International law and governance of the arctic in an era of climate change

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5 The Arctic Legal Regime for environmental protection and sustainability

5.1 Introduction

The fragile Arctic environment is under growing stress and subject to various changes. Accelerated resource extraction, industrial expansion and distant polluting activities are the main factors that can put into jeopardy the ecological integrity of one of the world's greatest wilderness and unique areas. To protect the environment more effectively, the current regime –consisting mainly of soft law – should be expanded and strengthened. One of the options discusses is its transformation to a revitalised Arctic environmental regime. That means that it could potentially be modelled on the Antarctic treaty regime and subject to a legally binding treaty.

This Chapter discusses the current Arctic regional environmental legal regime, assesses the applicability of global treaties and soft law agreements to the Arctic, and discusses the need for a new legally binding agreement. Potential advantages of a treaty could definitely include more financial stability, a higher degree of State commitment to Arctic environmental protection and strengthened and harmonised environmental standards for the region.

Calls for an Arctic treaty have been made for many years. The southern polar region, with a similar environment and environmental stressors, is governed by a comprehensive and far-reaching environmental protection treaty system which is very conservative as it mainly prevents every activity in the area. However, there are key differences between the two poles in terms of geology, population, industrial activity, and national jurisdiction that can make the adoption of an Antarctic-style treaty extremely unlikely for the Arctic.

5.2 Arctic-Antarctica: Relevance of and differences between their Environmental Perspectives

Antarctica has become the first area regulated by a closed system which can be characterized as a self-contained regime purely focused on the management of the environment. Development of this regime was possible due to the absence of an indigenous human population and land-based industrial and resource uses, so there was no need to balance conservation and economic

development.[1] In contrast, the Arctic's permanent population depends on economic activity, however there is not certainty that the wealth from resource extraction in the Arctic will be beneficial for local populations. Environmental degradation has also resulted from industrial use. Rather than replicating the Antarctic treaty regime, which preserves the continent as a "natural reserve, devoted to peace and science", a new Arctic regional agreement could reconcile indigenous rights,[2] societal needs, and economic activity, while ensuring that ecological integrity is maintained. Indigenous rights and Arctic economic development are issues of both local and international interest. The Arctic has the potential to become a different type of model regime, the testing ground for a new regional environmental agreement that takes into consideration the existence of permanent population and growing economic activities. Moreover, this Chapter analyses the adequacy of the current Arctic environmental legal regime. The Arctic Environmental Protection Strategy (AEPS), now encompassed by the Arctic Council, was never legally binding. This Chapter will consider the possibility of negotiating a sustainability treaty for the Arctic, with similarly high standards of environmental protection as those in the 1991 Protocol on Environmental Protection to the Antarctic Treaty.[3] An Arctic treaty could also encompass the sustainable development focus of the Arctic Council, and enshrine innovative legal approaches already in use, such as the unique role of indigenous peoples.

All land areas fall under the uncontested sovereignty of one of the eight Arctic States (Canada, Denmark/Greenland, Finland, Iceland, Sweden, Norway, Russia and the United States), national domestic laws contain the primary legal protection of the environment. Regional laws also regulate the Arctic environment as Denmark, Finland and Sweden are subject to European Union (EU) laws.[4]

Canada and the US are parties to the North American Agreement on Environmental Cooperation.[5] However, international environmental laws and principles play an increasing role in this legal regime. There are a numerous of international treaties that do offer protection for the Arctic environment, alas the Climate Change, Biodiversity and the Persistent Organic Pollutants

1 Linda Nowlan, Arctic Legal Regime For Environmental Protection, IUCN Environmental Policy and Law Paper No.44, 2001, available at: https://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Arctic-Resources/Sea-Ice-Refuge/IUCN.pdf.

2 There will be analytical discussion on the role of the Indigenous People in the Arctic Region in the next chapter.

3 Protocol on Environmental Protection to the Antarctic Treaty, 1991, in G. Triggs, A. Riddell, Antarctica Legal and Environmental Challenges for the Future, BIICL (2007), 249-266.

4 Linda Nowlan *supra* note 2.

5 North American Agreement on Environmental Cooperation, Sept. 8, 1993, Canada/Mexico/United States, 32 I.L.M. 1480.; L.J. Allen, The North American Agreement on Environmental Cooperation: Has it Fulfilled Its Promises and Potential?: an Empirical Study of Policy, 23 Colorado Journal of International Environmental Law and Policy 121 (2012).

(POPs) Conventions.[6] Moreover, there are other regional bodies such as the Arctic Council, an intergovernmental forum formed by the President of Iceland in 1996 to address common Arctic concerns and to serve as an umbrella forum for Arctic stakeholders.[7]

While social equity and economic stability are essential elements of sustainability, this Chapter concentrates on the extent to which the Arctic environmental legal regime is adequate. Environmental protection has not traditionally been a primary focus of the legal regimes of the Arctic States. The current regional regime emerged from environmental concerns, prompted by catastrophes such as the Exxon Valdez oil spill and the Chernobyl nuclear accident, and by mounting scientific evidence that distant industrial practices were harming Arctic peoples and ecosystems.[8]

Finally, this Chapter examines whether the combined effect of global agreements and domestic environmental laws is sufficient to protect one of the world's last great wilderness areas. The Arctic States, bound together by their common borders on the world's most northern ocean, share common topography, resources, environment, peoples and concerns. Though there are increasingly close linkages between international/regional and domestic environmental legal regimes in the Arctic, a comprehensive legally binding legal structure is missing. A regional Arctic Environmental Protection or Sustainability Agreement could be a vehicle to fill gaps in the still incomplete Arctic legal regime, and may better serve to protect the region's unique characteristics. The design of a strengthened legal regime should be guided by the overlapping ecological and cultural values of residents of the Arctic. The increasing decision-making role of indigenous Arctic peoples should also be reflected in a revitalised regime.

5.3 The current regional Arctic environmental legal regime

5.3.1 The Arctic environment

The Arctic is a vast, a region with a population of approximately three and a half million people, of which approximately one-fifth are indigenous people.[9]

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6 Climate Change, Biodiversity and the Persistent Organic Pollutants (POPs) Conventions, United Nations, Treaty Series, vol. 2256, p. 119.

7 More information about the Arctic Circle can be found at: http://www.arcticcircle.org/.

8 Stephen Leahy, Exxon Valdez changed the oil industry forever – but new threats emerge, National Geographic, 22 March 2019, available at: https://www.nationalgeographic.com/environment/article/oil-spills-30-years-after-exxon-valdez.

9 The definition of the Arctic area used in this Chapter is the same as described in the Introductory Chapter; i.e. the definition used by the Working Groups of the Arctic Council: the boundary lies between 60°N and the Arctic Circle, with some modifications. In the North Atlantic, the southern boundary follows 62°N, and includes the Faroe Islands. To the west,

The Arctic is the largest remaining wilderness area in the northern hemisphere. With a land-mass exceeding 25 million km,[2] the Arctic is one of the world's largest geographical regions.[10] Russia owns the most of the Arctic's land-mass making Canada the second largest State in the area. All of Greenland and Iceland's land mass is located above the 60th parallel. The ice-covered Arctic Ocean is almost completely enclosed, with only four openings. About 20% of the Arctic Ocean is free of ice, even in summer, while it is expected to become fully ice-free by 2035.[11] The Arctic is dominated by extreme climatic conditions, and it plays a key role to the balance of the climate of our planet through the various circular streams that have the Arctic and the Antarctic as their referral points.[12]

The Arctic is the home of many unique marine and terrestrial species, such as narwhals, polar bears, and reindeer, and is a major source of life for migratory birds, marine mammals and various species of crabs and prawns. Arctic species congregate in huge numbers. The largest puffin colony in the world has more than one million nests on Talan Island in the Okhotsk Sea.[13] Three of the world's largest caribou herds have 500,000 animals or more: the Western Arctic herd in northwest Alaska, the George River herd in northern Quebec and the Taimyr Peninsula herd in Siberia.[14] The Arctic is an important area for scientific and environmental research, however, the seeming purity of the environment can be deceiving. Pollution from local and distant sources affects the region, catalogued in a comprehensive *State of the Arctic Environment Report* (SOAER) in 2007 and have been reaffirmed in various reports till the latest in 2021.[15] For example, health risks from the consumption of predatory marine and terrestrial mammals with high degrees of contaminants are significantly

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the Labrador and Greenland Seas are included. In the Bering Sea area, the southern boundary is the Aleutian chain. Hudson Bay and the White Sea are considered part of the Arctic for the purposes of the assessment. In the terrestrial environment, the southern boundary in each country is determined by that country, but lies between the Arctic Circle and 60°N. AMAP, Arctic Pollution Issues: A State of the Arctic Environment Report (1997) [hereafter SOAER].

10 IUCN Draft Framework Strategy and Action Plan for IUCN Work in the Circumpolar Arctic, February 2021, available at: https://www.iucncongress2020.org/files/iucn_programme_2021_2024_0.pdf.

11 Please see at: https://www.cbsnews.com/news/arctic-ocean-climate-change-ice-free-15-years/.

12 More information about the role of the Arctic on the climate of Earth can be found at: http://www.greenfacts.org/en/arctic-climate-change/.

13 Natural Resources Canada, Canadian Arctic Profiles, Species, available online at http://collections.ic.gc.ca/arctic/english.htm.

14 Beverly and Qamanirjuaq Caribou Management Board, Frequently Asked Questions about Caribou can be found online at http://www.arctic-caribou.com/.

15 The SOAER has been updated in 2021. The summary report and the scientific studies companion volume can be found at http://www.amap.no.

higher in Arctic than non-Arctic States and they have been reported and highlighted for more than a decade.[16]

5.3.2 Environmental challenges in the Arctic region

One of the major issues in the Arctic's environment is the deposition of contaminants into the Arctic ecozones through long-range transport in the atmosphere.[17] At the regional level important issues are emerging across various sectors including mining, tourism, military activities and exploration and exploitation of gas and oil.[18] Also the increasing ocean temperatures forms a huge concern as the impact of climate change on the Arctic and its wildlife and peoples is clear. Finally, radioactivity, persistent organic pollutants, acidification, oil pollution and heavy metals need to be addressed since they concern the vast majority of the Arctic stakeholders. The need for regulation to curb over-harvesting of natural resources such as fish and marine mammals has been already discussed in Chapter Three.[19]

Concerns about the Arctic environment increase in relevance due to heightened rates of resource extraction in the region.[20] Since 2000 a record number of new mines have been opened, such as diamond mines in Canada's Northwest Territories, or expanded, while the concessions of mines slated for closing have been extended, such as the Lake Myvatn diatomite mine in Iceland.[21] Timber harvests from boreal forests in the far North are expanded,

16 SOAER, AMAP Report on Issues of Concern: Updated Information on Human Health, Persistent Organic Pollutants, Radioactivity, and Mercury in the Arctic, September (2010), online at:https://oaarchive.arctic-council.org/handle/11374/620/browse?type=subject&value=Human+health.

17 Linda Nowlan, *supra* note 2.

18 Government of Canada, Challenges for Sustainable Development, in The State of Canada's Environment, Ottawa (1996); Eugene Rumer, Richard Sokolsky, and Paul Stronski, Russia in the Arctic – A Critical Examination, Carnegie Endowment for International Peace, 2021, available at: https://carnegieendowment.org/files/Rumer_et_al_Russia_in_the_Arctic.pdf; On the implications of Arctic Tourism on the Arctic Environment please see: https://www.arctic-council.org/news/as-arctic-marine-tourism-increases-how-can-we-ensure-its-sustainable/.

