is credible. But I think we're still assessing the implications of the latest Russian moves. But I can't say much more than that now. [...] We talk about the East and the South but we may have to be talking soon about the North as well."

67. It is unclear if political will exists among the 28 NATO member states to explore a new role in the Arctic. Strong resistance against such discussions does exist on the part of some. However, if the Alliance did indeed want to explore a new role, the Alliance could discuss a number of steps, depending on the level of ambition. At the most basic level, NATO might want to increase its understanding of the Arctic Allied territories as one of its regional areas. This could start with ad hoc or regular political consultations, including the North Atlantic Council, and/or increasing Allied situational awareness. From there, options for an enhanced role in the region range from joint small- or large-scale training and exercises with generic or more specific scenarios in mind. NATO could also begin examining what Arctic capabilities the Alliance has in its inventory, as Arctic capability development has long timelines if new platforms and systems need to be developed and built from scratch. At the most assertive, but also least realistic, end of the scale, NATO could increase its military presence in the Arctic. These options would, to different degrees, serve to make the Alliance better prepared to face challenges in the High North and increase the credibility of its deterrence posture. A more active NATO role in the High North could also focus on non-military aspects. The Alliance could support Allies' civilian operations, act as a forum for Arctic co-operation and communication, and serve as a framework for ad hoc responses to a wide range of activities, including disaster response or SAR operations.

## **E. THE EUROPEAN UNION**

68. The European Union has three Arctic Council states among its members and is a major receiver of resources and goods from the Arctic region. Many of its policies thus have implications for Arctic stakeholders. In its documents, the EU expresses a wish to engage more with Arctic partners to learn more about their concerns and to address common challenges in a collaborative manner.

69. The EU has invested substantial sums on Arctic research as well as economic, social, and environmental programmes, including in non-EU Greenland. In 2008, the EU published a communiqué on the EU and the Arctic region, with a follow-up in 2012 and another one is in elaboration for December 2015. In the 2012 policy, the EU expresses its wishes to contribute to knowledge and competence; funding and promoting sustainable use of resources; and engaging in international co-operation. Excluded from the document, compared to the 2008 version, are, among others, references to governance deficits and proposed new institutional frameworks for the Arctic.



70. One explanation for the EU's altered approach towards the Arctic may be its ambition to become an observer to the Arctic Council. The EU has strived for this status since 2008. The decision has already been delayed three times – in 2009, 2013, and 2015. In the past, this was, in part, based on disagreement with Canada on the EU's import ban on seal products – a disagreement which was solved in October 2014. A 2008 call by the European Parliament for an international Arctic treaty similar to the Antarctic Treaty System was furthermore perceived by some in the Arctic as being dismissive of the sovereign rights of the Arctic states. Although Canada is now supporting the EU application for full observer status, the EU sanctions against Russia could pose difficulties for the EU in this regard in the future. In reality however, the EU has acted as an observer in the Council in all but name, and the observer status would constitute mainly a symbolic acknowledgment of the EU's Arctic role. It is on the other hand equally true that the EU is arguably paying limited attention to the Arctic areas in practice, for example by investing little in infrastructure in the High North.

71. Observers argue that the EU's agenda in the Arctic is mainly driven by environmentalists. Some experts therefore argue that the EU does not yet have a clearly defined role, but needs to find one. Although the European External Action Service has created a policy, it lacks substance and ambition. Possible issue areas for increased EU involvement include fisheries, regional investments in infrastructure in their Arctic member states, Sweden and Finland, and measures related to maritime safety and emergency response.

## V. INTERIM REMARKS

72. Continued climate change is inevitable at this point – regardless whether the international community will reach a global climate deal at the Conference of Parties (COP) of the UN Framework Convention on Climate Change (UNFCCC) at the end of 2015.<sup>9</sup> Numerous enhanced measures to reduce the degree of climate change as well as adaptation to the changes that will take place is the route the international community must take. The Arctic is one of the most affected areas. As this report has shown, Arctic warming and melting opens important opportunities and challenges. The Arctic states and international stakeholders need to balance the potential gains of exploiting opportunities with the considerable risks involved in doing so. They will need to chart a course that, on the one side, makes the best of the available energy and mineral resources, new shipping routes, new fishing grounds, and enhanced tourism and, on the other hand, avoids environmental damages and destabilises traditional ways of life. Critically, SAR capabilities will need to be much enhanced.

