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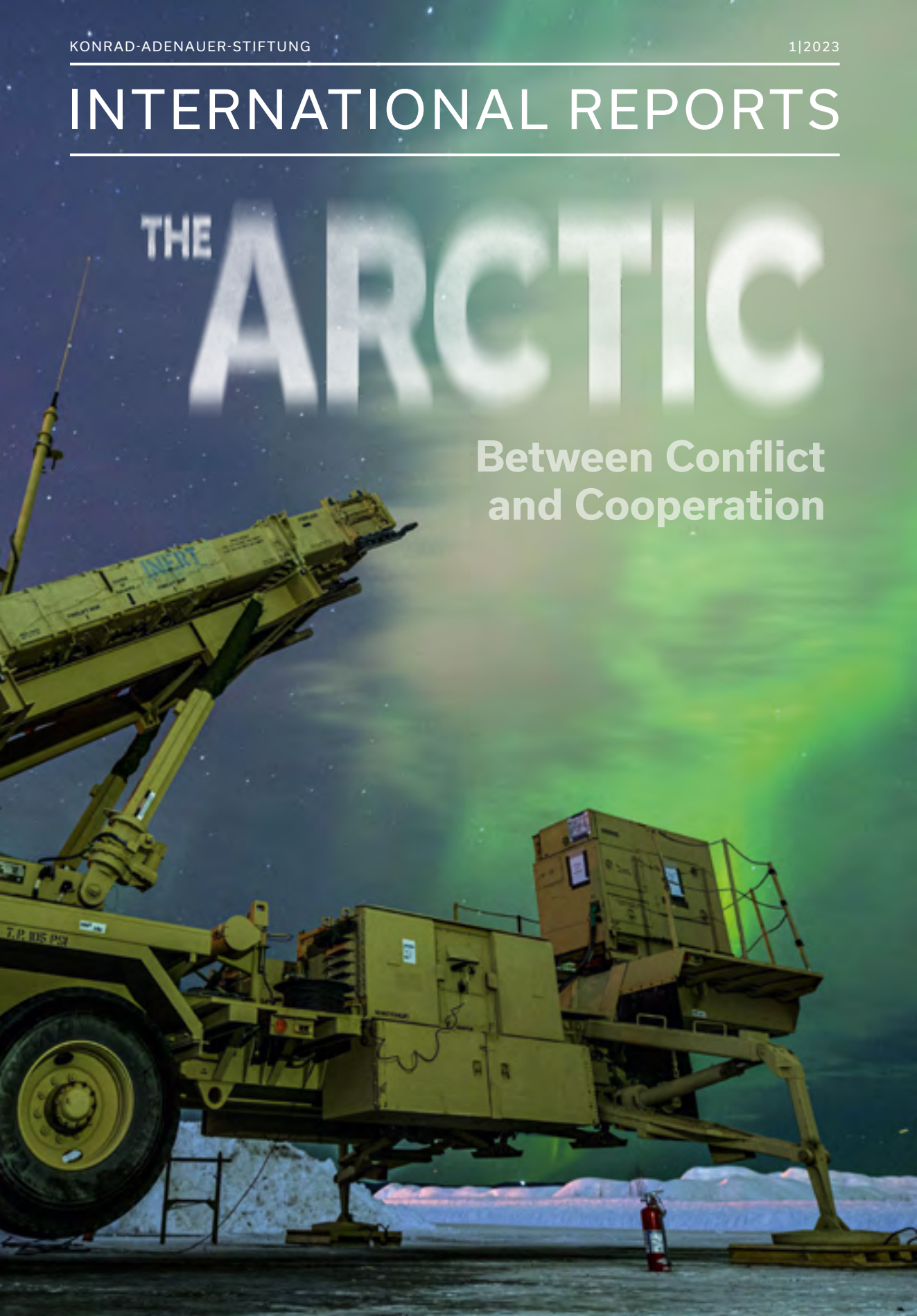
INTERNATIONAL REPORTS

THE ARCTIC

Between Conflict and Cooperation



INTERNATIONAL REPORTS

1 | 2023

Dear Readers,

German cartographer August Petermann was one of the greats of his field in the 19th century; his distinctions included receiving the highest award of the Royal Geographical Society in London. It was his firm belief that, thanks to the Gulf Stream, there was ice-free access to the North Pole. Indeed, the theme of the first ever German Cartographers' Day in 1865, initiated by Petermann, was the organisation of a German expedition to the North. It was not until several failed expeditions and dozens of deaths later that Petermann's theory was finally abandoned.

A good 150 years later, climate change has moved the prospect of an ice-free North Pole from the realm of fantasy to the realm of possibility: this has far-reaching implications for the entire Arctic region, which has now become part of the debate on security policy as a potential source of conflict. The "battle for the North Pole" is on everyone's lips, writes Michael Däumer in this issue of International Reports.

But what does that mean exactly? Is there a looming threat of a race between the superpowers – possibly even to be battled out with weapons – to gain access to previously inaccessible resources that are now open for exploitation to whoever is quickest to plant their flag? Will there be conflicts over new sea routes that outrank existing international trade routes due to the shorter distances?

There can certainly be no doubt that the potential for conflict in the Far North has increased. Nevertheless, it is worth taking a closer look at the facts and causal connections and at the interests of the stakeholders involved. As quickly becomes apparent, the reality in the Arctic is much less black and white than some of the extreme scenarios being put out by the media might suggest.

For example, Arild Moe puts into perspective the idea that the region holds huge reserves of raw materials that are bound to result in conflicting claims. He makes two points here: firstly, the amount of resources that can be extracted in an economically viable way is likely to be much smaller than many people expect; secondly, most of the deposits that seem likely to be able to be exploited are located in areas that are already clearly allocated to a particular state.

This does not mean that conflict over these resources is impossible. In addition to the Arctic states, as David Merkle describes, China – a self-proclaimed "Near-Arctic State" – is also pushing to expand its influence in the region, investing in infrastructure and raw material projects. In doing so, it finds itself in competition with Western companies and the interests of the local population in some cases. Nonetheless, the continuation of such manageable conflicts of interest seems a more plausible scenario in the foreseeable future than any large-scale struggle over sovereignty claims between nations.

Likewise, it is advisable to take a sober view of the sea routes between the Atlantic and the Pacific that are likely to emerge in the future or be usable for longer periods of the year as a result of declining ice cover. The Transpolar Sea Route via the North Pole region: "not a

realistic option" either today or in the near future for safety reasons, according to Moe. The Northwest Passage through the Canadian Arctic archipelago: not yet developed as a trade route by the Canadian government. The Northeast Passage along Russia's northern coast: in use, but not to the extent assumed in the past – and hoped for not least by Moscow – due to increasingly restrictive regulations and persisting logistical pitfalls.

More frequent use of all or some of the Arctic sea routes in the future cannot be ruled out, however, and this does hold potential for conflict in that the legal status of the Northwest and Northeast Passages in particular is disputed. The divisions here run along rather unusual lines: while Canada and Russia take the view that the routes along their respective land masses pass through waters inside their territory, the United States, the EU and also China regard the passages as international sea routes.

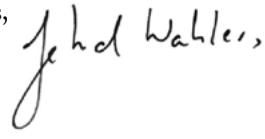
Generally speaking, the Arctic must be seen as both: a region that is influenced by external factors and which also exerts an influence itself. Take the example of climate change: Antje Boetius explains that the trend of global warming is particularly evident in the northern polar region – with temperatures rising three to four times faster than the global average. The resulting changes in Arctic wind currents can in turn cause extreme weather conditions even in much more southerly latitudes.

Then there is the example of security policy: on the one hand, as Thomas Kunze and Leonardo Salvador outline, the Arctic ice melt affects the threat perception of a state like Russia, which de facto stands to gain a new physical northern border as a result. On the other hand, the much-lamented remilitarisation of the northern polar region is also the consequence of a development whose origins have little to do with the Arctic: the confrontation between the Western states and Russia, and increasingly also China, is being transferred to the strategically important Arctic region too. It is against this background that Norbert Eschborn examines the Arctic policies of Canada and the United States, and Gabriele Baumann and Julian Tucker look at those of the Nordic countries. Meanwhile, Knut Abraham analyses German policy in the Far North, arguing that significantly more resources should be devoted to the security policy aspect.

Whether or not the Arctic is the most important geostrategic place on earth today, as Canadian businessman Frank Giustra claimed at the Arctic Circle Assembly a few years ago, is a moot point. It is certainly true that the region has gained in significance and that a differentiated approach to it is necessary. This issue seeks to contribute to such an approach.

I hope you will find this report a stimulating read.

Yours,



Dr. Gerhard Wahlers is Editor of International Reports, Deputy Secretary General and Head of the Department European and International Cooperation of the Konrad-Adenauer-Stiftung (gerhard.wahlers@kas.de).

Content

Between Conflict and Cooperation

Norway's Crown Prince and Crown Princess look at a map of the Arctic region at the Canadian Museum of Nature in Ottawa, in 2016. Photo: © Chris Wattie, Reuters.

Photo: © David Cheskin, empics, picture alliance.

The Arctic. Between Conflict and Cooperation

From Zone of Peace to Hotbed of Conflict?

The Geopolitical Importance of the Arctic

Michael Däumer

The Arctic is increasingly becoming the focus of geopolitical interests. When Mikhail Gorbachev declared the Arctic a "zone of peace" in Murmansk in 1987, it was a sign of hope for constructive cooperation between the Arctic states, but today – especially after Russia's invasion of Ukraine in violation of international law – a grim picture is emerging of power struggles, mistrust and militarisation.

The "battle for the North Pole"[1] is on everyone's lips, with global climate change considered to be a major factor. On the one hand, the warming of the Arctic is leading to dramatic changes in climate with global consequences. On the other hand, valuable raw materials are thought to exist on the Arctic seabed in particular, coveted not only by the Arctic littoral states themselves. Thawing ice is opening up the possibility of new sea and trade routes that provide more direct access to raw materials and key markets. While the multilateral agenda of Arctic governance previously focused on protecting the region as a global climate regulator, this concern is now losing political weight, while the importance of geostrategic as well as economic interests is increasing.

The Arctic and Its Terrestrial Areas

There is as yet no internationally agreed and universal, legally binding definition of the Arctic.[2] A frequently used definition is that of the Arctic Monitoring and Assessment Programme (AMAP). According to this definition, the Arctic comprises the land and sea areas north of the Arctic Circle (66°32'N), north of the 62nd parallel in Asia and north of the 60th parallel in North America, respectively. In some zones, other criteria such as political boundaries and the extent of permafrost are also taken into account.[3] The eight Arctic states ("Arctic 8") are Denmark (with Greenland), Finland, Iceland, Canada, Norway, Russia, Sweden and the United States. Of these, five countries – Denmark, Canada, Norway, Russia and the United States – are Arctic coastal states (the "Arctic 5"). Iceland lies just south of the Arctic Circle and is therefore not counted as one of the direct littoral states of the Arctic Ocean.

At the centre of the Arctic lies the Arctic Ocean, which up until now has been frozen all year round. The Arctic has a surface area of around 16.5 million square kilometres – about eight per cent of the Earth's surface. Three trans-Arctic routes cross the Arctic Ocean:

- the Northwest Passage (NWP), which passes through Canadian waters,
- the Transpolar Sea Route, which extends directly across the central Arctic Ocean (i.e. international waters),
- the Northeast Passage (NEP), which runs north of the Russian and Norwegian coasts.

The Russian-administered[4] Northern Sea Route (NSR), which runs along the coast of Russia and through its exclusive economic zone (EEZ), is considered part of the NEP.

Covering a surface area of some five million square kilometres, the Russian Arctic stretches along 24,140 kilometres of coastline from the Barents Sea in the western part of Russia to the Bering Strait in the east, bordering the US state of Alaska. With more than half of the entire Arctic coastline[5] in its territory, Russia can be considered as the "Arctic hegemon".[6] In terms of population too, it accounts for the largest share – 70 per cent – of the region's four million inhabitants, around ten per cent of whom are indigenous.