19 ICJ, *Whaling in the Antarctic* (Australia v. Japan: New Zealand intervening), 2014 ICJ Rep. 226.

20 Multiple reports from Wilson Centre describes accurately the current state of play in the Arctic Ocean. Available at: https://afghanistan.wilsoncenter.org/sites/default/files/media/documents/event/Krupnik-Arctic.pdf;https://afghanistan.wilsoncenter.org/sites/default/files/media/documents/event/Titley-Arctic.pdf; https://afghanistan.wilsoncenter.org/sites/default/files/media/documents/event/Jones-Arctic.pdf.

21 A. Finnson, Controversial Decision on Mining Lake Myvatn, 4.00 WWF Arctic Bulletin (2000).

which causes a fragmented habitat.[22] The overfishing in the North Pacific, North Atlantic and the Arctic Oceans (including Central Arctic Ocean) is a fact.[23] There are already proposals for new offshore oil and gas drilling (including new pipelines) and the nuclear industry in the Arctic is expanding, demonstrated by proposals to construct several floating nuclear power plants in eastern Siberia.[24] Russia's legislation alone, allowing the import of spent nuclear waste for storage and disposal, generated $30 billion in revenue.[25]

5.4 The absence of an environmental legal regime and initiatives for cooperation

Some domestic laws in the Arctic States provide a framework for environmental protection.[26] Moreover, global treaties and norms increasingly influence the content of domestic laws, providing the backdrop for domestic legal developments. Marine treaties have influenced the content of Arctic States' domestic environmental laws, and to date, the focus of the Arctic environmental legal regime has been on marine conservation. Bilateral agreements between individual Arctic States on issues, such as fisheries, wildlife and protection from pollution, are numerous.[27] This section describes the growth in Arctic cooperation initiatives, and the elements of the current "soft-law" Arctic environmental legal regime. The next sub-chapter discusses the global and regional legal framework that can be applicable to the Arctic.

5.4.1 Legal overview

The legal regime applicable in the Arctic consists of a series of some "soft law" agreements, which started with the 1991 Declaration on Protection of the Arctic

22 UNEP, The Polar Regions, Chapter 2, GEO, Nairobi (2000), Lena Hellmann, Alexander V. Kirdyanov, Ulf Büntgen, Effects of Boreal Timber Rafting on the Composition of Arctic Driftwood, MDPI, 2016, available at: https://www.mdpi.com/1999-4907/7/11/257/pdf.

23 Further discussion on Arctic Fisheries is made on a systematic way In Chapter 3 of this Thesis.

24 Nilsen, Floating Nuclear Plants in the Siberian Arctic?, 4.00 WWF Arctic Bulletin (2000); Charles Digges, Russia advances on plans for new floating nuclear plants, 2021, available at: https://bellona.org/news/nuclear-issues/2021-09-russia-advances-on-plans-for-new-floating-nuclear-plants.

25 Whittell, Russia to accept nuclear waste – for $30 billion, Vancouver Sun, Dec. 22, 2012, at A9c.

26 Rüdiger Wolfrum, The Arctic in the Context of International Law, 2009, available at: https://www.zaoerv.de/69_2009/69_2009_3_a_533_544.pdf.

27 D. Rothwell, (1996), *supra*, 157; DL VanderZwaag, Arctic, Yearbook of International Environmental Law, 2019, available at: https://academic.oup.com/yielaw/article/30/1/281/6323735.

Environment and the Arctic Environmental Protection Strategy (AEPS).[28] The AEPS was absorbed into the work of the Arctic Council, which was created in 1996. It remains a valid Strategy for Working Groups of the Arctic Council and it describes the jurisdictional limits of the Council. The 1998 Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-Based Activities and the 2000 Arctic Council Action Plan to Eliminate Pollution of the Arctic form the most important examples of soft law environmental agreements in the region.[29] The regime's governing body, the Arctic Council, cannot be characterized as an international organisation with legal personality, but it is perceived as a "high-level forum intended to provide a means for promoting cooperation among Arctic States in particular issues of sustainable development and environmental protection in the Arctic."[30]

The Arctic environmental legal regime has some problems that need to be resolved related to specific environmental issues, such as inadequate control of environmental impacts of mining and incomplete biodiversity protection, the lack of integration of indigenous peoples into the legal regime of most Arctic States, despite indigenous rights and land claims, and the sharing of benefits from resource activities with indigenous as well as local communities.[31] The regional regime appears to be unenforceable, lacking specific commitments, targets and timetables for action, and suffering from chronic under-funding.

5.4.2 Growth in Arctic cooperation initiatives

The last 50 years numerous new Arctic governance initiatives have emerged. The Arctic Council seems to be the most important of these new initiatives. Each Member State is represented by Senior Arctic Officials (SAO) on the Council and this Senior Official is traditionally granted the legal status of an Ambassador. While the Declaration does not state who should represent the States at the biennial council meetings, Foreign Ministers usually lead State delegations.[32]

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28 30 ILM 624 (1991).

29 Linda Nowlan *supra* note 2; The details on the 1989 Regional Program, of Action for the Protection of the Arctic Marine Environment from Land Based Activities can be found here: https://oaarchive.arctic-council.org/handle/11374/872; The details on the 2000 Arctic Council Action Plan to Eliminate Pollution of the Arctic form can be found here: https://oaarchive.arctic-council.org/handle/11374/429.

30 Declaration on the Establishment of the Arctic Council, Ottawa, 1996, available online at http://www.arcticcouncil.org/establ.asp; A more analytical discussion on the Arctic Council and about the Arctic Governance is discussed in Chapter 4 of this Thesis.

31 The issues of indigenous population are discussed in the next chapter of this Thesis.

32 Linda Nowlan *supra* note.

A host of other organisations also exist to serve the region. These have proliferated since the late 1980s. Such initiatives include: region-wide inter-governmental regimes such as the Arctic Council and AEPS; sub-national region-wide regimes such as the Northern Forum and Standing Committee of Parliamentarians of the Arctic Region; sub-regional inter-governmental regimes such as the Nordic Council and Barents Euro-Arctic Region; indigenous organisations such as the Saami Council and Inuit Circumpolar Conference; or non-governmental organisations such as the International Arctic Science Committee.[33] A brief description of the major initiatives follows.[34]

The Nordic Council[35] – Established in 1952 to promote dialogue and joint action on regional issues, the Council brings together representatives from the parliaments and governments of the five Nordic States – Norway, Sweden, Finland, Denmark, Finland – and the three associated "homerule" territories of Greenland, the Faroe Islands and Aaland Islands.

The Saami Council[36] – This Council is the first trans-boundary organisation of Arctic native peoples. Saami minorities in the three Scandinavian countries were the original members, but Russian Saami are now also included. Except for the Russian representatives, Saami Council members are elected.

The Inuit Circumpolar Conference (ICC)[37] – This organisation unites Inuit peoples from Alaska, Canada, Greenland and Russia, particularly around resource development and self-determination issues. The ICC and the Saami Council are two of the founding "Permanent Participants" in the Arctic Council, a special category reserved for indigenous groups.

The International Arctic Science Committee (IASC)[38] – This Committee is a non-governmental organisation made up of representatives from national science organisations in the eight Arctic States and eight other countries with long-

33 Oran R. Young, "The structure of Arctic cooperation: Solving problems/seizing opportunities. Paper prepared at the request of Finland in preparation for the Fourth Conference of Parliamentarians of the Arctic Region, Rovaniemi, 27-29 Aug 2000"; Heininen, "Circumpolar International Relations and Geopolitics," 215.

34 For more information on these organizations, consult their respective websites. This summary description is adapted from a report by the Canadian Parliamentary Standing Committee on Foreign Affairs, Canada and the Circumpolar World: Meeting the Challenges of Cooperation in to the Twenty-First Century, 1997 (hereafter SCFAIT report).

35 More details on the Nordic Council available at: https://www.norden.org/en/nordic-council.

36 More details about the Saami Council available online at http://www.saamicouncil.net/.

37 More details about the Inuit Circumpolar Conference available online at http://www.inuitcircumpolar.com/.

38 More details about the International Arctic Science Committee available online at http://www.iasc.info/.

standing interests in Arctic research. IASC members do not act on behalf of governments. The Committee emphasises cooperation between Arctic scientists. It is similar to SCAR, the Scientific Committee for Antarctic Research.

The Northern Forum[39] – The Forum promotes exchanges among sub-national governments in the Northern regions on issues such as northern technologies and socio-economic development. It includes twenty-four sub-national or regional governments from ten countries. It does not span the circumpolar north: Nunavut, northern Quebec, Labrador, and Greenland are not members; whereas it does have members from China, Mongolia and Japan, with Korea as a national observer.

The North Atlantic Marine Mammal Commission[40] *(NAMMCO)* – The governments of Norway, Iceland, Greenland, and the Faroe Islands, with Canada, Russia, and Japan as observers, formed this organisation to promote the sustainable utilisation of living marine resources, particularly all cetaceans and pinnipeds.

The Council of the Barents Euro-Arctic Region[41] *(BEAR)* – Created in 1993, the Council brings together the five Nordic countries, the EU and Russia with the overarching aim of helping Russia to reintegrate within Europe, and specifically to work on common environmental and sustainable development challenges in the Barents Sea area. Canada and the United States are among several observer countries to this process.

The Standing Committee of Parliamentarians of the Arctic Region[42] *(SCPAR)* – This Committee includes representatives from the Nordic region, the other Arctic countries, the European Parliament, and the ICC and Saami parliaments.

5.5 Arctic Environmental Protection Strategy (AEPS)[43]

Initiatives on Arctic environmental cooperation was proposed seventy years ago, at the same time as the start of the Antarctic treaty regime but these initiatives did not prevail at that time due to the Cold War.[44] The Arctic States

39 More details about the Northern Forum available online at http://www.northernforum.org/en/.

40 More details about the North Atlantic Marine Mammal Commission available online at http://www.nammco.no/.

41 More details about the Barents Euro-Arctic Region available online at http://www.beac.st/en.

42 More details about the Standing Committee of Parliamentarians of the Arctic Region available online at http://www.arcticparl.org/.

43 30 ILM 1, 624, (1991).

44 Linda Nowlan, *supra* note.

entered into negotiations to reach agreement on a joint approach to Arctic environmental protection as early as 1989. Impetus for the initial meeting came from several events. A famous speech by then Soviet Union Secretary General Mikhail Gorbachev in Murmansk in 1987 calling for greater Arctic cooperation and an Arctic "zone of peace" was both a sign of the end of the Cold War, and a designation of a new era for cooperation.[45] Paradoxically, despite the fact that the dissolution of the Soviet Union was one factor prompting formation of the AEPS, the economic changes since its dissolution have meant that Russia has been unable to implement many of its commitments under the AEPS.[46]

Moreover, the major environmental disasters in the region pointed out the need for a new environmental protection framework. The catastrophic nuclear accident in Chernobyl in 1986, the true consequences of which were only revealed in 1989, and the massive Exxon Valdez oil spill in Alaska in 1989 galvanised public resolve to protect the Arctic.[47] Evidence of environmental damage caused by activities in other parts of the Arctic was also accumulating such as smelter emissions on the Kola Peninsula which were harming Finland's northern forests,[48] and increasingly high levels of contaminants which were detected in the traditional foods of indigenous peoples in the North, much higher than would be expected in a non-industrial region.[49] By the late 80's, it was clear to the Arctic State representatives that they should deal with their common environmental problems. The Finnish government was responsible for convening the first meeting, which became known as the "Rovaniemi" process, named after the city in Finland where the meeting was held.[50] In 1991, after two years of negotiation, the parties signed a Declaration on Protection of the Arctic Environment, and adopted the Arctic Environmental Protection Strategy (AEPS).[51]

45 D. Rothwell, (1999), *supra*, 229.

46 Russia's Road to corruption, How Clinton Administration exported government instead of free enterprise and failed the Russian People, United States House of Representatives Report, 2001, available at: https://fas.org/irp/congress/2000_rpt/russias-road.pdf.