73. The geopolitical importance of the Arctic region will undoubtedly grow, as a consequence of the new opportunities as well as the strained relations between Russia, North America, and Europe. It is in the interest of the entire international community that neighbourly co-operation prevails. The Arctic is a harsh environment; it should not become harsher due to increased military and resource competition. The good news is that conflicts over maritime delimitation will likely be settled under UN and bilateral processes. The threat of armed conflict in the Arctic is still very low. However, this does not mean that NATO member states should not change their defence posture commensurate with their national interests to protect their sovereignty and the ability for collective defence in the Arctic. A strong defence is a prerequisite for realistic and successful co-operation. The Arctic Council must remain the main vehicle for co-operation in the Arctic, and NATO should support the institution as the primary forum for Arctic co-operation. At the same time, there should be room for a greater NATO focus on the Arctic. The Rapporteur believes that first steps should include more frequent political consultations on defence and security challenges to NATO territory in the High North within NATO structures, including the North Atlantic Council, as well as

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<sup>9</sup> See also the STC Special Report "[Climate Change, International Security and the Way to Paris 2015](#)" [178 STC 15 E bis]

increasing NATO's institutional situational awareness of the region in step with defence and security challenges. Such measures would put the Alliance in a position to realistically assess these challenges and devise collective responses if need be. The Rapporteur is aware that these steps will be controversial, but in light of recent events, such a discussion should no longer be dismissed out of hand.

### SELECT BIBLIOGRAPHY

(For further information on sources, please contact the Director of the Science and Technology Committee)

- Bailes, Alyson JK and Lassi Heininen, *Strategy Papers on the Arctic or High North: A Comparative Study and Analysis*, forthcoming,  
[http://ams.hi.is/wp-content/uploads/old/arctic\\_strategies\\_innsidur.pdf](http://ams.hi.is/wp-content/uploads/old/arctic_strategies_innsidur.pdf)
- Borgerson, Scott G., "The Coming Arctic Boom: As the Ice Melts, the Region Heats Up", *Foreign Affairs*, July/August 2013
- Committee on Responding to Oil Spills in the U.S. Arctic Marine Environment; Ocean Studies Board; Polar Research Board; Division of Life and Earth Studies; Marine Board; Transportation Research Board; National Research Council, *Responding to Oil Spills in the U.S. Arctic Marine Environment*, Washington DC: National Academies Press, 2014
- Heininen, Lassi, *Arctic Strategies and Policies: Inventory and Comparative Study*, 2011,  
<http://www.arctis-search.com/Arctic+Strategies+and+Policies.+Inventory+and+Comparative+Study>
- IPCC, *Climate Change Synthesis Report: Summary for Policymakers*, 2014,  
[http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR\\_AR5\\_SPMcorr2.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_SPMcorr2.pdf)
- UN Environmental Programme, *New Awareness of and Opportunities for UNEP to Address Climate Change in the Arctic*, 2013,  
<http://www.unep.org/gc/gc27/Docs/se/What%20Future%20for%20the%20Arctic.pdf>
- UN Environmental Programme, *Policy Implications of Warming Permafrost*, 2012,  
<http://www.unep.org/pdf/permafrost.pdf>
- US Department of Defense, *Report to Congress on Arctic Operations and the Northwest Passage*, 2011
- US Geological Survey, *Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*, 2008, <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>
- Østhagen, Andreas, *In or Out Symbolism of EU's Arctic Communiqué*, 2013,  
<http://www.thearcticinstitute.org/2013/06/in-or-out-symbolism-of-eus-arctic.html>
- Østhagen, Andreas, *Coast Guard Collaboration in the Arctic: Canada and Greenland (Denmark)*, Munk-Gordon Arctic Security Program, 2014