Fig. 1: Arctic Circle and Arctic Transport Routes with "Arctic 5" and "Arctic 8" States

Source: own illustration based on Paul 2020, n. 28, p. 8. Map: © Peter Hermes Furian, AdobeStock.

Governance of the Arctic

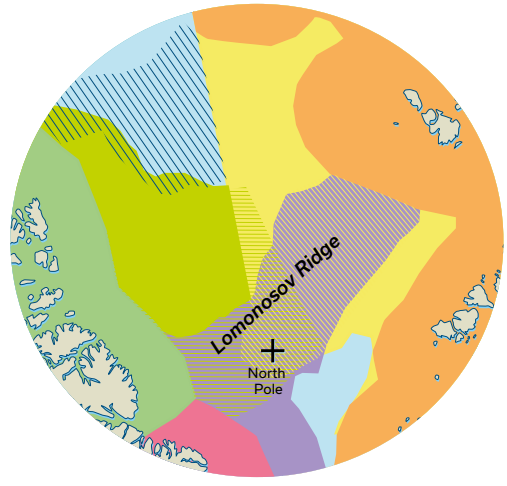
Unlike the Antarctic, there is no general international treaty governing the Arctic due to its geographical complexity. Arctic governance structures are based on various national laws and regulations of the Arctic states, international treaties and customary international law.[7] The majority of these regulations relate to Arctic climate protection and environmental conservation, procedures for clarifying territorial claims, and the cooperation and conduct of the Arctic states in the areas of research, science and business. The most important regulatory structures include the United Nations Convention on the Law of the Sea (UNCLOS), adopted in 1982, and the Arctic Council, established in 1996.

In order to prevent non-Arctic states from pursuing their interests unilaterally in the region, the Arctic Council has invited them as observers.

UNCLOS provides the overarching international legal framework for the Arctic. The United States is the only Arctic country not to have ratified the agreement to date because of a dispute with Canada over the status of the Northwest Passage, which Canada considers to be its territory. UNCLOS stipulates the boundaries of the respective territorial waters and the EEZs, which extend 200 nautical miles from the coastal strip into the sea.[8] In EEZs, the respective coastal state has exclusive rights on the use of raw materials. Among the most important provisions of UNCLOS is Article 76 (definition of the continental shelf), which gives the five Arctic coastal states the right to extend their EEZs if they can provide scientific data demonstrating that submarine geological formations are a "natural extension of the continental shelf".[9] Applications to this effect are decided on by the Commission on the Limits of the Continental Shelf (CLCS). A coastal state is thus able to exercise sovereign rights over the continental shelf for the purpose of exploring it and exploiting its natural resources (Article 77 UNCLOS). The prospect of claims to valuable raw materials in the Arctic Ocean has prompted a number of Arctic states to submit applications to the CLCS. Russia's claim to the 1,800-kilometre Lomonosov Ridge, which runs from the New Siberian Islands across the central part of the Arctic Ocean under the North Pole to near Greenland, is currently being examined. Numerous natural resources are believed to be found there, including oil and gas, as well as rare earths, platinum, diamonds, copper and zinc. Due to the limited extent of geological exploration in the Arctic Ocean, however, estimates of potential resource types and quantities to date are largely unconfirmed.[10]

The most important intergovernmental forum for Arctic governance is the Arctic Council, whose members include the six NATO countries United States, Canada, Iceland, Norway,

Fig. 2: Overlapping Territorial Claims at the Lomonosov Ridge



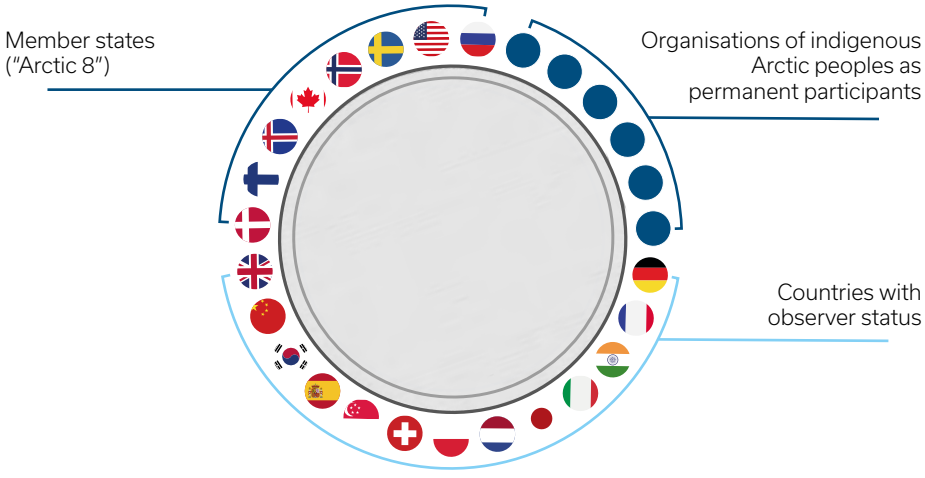
EEZ Canada | Continental shelf Canada (> 200 nmi) | EEZ Russia | Continental shelf Russia (> 200 nmi) | Continental shelf USA (> 200 nmi) | EEZ Denmark | Continental shelf Denmark (> 200 nmi) | Unclaimend areas.
Source: own illustration based on IBRU Centre for Borders Research, Durham University, here in: Ministry for Foreign Affairs of Sweden 2020: Sweden's strategy for the Arctic region, p. 13, in: https://bit.ly/3UTD3hs [13 Dec 2022].

Finland and Denmark with Greenland, the likely future NATO country Sweden, along with Russia. There are also six so-called Permanent Participants representing indigenous peoples. The Council was set up with the intention of leaving the governance of the Arctic predominantly in the hands of the Arctic states.

Initially, the Arctic Council considered the region primarily as a scientific research area. In the beginning, the Council was "less a political body and more a scientific forum",[11] with ministers rarely attending meetings. With the global impact of climate change, however, international interest in the Arctic has increased. In order to prevent non-Arctic states from pursuing their interests unilaterally in the Arctic states' polar backyard, they were invited to participate in the Arctic Council as observers. In addition to Germany (since 1998), twelve other states are admitted as observers.[12] The admission of China, India, Japan, Singapore and South Korea in 2013 was geopolitically significant. The Asian states had been pushing for this for a long time – especially China, which regards itself as being a "Near-Arctic State"[13] in geographical terms. By admitting these states, the Arctic Council has sought to integrate them into its structures. As a major Arctic player, the EU participates in Council meetings without observer status. Most observer countries and the EU have published their own Arctic strategies in recent years,[14] including Germany (2013/2019), China (2018) and India (2022).

By establishing the Arctic Council, the Arctic states aimed to bring about a peaceful and constructive reconciliation of interests both among themselves and with the indigenous peoples. In order to ensure the smooth running of the Council's work, it deliberately refrained from dealing with security and military policy issues. In this way, the region was to be kept largely free of conflict even in times of political crises – something that is generally referred to as "Arctic exceptionalism".[15] Accordingly, the Council's work was able to focus on climate protection and environmental conservation, Arctic economic development and scientific cooperation. For example, the Arctic Council has created legally binding agreements on cooperation in search and rescue (2011) and marine oil pollution response (2013) as well as on improving international scientific cooperation (2017).

Fig. 3: Structure of the Arctic Council



The six organisations of indigenous Arctic peoples include the Inuit Circumpolar Council, the Saami Council, the Russian Association of Indigenous Peoples of the North (RAIPON), the Aleut International Association (AIA), the Arctic Athabaskan Council and the Gwich'in Council International. Source: own illustration.

Remilitarisation of a region: The crew of the Russian nuclear submarine Yekaterinburg in the port of Murmansk. After a period of relative calm, Russia is not the only country that has returned to increased military presence in the Far North. Photo: © Roustem Adagamov, AP, picture alliance.

In order to close the gap in security policy[16] that resulted from the structuring of the Arctic Council, the Arctic Security Forces Roundtable was established in 2010 by Norway and the United States, also involving Germany, France, the Netherlands and the United Kingdom in addition to the Arctic states, while the Arctic Chiefs of Defence Staff was established in 2012 by the Arctic states as a dialogue forum for security policy, albeit on a non-binding basis. In addition, NATO invited Russia to engage in dialogue in the NATO-Russia Council on issues relating to military security in the Arctic region too. However, Russia's annexation of Crimea in 2014 in violation of international law led to the suspension of cooperation with Russia in all security policy forums.

As the ice melts, Moscow sees its security dwindling in the High North.

Climate Change and the "Geopoliticisation" of the Arctic

The Arctic is of global significance as an "indicator of change within the climate system as a whole".[17] Up until a few decades ago, the climatic conditions in the Arctic meant that this inhospitable region was by and large geopolitically protected. This changed dramatically with the advent of climate change and the rapid warming of the Arctic. Germany's Alfred Wegener Institute for Polar and Marine Research predicts that, due to rising temperatures, large parts of the Arctic Ocean and land masses "will very likely be ice free before 2050, at least temporally".[18] The resulting global rise in sea level and the thawing of permafrost soils and glaciers will have severe consequences for infrastructures and ecosystems.[19] These developments are already clearly visible in Alaska, Canada and especially in Siberia. Entire villages are at risk of collapse, transport routes are falling apart and supply networks such as oil and gas pipelines are becoming unstable. This in turn is causing the disruption of production and supply chains, as well as food and water shortages.

Climate change creates not only environmental problems but also security ones. This concerns Russia, for example: as the ice melts on Russia's northern coast, Moscow sees its security dwindling in the High North, since the sea ice has provided natural protection from access to Russia's northern border for centuries. This "loss of security" reinforces its "traditional siege mentality".[20] As such, the Russian interpretation of climate change as a threat to national security is politically relevant; from Moscow's perspective, it justifies the (re)militarisation of the Arctic region.

What is more, the "geopoliticisation" of the Arctic is largely driven by new economic and trade opportunities. Climate change is making the Arctic more accessible while at the same time exposing valuable resources, although there is still very little precise knowledge about the types and quantities of raw materials to be found there. New sea and trade routes are emerging or might emerge along the Russian and Norwegian coasts (Northeast Passage), through the islands of Canada (Northwest Passage) and across the still frozen North Pole in the Arctic Ocean (Transpolar Sea Route), making the distances between important markets considerably shorter, but also playing an increasingly important role for intra-Arctic traffic in connection with resource extraction.[21] In this way, the Arctic states stand to gain influence over future Arctic maritime and commercial traffic. Not only is this a major challenge facing the Arctic states themselves, it is also attracting new players such as China, India and Japan. These countries' interests are both economic and political. Numerous states are positioning themselves strategically in the Arctic by setting up their own Arctic research stations and undertaking marine expeditions in international waters in the Arctic Ocean.

The Arctic is considered the largest largely unexplored area for raw material extraction on earth. Huge energy resources such as oil and gas are thought to be located in the region, 85 per cent of them in shelf areas,[22] along with large quantities of mineral resources (such as

gold, diamonds, zinc, copper and platinum, as well as rare earths).[23] Evidence of mineral resources has only been found on land in the Arctic to date. While it is considered likely that there are mineral resources in the seabed of the Arctic Ocean, for example in continental fragments such as the Lomonosov Ridge, mining them is uneconomical in the long term and technologically difficult.[24] Fuelled by numerous studies on raw materials potential dating back to the 2000s, including those undertaken by the US Geological Survey (USGS),[25] a veritable hype began to emerge around Arctic raw materials. Given the high level of global demand for raw materials, international interest in their exploration and extraction has increased significantly.[26] The Arctic countries are observing these developments in their northern backyard with great scepticism. Russia in particular fears a race for raw materials outside its EEZ, which is why Moscow is making territorial claims through the CLCS that go beyond its current EEZ. Russia regards the Arctic as an "integral, geostrategically and economically significant part"[27] of its territory.