47 C. Neher, D. Patterson, Oil Spill in Northern Waters: Trial Outcomes and the Long-Term in Case of the Exxon Valdez, 5 Arctic Review on Law and Politics 38 (2014).

48 O.R. Young (1998), *supra*, 54.

49 Government of Canada, Commissioner for Environment and Sustainable Development, Making International Environmental Agreements Work: The Canadian Arctic Experience, Ottawa (1999).

50 For a complete description of the creation of the AEPS, see R. Young (1998), *supra*;.

51 Northern lights Against Pops, Door Inuit Circumpolar Conference, McGill-Queens University press, p 194, e-book available at: https://books.google.nl/books?id=n9jeVDPiJlMC&pg=PA194&lpg=PA194&dq=.+In+1991,+after+two+years+of+negotiation,+the+parties+signed+a+Declaration+on+Protection+of+the+Arctic+Environment,+and+adopted+the+Arctic+Environmental+Protection+Strategy+(AEPS).&source=bl&ots=1-LDaFKl-S&sig=uk4Gw_V5J6ewrf6tOqg13jXkwoU&hl=nl&sa=X&ved=0ahUKEwjKm6GZo6zXAhVH16QKHaHXBnEQ6AEILDAB#v=onepage&q=.%20In%201991%2C%20after%20two%20years%20of%20negotiation%2C%20the%20parties%20signed%20a%20Declaration%20on%20Protection%20of%20the%20Arctic%20Environment%2C%20and%20adopted%20the%20Arctic%20Environmental%20Pro

The AEPS does not define the Arctic area, though this lack of definition did not seem to cause any problems at that time. While formally agreed to between States in written form, it is not legally a treaty,[52] as the parties did not accept for the AEPS to impose binding legal obligations upon them.[53] The AEPS objectives include among others: the protection of the unique Arctic ecosystems, including indigenous population; to provide for the protection, enhancement and restoration of environmental quality and the sustainable utilisation of natural resources, including their use by local populations and indigenous peoples in the Arctic; to recognise and to the extent possible, seek to accommodate the traditional and cultural needs, values and practices of the indigenous peoples, as determined by themselves, related to the protection of the Arctic environment; to review regularly the state of the Arctic environment; and to identify, reduce, and as a final goal, eliminate pollution.[54]

Since it was the first time that such an agreement was on the table, it was no surprise that the AEPS was not able to address some of the major causes of Arctic environmental problems, such as climate change (which was not so imminent at that time) and ozone depletion. These issues were already being addressed in other fora. The AEPS delineated the environmental issues, canvassed the existing legal regime and proposed the six most important priorities for action: persistent organic contaminants, oil pollution, heavy metals, noise, radioactivity, and acidification.[55] Of the six environmental pollutants identified as being Arctic-wide, all but one (noise) was trans-boundary.[56] To assess the environmental impact of these six pollutants, the Arctic States established an Arctic Monitoring and Assessment Program (AMAP), and three other working group programs; Conservation of Arctic Flora and Fauna (CAFF); Protection of the Arctic Marine Environment (PAME); and Emergency Preparedness and Response (EPPR) Program – all of them under the umbrella of the Arctic Council. Their main accomplishments are summarized in the next section of this subchapter. The AEPS marked the beginning of the willingness of States to move towards a new regime, which is still under discussion and continues to evolve. The Ministers met at four Ministerial Conferences before the programs of the AEPS were integrated into Arctic Council Working Groups in 1997.[57]

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tection%20Strategy%20(AEPS).&f=false.

52 VCLT, Art. 2 (1) (a) defines a treaty as: an international agreement concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation.

53 D. Rothwell (1996), *supra*, 239 – 241.

54 *AEPS, supra*.

55 *Ibid.*

56 AEPS, *supra*, paras 3.1-3.6 at 1, 635-43.

57 R. Young (1998), *supra*, 54; M Œmieszek, The Recent Arctic Council Assessments: Influential Tools in Policy-Making in the Council and Beyond?, 2017, The Yearbook of Polar Law online, available at: https://brill.com/view/journals/yplo/8/1/article-p187_11.xml?language=en; Juan Azcárate et al, Strategic environmental assessment and monitoring: Arctic key gaps and bridging pathways, 2013, available at: https://iopscience.iop.org/article/10.

5.5.1 Evaluation of the effectiveness of AEPS

There is no consensus on the usefulness of the AEPS and increased State commitment to take action to protect the Arctic environment. However, it has been called an "unambitious regime," that adds little to the existing environmental monitoring programs of the Arctic States.[58] The AEPS action plan failed to establish concrete targets, reliable and specific timetables, and it generated only some national commitments, such as to implement the best available technology to control releases of heavy metals. Another NGO criticism focused on the piecemeal nature of its efforts, and its failure to link the Arctic to global issues, which has also been the case to Paris negotiations as well, since not even almost 30 years later the Arctic has left outside of the global agreement on the Paris negotiations.

5.6 The Arctic Council[59]

The Arctic Council was established under the auspices of the AEPS because States saw the need to expand the strategy beyond purely environmental issues. An independent Arctic Council Panel was formed in Canada. Its 1991 report called for a council which would make the circumpolar region "a domain of enhanced civility – an area in which aboriginal peoples enjoy their full rights, and where the governments that speak for southern majorities accord progressively greater respect to the natural environment, to one another, and in particular, to aboriginal people."[60] The initial proposal in 1991 envisioned a treaty to create the Council, a draft of which was also published in 1991.[61] Leadership in creating the Council came from Canada, which hosted SAO meetings in the North in the early 1990s. In 1996, the Ottawa Declaration was signed.[62] Contentious issues in the negotiations leading up to the Declaration centred on the role for indigenous organisations, and the inclusion of sustainable development goals. The Declaration creating the Council states

1088/1748-9326/8/4/044033.

58 D. Rothwell (1996), *supra*, 389; Tõnis Idarand, Arctic Policy of the United States: Ill-prepared for the Growing Competition?, 2021, Nordic-Baltic Connectivity with Asia via the Arctic: Assessing opportunities and risks, chapter 11, available at: https://icds.ee/wp-content/uploads/2021/09/ICDS_EFPI_Book_Nordic-Baltic_Connectivity_with-Asia_via_the_Arctic_Gaens_Juris_Raik_September_2021.pdf.

59 Analytical discussion on the Arctic Council is made on Chapter 4. It is important to be made a short reference at this point since the Arctic Council was established in order to conduct activities directly related with the protection of the environment (excluding the management of living and non-living resources).

60 Arctic Council Panel, To Establish an International Arctic Council: A Framework Report, Northern Perspectives (1991).

61 D. Pharand, Proposal for an Arctic Council Treaty, Northern Perspectives (1991).

62 Declaration on the Establishment of the Arctic Council, para. 1 (a), 35 ILM 1387 (1996).

that the Council will look in particular at issues of sustainable development *and* environmental protection in the Arctic.

The Declaration on the Establishment of the Arctic Council states that the Council is established as a high-level forum to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, excluding matters related to military security. Moreover, the Council oversees and coordinates the programs established under the AEPS on the AMAP, CAFF, PAME, and EPPR. It also adopts terms of reference for and oversees and coordinates a sustainable development program; while also disseminating information, encouraging education and promoting interest in Arctic-related issues.[63]

5.7 Global environmental treaties applicable in the Arctic

Arctic environmental problems intersect with global problems in many ways as many threats to the Arctic environment originate outside the region. Treaties and other soft law agreements that address distant sources of pollution are consequently a critical part of the Arctic legal framework. Global treaties that apply to the rest of the world also apply to the activities within the region, such as the protection of biological diversity. The disproportionate impact of distant polluting activities on the Arctic demonstrates the need for global action, perhaps spurring States to act on a new treaty governing the regional issues on a holistic way. Persistent organic pollutants, greenhouse gas emissions causing climate change and ozone depleting substances are all generated primarily in industrial countries far from the Arctic, yet all have serious negative impacts on the Arctic environment and they shall be an issue of concern and regulation.

In some cases, global treaties incorporate provisions that are extremely relevant on the Arctic. Article 234 UNCLOS was specifically designed for the Polar Regions giving coastal States the right to adopt and enforce non-discriminatory laws for the prevention and control of marine pollution from vessels in ice-covered areas where, among other, pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance.[64] The IMO's International Polar Navigation Code creates a unified code of rules for ships navigating in both Polar Regions, building upon existing treaties administered by the IMO, such as MARPOL, and associated safety and

63 *Ibid.*; Sorokina, T.Y. (2022). Pollution and Monitoring in the Arctic. In: Finger, M., Rekvig, G. (eds) Global Arctic. Springer, Cham. https://doi.org/10.1007/978-3-030-81253-9_12.

64 Stanley Fields, Article 234 of the United Nations Convention on the Law of the Sea: The overlooked Linchpin for Achieving Safety and Security in the US Arctic?, 7 Harvard National Security Journal,2016.

training treaties.[65] Protocols under the LRTAP Convention also include specific references to the issues that are of concern with respect to the Arctic environment.[66] In other cases, local or regional Arctic legal arrangements embody workable versions of the concepts found in global Conventions, such as the provisions in the 1992 *Convention on Biological Diversity* (Biodiversity Convention) regarding traditional ecological knowledge, and the special role of indigenous peoples.[67]

5.7.1 Implementation of the global treaties in the Arctic

Based on the AEPS, the Arctic States were responsible to determine the extent of environmental problems in the North and to examine whether existing international cooperative arrangements adequately address these problems.[68] One aspect of this work was the responsibility on behalf of the Arctic States to identify the existing global agreements and their applicability to the Arctic environmental legal regime on a number of occasions. At the first preparatory meeting for the AEPS in 1989, Ministers agreed to examine both the state of the Arctic environment and to consider the existing legal instruments for the protection of that environment. Prior to the creation of the AEPS in 1991, an overview of these agreements was carried out.[69] This report identified 26 global conventions which could be relevant and applicable for the protection of the Arctic environment, and they have decided to divide them into four groups: atmosphere, marine, wildlife and other, such as trans-boundary hazardous waste.[70]

After identifying six environmental problems and priorities, the AEPS (section 4) examined the effectiveness of the existing international mechanisms to handle each one of these problems. The legal regime was found inadequate and irrelevant in five out of six cases, with only the case of radioactivity being the one that was the exception. The AMAP, was established to deal with all these six environmental priorities. The other three Working Groups were also linked with the international environmental legal regimes. PAME's primary responsibility was the use and application of the terms of UNCLOS in order to improve Arctic marine environmental protection (section 7). On the other

65 L. Brigham, The Emerging International Polar Navigation Code, in Protecting the Polar Marine Environment– Law and Policy for Pollution Prevention 244 (D. Vidas ed. 2000); The Polar Code entered into force on the 1st of January at 2017, more information available at Chapter 3 of This Thesis.

66 More detailed discussion on these treaty bodies has been made in Chapter 2 of this Thesis.

67 1992 Convention on Biological Diversity United Nations, Treaty Series, vol. 1760, p. 79.

68 Linda Nowlan, *supra* note 2.

69 List of Major International Instruments and Policy declarations pertaining to the Arctic Environment, presented at the Ministerial meeting, Rovaniemi, Finland (1991).

70 *Ibid.*

hand, the EPPR group was assigned the responsibility to improve emergency prevention, preparedness and response (section 8) and CAFF's mandate was to facilitate cooperation on the protection of Arctic flora and fauna under the existing global legal arrangements (section 9).

5.7.2 Agreements for thepProtection of marine environment

The vast majority of international conventions dealing with the protection of the marine environment can be relevant and applicable to some extent in the Arctic Ocean. These treaties include among others: the 1973 International Convention for the Prevention of Pollution from Ships and MARPOL;[71] the 1972 Convention on the Prevention of Marine Pollution by dumping of waste and other matter, (the London Convention) particularly its 1996 Protocol;[72] and UNCLOS.[73] UNCLOS is not examined in this Chapter, since it was previously addressed in the first part of this Thesis.

International Regulation of Ship Source Pollution. The London Convention is of particular use in the Arctic environment, since the Arctic could be used as a dumping ground for hazardous wastes.[74] The volume of radioactive waste dumped into the Arctic Ocean by the Soviet Union was twice as high as that of all previously known dumping worldwide.[75] The potential contamination hazards associated with approximately 130 decommissioned Soviet nuclear submarines, most of which remain afloat with spent nuclear fuel aboard, are additional problems.[76] Proposed new acceptance of nuclear waste for disposal by Russia, as well as Japanese proposals to transport highly radioactive nuclear wastes from Europe to Japan via the Arctic using Russia's nuclear powered ice-breakers demonstrate the need for increased attention to dumping and navigation.[77] The London Convention regulates dumping of waste at sea.

71 ILM, Vol. 12, 1973, 1319.

72 ILM, Vol. 36, 1997, 1.

73 A number of maritime treaties deal with emergencies, maritime accidents, training and certification of ship crew and officers, and navigation. These treaties are not addressed in this chapter.

74 D.R. Rothwell, Global Environmental Protection Instruments, in Protecting the Polar Marine Environment– Law and Policy for Pollution Prevention 57 (D. Vidas ed. 2000), at 64.

75 O.S. Stokke, Radioactive Waste in the Barents and Kara Seas: Russian Implementation of the Global Dumping Regime, in Protecting the Polar Marine Environment– Law and Policy for Pollution Prevention 200 (D. Vidas ed. 2000).

76 D.L.V. Zwaag, Land-based Marine Pollution and the Arctic, in Protecting the Polar Marine Environment– Law and Policy for Pollution Prevention 175 (D. Vidas ed. 2000), at 178.

77 Some more information on Russia's nuclear waste plans on the Arctic with the development of new ice-breaker vessels capable of conducting this activity can be found at the following Barents Observer publication: https://thebarentsobserver.com/en/security/2017/04/breaking-ice-loads-nuclear-waste.

In 1993, a moratorium on the dumping of radioactive substances was adopted within the framework of the Convention. The Convention was substantially amended by a 1996 protocol, which employs a "reverse listing" approach: all dumping is prohibited except those materials listed in Annex 1 of the Protocol.[78]

MARPOL. IMO's marine environment committee defines areas that require special protection from maritime activities, including special areas (SAs) under Annexes to MARPOL and PSSAs.[79] A number of restrictions on activities in these shipping areas have been designed under those regimes. Antarctica has already been using this designation however no such provisions have been implemented in the Arctic yet, due to the Arctic Council's Inuvik 1996 Ministerial decision which explicitly stated that there should be no additional legal instruments for the protection of the marine environment, and that States should concentrate on ratification and implementation of existing legal instruments.[80] However, coastal States have every possibility to adopt stricter standards for ice-covered areas pursuant to Article 234 of UNCLOS, which made the use of these additional IMO designations not necessary for the Arctic. Canada, for example, strictly regulates vessel source pollution in its Arctic waters, requiring ships to meet specified standards for vessel construction, navigation and operation.[81]

The parties to MARPOL have taken the responsibility to act on the direction of prevention of the pollution of the marine environment by the discharge of harmful substances or effluents.[82] Harmful substances are defined to include any substance, which if introduced into the sea, is liable to create hazards to human health, harm living resources and marine life and damage amenities or interfere with other legitimate uses of the sea. MARPOL is a framework convention regulating different types of pollutants in Annexes.[83] The general impression of the operation of MARPOL is that is a successful convention

78 ILM, vol. 36, 1997. The Protocol makes limited exceptions for cases of emergency.

79 More about the list of the special areas, emission control areas and particular sensitive sea areas can be found at following IMO document: https://www.gard.no/Content/26411326/IMO%20MEPC1-Circ778-Rev3_Special%20Areas,%20ECAs%20and%20PSSAs%20under%20MARPOL.pdf.

80 Please see at: http://library.arcticportal.org/1272/1/The_Inuvik_Declaration.pdf.

81 Arctic Waters Pollution Prevention Act, S.C. 1970, c-68.

82 Please see the following analysis of 2021 by the International Maritime Law Institute: https://imli.org/wp-content/uploads/2021/03/Kazi-Arifuzzaman.pdf.

83 The annexes are:
1 the prevention of pollution by oil (Annex I);
2 the control of pollution by noxious liquid substances in bulk (Annex II);
3 the prevention of pollution by harmful substances in package forms (Annex III);
4 the prevention of pollution by sewage from ships (Annex IV)
5 the prevention of pollution by garbage from ships (Annex V); and
6 the prevention of air pollution from ships (Annex VI).

for various reasons and primarily because ship-generated pollution has fallen since it was adopted from approximately 35% of global marine pollution sources in the early 1970's to approximately 10% by the early 1990's.[84]

Control of land-based marine pollution. Land-based pollution is one form that was mainly under regulated with respect to marine pollution.[85] Experts tend to believe that at least the 80% of the pollution in the oceans originates from land-based activities, including municipal, industrial and agricultural wastes and run-offs as well as atmospheric depositions.[86] This 80% estimation seems unlikely in the Arctic region because of the relatively low population inhabiting the area and the lack of land based industrial activities in the most of the coast lines surrounding the Arctic. Nonetheless, States seems to tend to establish multiple land-based sources resulting from urban areas, mining wastes, oil and gas operations, nuclear activities, industrial complexes such as smelters, pulp and paper mills.[87] AMAP and PAME have been assigned by AEPS with the power and responsibility to deal with land-based marine pollution.[88]

Article 207 of UNCLOS is dealing with this issue by establishing the development of international regulations to reduce land-based pollution. Moreover soft law is contributing to his issue through the agreement of the Global Program of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) which was concluded in 1995.[89] The GPA calls upon States to develop national plans to address land-based sources of pollution entering the marine environment.[90] In 1998, the Arctic Council Ministers adopted PAME's regional program of action (RPA) for the protection of the Arctic marine environment from land-based activities. The goals for the regional program of action are: to protect human health; to prevent and reduce degradation of the marine environment and coastal areas; remediate contaminated areas; to support conservation and sustainable use of marine resources; maintain biodiversity; and to maintain cultural values. The RPA notes nine source categories of pollution which are priorities for regional action, and sets management objectives. For example, one management objective requires Arctic States to "develop and adopt Arctic-wide environmental guidelines on opening,

84 D. Rothwell, (2000), *supra*, 60.
85 Delia Paul, Protecting the Marine Environment From Land-based Activities, 2021, available at: https://www.iisd.org/system/files/2021-01/still-one-earth-GPA.pdf.
86 UNEP, Global Program of Action (GPA) for the Protection of the Marine Environment from Land-Based Activities, available online at: https://www.unep.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/partners/global-plan-action-gpa.
87 For more information on potential sources of land-based activities to marine pollution can be found in D.L.V. Zwaag, (D. Vidas ed. 2000), *supra*, 178.
88 Béatrice Schütte, Marine Pollution in the Arctic Region: What Future for Civil liability? - The need for a Comprehensive liability scheme, 2019, available at: https://halshs.archives-ouvertes.fr/halshs-02398359/document.
89 UNEP-GPA, *supra*.
90 *Ibid.*

operating and closing mines in the Arctic coastal zone. Mining is defined as the extraction, smelting and concentration of ore."[91]

5.7.3 Agreements for the protection of the atmosphere

Global treaties on atmospheric protection play a significant role in the environmental protection of the Arctic area. One aspect of the climate change agreements is their concern for ecosystem health, and to constrain hydrocarbon resource development. Toxic chemicals produced and consumed elsewhere disproportionately migrate to and concentrate in the Arctic region. The POPs convention has a specific reference to protect the Arctic peoples.[92] The ozone treaty regime seeks to reduce the depletion of the ozone layer, most apparent in the holes over the Polar Regions. The international environmental agreements on the atmosphere all have the potential to positively affect the Arctic environment. The major international treaty on transboundary air pollution is the LRTAP and associated Protocols.[93] Negotiated by the UN Economic Commission for Europe, the Convention does not apply to States outside Europe and North America.

5.7.3.1 The 1979 Geneva Convention on Long-range Transboundary Air Pollution

The LRTAP was initially drafted in response to scientific evidence demonstrating acid rain in Europe. Signed in 1979, and entering into force in 1983,[94] the LRTAP was the first internationally legally binding framework agreement outlining general principles for regional co-operation on trans-boundary air pollution abatement. LRTAP and its Protocols has been ratified by all eight Arctic States except the United States which has accepted it. The Arctic is not mentioned in the Convention but three of its Protocols specifically refer to the Arctic. First, the 1994 Oslo Protocol on Further Reduction of Sulphur

91 Arctic Council, PAME, Regional Programmes of Action for the Protection of Arctic Marine Environment from Land-Based Activities, Minister of Public Works and Government Services Canada, 1999, Available on the Arctic Council website; Baker, B. (2013). "Chapter 3. The Developing Regional Regime for the Marine Arctic". In The Law of the Sea and the Polar Regions. Leiden, The Netherlands: Brill | Nijhoff. doi: https://doi.org/10.1163/9789004255210_00; Steiner, N., & L VanderZwaag, D. (2021). "Ocean acidification and the Arctic: regional scientific and governance responses". In Research Handbook on Ocean Acidification Law and Policy. Cheltenham, UK: Edward Elgar Publishing. doi: https://doi.org/10.4337/9781789900149.00019.

92 More information about POPS Convention can be found at: http://www.pops.int/.

93 All information on LRTAP and its Protocols available online at http://www.unece.org/env/lrtap.

94 The relevant data can be found at the UN relevant website available at: https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-1&chapter=27&clang=_en.

Emissions entered into force in 1998[95] and sets long-term targets for the reduction of sulphur emissions. Parties to the Protocol have different emission reduction obligations. The Preamble contains the following paragraph: "*Mindful* that measures to control emissions of sulphur and other air pollutants would also contribute to the protection of the sensitive Arctic environment."[96] Second, the 1998 Aarhus Protocol on Heavy Metals, is aimed primarily at controlling cadmium, lead and mercury emissions.[97] The Protocol also aims to reduce emissions from industrial sources, combustion processes and waste incineration. Parties must apply specified limit values to emissions from stationary sources and the Protocol contains suggestions for best available techniques (BAT) for these sources. Parties are also required to phase out leaded petrol. In addition, the Protocol lists management measures for products containing mercury. The Preamble contains the following paragraph: "*Mindful* that measures to control emissions of heavy metals would also contribute to the protection of the environment and human health in areas outside the UN/ECE region, including the Arctic and international waters."[98]

Third, the 1998 Aarhus Protocol on POPs[99] is aimed at the control, reduction or elimination of discharges, emissions and losses of sixteen substances (eleven pesticides, two industrial chemicals and three by-products/contaminants). The Protocol bans the production and use of eight substances (aldrin, chlordane, chlordecone, dieldrin, endrin, hexabromobiphenyl, mirex and toxaphene) and specifies elimination of four other substances at a later stage (DDT, heptachlor, hexaclorobenzene, polychlorinated biphenyls). The Protocol also restricts the use of DDT, HCH (including lindane) and polychlorinated biphenyls. Provisions are included for destruction or disposal of the wastes of banned products. Moreover, the Protocol obliges Parties to reduce their emissions of polycyclic aromatic hydrocarbons, dioxins/furans and hexachlorobenzene below their 1990 levels (or an alternate year between 1985 and 1995). Specific emission limits are established for municipal, medical

95 Canada, Norway and Sweden have ratified it. Denmark (not applying to the Faeroe Islands and Greenland) has approved it. Finland has accepted it. The Russian Federation has signed it. Neither Iceland nor the USA has signed it.