Nationalisation of a large part of the hitherto international Arctic waters is opposed not only by the United States and the EU, but also by China.

As already mentioned, Russia lays claim to the 1,800-kilometre Lomonosov Ridge, a point it strongly affirms in its 2020 Arctic Strategy. The country already symbolically raised its territorial claims there in 2007 by planting a Russian flag made of titanium. However, these claims overlap with those of Denmark and Canada, potentially leading to conflict if the CLCS does not decide in Russia's favour. While a decision on this is not expected for several years, it is already becoming apparent that Russia is increasingly failing to respect decisions made under international law. Should the CLCS decide in Russia's favour, it remains to be seen how other countries with interests in the Arctic will position themselves vis-à-vis Russia.

Nationalisation of a large part of the hitherto international Arctic waters under Russian control would not only lead to uncontrollable and unsustainable extraction of raw materials and mineral resources, it would also severely impede free navigation in the Northeast Passage. The United States and the EU are opposed to this in particular, as they see considerable potential for conflict and coercion by Russia. There would also be a conflict of interest between Russia and the self-proclaimed "near-Arctic" neighbour China, which is expanding its power base in the High North with a view to playing a role in determining the governance arrangements for the Arctic. This is because the Arctic Ocean is also of strategic importance to Beijing as a shipping route. For example, China's strategic economic project of a Polar Silk Road aims to "diversify transport routes and increase its own security of supply".[28] Growing Chinese naval activity is to be expected in the Arctic Ocean, particularly in the event of conflict, with the aim of securing key supply routes by military means.

Another issue that might cause tensions is the legal status of the Northwest Passage through northern Canada, which has not yet been recognised internationally as being Canadian. Canada regards the waterways of the Northwest Passage as being its national territory, which the United States and the EU reject as a matter of principle. For example, Canada considers the archipelago in the Far North as a zone over which it claims the right to exert sovereign and administrative control. The United States and the EU insist that these are international waters that link the Atlantic and Arctic Oceans and are thus open to ships for transit.[29] The guidelines of Germany's Arctic policy state that the current navigation and transit rights are to be preserved, for example. The aim is to "counter existing geopolitical tensions in the region and prevent conflicts (of interest) and potential crises in the Arctic".[30]

This means that the increasingly navigable routes might become subject to conflicts of interest. At the Arctic Council meeting in May 2019, then US Secretary of State Mike Pompeo highlighted the importance of the new shipping routes as they "could become the 21st century Suez and Panama Canals",[31] at the same time issuing warnings to Beijing that its efforts to expand infrastructure in the region and work with Russia to develop sea routes risked turning the Arctic into another area of competing territorial claims, similar to the South China Sea.[32]

Security in the Arctic

The Arctic Council and the security policy forums were designed to help keep the Arctic free of conflict. After the annexation of Crimea in 2014, security dialogue with Russia was suspended. Already in the early 2000s, tensions had risen as a result of Russian military modernisation programmes in the Arctic, but the West and NATO wanted to give the then fledgling Arctic Council a chance to exert a positive influence on Russia's Arctic policy.

Since Russian foreign policy's reflex is to prioritise security policy in the Arctic too,[33] the consequences of climate change for its national security and the deterioration of its relations with the West since 2014 prompted Moscow to secure its interests in the Arctic by military means.

On Russia's northern coast, for example, numerous military bases dating back to the Cold War era have been reactivated, expanded and equipped with state-of-the-art weapons technology, also with nuclear capability, including S-400 medium-range missiles capable of reaching NATO territory.[34] President Vladimir Putin paid particular attention to modernising his Northern Fleet of strategic nuclear submarines on the Kola Peninsula near Murmansk, which could pose a threat to NATO as the sea ice recedes. The Northern Fleet would have easier access to the North Atlantic as a result, especially in the area of the naval choke point between Greenland, Iceland and the northern end of the United Kingdom. In times of crises, Russia could not only impede maritime traffic between Europe and North America in this area, known as the GIUK gap, it could also severely or even permanently disrupt the critical infrastructure (especially communication lines) that lies at the bottom of the Atlantic.

Fig. 4: Greenland-Iceland-United Kingdom Gap (GIUK Gap) and North Atlantic Undersea Cables

Source: own illustration based on Hermann, Rudolf 2018: Die Nato will den "Flugzeugträger Island" wieder mehr nutzen, Neue Zürcher Zeitung, 13 Feb 2018, in: https://nzz.ch/ld.1356585 [27 Feb 2023]; TeleGeography 2023: Submarine Cable Map, in: https://submarinecablemap.com [27 Feb 2023].

The West – especially the United States and NATO – has responded more resolutely to the ongoing militarisation of the Arctic by Russia than it previously used to do. European Arctic states such as Sweden and Finland are increasingly complaining of Russian military activity in the Arctic and reacted to the Russian invasion of Ukraine by heralding a change in security policy. With the (expected) accession of these countries to NATO, for example, seven out of the eight Arctic states will be NATO members, potentially resulting in restrictions on the freedom of movement of Russian naval units in the Arctic region. Since spring 2021, Norway has

The Arctic as an "arena of global power and competition": Then US Secretary of State Mike Pompeo at a 2019 Arctic Council ministerial meeting in Finland. Photo: © Mandel Ngan, AP, picture alliance.

hosted a US B-1 bomber squadron at its Ørland base. The United States is also accelerating the military aspects of its Arctic programme with the aim of building defensive military capacity in the US Arctic region. The service branches of the US Armed Forces and the US Coast Guard have each developed their own Arctic strategies. NATO is also positioning itself more emphatically as an "antipole to Russia (and China)".[35] In its Strategic Concept published a few months after the onset of the war in Ukraine, the Alliance describes Russia's capability to "disrupt Allied reinforcements and freedom of navigation across the North Atlantic" as a "strategic challenge to the Alliance".[36] By the same token, NATO is warning against China, which it says is using political, economic and military means to increase its power projection and seeking to undermine the rules-based international order. The EU takes a similar view in its Arctic Strategy published in 2021: here, the Arctic is placed in a geostrategic context in which China, Russia and the United States vie for influence in the region. For this reason, the EU sees its extensive engagement in Arctic affairs as a geopolitical necessity.

The "geopoliticisation" of the Arctic reached the Arctic Council long before the Russian invasion of Ukraine. At the Arctic Council ministerial meeting in Rovaniemi, Finland, in May 2019, for example, then US Secretary of State Pompeo described the Arctic as an "arena of global power and competition".[37] According to Pompeo, this marks the beginning of a "new age of strategic engagement [...] with new threats to Arctic interests and its real estate".[38] In this way, the Trump administration ascribed a geopolitical importance to the Arctic that would complicate constructive negotiations. The Biden administration still relies on the Arctic Council even after the Russian invasion of Ukraine, but geopolitical conflicts of interest continue to block cooperation with Russia.

Outlook

Tension in the Arctic is higher than it was just a few years ago – and might increase even more. As long as the war in Ukraine continues, no improvement can be expected. Since March 2022, policy work on the Arctic Council, which is currently chaired by Russia, has been suspended. Norway is due to take over the Chairmanship in May 2023.

Washington is aware that excluding Russia from the Arctic Council in the long term could also entail strategic drawbacks.

Meanwhile, China's intention of playing an active and dominant role in the Arctic is not helping to alleviate tensions. With its late entry as a security and regulatory actor in the High North – having long been a reluctant Arctic state – the United States is now seeking to position itself to "effectively compete and manage tensions" within the framework of Washington's new ten-year Arctic strategy.[39] This new strategy comprises four pillars: security, climate change and environmental protection, sustainable economic development, and international cooperation and governance. In the area of security, Washington relies on military deterrence, a presence in the Arctic, and joint security with allies and partners so as to reduce the risk of unintended escalation.[40] The new superpower policy being pursued by Russia and China harbours potential for conflict in the long term, not least between these two countries.

In view of the current challenges to Arctic cooperation, the US advocates further support for Arctic institutions, including the Arctic Council, with the aim of positioning them to be able to manage the impact of increased activity in the region. In doing so, it focuses above all on compliance with international rules, norms and standards in the Arctic.[41]

Washington is aware that excluding Russia from the Arctic Council in the long term could also entail strategic drawbacks for the United States. On the one hand, both the civil and the military infrastructure in Alaska is weak. This is partly due to the lack of icebreakers, which are urgently needed to expand infrastructure, secure coasts, explore raw materials potential on the seabed and conduct research into climate developments. For example, the United States (like China) has only two icebreakers, while Russia has around 50.[42] Even India has six smaller icebreakers in operation. On the other hand, it is important for the United States to re-integrate Russia into the governance framework of the Arctic Council. The aim is to prevent Russia from unilaterally establishing a competing Arctic organisation in which non-Arctic countries such as China and India are represented as full members. Since the start of the Russian war against Ukraine, Arctic cooperation between Russia, China and India has intensified. It is certainly true to say that many states are currently actively working to capitalise on the breakdown of Arctic cooperation between Russia and the West.[43] On the one hand, as in the case of China, it is a matter of permanently securing access rights in the Northern Sea Route and thereby exerting influence in the Arctic region in the long term. On the other hand, it is in the interest of the emerging countries in particular to come to an agreement with Russia on access to raw materials in the Arctic, especially since these countries still rely heavily on fossil energy sources. In return, Moscow hopes to attract major investments and above all technological cooperation in view of Western sanctions.

The seven Western Arctic states agree that Arctic cooperation makes little sense without Russia as the largest Arctic country, especially since weather services, coastguard operations, and search and rescue services depend to varying degrees on cooperation with Russia. The same applies to globally significant polar climate research programmes and sea ice monitoring.[44] In June 2022, some research projects were resumed under the Arctic Council that are able to continue without Russia's participation.

At present, the "Arctic 7" states can only discuss Arctic issues with Russia in international organisations responsible for the Arctic such as the United Nations. The Western Arctic states will deliberately avoid provoking Moscow by establishing a new institution without Russia or by appropriating the Arctic Council and permanently excluding Russia.

The Arctic Council is currently experiencing what is probably its most serious crisis to date. A return to constructive Arctic cooperation is urgently needed in view of the climate challenges facing humanity, but this is virtually impossible at the present time. The outcome of the war in Ukraine will be a key factor here. Should Russia win the war, the rules-based international order would be permanently disrupted and cooperation with the Western Arctic states would be rendered impossible on a lasting basis. A defeat of Russia with the restoration of Ukraine's full sovereignty would allow for cooperation in the Arctic Council, but on the condition that Moscow commits to respecting the rules-based international order. This would require regime change in Moscow as much as anything, which is currently not foreseeable.

Ultimately, Moscow is also aware that multilateral cooperation in the Arctic is necessary for Russia too. However, the Russian leadership completely underestimated the reaction of the West after the invasion of Ukraine, and assumed that the Western Arctic states would continue negotiations in the Arctic Council as they did after the annexation of Crimea. It is ultimately to be expected that Russia will attempt to implement its Arctic strategy even without the Arctic Council, relying on support from China in particular.

– translated from German –

Michael Däumer is a consultant for issues concerning the Arctic region. He was the German representative on the Arctic Council from 2014 to 2018, having previously headed the Konrad-Adenauer-Stiftung's offices in Madrid and Amman.

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Arctic Minerals and Sea Routes

An Overview of Resources, Access and Politics

Arild Moe

Abundant Arctic mineral resources – hydrocarbons and hard minerals – are attracting attention. But what are the drivers and brakes of industrial development? Are the jurisdictional aspects clear, or is control of the resources subject to dispute? Likewise, Arctic sea lanes are opening up. Could access to them become a source of conflict?

The rapidly changing Arctic, with receding ice and discoveries of rich mineral resources, is attracting attention from many quarters. But what do we know about these resources and what is the status of development? Is there a race for them that could lead to conflict? Is development of shipping routes in the Arctic going to be important for world trade and could competition for access to them cause tension? These are the issues discussed in this article.