96 *Supra*.

97 Canada (with declaration upon ratification), Norway (with declaration upon ratification) and Sweden have ratified it. Finland has accepted it (with declaration upon ratification). Denmark, Iceland and the USA have signed it. The Russian Federation has not signed it.

98 LRTAP, *supra*.

99 Canada (with declaration upon ratification), Norway (with declaration upon ratification) and Sweden have ratified it. Denmark, Finland, Iceland and the USA have signed it. The Russian Federation has not signed it.

and hazardous waste incinerators. The Preamble contains three paragraphs that refer to the Arctic.[100]

The Heavy Metals Protocol and the POPs Protocol are both aimed at pollution abatement in the Arctic.[101] Although both Protocols include significant restrictions, they do not impose any obligations for specific percentage reductions in annual emissions. Approximately half the substances targeted in the POPs Protocol are not subject to immediate elimination.[102]

5.7.3.2 Ozone treaties

In the mid-1970s, scientists raised concerns that the Earth's stratospheric ozone layer could be at risk of depletion from the release of CFCs and other anthropogenic substances. In 1981, the UNEP Governing Council established the Ad Hoc Working Group of Legal and Technical Experts for the Elaboration of a Global Framework Convention for the Protection of the Ozone Layer. Four years later, the Vienna Convention for the Protection of the Ozone Layer was adopted through which Parties agreed to take "appropriate measures" to address the actual or potential harm to the ozone layer by human activities.[103] The Convention, primarily encouraging co-operation in research, monitoring and data exchange, did not specify what appropriate measures are, nor did it specify substances that cause ozone depletion.

The Convention did, however, provide for future protocols. It was the first time that States committed to addressing a global environmental problem before damage was actually shown. Shortly after the adoption of the Convention, the first proof of ozone depletion over the Antarctic was established. Negotiations on specific controls eventually led to the signing in 1987 of the Montreal Protocol on Substances that Deplete the Ozone Layer,[104] which entered into force in 1989. This Protocol's final objective is the elimination of ozone-depleting substances. As an interim measure, it required developed countries to reduce by 50% the production and consumption of 1986 levels

100 "Recognizing that emissions of many persistent organic pollutants are transported across international boundaries and are deposited in Europe, North America and the Arctic, far from their site of origin, and that the atmosphere is the dominant medium of transport, Acknowledging that the Arctic ecosystems and especially its indigenous people, who subsist on Arctic fish and mammals, are particularly at risk because of the biomagnification of persistent organic pollutants, Mindful that measures to control emissions of persistent organic pollutants would also contribute to the protection of the environment and human health in areas outside the United Nations Economic Commission for Europe's region, including the Arctic and international waters.".

101 D.L.V. Zwaag, International Commons, 9 YBiel Law 272 (1998).

102 *Ibid.*

103 Online available at http://ozone.unep.org/en/treaties-and-decisions/vienna-convention-protection-ozone-layer.

104 Online available at http://www.iisd.ca/linkages/download/asc/enb1912e.txt. http://www.unep.org/ozone/vienna.htm.

of CFCs by 1999 and to freeze the production and consumption of halons at 1986 levels. Although the Protocol did not establish comprehensive obligations for all ozone-depleting substances, it was designed to be flexible so that its provisions can be strengthened as more scientific evidence is discovered.[105]

Criticisms of the Protocol include that its amendments have not been quickly ratified, new ozone-depleting substances have been introduced into trade, and trade in CFC-based products has increased. In September 2000, the Antarctic ozone hole covered the largest area ever recorded, but the "stubbornly critical state of the ozone layer" did not translate into State action at the Meetings of the Parties.[106] The Arctic is not mentioned in either the Convention or the Protocol but all eight circumpolar States are parties to the Convention and the Protocol.

5.7.4 International agreements on climate change

Scientific evidence showing the latest detrimental effects of climate change in the Arctic has been presented at climate change meetings.[107] Alarmingly, the 2014 report from the Intergovernmental Panel on Climate Change said that if current emissions trends continue, scientists are unable to rule out the possibility that the Arctic Ocean may become totally ice-free as a result of climate change, a prediction that is still the main scenario for the future of the Arctic Ocean.[108]

The UN Framework Convention on Climate Change (UNFCCC) entered into force on 21 March 1994.[109] Prompted by scientists' warnings, the UNFCCC was developed in much the same way as the Montreal Protocol on Substances that Deplete the Ozone Layer.[110] The primary objective of the Convention is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (Article 2). The UNFCCC establishes a framework for action to control or reduce greenhouse gas emissions. Parties are to be guided by

105 Online available at http://www.iisd.ca/linkages/download/asc/enb1912e.txt. http://www.unep.org/ozone/mont_prt.htm.

106 Extracted from an analysis of MOP-12 in the Earth Negotiations Bulletin, available online at http://www.iisd.ca/linkages/download/asc/enb1912e.txt.

107 More details about the discussion in UNFCCC preparatory meetings, available online at http://newsroom.unfccc.int/.

108 UNEP, Significant Changes Likely in The Arctic from Climate Change, Nairobi/Arendal, Feb.19, 2014, available online at http://www.grida.no/inf/news/news01/index.htm; Alejandra Borunda, Arctic summer sea ice could disappear as early as 2035, 2020, Nature, available at: https://www.nationalgeographic.com/science/article/arctic-summer-sea-ice-could-be-gone-by-2035.

109 Available online at http://www.globelaw.com/Climate/fcc.htm.

110 J. Vogler, The Global Commons: Environmental and Technological Governance, John Wiley & Sons (2nd ed., 2000), 136.

the precautionary principle in anticipating, preventing or minimising the causes of climate change (Article 3.3).

In 1997, the Kyoto Protocol was adopted, and entered into force in 2005.[111] Under the Kyoto Protocol, industrialised countries are required to meet specific targets for greenhouse gas emissions reductions. Negotiations broke down in November 2000 at the Sixth Conference of the Parties, and the future of the Protocol is unclear despite the fact that the second commitment period started in 2013 with very weak commitments from Annex 1 parties.[112]

The Paris Agreement on Climate Change has been signed by all countries of the world, with the United States returning to it under Biden Administration. There was an imminent interest on behalf of the Arctic States to participate on the negotiations prior to the Paris Conference and they have tried to upscale the Arctic interests on the Agenda of the proposed-at that time-Paris Accord.[113] Moreover, the Arctic countries have given increasing attention to the threat of climate change in the region and especially the Nordic countries adopted a joint declaration that underlined the severe implications in the Arctic and called for an ambitious agreement at the conference in Paris.[114] Russia declaree that it would take measures to mitigate greenhouse gas emissions in the industry sector in the coming years.

Yet, despite the increasing awareness in the Arctic states, the region has received very little attention in the international climate negotiations. The negotiated draft agreement for the COP22 did not mention the Arctic and, rather than being addressed in the adaptation and mitigation commitments, the region primarily figures as scientific proof of the ongoing climate change.[115]

The absence of references to the region in the negotiated texts is explained by the very nature of the agreement. Firstly, the global scope prevents the agreement from referring to specific regions and secondly, the differentiation between developing and developed states has up until now meant that the international adaptation commitments are reserved for developing countries, whereas the Arctic states (which are all developed States) are expected to address adaptation needs in their domestic policies. Moreover, the Arctic Council has taken on a key role for addressing Arctic issues.

111 The Kyoto Protocol available online at http://unfccc.int/resource/docs/convkp/kpeng.pdf.
112 Available online at http://www.iisd.ca/climate/index.html.
113 Please see more on the contribution of the Arctic Council to the Paris Agreement negotiations on the following report by the UNFCC Director of Strategy of that time, Ambassador Halldór Thorgeirsson available at: https://unfccc.int/news/arctic-council-contribution-to-the-impact-of-the-paris-agreement.
114 Rebecka Snefuglli Sondell, Arctic regions neglected in climate negotiations, The Barents Observer, 2016, available at: https://thebarentsobserver.com/ru/node/152.
115 Sébastien Duyck, What Role for the Arctic in the UN Paris Climate Conference (COP-21)?, Arctic Yearbook, 2015, available at: https://arcticyearbook.com/arctic-yearbook/2015/2015-briefing-notes/157-what-role-for-the-arctic-in-the-un-paris-climate-conference-cop-21.

The Arctic is not only absent in the legal texts but the representation of Arctic stakeholders is also very limited in the climate negotiations. While the Arctic States are highlighting the climatic vulnerability of the region, they rarely ever mention the Arctic in their negotiating positions. The lack of Arctic input is further amplified as the Arctic Council is not an accredited observer to the UNFCCC and some of its members have objected to any participation in negotiation process of the Paris Agreement.[116]

Indigenous people in the Arctic have been recognized as having a central role in the regional environmental governance and participate in the international climate negotiations, however indigenous groups have struggled to gain the same level of confidence as scientists when communicating their message.[117]

5.7.5 Biodiversity: Protection of species and ecosystems

The Arctic region possesses a unique environment with extraordinary biological diversity the preservation of which should be a top environmental priority as human activities have a direct negative impact on the Arctic's relatively simple ecosystems and biological diversity.[118] The Biodiversity Convention was the first treaty to address conservation and protection of ecosystems on a global scale. Management regimes previously existed to protect single Arctic species such as: northern fur seals (1911 North Pacific Sealing Convention with four State members); polar bears (1973 Agreement on the Conservation of Polar Bear with five State members); and caribou (1987 Agreement on the Conservation of the Porcupine Caribou Herd between Canada and the United States) and they appeared to be ineffective and not efficient to deal with the complexity and totality of the issue.

Perhaps the most important in this group of treaties is the 1946 International Convention for the Regulation of Whaling,[119] due to the large numbers of whale species in the Arctic, the commercial significance of whaling to States such as Iceland and Norway, and the importance of whaling to indigenous peoples throughout the region. Fish and marine mammals are the most common foods, and caribou is the most common land food for peoples of the North.[120] Trade in wildlife species, governed by the Convention on International Trade in Endangered Species of Wild Fauna and Flora,[121] is

116 *supra* note 116.
117 *Ibid.*
118 UNEP, The Polar Regions (2000), *supra*.
119 D. Rothwell, (1996), *supra*, 212.
120 SOAER, Peoples of the North.
121 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora, adopted on 3 March 1973, entered into force 1 July 1975, 993 UNTS 243.

a problem in the Arctic, as traditional subsistence use of wildlife declines and the need for economic returns grows.

5.7.5.1 Consumptive use of wild species

The wild species hunt is the single most common feature of natural resource use cutting across all the regions and peoples of the Arctic.[122] It is also one of the most controversial activities, as the anti-sealing and anti-whaling lobbies demonstrate. Yet sustainable use is argued to have potential in the Arctic as a tool for both biodiversity conservation and economic gain. If done with the goal of creating conservation benefits, commercial consumptive use could be of value to Arctic communities, not only for economic benefits, but also as a way to preserve traditional lifestyles and cultural values while safeguarding the environment. Sustainable use programs can serve as practical economic incentives to conserve natural habitats when there is a high degree of local participation and local participants derive an equitable share of benefits from that use.[123] Opponents of consumptive use, however, are numerous as many people worldwide oppose whaling and sealing.

5.7.5.2 Wildlife trade

The international wildlife trade, worth billions of dollars annually, has caused massive declines in the numbers of many species of animals and plants. The scale of over-exploitation for trade aroused such concern for the survival of species that the Convention on International Trade in Endangered Species (CITES)[124] was concluded in 1973 to protect wildlife from this threat. CITES established a world-wide system of controls on international trade in threatened wildlife and wildlife products by requiring the issue of government permits.

The most endangered species are listed in Appendix I and include all species threatened with extinction which are or may be affected by trade. Arctic species in this category include all whales covered by the International Whaling Commission (IWC) whaling moratorium. Norway has formally objected to both the IWC moratorium and the CITES trade ban. Norway's decision to resume commercial whaling was based on evidence that the stock of minke whales was abundant and that whales could be harvested on a sustainable basis

122 WWF, Guidelines for Consumptive Use of Arctic Species, available online at http://www.ngo.grida.no/wwfap/ccu.

123 IUCN, Draft Sustainable Use of Wild Species – A Guide for Decision-Makers, Sustainable Use Initiative (2000), available online at www.iucn.org.

124 More details about the way that the CITES works available online at https://www.cites.org/.

without risk of extinction.[125] Norway has now unilaterally decided to resume export of an unlimited amount of meat and blubber from North Atlantic minke whales, to Japan, Iceland, and other States on the basis that trade is a logical consequence of sustainable resource management.[126]

Other species at serious risk are listed in Appendix II, which includes species which, although not currently threatened with extinction, may become so unless trade is subject to strict regulation. Arctic species on Appendix II include polar bears and narwhals. Appendix III lists all species which any party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation. For example, Canada has listed the walrus as an Appendix III species.[127]

5.7.5.3 Whales and marine mammals

Whaling is a traditional occupation in the Arctic, dating back as far as 4000 years.[128] In 1946, the International Convention for the Regulation of Whaling (ICRW) was adopted, to be administered by the IWC. The IWC banned commercial whaling in 1982, by establishing a catch limit of zero for all commercial whaling, but under the Convention's controversial exceptions allowing scientific research and aboriginal subsistence, whaling still occurs. Catch limits for aboriginal subsistence whaling are relatively small: in 2014, the catch limits for bowhead whales, Eastern North Pacific gray whales, West Greenland fin whales, West and East Greenland minke whales totalled about 300.[129] The IWC is open to membership by any interested State, but initially it was expected that only countries with whaling industries would participate. However, many non-whaling States joined and currently wield considerable influence over the proceedings.

Some States that still engage in coastal whaling created the North Atlantic Marine Mammals Commission (NAMMCO). According to government representatives, this organisation was born out of dissatisfaction with the IWC's zero-catch quota, lack of IWC competence to deal with small cetaceans and the need

125 Government of Norway, "Norwegian minke whaling", available online at: https://www.regjeringen.no/en/topics/food-fisheries-and-agriculture/fishing-and-aquaculture/kval-og-sel/whaling/id2001553/; T. Bjorndal, J. Conrad, On the resumption of the Norwegian minke whale hunt, in Whaling in the North Atlantic – Economic and Political Perspectives (Petursdottir ed., 1997).

126 Government of Norway, Export of Norwegian Whale Products, available online at https://awionline.org/press-releases/norway-defies-international-trade-ban-exports-tons-whale-products-japan.

127 Please see the relevant information here: https://cites.org/eng/gallery/species/mammal/walrus.html.

128 D. Robinson, International Dimensions of Global Change: Arctic Applications (1997), available online at www.arcticcircle.uconn.edu.

129 International Whaling Commission Data on the aboriginals in the Arctic, available online at https://iwc.int/catches.

to deal with other marine mammals, such as seals.[130] The NAMMCO Agreement, which was signed in 1992 by Norway, Iceland, Greenland and the Faroe Islands, provides a mechanism for cooperation concerning the conservation and management of all species of cetaceans (whales and dolphins) and pinnipeds (seals and walruses) in the region, many of which were not covered before by such an international agreement.[131] NAMMCO is hosted by Norway, which remains a member of the IWC, but has lodged objections to the commercial whaling ban, and continues to set national catch limits for minke whales. A Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals has also been developed by UNEP, FAO, IWC and the IUCN.[132]

5.7.5.4 Polar bears

The global population of polar bears is estimated to number between 22,000 and 31,000 bears.[133] Over half of these are found in Canada, while the remainder is found in Russia, Greenland, the United States and Norway.[134] The Agreement on the Conservation of Polar Bears and Their Habitats was signed in 1973, during the height of the cold war tension, by Canada, the United States, Denmark, Norway and the former Union of Soviet Socialist Republics.[135]

The Agreement prohibits the hunting and killing of polar bears, except for cases of bona-fide scientific purposes, conservation purposes, preventing serious disturbances of the management of other living resources, and by indigenous people using traditional methods of hunting.[136] Two of the signatory States, Norway and Russia, have completely banned polar bear hunting, while the remaining States allow limited aboriginal hunts. In practice, very few polar bears are hunted even with these exceptions. Aircraft and large motorised vehicles may not be used for the taking of polar bears. Parties are required to take appropriate action to "protect the eco-system of which polar bears are a part, with special attention to habitat component such as denning and feeding sites and migration patterns." To meet this obligation, some Arctic

130 D.D. Caron, The International Whaling Commission and the North Atlantic Marine Mammal Commission: The Institutional Risks of Coercion in Consensual Structures, 89 Am. J. Int'l L. 154 (1995).

131 NAMMCO, available online at http://www.nammco.no/Default.htm.

132 UNEP, The Polar Regions (2000), *supra*.

133 These data is from 2021 extracted by WWF website. More information available at: https://polarbearscience.com/2021/10/31/global-population-size-estimates-for-polar-bears-clash-with-extinction-predictions/.

134 Making International and Environmental Agreements Work: the Canadian Arctic Experience, 1999 report of the Commissioner of the Environment and Sustainable Development, Chapter 6, Exhibit 6.3 – Polar Bear Facts.

135 13 ILM 13 (1974).

136 Arctic Polar Bear Agreement, Art. III.

States have created protected areas for polar bears such as in the North and East Greenland National Park and the Melville Bugt Game Preserve. The three largest Polar Bear denning areas are all protected at Wrangel Island (Russia), on King Karl's Land at Svalbard (Norway), and in western Hudson Bay (Canada).

5.7.5.5 Treaties on wildlife and world heritage

The CAFF Strategic Plan for the Conservation of Arctic Biological Diversity[137] recognises that most of the Arctic territory will remain outside protected areas. Several international agreements relating to protected areas are relevant to the Arctic, for example, all Arctic States are parties to the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention).[138] All States, except Iceland, are also parties to the World Heritage Convention, and all Arctic States except the United States are parties to the Biodiversity Convention. Only two Arctic States, Norway and Sweden, are parties to the Convention on the Conservation of Migratory Species or Wild Animals (the Bonn Convention).

The Ramsar Convention, signed in Ramsar, Iran, in 1971,[139] is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 122 Contracting Parties to the Convention, with 1034 wetland sites, totalling 78.2 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance. The Ramsar Convention requires a party to designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance.

Ramsar sites have been designated in the Arctic by most of the Arctic States. In Canada, there are five Ramsar sites in the Arctic: Dewey Soper Migratory Bird Sanctuary, McConnell River Migratory Bird Sanctuary, Polar Bear Pass National Wildlife Area, Queen Maud Gulf Migratory Bird Sanctuary, and Rasmussen Lowland.[140]

The World Heritage Convention establishes a system of collective protection for cultural and natural heritage of outstanding universal value. Under this system, the Parties are to designate cultural and natural heritage within their territories and to take measures for its protection, preservation and presentation. The Convention defines natural or cultural sites which can be considered for inscription on the World Heritage List, and sets out the duties of State parties in identifying, protecting and preserving potential sites. Parties are

137 Please see more information at: https://www.caff.is/strategies-series/62-strategic-plan-for-the-conservation-of-arctic-biological-diversity.

138 Ramsar Convention UNTS 996 p245; ILM 11 p963.

139 *Ibid.*

140 A full list of sites may be found on the Ramsar Convention, *supra.*

encouraged to integrate the protection of the cultural and natural heritage into regional planning programs.

5.7.5.6 International arrangements on resource extraction and waste disposal

Resource extraction laws are becoming increasingly important for Arctic environmental protection as the diamond rush replaces the moribund gold mining industry, and as onshore and offshore oil and gas exploration flourish. Each State's domestic legal regime governs mining and hydrocarbon development. Regional issues arise, for example, with pipeline proposals that cross national boundaries, offshore oil and gas development outside national jurisdictional limits, and differential benefits flowing to local communities and indigenous peoples from resource extraction projects. Regional guidelines on resource extraction are few in number. Pollution prevention and abatement guidelines compiled by the World Bank may apply in the Arctic as evidence of widely accepted global standards on particular management methods, pollution control technologies, and industry sector guidelines.[141]

With few exceptions, the Arctic States have generally not entered into cooperative management regimes for non-living resources.[142] Some authors believe there is no need to jointly regulate resources in areas where sovereignty is settled.[143] However, treaties or guidelines on hazardous waste movement, oil and gas, and mining are all relevant to the Arctic.[144]5.7.5.7Basel Convention – Trans-boundary Hazardous Waste[145]

The 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal entered into force in 1992.[146] One of the treaty's guiding principles is that hazardous wastes should be dealt with

141 World Bank, Pollution Prevention and Abatement Handbook (1998); A more updated document has been produced at 2018 by the World Bank but it functions alongside with the Pollution Prevention and Abatement Handbook of 1998 and is not replacing it. The latter document is available at: https://documents1.worldbank.org/curated/en/112401530216856982/ESF-Guidance-Note-3-Resource-Efficiency-and-Pollution-Prevention-and-Management-English.pdf.

142 Hong, N. (2021). "Chapter 16 Non-Arctic States' Role in the High North: Participating in Arctic Governance through Cooperation". In Marine Biodiversity of Areas beyond National Jurisdiction. Leiden, The Netherlands: Brill/Nijhoff. doi: https://doi.org/10.1163/9789004422438_017.

143 *Ibid.*; D. Rothwell (1996), *supra*, 342.

144 Linda Nowlan *supra* note 2.

145 The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal available at: United Nations, Treaty Series, vol. 1673, p. 57.

146 The relevant information can be found at UNEP website, available at: https://www.unep.org/resources/report/basel-convention-control-transboundary-movements-hazardous-wastes.

as close to where they are produced as possible.[147] It creates a system of advanced informed consent when hazardous wastes are imported and exported. Each shipment of hazardous waste must be accompanied by a movement document from the point of departure to the point of disposal. Hazardous waste shipments made without such documents are illegal. In addition, there are outright bans on the export of these wastes to certain countries. Trans-boundary movements can take place, however, if the exporting State is not capable of managing or disposing of the hazardous waste in an environmentally sound manner.[148]

This issue is relevant to the Arctic because of Russian proposals to accept significant imports of hazardous waste for economic gain have been accepted and Russia was conducting relevant activities at least till the end of 2021.[149] Significant volumes of industrial waste generated in Arctic areas, such as Siberia and the Kola Peninsula, and the potential for such wastes to be transported through Arctic waters, also makes this Convention relevant.[150] By contrast, the export of hazardous waste is prohibited to the Antarctic Treaty Area, by Article 4.6 of the Basel Convention.[151]

5.7.6 Natural resources and mining

The Arctic region may contain some of the world's largest petroleum reserves, located both on land and on the continental shelf.[152] Domestic legal regimes regulate oil and gas extraction on land but trans-boundary areas that could be impacted by oil and gas development remain controversial. Proposals have been made in the United States to permit oil and gas drilling in the Arctic National Wildlife Refuge, home to 129,000 caribou, 300,000 snow geese and an uncounted number of polar bears.[153] The area is a calving ground for a

147 J. van der Kolk, Global Chemicals Policy, Editor(s): Philip Wexler, Encyclopedia of Toxicology (Third Edition), Academic Press, 2014, Pages 732-735, https://doi.org/10.1016/B978-0-12-386454-3.00677-1.