Arctic Hydrocarbon Resources

International interest in Arctic resource development really took off from about 2008, spurred by estimates from the United States Geological Survey (USGS) indicating considerable potential, at the same time as the receding ice cover in the Arctic Ocean was being widely discussed. Whereas less ice was primarily interpreted as an ominous sign of impending climate change, it also opened up prospects for better access to the riches of the Arctic as well as for shipping through the region. The image of abundant resources and an almost ice-free Arctic Ocean currently continues to dominate much of the media coverage of the region.

The USGS reports were staggering, estimating that the Arctic contained 12.3 per cent of the world's undiscovered oil resources and 32.1 per cent of its undiscovered gas resources.[1] But the general public – and also many observers and politicians – understood these figures to refer to proven reserves, which is something different. Undiscovered resources refer to estimates of the probability of discoveries, based on geological indications or similarities with other known regions. In the case of the Arctic, the estimates were made for large sub-regions. They said nothing about where exactly hydrocarbons could be found. To discover oil and gas offshore, extensive and costly exploration would have to take place. Moreover, the numbers were misunderstood as reflecting estimates for the Arctic Ocean alone. In fact, they also included vast land areas north of the Arctic Circle, much of it in Russia, where reserves had already been proven. Thus, altogether, the impression of new oil and gas resources available for exploitation was highly exaggerated.

It was also clear that if reserves were discovered offshore, they would be costly to produce. Nevertheless, development could be viable if global market prices were high enough. The fear of an imminent energy supply crisis and talk of "peak oil" – i.e. that global oil supplies are limited and that production would start to fall – soon waned with the unconventional oil and gas revolution, however, when production of shale oil and shale gas made the United States the world's number one petroleum producer. With an increasing concern for climate developments and efforts to decarbonise, attention has turned to "peak demand", since the global energy transition implies less use of fossil fuels. The uncertainty about future demand – and prices – for oil and gas has major consequences for offshore Arctic resource extraction because of the long lead times for development. It can easily take 15 years from the time exploration starts until production commences – if resources are discovered – and then the field has to be productive for up to 20 years to recoup the enormous investments. No one knows how prices

will develop over such a long period. For this reason, several big oil companies seem reluctant to engage in large new greenfield offshore projects in the Arctic. In cases where discoveries are made close to shore or near producing fields where existing infrastructure can be used, the calculations will be different.

Is There a Conflict Potential?

Another common impression is that Arctic offshore resources are to be found in contested areas or in areas outside national jurisdiction and that conflict could therefore arise in the search for and development of such resources. However, there are at present no large contested areas in the Arctic that are attractive for petroleum exploration. The last big dispute concerned the delimitation between Norway and Russia of a sizeable part of the Barents Sea where petroleum was expected to be discovered.[2] The parties negotiated for more than 40 years before drawing a boundary in 2010. In the meantime, they largely refrained from exploration in the area, although it was reported that at some point the Soviet Union tried to entice Western oil companies to drill there, presumably to put pressure on Norway, but to no avail. This underscores a general point, namely that oil companies are loath to work in areas with unclear or contested jurisdiction. One exploration may well cost upwards from 100 million US dollars.

There is no commercial pressure to gain national control over the seafloor in the Central Arctic Ocean.

There is, however, an area in the Central Arctic Ocean outside coastal state jurisdiction. The size of this area is yet to be determined because it depends on the outcome of a long and slow process in the Commission on the Limits of the Continental Shelf, a technical body established by the UN Convention on the Law of the Sea (UNCLOS) to make recommendations to coastal states on the outer delimitation of their continental shelves.[3] If a state claims an extended shelf beyond 200 nautical miles from shore, it must provide geological evidence that its shelf reaches out that far. Russia, which already has the largest continental shelf within 200 nautical miles, has submitted documentation for a significant extension. In a decision in early 2023, the Commission did not recommend a substantial part of the most recent claim – the Gakkel Ridge.[4]

Russia, Canada and Denmark/Greenland have claims that overlap. This situation has led some observers to conclude that there is a risk of conflict. The Commission was set up to assess scientific evidence only, and it will not give recommendations if there is a dispute between states over the delimitation between them. Resolving disputes is left to the parties themselves, which is what the Arctic coastal states Russia, Norway, Denmark/Greenland, Canada and the United States agreed to do, peacefully, when they signed the Ilulissat Declaration in 2008.[5] Some may question whether this commitment is still valid in today's tense international situation, but there are two good reasons why the risk of conflict still remains small.

Firstly, the areas in question are very far from land and the waters are very deep. There are, so far, no strong geological indications of interesting minerals there. This may change, but there are enormous uncontested continental shelf areas that are likely to be explored first. There is therefore no commercial pressure to gain national control over the seafloor in the Central Arctic Ocean.[6] Secondly, the right to claim an extended continental shelf, and the exclusive right of the coastal state to resources on the shelf, is derived from the law of the sea, codified in UNCLOS in 1982. A conflict over delimitation in the Central Arctic Ocean would undermine confidence in UNCLOS as a sufficient legal instrument for management of the Arctic. The United States has not ratified the convention but adheres to it as customary law. Proposals to establish an "Arctic Treaty" were on the table in 2008 – and were one of the

reasons why the Arctic Five (the Arctic littoral states) joined forces – and challenges to the exclusive rights of coastal states may come up again, for example from the rising superpower China. All Arctic states would have much to lose from developments of this kind. In the Central Arctic Ocean, the coastal states can agree to disagree, and this situation might continue for decades.

Status of Offshore Petroleum Activities

Most of the offshore hydrocarbon resources are expected to be found in relatively shallow waters, in other words less than 500 metres, on uncontested continental shelves of the Arctic states. But the outlook for development depends not only on the resource base. The framework conditions and regulations

Top diplomats of the Arctic coastal states in Ilulissat, Greenland, in 2008: At that time, the states reaffirmed their intention to settle overlapping territorial claims peacefully. Although it is questionable if this commitment is still valid today, the majority of the relevant raw material deposits in the Arctic are likely to lie in undisputed areas anyway. Photo: © Bent Petersen, epa, dpa, picture-alliance.

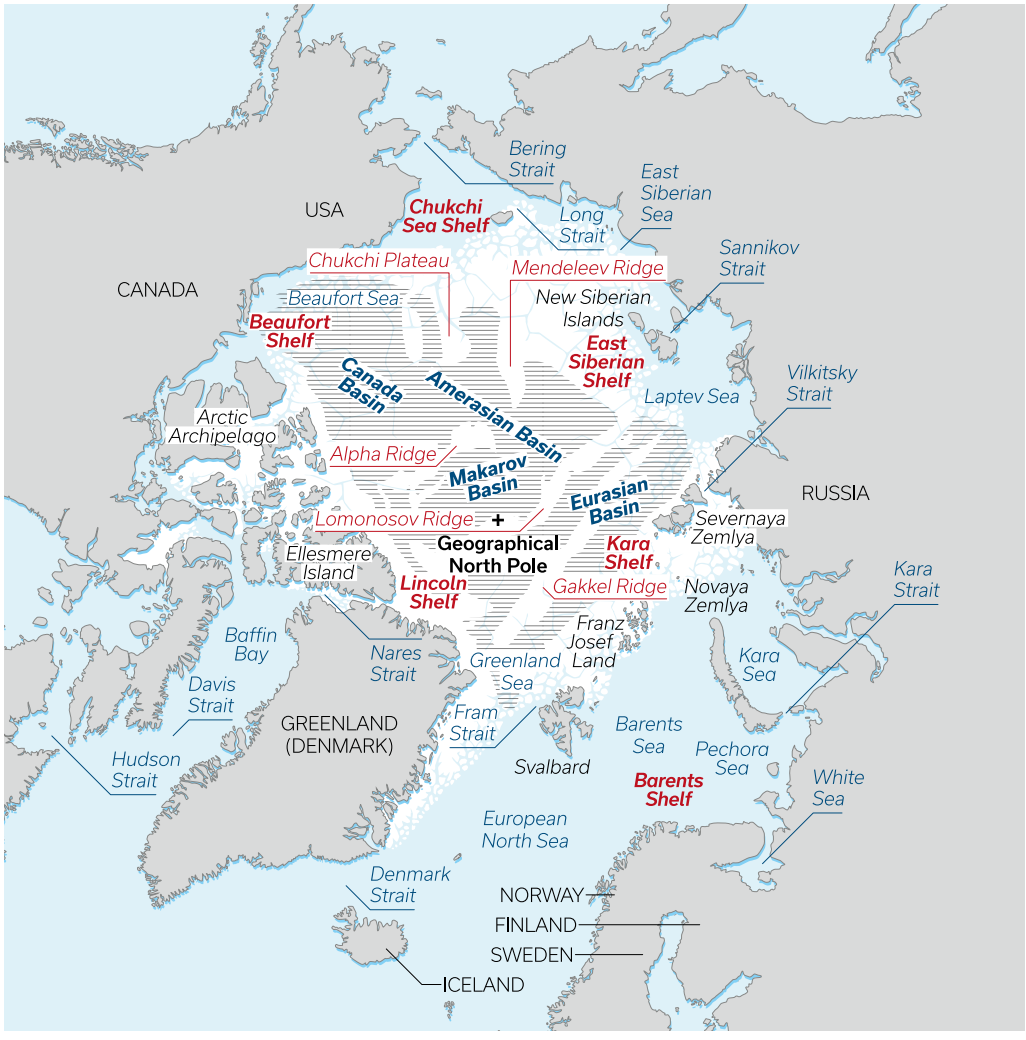
differ depending on national priorities.[7] And of course, the costs differ too.

The most promising areas for oil discoveries are on the outer continental shelf of Alaska. In 2021, American authorities estimated that there were 21 billion barrels (2.8 billion tons) of undiscovered technically recoverable oil resources in the Beaufort and Chukchi Seas, and huge gas resources.[8] Nevertheless, there is no activity there today, beyond a few wells relatively close to shore in the Beaufort Sea. Shell spent seven billion US dollars on an unsuccessful exploration programme, which it abandoned in 2015. A ban on offshore energy development on most of the outer continental shelf, which is under federal jurisdiction, was imposed by the Obama administration in 2016 on environmental and to some extent climate grounds. The ban was revoked by President Trump, but it was reinstated by his successor, Joe Biden.[9] The regulatory uncertainty remains. Onshore production continues in Alaska, but it is in decline due to depletion of the resource base. In a controversial decision, President Biden decided in March 2023 to open large sections of federal land for oil development.[10] However, vast natural gas resources both onshore and offshore are not considered attractive to exploit due to cost versus price calculations.

After a brief wave of enthusiasm among major companies, negative results from exploration drilling caused them to leave Greenland.

The offshore areas of the Canadian Arctic are also expected to contain very significant petroleum resources. Drilling took place in the 1970s and 1980s. In 2002 and 2004, new leases were sold when interest picked up. The most recent licences were issued in 2012. However, a joint moratorium on offshore activity was introduced with the United States in 2016. It is reviewed every five years. The eleven exploration licenses that had been granted have now been frozen. The Canadian government has announced that it wants to continue to suspend all oil and gas activities in Canada's Arctic waters.[11] There is no strong pressure politically or from industry to change this position.

Fig. 1: The Arctic Ocean, Marginal Seas and Subareas



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The USGS estimates indicated considerable offshore potential off Greenland, and the authorities and a large part of the population welcomed petroleum activity as a source of income that could make the country fully independent of Denmark.[12] However, after a brief wave of enthusiasm among major companies, negative results from exploration drilling caused them to leave Greenland. In 2021, the Greenlandic government declared an end to oil and gas exploration, citing environmental and climate concerns in addition to economic calculations.[13]

The Norwegian part of the Barents Sea is still considered a promising area in official Norwegian resource estimates. Petroleum resources are estimated to about 2,400 million tons of oil equivalent, divided between oil and natural gas. The lion's share of the resources is undiscovered, and large areas have not been explored.[14] The

northern part of the Barents Sea – the continental shelf around the Svalbard archipelago – has not been opened up for exploration at all. Exploration in the southern part started in 1980, but interest from industry has fluctuated and the response to recent licensing rounds has been modest. Two major projects are in production, the Snow White natural gas project and the Goliat oil project. A second oil project – Johan Castberg – is under development, and plans for a third oil project – Wisting – are well advanced. There is intense domestic debate about Norwegian petroleum activity with demands for exploration in new areas to be avoided and industry scaled back to pave the way for a decarbonised future. The government's policy so far is to sustain activity.