148 The text of the treaty and explanatory Guides can be found on the website at http://www.unep.ch/basel/.

149 Giles Whittell, "Russia to accept nuclear waste – for $30 billion," Vancouver Sun, Dec. 22, 2010, A9c.; A bid discussion has been conducted within the Basel Governance initiative where all the aspects of this illegal activity have been discussed. Please see more information on the following link available at: https://baselgovernance.org/news/illegal-waste-trade-whats-driving-multi-billion-dollar-transnational-crime-and-what-could-stop.

150 D. Rothwell (1996), *supra*, 214.

151 *supra* note 151.

152 More information can be found at the US Energy Information Administration available at: https://www.eia.gov/todayinenergy/detail.php?id=4650.

153 The international media and NGOs have covered extensively that issue. Some examples can be found on the following links:
National Geographic: https://www.nationalgeographic.com/environment/article/oil-prospecting-may-begin-in-alaska-refuge-this-winter

caribou herd that criss-crosses Alaska and Yukon and is also sacred ground for aboriginal groups. It might also contain vast amounts of oil beneath its ice, snow and tundra so the oil industry wants to drill at what wildlife experts call the refuge's "biological heart," an area that has been closed to oil operations since the refuge was established in 1960.[154] Offshore oil development is another environmental issue in the Arctic: the first offshore oil project in the Arctic Ocean, Northstar, is under development by BP Amoco, and is under attack by Greenpeace International.

The particularly sensitive nature of the Arctic environment prompted several Arctic Council Working Groups to cooperate on the preparation of Arctic Offshore Oil and Gas Guidelines.[155] PAME, EPPR and AMAP consulted with representatives of other governments, NGOs, industry, indigenous people, and the scientific community to prepare the Guidelines. The Guidelines assume that Arctic petroleum activities will be conducted in compliance with applicable international law. The Guidelines should help both industry and the Arctic nations' central and regional authorities to plan and develop oil and gas activities. Though the guidelines are non-binding, they encourage the adoption of the highest standards currently available; in particular, they are not intended to prevent States from setting stricter standards, where appropriate.[156]

No global legally binding agreements concerning mining currently exist, but NGOs and government representatives are discussing the need for regional guidelines to protect the Arctic environment from the harmful effects of mining.[157] Global initiatives on mining are proliferating. One important initiative, the Mining Minerals and Sustainable Development (MMSD) project, has the objective of "identifying how mining and minerals can best contribute to the global transition to sustainable development."[158] A two-year project which began in 2000 and concluded in 2003, MMSD was designed to produce concrete results during that period and to create structures capable of being carried forward thereafter.[159] One result from this project was the develop-

BBC: https://www.bbc.com/news/world-us-canada-53819727
WWF: https://www.worldwildlife.org/stories/5-species-that-stand-to-lose-the-most-if-the-us-allows-drilling-in-the-arctic-refuge.

154 Information available online at http://www.anwr.org; http://arcticcircle.vconn.edu/ANWR and http://www.arcticcaribou.com.

155 The Arctic Environmental Protection Strategy, Arctic Offshore Oil and Gas Guidelines, June 13, 1997, available online at http://www.grida.no/pame/FRreports.htm. A number domestic guidelines have been developed based on this Strategy including the update of the guidelines themselves. The differences among the texts are not very significant. All of them can be found at: https://pame.is/document-library/resource-exploration-and-development/arctic-offshore-oil-and-gas-guidelines.

156 *Ibid.*

157 Emma Wilson, What is Benefit Sharing? Respecting Indigenous Rights and Addressing Inequities in Arctic Resource Projects, MDPI, 2019, available at: https://www.mdpi.com/2079-9276/8/2/74/pdf.

158 From the MMSD website at http://www.iied.org/mmsd/index.html.

159 *Ibid.*

ment of recommendations on new regulatory regimes for mining at the global or regional level. Another initiative concerned voluntary guidelines to protect human rights in security operations linked to international mining and energy projects.[160] The voluntary guidelines formed the culmination of discussions between on the one hand, the US and the UK governments, and on the other hand, BP, Royal Dutch/Shell, Rio Tinto, Texaco, Chevron and Freeport McMoran, working with Amnesty International, Human Rights Watch, the Prince of Wales Business Leaders' Forum, International Alert and Business for Social Responsibility.

5.7.7 Environmental Impact Assessment (EIA)

EIAs can help avoid or minimise negative impacts from resource and other developments. All Arctic States have adopted domestic EIA laws. Many Arctic countries have also signed the Convention on EIA in a Transboundary Context (UNECE), also known as the Espoo Convention.[161] This Convention obliges States to conduct EIAs for trans-boundary impacts. Subsequently the Arctic Council prepared a set of Arctic EIA Guidelines that are more stringent than the Espoo Convention, encouraging a broader range of projects for inclusion than the developments listed in Appendix I of the Convention.[162] The Guidelines specifically do not replace or overrule existing procedures or guidelines adopted by international, national or provisional laws, land claim agreements or other regulations. Developed to address common Arctic features such as climate, ecosystems and socio-cultural attributes, the Guidelines were finalised and adopted in 1997.[163]

The Guidelines raise issues unique to the Arctic, such as permafrost, and provide assistance on factors such as traditional knowledge and public participation. The use of the precautionary principle is strongly encouraged. The Guidelines list areas demanding particular EIA attention, including sites of great sensitivity or unique geomorphology and areas of spiritual, cultural and other socioeconomic value, as well as areas important for traditional resource use.

160 Congo-Online listserv, 15 January 2001.
161 30 I.L.M. 800 (1991).
162 More details about Espoo Convention and its protocols, United Nations, Treaty Series, vol. 1989, p. 309.
163 Guidelines available online at http://www.grida.no/aria/eiaguide.pdf.

5.7.8 Concluding remarks on the implementation of the existing global treaties related to environmental protection

Many global agreements are applicable in the Arctic as well as in other places in the world. The most imminent Arctic environmental issues, such as the impact of climate change and pollution coming from the multilevel human activity, can only be resolved through global, multilateral approaches since these problems are not Arctic problems exclusively. The participation of Arctic States, civil society organisations, and the Arctic Council in these global regimes is critical to raise the Arctic dimension of the problems, and to propose workable Arctic solutions. Common criticisms of global environmental treaties, such as overlap, duplication, and lack of coordination are also relevant from the Arctic viewpoint.

Global treaties differ with regard to their regulation of non-State actor participation. Harmonising these rules would assist the efforts of groups who want to participate in this complex maze of international meetings. The special role given to indigenous peoples in the emerging Arctic legal regime does not exist elsewhere in the global environmental treaty system. Consideration of how best to incorporate indigenous participation into these regimes could be a topic for the Arctic Council. Some global treaties could be further tailored to address Arctic environmental issues.

Global treaties could also add a layer of additional protection and management to certain sites. For example, the World Heritage Convention could be used to designate more regional sites of particular ecological significance, and achieve some measure of additional protection. For example, protection of the calving grounds of the Porcupine Caribou Herd in the United States and Canada has been proposed.[164] The Ramsar Convention could be used increasingly in the Arctic to promote conservation of these biologically threatened areas. Additional research is likely to identify even more possible ways that existing international environmental agreements could be used to address the environmental problems of the Arctic.

5.8 Need for a regional environmental Arctic agreement

Change in the North is accelerating and it can be easily understood even by an external observer to the contemporary situation of the Area. Åconomic activity is flourishing on the Arctic as demonstrated by the diamond heat in the northern Canada as well as the proposals for nuclear power plants in Russia. Oil companies around the planet are aiming to site at least one natural gas pipeline in the Arctic Ocean, opting either through the Alaska Highway,

164 N. Bankes, T. Fenge, Testimony to SCFAIT, cited in SCFAIT Report, Canada and the Circumpolar World, Chapter 9, at 7.

or the Mackenzie valley route.[165] The melting of the ice as a major impact of the rapidly evolving climate change has produced navigable waters impacting on the increase of the available sea routes in the Arctic Ocean as discussed in Chapter 2 of this Thesis.[166] Global NGOs, such as Greenpeace and the World Wildlife Fund, are increasing attention on the North examining the impact of human activities within the Arctic waters.[167] Moreover national American organisations are also expanding programs in the North[168] and the United Nations is elevating its interest through UNEP's GRID-Arendal office operating as the regional focal point for Arctic environmental information within UNEP. The UN also conducts Global Environment Facility financing projects in the Arctic with a whole range of activities varying from an integrated ecosystem approach to conserve the largest wild reindeer population in Eurasia to a project considering the significance of aquatic food chains as pathways of exposure for indigenous peoples.[169]

5.8.1 Effectiveness of the current regional environmental legal regime

The level of environmental protection in the region will remain unsatisfactory as long as individual Arctic States continue to classify their environmental priorities at the lower end of their national interest. An example of such disregard of the environment is Russia's abolishment of its environment and forestry committees and the United States' withdrawal from the Paris Agreement and its proposal to open up the Arctic National Wildlife Refuge to oil and gas drilling.[170]

It has already been demonstrated in previous parts of this Chapter that there are numerous gaps in the Arctic environmental legal regime especially when compared to the preventive regime that governs the Antarctic. There are many indications that show that the Arctic environment is not yet ade-

165 Proposals for the pipelines are reported in (2000) Enviroline, vol. 12:1, 3. The Mackenzie Valley route was rejected by the Canadian government in the late 1970s following the Berger inquiry, whose report Northern Frontier, Northern Homeland (1977), comprehensively examined the issue of development in the North and its impact on indigenous peoples.

166 For more detailed discussion on that respect see Chapter 2 on navigational management of the Arctic.

167 See the Greenpeace International Project available online at www.greenpeace.org and the WWF Arctic Program available online at http://www.ngo.grida.no/wwfap/.

168 See Stephanie Pfirman *et al*; ARCTIC OPENING: Opportunity and Risk in the High North, Lloyd's, available at: http://library.arcticportal.org/1671/1/Arctic_Opening%2C_opportunity_and_risks_in_the_High_North.pdf.

169 M. T. El-Ashry (Chief Executive Officer and Chairman Global Environment Facility), Financing Sustainable Development: GEF and the "Northern Dimension" Remarks, Rovaniemi, Finland, August 29, 2000.

170 Please see the 2019 Comment from the Climate Action Tracker available at: https://climateactiontracker.org/documents/650/CAT_2019-1101_EffectOfTrumpOfficialPAWithdrawl.pdf.

quately protected such as the melting of ice from greenhouse gases produced mainly in areas far away as well as the declining populations of some charismatic polar species.