Russia has the largest continental shelf among the Arctic states. Exploration has taken place since the 1980s, starting with the Barents Sea. For a long time, however, offshore development was not a high priority because of the abundance of onshore resources. Political priorities changed in the early 2000s as the onshore reserve base had become more challenging and costly to develop. Geological surveys and drilling results indicated an enormous offshore potential, particularly in the Barents, Pechora and Kara Seas: some 100 billion tons of oil equivalent, surpassing USGS estimates by far.[15] Such figures have been taken at face value by many, despite their very uncertain basis.

The Russian petroleum industry lacked experience and technology for deep offshore operations, but a framework for cooperation with foreign companies was established, and large-scale projects were envisaged. Preparations for development of the huge Shtokman gas field in the Barents Sea were carried out by Russia's Gazprom together with Total of France and Norway's Statoil. The project was effectively cancelled in 2012, however, due to cost concerns and a negative market outlook caused by the rapid growth of unconventional gas in the United States. At the same time, large-scale oil projects were negotiated between the state-dominated Russian oil company Rosneft, Italy's Eni and Statoil in the Barents Sea, and between Rosneft and ExxonMobil in the Kara Sea and further east. By early 2014, it looked like a major offshore development in the Russian Arctic would soon be under way. The economic sanctions against Russia, and Arctic offshore oil in particular, imposed after the annexation of Crimea and the support of separatists in Donbas, put an end to this expansion. ExxonMobil withdrew just as one well had been drilled. And all cooperation agreements were frozen and later cancelled.

The successful start of Yamal LNG in 2017 opened a new chapter in Arctic navigation.

The official Russian position was first that Western majors could be replaced by Asian companies, i.e. Chinese ones. This has not happened though, partly because they lack the necessary experience but also because the significant fall in the oil price made expensive Arctic offshore projects look less attractive. Since then, official Russian reports have also modified their outlook. Newer estimates of economically recoverable oil and gas indicate a potential of about one billion tons of oil equivalent in the Russian western Arctic.[16] This is still a very significant volume, most of it natural gas. In a comprehensive oil policy paper from 2021, the Ministry of Energy declared that large-scale Arctic offshore development would hardly take place before 2035 because of a lack of technology and due to expectations that the oil price would remain too low.[17] Some exploration close to shore will continue, however, as will Russia's only producing Arctic offshore field Prirazlomnoe, which is located in shallow waters in the Pechora Sea and came on stream in 2013.

Resources and the Northern Sea Route

Extensive energy developments have been taking place for decades onshore in the Russian Arctic. In the 1990s, oil production began

from fields in the Nenets autonomous district in the northern part of European Russia, west of the Ural Mountains. Oil is transported out by sea from a terminal in the shallow Pechora Sea. But the most noteworthy development is exploitation of the enormous gas resources in the Yamal-Nenets autonomous district in North-West Siberia, east of the Urals. Development of

Between hope and scepticism: The official Russian expectation has been that international transit traffic on the Northern Sea Route will flourish once year-round use is secured. However, outside observers remain cautious about the potential. Photo: © Oksana Sotnik, TASS, dpa, picture alliance.

giant gas fields operated by Gazprom started in the 1980s, all connected to western Russia and Europe via pipelines. The region accounts for some 90 per cent of Russia's gas production. However, in recent years it is the production of liquefied natural gas (LNG) that has caught most international attention. The Yamal LNG plant on the east side of the Yamal Peninsula

processes some 19.5 million tons of LNG annually. The plant is majority-owned and operated by Novatek, which is a private company but has close ties to the Kremlin. TotalEnergies has a 20 per cent stake, and Chinese interests control 29.9 per cent. The project required sea-based transportation and included the construction of 15 icebreaking LNG carriers, owned and operated mostly by consortia of international shipping companies and one of them Russian owned.[18]

The successful start of Yamal LNG in 2017 opened a new chapter in Arctic navigation. About every 50 hours a carrier takes 170,000 cubic metres of gas to the market. Most of the gas has been sent to Europe, or reloaded there for further transport to Asia, but increasingly cargos are sent eastwards directly to Asia. The vision was, and is, further build-up of LNG production from several fields in the Ob Bay area to serve Asian markets. In addition, plans for a huge oil project in East Siberia – Vostok Oil – have been under way for the last few years, entailing transportation by sea. To facilitate this development, Russia has embarked on an ambitious renewal and expansion programme for its nuclear icebreaker fleet that would make year-round use of the whole Northern Sea Route possible. Even if the ice is decreasing and ice-free summers are realistic within a few decades, there will still be ice for parts of the year.

In the current situation and the near future, the Central Route is not a realistic option.

The expansion of shipments of hydrocarbons out of the Arctic changed the focus for development of the Northern Sea Route. Ten to twelve years ago, it was expected that international transit shipping between the Pacific and the Atlantic would soar, but it did not take off – for several reasons.[19] International shipping companies have not invested in special tonnage for Arctic shipping and the bulk cargo potential is limited. The big container shipping companies show scant interest in the Arctic route. Even though it is shorter than southern routes, it has limitations in terms of predictability (unexpected ice makes just-in-time delivery impossible), size due to shallow straits, and the lack of markets underway. The official Russian position has been that international transits will flourish once year-round use is secure, but outside observers remain doubtful about the potential, although some growth is expected. Some big liner companies have shown interest in establishing a cargo route together with Russian companies, but the sole company so far carrying out a regular cargo service on the whole route is China's COSCO, with four to five sailings per year in each direction.

There is no rush from international shipping companies to explore the route for transit, and Russian policies governing the growing destination shipping traffic have become more protectionist and do not encourage foreign participation.[20] The Russian war against Ukraine and sanctions have created new uncertainties which are bound to reduce outside interest further and which will also probably impact the development of hydrocarbon projects in Arctic Russia, due to reduced access to key technologies as well as markets.

The Northwest Passage and the Transpolar Route

The other Arctic shipping route, the Northwest Passage, which consists of several shipping lanes through the archipelagos in Arctic Canada, has not been developed as a commercial route at all. Canadian authorities have not encouraged the use of the route, partly for environmental safety reasons but also because of a dispute with the United States about the legal status of the route – as international straits or internal Canadian waters. There are also Inuit claims for control of parts of the route, as they rely on transportation over ice which would be broken up with the use of the route in winter. The ice situation is heavy for long periods of the year, and ice can be a hindrance even in the summer. As ice

breaks up in the Arctic Ocean, prevailing wind directions tend to bring ice floes into Canadian waters. Most vessels on the route are yachts, but in recent years large cruise vessels have been seen. The number of cargo ships is very small: only eight in 2022.[21] Nevertheless, as the ice situation is expected to get lighter, more commercial interest in transits is expected, particularly seasonal transportation of ore and metals with icebreaker support to processing plants in Asia.

There is also a third route through the Arctic – referred to as the Transpolar or Central Route – straight across the Arctic Ocean. This is not an existing seaway, but it is being discussed as a possibility as the ice continues to melt.[22] However, as argued above, ice will remain for at least parts of the year, making navigation unpredictable and risky. The safety risks of journeys in such waters so far away from any shore are substantial. In the current situation and the near future, the Central Route is not a realistic option.

Hard Minerals

The Arctic is expected to contain a vast array of hard minerals. Some reserves are proven, but generally a great deal of exploration will be required to assess and develop deposits. With the largest Arctic land territory, Russia stands out with expected deposits of several minerals and rare earth metals. However, exploring for and developing resources is costly and time consuming. It has long been considered necessary to bring in foreign investors to develop large-scale projects. This has met with political opposition, and the conditions for long-term investment in Russia have not been attractive, to say the least. With the tensions and uncertainty following the invasion of Ukraine, a willingness to invest in Russia seems even less likely. Only large state-owned Chinese companies may be interested, but even these kinds of companies have not undertaken much activity in the Russian mineral sector so far.

There is commercial interest in hard minerals in the other Arctic countries, just as there are domestic discussions involving indigenous rights and environmental concerns that may limit access for industry. Extraction of hard minerals and rare earth metals is at a very early stage, but several mineral projects in Alaska[23] and, to a lesser extent, in Arctic Canada[24] can be expected in the coming years. In any case, outside investors and industries have no exploration rights without permission from national – and sometimes regional and local – authorities.

The increasing need for rare earth minerals in green technologies has increased the focus on Greenland.

A case of special interest is Greenland, a nation in the Kingdom of Denmark with extensive autonomy, a huge territory, a very small population – and rich deposits of minerals and rare earth metals.[25] It has been speculated that the country would be vulnerable to pressure for access to its mineral resources due to limited state capacity and because mineral development could offer an important diversification of its economy, ultimately paving the way to full independence from Denmark.

More specifically, it has been argued that Chinese companies with strong state connections were ready to start large mining projects in Greenland. However, closer inspection showed that the Chinese interest was exaggerated and that announced investments never happened.[26] Nevertheless, Chinese investors are involved as part owners in a controversial uranium project. Permission to develop has not been given, however, and there is a heated internal debate about the benefits of opening mines versus the environmental impacts and threats to traditional livelihoods.[27] The increasing need for rare earth minerals in green technologies, and the dependence on China for these resources, has increased the focus on Greenland. Melting glaciers are making deposits more accessible. Over the last few years, several foreign companies

have evaluated or applied for exploration rights, and the political interest in Greenland and its resources, particularly from the United States, has soared.[28]

Deep Seabed Minerals

Exploitation of deep seabed minerals, which was on the agenda in the 1980s, has enjoyed a come-back in recent years connected with a growing need for specific metals. Arctic continental shelves are considered promising areas, but there are considerable technological and environmental challenges associated with mining on the seabed that need to be resolved.[29] Canada has imposed a moratorium on deep seabed activity in waters under its jurisdiction,[30] whereas Norway is actively mapping its resources and is preparing to open up for exploration in certain areas.[31] Exploration and exploitation will be under national control, but if resources on the continental shelf around Svalbard are considered interesting, a dispute about the conditions for exploitation may emerge.

The Norwegian position is that Norway has exclusive resource rights there, whereas some states hold that the equal treatment provisions of the Svalbard Treaty apply. However, there is no disagreement that Norway has sovereignty and can decide whether to open the shelf for commercial exploitation of minerals or keep it closed. This is a parallel to petroleum activity. In the absence of general support for the Norwegian position, the shelf has not been opened. The possibility of mining on the seabed in the Central Arctic Ocean outside coastal state jurisdiction is very remote, but a framework exists as the International Seabed Authority was established under UNCLOS for that purpose.

Security Implications

There are no security implications arising from disputable ownership to Arctic mineral resources at sea or on land. The idea that there are attractive resources in contested areas is still widespread but it is misleading, and mineral resources outside national jurisdiction are not on the agenda for technological and economic reasons, although they may be in future. Security conflict over resources today would imply claims to resources belonging to another state, which does not look probable, even now. A more realistic scenario would be a combination of political and economic pressure to gain access to resources.

The idea that there are attractive resources in contested areas is still widespread but it is misleading.