The vast majority of Arctic Council Working Groups focus on pollution. AMAP's comprehensive State of the Arctic Environment report, followed up by its report on the Arctic environment and human health addresses air, water and land-based pollutants. Other comprehensive plans include the Arctic Plan to eliminate all sources of pollution (ACAP) and the Regional Program of Action to reduce land-based sources of marine pollution. Under the auspices of the Arctic Council new guidelines have been produced: the Arctic EIA Guidelines, the Arctic Guide for Emergency Prevention, Preparedness and Response, and the Arctic Offshore Oil and Gas Guidelines followed by an Agreement on Responses of Oil Spills.[171] Targeted campaigns, such as the campaign to eliminate PCBs in the Russian Arctic is another aspect of the activity undertaken by the Arctic Council.[172]

The major pollution sources still remain untouched and without effective management by the global and regional Arctic regime. The pollution by contamination from past military and nuclear activities still remains, and has not been singled out for action by the global community or the relevant regional body. Military activities are specifically exempt from the Arctic Council's mandate; however, the Council has supported some efforts to clean up PCBs from former military installations in Russia.[173]

The legal regime seems to be even weaker when considering the protection of species and spaces and the rich biodiversity of the Arctic. The Biodiversity Convention is a framework Convention which include the minimum standard of concrete obligations for the contracting parties. More issue-specific treaties, such as CITES, are useful since they offer an additional level of protection for species at risk such as walrus and polar bears.[174] Conservation for sensitive wetland habitats and world heritage sites takes place under the auspices of Ramsar[175] and World Heritage Conventions, even if these two agreements

171 Please ssee at: https://oaarchive.arctic-council.org/handle/11374/529.

172 All the above-mentioned initiatives alongside with their update can be found at the website of the Arctic Council and its Working Groups. One of the consequences of the 2014 invasion of Russia in Crimea was that the cooperation on the Environmental Protection at the Arctic Ocean has been frozen and it took many years to the Arctic States return to the status quo ante where all the Arctic State were willing to establish some minimum degree of collaboration. The current situation in Ukraine is highly likely to lead to the same outcome on that respect too.

173 Landrigan, P.J., Stegeman, J.J., Fleming, L.E., Allemand, D., Anderson, D.M., Backer, L.C., Brucker-Davis, F., Chevalier, N., Corra, L., Czerucka, D., Bottein, M.D., Demeneix, B., Depledge, M., Deheyn, D.D., Dorman, C.J., Fénichel, P., Fisher, S., Gaill, F., Galgani, F., Gaze, W.H., … Rampal, P. (2020). Human Health and Ocean Pollution. Annals of global health, 86(1), 151. https://doi.org/10.5334/aogh.2831.

174 Both these species have been listed in Appendices to CITES.

175 See *supra*.

could impose more concrete obligations and they could be widely applied in the Arctic region. Some species are protected individually with the Polar Bear Agreement which is an example of a successful simple wildlife treaty, however some reports show that partof the bears' critical habitat remains unprotected.[176] Some herds of caribou are legally protected, such as the Porcupine Caribou Herd, through a bilateral United States-Canada agreement,[177] while the future of some others, such as the Bathurst Caribou Herd, is uncertain due to unknown impacts of the Ekati diamond mine on the herd's migratory route and still other groups, such as Peary Caribou, are in serious decline.[178]

5.8.2 Regional Arctic environmental protection agreement

Various proposals have been made to consolidate the Arctic legal regime into one or more region-wide agreements.[179] The initial Arctic Council proposal was accompanied by a draft framework treaty. The draft referred to its objective "to promote the use of the Arctic Region for peaceful purposes" in the list of the purposes of the Council, mirroring the Antarctic treaty wording.[180]

There is no common understanding yet on the need for a treaty designed exclusively for the Arctic, though many people including conservation organisations, scientists, government representatives and academic experts have expressed support of a new instrument. People that disagree with the idea of a new agreement claim that ongoing efforts to solve Arctic problems would be crippled by a "grand but generally unrealistic vision of a comprehensive, region-wide governance system for the circumpolar world."[181]

Another issue is the format that such an agreement has to take. In this respect, Arctic regional agreement has been vigorously debated but it has always been clear that it could not be similar to the Madrid Protocol about the Antarctic because the intent is not to make the Arctic a nature reserve by prohibiting all kinds of activities but to allow for sustainable development. Therefore, a regional agreement on the basis of the structure of the Biodiversity

176 CAFF Habitat Conservation Report No. 5 – Gaps in Habitat Protection in the Circumpolar Arctic – A Preliminary Analysis, 1996.

177 Canada-US Agreement on the Porcupine Herd, 1987. This Agreement may be in jeopardy due to increased calls to start oil and gas drilling on the US portion of habitat.

178 Canadian Wildlife Service, Committee on the Status of Endangered Wildlife in Canada and Northwest Territories government, available online at: https://www.canada.ca/en/environment-climate-change/campaigns/50-years-environmental-action/eccc-timeline/canadian-wildlife-service-nature-conservation.html.

179 Zhao Long, Arctic Governance Challenges and Opportunities, Council on Foreign Relations, 2018, available at: https://www.cfr.org/report/arctic-governance.

180 D. Pharand (1991), *supra*.

181 R. Young, (2000), *supra*, at 15.

Convention with its three focus points (conservation, sustainable use and sharing of benefits), could be a good model to initiate the discussion.

Various ideas have been proposed in this respect such as: a single comprehensive environmental agreement addressing both land and vessel based pollution, contingency planning and biodiversity protection; a convention on Arctic land-based sources of pollution; a broader sustainable development and environmental protection convention covering both marine and terrestrial areas;[182] a Protocol to other Conventions, i.e. an Arctic Protocol under the Biodiversity Convention; and an Arctic Ocean Regional Sea regime under the UNEP Regional Seas Program. UNEP has taken preliminary steps to establish a Regional Action Plan for Protecting the Arctic Marine Environment with the eight Arctic States. An Action Plan may be more feasible than a fully-fledged agreement, and could stimulate activities by the Arctic States to more efficiently protect the environment. This list of options is not exhaustive, and further work to identify the full range of legal options and the pros and cons of each option would be required to evaluate which course to pursue.

The main arguments for and against a treaty are discussed below. The arguments for a new legally binding treaty seem to be more convincing, considering the value of the Arctic, the seriousness of the environmental threats, and the lack of a comprehensive framework through which to address these threats.

5.8.3 Advantages of an Arctic environmental treaty

The main advantage of a treaty would be that a specific set of obligations would be imposed on States relating to various issues including the protection of the environment through the enforcement of targets, timetables, and scheduled dues. The challenge in that respect is to the enforceability of this agreement since may conflicting interests need to be balanced and which would undeniably attract more serious attention from States around the world. A binding treaty could also be a good indication of a higher level of political commitment towards this region. This could definitely have a serious impact in the functions of Arctic Council and the role that does have to play among the Arctic Stakeholders

A treaty would raise the political profile of Arctic issues and encourage the Arctic States to take the environment more seriously. It would also allow other States to engage with the Arctic more actively, for example, China, Japan, Korea, the EU and its Member States.[183] The creation of a secretariat with

182 D.L.V. Zwaag (2000), *supra*.

183 Some of those States have already declared themselves as Arctic Stakeholders requesting and obtaining attendee status in the Arctic Councli which gives them the opportunity to participate in the discussion on the future of the Arctic.

personnel, offices, and a budget could advance the Arctic environmental protection agenda more readily than the current voluntary, rotating chairs of the Arctic Council. Some financial and technological aspects which are now missing from the Council's agenda can be added and implemented and the adoption of this type of provision, common in modern environmental treaties, may induce compliance by those States that require assistance for clean-up. There is a need to consolidate the current huge range of specific arrangements, and to add missing elements such as dispute settlement mechanisms; benefit sharing; the incorporation of the precautionary principle and other significant legal principles; and the resolution of conflicts and overlaps through the inclusion of the principle of subsidiarity.

Much of the substance of a framework agreement is already in place through the practice of the Arctic States, enshrines the mandates of the five Working Groups, adds innovative features designed to address the particular needs of the Arctic, and gives the whole arrangement a sustainable development focus. The change from the AEPS to Arctic Council happened in a relatively short time frame. As the pace of change accelerates in the Arctic, converting the Arctic Council agreement into a more comprehensive treaty may be warranted.

5.8.4 Disadvantages of an Arctic environmental protection treaty

The main argument against a new treaty is that the current soft law arrangement is relatively new so it is too early to evaluate whether it needs to be supplemented by an enforceable treaty.[184] Arctic States are unlikely to want to invest time and energy into a treaty at this stage mainly because of bilateral or international problems they deal with on situations on other places of the planet and the significant level of conflict that they deal with global issues in the Security Council. The Arctic Council Groups are carrying out detailed plans of action implemented nationally (e.g. AMAP and national contaminant programs) but the holistic aspect is missing. Another argument is that a treaty would not add much, as the action plans that would be set in place under a treaty are already established. There is also the risk of "treaty congestion" and "treaty fatigue" due to the rapidly expanding number of global environmental and other treaties. Soft law can be useful in an area without a long history of international cooperation,[185] like the Arctic. Soft law requires neither formal procedures of ratification, nor the passage of domestic implementing legislation. Treaty making may also involve serious constitutional

184 Nolan *supra* note 2.

185 Dr Kumaravadivel Guruparan, Dr Jennifer Zerk, Infulence of soft law grows in international governance, experts opinioo, Chatam House, available at: https://www.chathamhouse.org/2021/06/influence-soft-law-grows-international-governance.

or legislative barriers. Negotiating soft law instruments is usually quicker, and provisions in these agreements take effect immediately.[186]

Another argument is that non-ratified treaties and/or treaties that are not yet in force may produce even weaker commitments than a soft law regime. Declarations are not legally binding, so States may be more willing to include substantive commitments and to conclude faster agreements using this unofficial form rather than a treaty. Governments may also be more willing to take innovative approaches when the end result will not be legally binding since they feel more comfortable with less attribution to their action and to unofficial negotiations rather than using obligations delineated officially by a treaty. States are more likely to include loopholes in legally binding agreements to limit their exposure to new or expanded commitments since intended vagueness would better serve their interests rather than absolute clarity on every detail.[187] Other arguments against development of a treaty include the idea that the time and expense of formal treaty negotiations could act as a barrier to the continuation of soft law development; that a formal new organisation, such as a treaty secretariat, could be expensive to operate; that a comprehensive regime can be difficult to obtain support for, and consequently difficult to implement. The best example of this phenomenon is UNCLOS, which took eleven years from negotiation to entering into force, and is still not implemented worldwide; and lastly, many international treaties already take the special needs of the Arctic into account such as the POPs treaty. Pursuing Arctic-specific goals in existing global regimes may be faster, less expensive, and more effective for the environment.

With the ongoing war in Ukraine, which shows no signs of de-escalation, the abovementioned discussion may seem like a non-priority. However, when peace will be re-established and diplomatic relations return to normal, this discussion will emerge again as priority since the environmental problems will become even more pertinent and demanding than before.

5.9 Preliminary conclusion

There are many potential topics for a regional Arctic agreement to protect the environment and promote sustainability. The Antarctic has a well-developed regime and fifty years of experience to draw upon when designing an invigorated Arctic regime. Innovative features to meet the unique needs of Arctic residents are also proliferating, and should be incorporated into a strengthened legal regime. A treaty could play a valuable role in promoting Arctic sustainability. Whether or not a legally binding treaty is negotiated soon, the Arctic

186 A. Kiss, Commentary and Conclusions, in Commitment and Compliance 239 (D. Shelton, ed., 2000).

187 O.R. Young (2000), *supra*, at 18.

Council should move to promote and strengthen the innovative features that are already part of the Arctic regime, and continue to work to preserve the unique features of the Arctic region.