The sea routes are a somewhat different matter. A basic principle in the law of the sea is freedom of navigation, which is balanced against the extensive coastal state rights to resources in the ocean and on the seabed. Outside internal waters, foreign ships enjoy right of passage through territorial waters (twelve nautical miles from shore), and further out the coastal state cannot in principle impose any restrictions. There is, however, an exception to these rules in UNCLOS Article 234, which states that "Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance."[32]

Russia refers to this article to justify its management system for the Northern Sea Route, which involves permits to sail through the route and mandatory use of Russian icebreakers when necessary. Objections have been raised, particularly by the United States, that the rules

concerning the Northern Sea Route are discriminatory, and the scope is also questioned. Can the whole sea route area really be considered ice-covered for most of the year?[33] The United States has also repeatedly protested against the lack of an exemption for state vessels (including military) as codified in UNCLOS Article 236. In 2022, Russia imposed even stronger restrictions on foreign warships, requiring notification through diplomatic channels three months in advance.[34]

The United States is particularly concerned about navigational rights in the straits of the Northern Sea Route. The Russian position is that these relatively narrow straits are internal waters; thus the scope for regulation would be very broad. The United States holds that the straits fall under the UNCLOS definition of "straits which are used for international navigation". Ships under foreign flag have transit rights in such straits. These transit rights are very similar to "innocent passage", which military vessels enjoy in the territorial seas, but they go further, as submarines do not have to navigate on the surface. The United States maintains that it has a right to send naval vessels through the Northern Sea Route without notification, as it has done in other sea areas with contested jurisdiction in what are known as FONOPs – freedom of navigation operations.[35] Such a move could bring with it the risk of military conflict, but there is no indication that the United States is considering it.[36]

Commercial users of the sea route have accepted the Russian regulations, however. More Russian restrictions will impact their economic interest in the sea route, but do not create security problems. There is no likelihood that foreign states will use military power to support passage of cargo vessels through the sea route.

Whereas military conflict associated with the search for and development of mineral resources is unlikely, Arctic resource policies and management may nevertheless become engulfed in conflict. That will be primarily between domestic actors who support or reject specific projects, however. Environmental impacts and effects on traditional livelihoods are already a concern in many places, and positions seem quite likely to become further entrenched. External activists may become involved in these kinds of conflicts. Pressure from other countries or international organisations is conceivable, as witnessed, for example, by declarations about conservation of the Arctic environment from the EU. Such developments may turn resource projects into foreign policy and diplomatic challenges. On the other hand, the war in Ukraine and uncertainty about developments in Russia will prompt a reassessment of critical raw material supplies, not only oil and gas, which is likely to increase the importance of non-Russian parts of the Arctic.[37]

Arild Moe is Research Professor at the Fridtjof Nansen Institute in Lysaker, Norway.

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under discussion

The Arctic. Between Conflict and Cooperation

Threats of Irreversible Losses

Climate Change in the Arctic and the Consequences of Russia's War in Ukraine for International Research Cooperation

An Interview with Professor Antje Boetius

Professor Boetius is a marine researcher and Director of the Alfred Wegener Institute, the leading German institution in the field of polar and marine research. In an interview with International Reports, she explains why climate change threatens to cause irreversible losses in the Arctic, why the Russian attack on Ukraine has also severely impacted research in the polar region, and what she is still keen to find out about the Arctic.

International Reports (IR): *Professor Boetius, how many times have you been to the Arctic?*

Antje Boetius: Only counting the expeditions to sea that I've undertaken as a marine and deep-sea researcher, I've been there nine times so far. Each expedition lasted up to three months, often in ice-covered waters around the North Pole, and involved exploring the Arctic deep sea, in particular the seabed. In addition to these expeditions, I also regularly attend research conferences in the Arctic region, for example in Tromsø and Reykjavík. I've also been to Murmansk and Kirkenes. And then there was an unforgettable land expedition to Greenland last year.

IR: *Let's stay with the expeditions for now: how time-consuming is the preparation?*

Boetius: The Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, organises expeditions by sea, land and air. I myself am mainly involved in the seafaring expeditions. Undertakings of this kind often have a lead time of several years. Our research icebreaker Polarstern plays a crucial role here: there are very few icebreakers of this kind in the world that can be used to penetrate the ice and then explore the sea and the seabed below it. This is one of the reasons why we start coordinating internationally long before the start of an expedition, to establish which researchers from other countries will be participating, what expertise they can contribute and which research questions the expedition should be designed to answer.

IR: *Can you give us some examples of the questions that are investigated?*

Boetius: Nowadays, the focus is often on the impact of climate change on the Arctic. For example: how is it causing changes in weather phenomena, ocean currents, eddies and wave movements? How is it affecting fish and other life in the region, going right down to the deep ocean? A second important area is seabed research on the origin of the Arctic basins and the history of ice coverage. The seabed in the Arctic is quite poorly mapped. There can be inaccuracies of 100 metres with regards to depth, and underwater mountains are sometimes recorded kilometres away from their actual location. This is because the Arctic

seabed has so far only been roughly surveyed by military submarines that lacked the ideal instruments for this purpose – and because there are too few research icebreakers in the Arctic.

IR: *When was the first time you went there?*

Boetius: That was in 1993. So I actually got to experience the "old Arctic" as it was back then. There were already some initial warning signs at the time, but most people didn't think that climate change could alter a region as quickly as it actually did in the Arctic. I'm lucky to have had the chance to visit the Arctic in its former state as a doctoral student, and even now I'm still able to draw on that for my research. Samples I took and records I made in 1993 now serve as reference points that allow me to document developments and show how changes in the climate directly affect life in the Arctic.

IR: *What is the first thing that strikes someone who went to the Arctic in 1993 and returns to the same place today?*

Boetius: You really can observe climate change and its consequences with the naked eye. The most striking phenomenon is the sea ice. When I was in the North Pole region for the first time some 30 years ago, the sea ice there was about three to four metres thick on average. Today, we see a thickness of something like one and a half metres around the North Pole in summer – and sometimes the sea is completely free of ice. But you can observe climate change on land too, in the thawing of permafrost soils. I can give you a specific example: the Alfred Wegener Institute's research station on the Svalbard archipelago is built half on stone, half on previously frozen ground. There's now a crack in the building because the part that was built on what was supposed to be permanently frozen soil is sinking into the mud. This dwindling reliability of the ground surface is something a lot of people are experiencing in the Arctic today.

And then there's the social change too: the Arctic is an area of migration that is attracting more and more people from all over the world. Many of the towns in the Arctic – whether in Norway, the United States or Canada – are now very international and diverse. That's another change I've observed over time, apart from the scientific aspects.

IR: *Let's take a closer look at the issue of climate change. We often hear that it's more obvious in the Arctic than elsewhere. Is this really the case, and if so, how exactly is this manifested?*

Boetius: Yes, it really is true. There are weather stations on land and at sea that all indicate that the warming of the Arctic region has progressed three to four times faster than the global average over the last 40 years. You can see it in the receding of the ice cover too. What is left at the end of summer decreases by about 13 per cent each decade. This is alarming, of course, because it throws the entire system off balance – and hence the life within that system.

IR: *The Paris Agreement set the target of limiting global warming to well below two degrees, and if possible, to 1.5 degrees. The latter now seems a distant prospect. What difference will it make in the Arctic if the temperature increase is limited to 1.5 degrees as compared to two degrees?*

Boetius: In a few years' time, we will have reached the amount of CO_2 in the atmosphere that would cause an average warming of 1.5 degrees – because we are unlikely to achieve climate neutrality quickly enough, that is, well before 2050. Nonetheless, a lot is happening in terms of energy transition. Already today, global warming is accompanied by so many extremes and so many shocks to life on earth that we can expect enormous upheavals in society. When, where and how this will happen is difficult to predict, but social change is driven by the displacement of people, the health risks and the economic losses that we're already starting to see – as well as by the enormous opportunities provided by increasingly affordable renewable energies. What is more, global warming of 1.5 degrees means about six degrees of regional warming in the Arctic, which will cause the sea and land ice and the permafrost to melt increasingly fast. This in turn will exacerbate climate change, extreme weather and the rise in sea level. One of the differences is that the Arctic will be ice-free every few decades if the global temperature increase is limited to 1.5 degrees, whereas this will occur every few years if the temperature rises by two degrees – with fundamental consequences for all life forms.

Dedicated researcher: Antje Boetius has been Director of the Alfred Wegener Institute since 2017.
Photo: Esther Horvath, AWI CC BY 4.0.

IR: *Why should this worry those of us who live well south of the Arctic Circle?*

Boetius: There are several reasons. First and foremost is the global rise in sea level – the loss of ice mass in Greenland, for example, crucially affects habitats on the Pacific islands and in coastal areas worldwide. And since the Arctic is warming faster than other regions of the world and losing ice, there is a change in the temperature gradient – the difference in temperature – between the northern polar region and the lower latitudes. Researchers assume that this has an impact on the polar vortex and the jet stream, in other words the strong wind bands that shape our local weather at high altitudes. As a result, certain weather patterns can settle over Central Europe for longer, for example, instead of passing by relatively quickly. This could result in, for example, prolonged heat and drought in summer – or deadly polar cold and massive snowfall in America and Japan, as happened last Christmas.

In addition, the thawing of the ground creates problems for infrastructure such as pipelines and transport routes. I already mentioned the example of our research station on Svalbard earlier. The same thing is happening with other infrastructure: there have already been oil spills in Russia as a result of tanks and pipelines breaking. Moreover, we're seeing shifts in fish populations and in the distribution of other wildlife, with consequences for biodiversity and ecosystems.

We also want to ensure that polar bears and the Arctic walrus survive. Another thing that worries me greatly is that there's a threat of irreversible loss if the sea ice continues to recede in the Arctic. And we're now seeing a negative trend in Antarctica for the first time too. Once species become extinct and more and more Greenland ice has melted, thereby raising sea levels, we can't reverse these processes.

IR: *On the subject of melting ice: there has been some debate about the extent to which there are certain critical tipping points that would lead to a runaway effect in terms of the disappearance of ice cover. Can you assess if we are actually on the verge of such a tipping point or even if we may have already passed it?*

Boetius: Physical tipping points are known from Earth's history. At such points, elements are changed into a different state by disturbances – for example the loss of sea ice at a certain level of global warming or the melting of the Greenland ice. Researchers have recently determined that we're getting dangerously close to some of the physical tipping points, especially in the Arctic region. The assumption is that biological tipping points – extreme species extinction – and social tipping points will be reached even faster.

IR: *Another frequently mentioned consequence of the melting ice is that raw materials that were previously virtually inaccessible might now become available for utilisation. What are we talking about here specifically?*

Boetius: The main focus is on natural gas, but there is also oil. Until now, sea ice restricted the exploration and extraction of these natural resources, simply because ice is an obstacle and a hazard for shipping and for infrastructure such as drilling platforms. When fragmented ice drifts on the water, pushed along by the wind, a passage that is free of ice one moment can very quickly become blocked. Ships travelling in the region to transport raw materials, for example, can get stuck. Ice can also build up so much pressure that it causes damage, in a worst-case scenario resulting in the threat of oil or gas leakage. That would be particularly devastating in the Arctic. Firstly, it would be extremely difficult to repair leaks or recapture spilled oil there, and secondly, the marine bacteria that could normally break down the toxic hydrocarbons over time work much more slowly in the cold waters of the polar region.

It is worth noting, however, that while estimates of the extent of raw material deposits in the Arctic were once extremely high, they have now been revised downwards again. In addition, local people are beginning to resist oil and gas extraction in many places in the Arctic, since this often conflicts with other resources that are important to the local population – namely endemic biodiversity, health and tourism. The importance of the latter has increased greatly in the Arctic region, and the last thing tourists want to see are oil platforms or oil-streaked ice.

In addition to gas and oil, there are also thought to be deposits of metals and rare earths – you might remember the episode of former US President Donald Trump coming up with the idea of buying Greenland for this reason. But here, too, I'd be rather cautious making predictions about the exploitation of these deposits. Any potential consequences would first have to be clarified with the population and First Nation representatives.

IR: *When the Cold War ended, people hoped that the Arctic would become a place of peaceful cooperation, especially in the field of research. Can you give a specific example or tell us about a particular situation in which you as a polar researcher were dependent on international cooperation?*

Boetius: Generally speaking, we obviously foster a culture of international cooperation in science and academia that works regardless of where our partners come from. If you ask me to give you a specific example of a situation in which we wouldn't have managed without this kind of cooperation, our large-scale MOSAiC expedition of 2019/2020 immediately springs to mind: here, researchers from 20 countries explored the Arctic over the course of a year on our Polarstern icebreaker, which was frozen on a drifting ice floe. In the middle of the project, the COVID-19 pandemic struck, meaning that many of the supply ships were no longer available. As it turned out, we were able to fall back on the Russian research icebreaker infrastructure to transport our people from one place to another. Otherwise we would have had to abandon the expedition. Our Russian partner institutes have indeed played an important and helpful role in enabling researchers

Endangered: As global warming progresses, the Arctic is threatened not only with reaching physical tipping points, but also with an irreversible loss of animal species. Photo: Mario Hoppmann, AWI CC BY 4.0.

to access the Arctic region and in terms of research itself. That's all over now – and it's already clear that there is no quick remedy in sight.

And since you just mentioned the end of the Cold War: the tradition of the Arctic as a region of cooperation actually goes back much further. For example, the Svalbard Treaty of 1920 is one of the oldest international cooperation treaties in existence and remains valid to this day. At the time, Norway was given sovereignty over the archipelago to ensure occupational safety – in connection with coal mining during that era – and environmental protection on behalf of all parties. For its part, the country has since been responsible for the peaceful development of the region and guarantees citizens of all signatory nations the opportunity to pursue economic and scientific activities there. The Arctic Council has also played a major role in securing the development of the Arctic region. If we look back at the recent past, it is clear that even despite the Russian war of aggression against Ukraine, at least the last remnants of the rules of collaboration are still in place: as far as I know, Russia continues to adhere to the Polar Code of the International Maritime Organization, which regulates the safety of ships operating in the polar region. Coordination with Norway on the conservation of fisheries resources is still ongoing too.

IR: *And yet the Russian attack on Ukraine in February 2022 also marked a turning point for research cooperation in the Arctic, didn't it?*

Boetius: Yes, of course. Spring 2022 was a watershed moment. In the wake of the sanctions imposed on Russia, collaborative research with Russian universities and other research institutions was immediately discontinued too. The German science organisations and the Federal Ministry of Education and Research took very determined action, and the European Framework Programme soon followed suit. The suspension of cooperation with Russian research institutions and Russia's withdrawal from the Bologna Process in this area are obviously having negative impacts on research, in the long term primarily for Russia itself and the next generation of Russian academics. As far as climate change is concerned, the Siberian region is crucial to understanding the evolution of Arctic sea ice and nature as a whole, as well as methane emissions from melting permafrost. In this respect, the end of cooperation is not just damaging to the region in question, it is also detrimental to our global understanding of the development of emissions. After all, we had a joint observation infrastructure for this purpose; now we can no longer invite each other to take part in future expeditions. This will hinder us in expanding our knowledge of the Arctic as a whole. It's a loss that has to be talked about – even though politically speaking there's obviously no alternative right now.

IR: *Not even within the context of international science?*

Boetius: Even as a scientist, I can't entirely ignore political attitudes and the overall situation. When the president of a Russian university that we used to work with writes a fiery letter welcoming the fact that Ukraine is now finally being "freed", it's simply no longer possible to work together to teach students. If we don't have a common understanding of values and reality and if our communication is no longer based on facts, then scientific cooperation simply doesn't work anymore.

Things are somewhat different at the personal level: individual scientists who are already conducting joint research on certain non-military issues or who want to apply for a fellowship, for example, should not be excluded purely based on their nationality. Germany's Federal Foreign Office and the Federal Ministry of Education and Research have agreed on this with the science organisations, also involving bodies at the European and international level. Nonetheless, cooperation has in fact been put on hold at an institutional level. Our laboratories in Russia are closed, and the contracts have been suspended. There is no dialogue at management level with people in the science system there.

IR: *Can you talk about the war at a personal level?*

Boetius: No, it's virtually impossible to exchange views on the subject – not least for the simple reason that, as we all know, in Russia even referring to the war as a war is enough to incur a severe prison sentence. Talking openly would simply entail enormous uncertainty and a huge risk, even if the people we talk to were willing to do so. Not being able to speak openly is something that hurts when you've known people for so long; in my view, it weakens mutual trust

too. Indirectly, the war is always present of course – even if you're writing a paper with someone from Russia about something as specific as the distribution of Arctic mussels, for example. Working creatively together, while at the same time reading about the most brutal atrocities in our newspapers here, with the Russian press talking about liberation – that really doesn't work well. Some people are able to cope with this balancing act, but most people I speak to find it extremely uncomfortable and have given up.

***IR:** Is it fair to say that research cooperation in the Arctic has reached an all-time low?*

Boetius: That's definitely the case, unfortunately. There are still some last remnants of cooperation and coordination. We are all trying to maintain these, but it's extremely difficult. And Russian science itself is certainly suffering the most.

***IR:** As we come to the end of the interview, let's focus on the future again: is there any particular question that you as a scientist are still keen to pursue?*

Boetius: One question I am very concerned with is why life in the deep sea responds so directly and quickly to changes at the sea surface, such as climate change. Here we're talking about organisms that actually live in permanent darkness and cold about four kilometres below the surface of the water. Yet it's possible to detect changes in the composition of communities that are caused by things actually happening so far away on the surface. Why is that? This is a question that is absolutely crucial in terms of the development of biodiversity and the role of human beings.

My second major project in the Arctic revolves around understanding the evolution of the Arctic Basin. There's a gigantic ridge system running through the middle of the Arctic Ocean, known as the Gakkel Ridge. I myself conducted the first ever research on the biotic communities on the seamounts of volcanic origin there: we mapped these mountains and found exotic life forms on the seabed. There are hydrogen-powered ecosystems that seem almost extra-terrestrial – ancient sponge gardens. So this is all about discovering and exploring life forms and landscapes that are not known anywhere else on Earth.

***IR:** And when will you go on your next expedition to the north?*

Boetius: A two-month expedition is due to set off in August that will again take me to many places I visited previously in 1993 and in 2012. Naturally I'm curious to see what I'll find there, 30 years after my first visit in connection with my doctoral thesis. It'll be my first major expedition in five years. What is more, the research icebreaker I mentioned earlier, the Polarstern, is now coming to the end of its life. It's more than 40 years old and will be replaced in a few years' time. Politically, it was a very important decision by the Federal Government that the ship should have a successor. This is a huge investment by Germany in the international polar research

infrastructure – and in the knowledge it enables us to generate. And of course it's also a geostrategically important investment to build a new icebreaker of this kind. It was by no means easy arriving at the decision, but when I speak to colleagues from Canada, the United States, Norway and Denmark, it's certainly regarded as a vital commitment to peaceful cooperation.

The interview was conducted by Sören Soika and Fabian Wagener – translated from German.

Dr. Antje Boetius is Professor of Geomicrobiology at the University of Bremen and Director of the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, in Bremerhaven. Throughout 2023, she will be providing guidance and support for the work of the Konrad-Adenauer-Stiftung as a Fellow.

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Interjection

The Arctic. Between Conflict and Cooperation

New Perspectives on the Far North

Risks and Options for Germany's Arctic Policy

Knut Abraham

Germany's Arctic policy to date has largely consisted of declarations of intent concerning environmental protection and multilateralism. This has to change: after all, Russia is taking an increasingly confrontational stance in the Arctic too, where it is pursuing a military build-up. At the same time, China is likewise adopting a more ambitious approach in the region. For this reason, security must play a greater role in Germany's deliberations on the Far North in future.

Polar bears, the Northern Lights and an endless expanse of white are what most people associate with the Arctic. Politically, the northernmost region of the world has not attracted much interest from Germany to date. Through the Arctic Council, the Arctic states have tried to keep geopolitical tensions away from the region since 1996, seeking to settle differing interests between the states in a peaceful manner instead.

During the Cold War, the Arctic did have a key role to play in military terms, as the shortest flight distance for strategic intercontinental missiles and bombers between the Soviet Union and North America passes over the North Pole. The Soviet Union also hid submarines with second-strike nuclear capability under the Arctic ice. Huge radars were used as an early warning system for approaching missiles and bombers. When Mikhail Gorbachev advocated turning the Arctic into a "zone of peace" during a trip to the Kola Peninsula in 1987 in connection with his reform efforts, this raised hopes, and it was from this idea that the Arctic Council emerged in 1996.

That body is an intergovernmental forum that brings together the eight Arctic states – Denmark (with Greenland), Finland, Iceland, Canada, Norway, the Russian Federation, Sweden and the United States (with Alaska) – along with several observer states, including Germany, observer organisations and six organisations representing indigenous peoples. Joint working groups have so far addressed issues such as environmental protection, sustainable development and disaster management in the Arctic. In line with the idea of "Arctic exceptionalism", not least with the aim of securing cooperation with Russia too, the issue of security has deliberately been left to one side. This has also been reflected in the EU's Arctic policy up until now.

In addition, regional stability is based on a network of agreements that regulate shipping and resource management. The most important of these is the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which determines the rights of use and control of the Arctic Ocean and adjacent waters and has so far averted many disputes in this region. New problems are now emerging in connection with shipping lanes such as the Northwest Passage through the Canadian archipelago and the Northern Sea Route along the Russian coast, where melting ice is increasingly freeing up access over the summer. The partial opening of these routes has led to players such as China increasing their presence in the region in recent years and making investments there on a continuous basis. Most recently, the US Coast Guard repeatedly detected Chinese and Russian warships operating together in the US exclusive economic zone (EEZ) around Alaska.[1]

Still economically insignificant and rarely used, the Northern Sea Route shortens the journey for merchant ships between Europe and Asia, potentially reducing fuel costs by about 20 per cent. Yet the total costs, including bureaucracy, are significantly higher than those incurred using the

Suez Canal route, for example. The Arctic clause in UNCLOS that is actually designed to promote environmental protection and security is being invoked by Russia and Canada to extend their sovereign rights to waters that are only intermittently covered by ice. However, the Arctic clause in Article 234 UNCLOS only allows for "non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone".

New insights into the continental plates could lead to previously agreed territorial boundaries being called into question again.

Yet Russia passed a law in March 2019 requiring foreign governments to give 45 days' notice before sailing the Northeast Passage.[2] This restricts the freedom of navigation and is in line with Russia's approach of reserving the route primarily for its own use. The United States, the EU and China classify waters outside the twelve-mile zone that are not covered by ice as international waters. Back in 1988, Canada and the United States signed an Arctic Cooperation Agreement in which they agreed that US ships would only sail in waters claimed by Canada after registering with the Canadian Coast Guard.[3] Clear rules apply to straits and ice-free international waters: enforcement of these rules is important for international shipping and therefore for Germany too. The United States repeatedly conducts "freedom of navigation" operations in unlawfully claimed waters such as the South China Sea to challenge excessive maritime claims. For German ships to be able to move freely in international waters too, it may become necessary for Germany to insist on this right in the future.

Russia has been surveying the Lomonosov Ridge in the Arctic Ocean for decades. In 2001, Russia declared an area of 1.2 million square kilometres, which includes the Lomonosov Ridge and the North Pole, as an extended continental shelf. However, an extended continental shelf may not extend further than 350 nautical miles from the coastal state baseline and may not extend more than 100 nautical miles beyond the 2,500-metre water depth line. To claim a 2,000-kilometre submarine ridge as a continental shelf and to include the 4,300-metre-deep North Pole makes

Moscow's most important asset in the Arctic: Russia's Northern Fleet plays a crucial role, not least in ensuring its second-strike nuclear capability. Photo: © Lev Fedoseyev, TASS, dpa, picture alliance.

a mockery of the concept of a continental shelf.[4] In such cases, the UN Commission on the Limits of the Continental Shelf can only make a recommendation as a basis for arriving at a political agreement. New insights into the continental plates and islands revealed by the melting of the ice caps could also lead to previously agreed territorial boundaries being called into question again. In the Ilulissat Declaration of May 2008, the polar states committed to abide by the principles of UNCLOS in resolving overlapping claims in the region. Due to China's violations of maritime law in the South China Sea and Russia's war of aggression in Ukraine, however, reliance on international agreements is unlikely to be sufficient to prevent conflicts over opposing interests in the future.

The End of Arctic Exceptionalism and Russia's Military Efforts

The period of largely peaceful coexistence since the end of the Cold War is now over. Governments of the Western world were roused to action by Russia's war of aggression against Ukraine that started in February 2022, preceded by ultimatums being issued to the United States and NATO. Hopes that even relations with authoritarian states such as Russia and China could be based on rules and settled exclusively by means of diplomacy were disappointed, with Russia failing to be deterred by threats of sanctions. March 2022 saw the termination of cooperation with Russia, which chaired the Arctic Council. Cooperative research in the Arctic was discontinued; as a result, the Arctic zone of the Russian Federation can now no longer be used for joint research. In June 2022, Sweden, Denmark, Finland, Iceland, Canada, Norway and the United States nevertheless decided to resume project work without Russia.

Russia's main objective in the Arctic is to ensure second-strike nuclear capability.

There were numerous indications that President Vladimir Putin was serious about his superpower ambitions and his quest for imperial expansion. Ever since 2014, Russia has taken a more confrontational stance in the Arctic and has massively expanded its military capabilities there. The region remains poorly developed in terms of infrastructure, Russia's financial resources are limited and the population decline is worsening.[5] Nonetheless, the actions taken by the Russian regime in Ukraine show that its superpower ambitions and imperial expansion are more important to it than the welfare of the population – in particular that of national minorities.

Russia has three primary objectives in the Arctic: the most important of these is to ensure that the Russian submarine fleet on the Kola Peninsula has second-strike nuclear capability. The second objective is to gain access to the North Atlantic and European Arctic waters. The third is to provide military cover for the pursuit of Russian economic interests and investment projects, not least to secure commercial use of the Arctic route between Asia and Europe, which will be free of ice in the future.[6]

Moscow's most important tool in this regard is the Northern Fleet. It also has newly established combat units with a total of 6,000 troops and modern air defence systems on the northern coasts, not to mention transport, reconnaissance, communication and command systems. Several of the systems developed especially for the Arctic have already been spotted and destroyed in Ukraine.[7] Russia is building nuclear-powered icebreakers, also enabling the military to access remote regions. Old military bases and airports have been reactivated and modernised, such as those on the island of Novaya Zemlya and the New Siberian Islands. In 2007, a submarine expedition placed a Russian flag on the seabed at the North Pole – as a symbol of Russian sovereignty claims.

Climate Change and the Economic Importance of the Region

The sea ice extent of the Arctic has roughly halved in the last four decades as a result of climate change. Once inaccessible raw material deposits can now be exploited more easily, and new economic sectors can be established in the Arctic. Modern technologies even enable more efficient extraction of raw materials from under the ice.[8] The relevant economic sectors in the Arctic are energy, non-energy land resources, shipping, fisheries, tourism, agriculture and livestock. It can be assumed that there are still many undiscovered raw materials under the ice that might attract interest.

Russia is particularly dependent on revenue from the raw materials sector: this sector offers particular advantages in a kleptocracy dominated by oligarchs – benefits that are exploited

Showing the flag in the Far North: Secretary General Jens Stoltenberg meets NATO soldiers during the Cold Response 2022 exercise in Norway. A few weeks earlier, Russia had invaded Ukraine. Photo: © Annika Byrde, AP, picture alliance.

by the ruling class and that serve to maintain the stability of the regime. The export of these resources not only serves to enrich individuals, however; it also generates the funds needed to increase military spending. By contrast, China also needs the resources for the purpose of economic production and private consumption. Russia and China therefore both have particularly strong state-backed interests in expanding their spheres of influence in the Arctic and exploiting the abundant natural resources such as oil, gas, metals and fish. These state interests clash with largely private-sector interests in the Western industrialised countries – and for the latter, too, preservation of valuable ecosystems and the interests of indigenous populations are not always the principal concern. For this reason, enforceable international agreements will continue to be important in the future.

Moreover, the isolation of the Russian Federation is expected to result in Moscow becoming more economically and technically dependent on Beijing over time, which could strengthen China's influence in the Russian Arctic zone and lead to intensified development of polar infrastructure projects in connection with the Chinese Silk Roads. The closure of EU ports to Russian ships as a result of sanctions remains significant in this respect. For this reason, the Arctic route could become an important link between Russia and Asia, as illustrated by recent shipments of oil from Russia to China.

Policy Recommendations for the German Government

In view of Russian and Chinese expansionist policies and climate change, Germany's Arctic policy should be adapted and supplemented with security aspects. There have mainly been declarations of intent in the areas of environmental protection and multilateralism to date, but little has changed.

Compared to its partners, Germany has so far mainly been involved in science and research activities in the Arctic. Through its official observer status in the Arctic Council, it also takes part in working group meetings, however, and as a signatory to the Svalbard Treaty it has a right to economic use of the Norwegian archipelago in the Arctic. Due to its large trade volume, Germany is dependent on open access to the sea and secure sea routes. Much of Germany's energy is imported by sea and 60 per cent of German trade is carried by ship. This trade requires Russia and China to respect international agreements and decisions by courts with international jurisdiction. They are increasingly unwilling to do so, however. Both countries have repeatedly violated international law unilaterally and without notice. Under the current regime, it is unlikely that Russia will abide by agreements. The same applies to China: the situation in the South China Sea or around Taiwan, for example, could potentially come to a head and end in another war.

NATO is planning greater involvement in the Arctic and is set to increase its presence there.

This is why the containment of Russian and Chinese power is of interest in the Arctic too. Both powers must be discouraged from unilateral or bilateral changes to the status quo. As in the case of Denmark and the United States in Greenland, strategic investments by the West should be undertaken to prevent China from building new bases and creating economic dependencies through infrastructure investments. Wherever possible, China should be involved responsibly so that the free world can set the rules – not the Chinese Communist Party. This requires political will, a common position towards China and Russia, and instruments of military deterrence.

NATO regularly conducts exercises in the High North, and Germany participates in these. According to Secretary General Jens Stoltenberg, the Alliance is planning greater involvement in the Arctic and is set to increase its presence

there. Having served as a forum for Arctic issues from 2002 onwards, the NATO-Russia Council has now ceased its work, so there is an increasing need to organise security in the Arctic against Russia. This is also the purpose of the Arctic Security Forces Roundtable and of the Nordic Defence Cooperation (NORDEFCO), which comprises the five northern European Arctic states Denmark, Finland, Iceland, Norway and Sweden.

Finland's recently formalised and Swedens probable future NATO membership will make NATO's northern flank more secure, as both countries have powerful armed forces. Russia has withdrawn Arctic-capable forces from the border with Finland and Norway; these have since been deployed in Ukraine and have suffered heavy losses.[9] The withdrawal shows that Russia does not consider its borders with NATO to be at risk, thereby contradicting the rhetoric from the Kremlin claiming that it is threatened by NATO.

In order to assess the situation in the Arctic, NATO needs to gain an overview of the state of affairs in the air, in the sea, underwater and on the seabed, especially around critical infrastructure facilities. For this, it needs the appropriate sensors and communication infrastructure. Since very specialised capabilities are needed in the Arctic, it is important to reconnoitre any such capabilities that potential adversaries may have, such as Russian or Chinese specialist submarines, to make operations visible to the public and, if necessary, to prevent any missions from being carried out. NATO itself must have the capabilities to operate and intervene in the Arctic should this become necessary.

There is an urgent need for protection of critical infrastructure on the coasts, in the sea and on the seabed, and NATO needs the appropriate equipment for this purpose: icebreakers, submarines with special capabilities to carry out operations on the seabed, very long-lasting underwater drones, Arctic-capable ships and maritime patrol aircraft, as well as special forces. All in all, it would make sense for European states to become less dependent on the military capabilities of the United States, which has now become virtually indispensable for all such operations. The German government should propose the development of joint capabilities within the framework of NATO and the EU's Common Foreign and Security Policy, the procurement of the relevant material and, if necessary, its deployment.

Germany is now also called upon to make a military contribution in the Arctic.

Denmark has already responded by abolishing its opt-out clause from the EU's Common Foreign and Security Policy and significantly increasing its military budget to strengthen air and sea surveillance of the important sea lanes around Greenland. Finland, too, sees hard security as a key criterion for economic growth and stability in the Arctic, maintaining very powerful armed forces as well as a resilient infrastructure.

Germany is now also called upon to make a military contribution in the Arctic. The German Navy has been demanding capabilities for underwater and seabed operations for years, for example, but has been put off time and again. The German fleet now comprises only six submarines, while Russia has expanded its submarine fleet from 13 to 60 since 2014.[10] The announced cuts to procurements to be paid for out of the special fund established for the armed forces mainly affect the German Navy. It would be wrong to cut capabilities such as the P-8 Poseidon maritime patrol aircraft or the Interactive Defence and Attack System (IDAS), which can be used to counter threats from aircraft, helicopters and other ships from a submarine: these are highly relevant in the Arctic too. With a declining defence budget and a special fund that has long since been earmarked for other purposes, the situation will not improve in the medium term. It is high time that Federal Chancellor Olaf Scholz acts on his *Zeitenwende* and backs up his words with actions.

At the same time, the EU should consider promoting more Arctic exploration in the civilian sector too so as to protect key ecosystems. It is also important to understand the consequences of climate change, since they are particularly drastic in the Arctic.

The mining or extraction of raw materials requires particular caution in the Arctic, as ecosystems regenerate much more slowly than in our latitudes if crude oil escapes, for example. Protection of the particularly fragile natural environment is of paramount importance. It is also threatened by legacy issues in the form of Russian submarine wrecks on the seabed of the Arctic. If we are to bequeath our children a planet worth living on, both the German and the international agenda should include a response to military contamination, the lack of environmental standards and their implementation, old munitions on the seabed and toxic waste dumping.

Due to the energy transition and the almost complete discontinuation of energy deliveries from Russia to Europe, consideration should also be given to how the exploitation of fossil resources in the Arctic might be limited or at least carried out in an environmentally responsible manner. The same applies to industrial fishing and the prevention of new sources of contamination, such as that caused by floating nuclear reactors. As we can see, there are plenty of controversial issues to negotiate with a Russian government after the war so as to prevent or repair widespread environmental damage. At the same time, it remains sensible and necessary for Germany to strengthen international bodies, even without Russia's involvement, and to work on joint projects.

– translated from German –

Knut Abraham (CDU) is a Member of the Bundestag for Brandenburg. He is a Member of the Foreign Affairs Committee, the Committee on Human Rights and Humanitarian Aid, and the Parliamentary Assembly of the Council of Europe in Strasbourg.

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The Melting Shield

The Russian Arctic as a Geopolitical Hotspot

Thomas Kunze / Leonardo Salvador

The High North has traditionally been of great importance to Russia[1] – not only as a storehouse of raw materials but also in terms of security policy. While the melting of the ice is opening up new economic opportunities for Moscow, it is also depriving the country of natural protection against military attacks. As a result, the remilitarisation of the Russian Arctic is in full swing.

Climate change is facilitating resource extraction in the Arctic and is also resulting in extended navigability of the Northern Sea Route as part of the Northeast Passage due to the melting of the ice. This is changing the geopolitical realities in the Arctic region. Amid global competition, Russia has been trying for some time to tap into fresh opportunities in the Arctic, but the invasion of Ukraine by its troops on 24 February 2022 has left Moscow in a state of foreign policy isolation that is also having an impact on its ambitions in the High North. Sanctions are putting the future of key projects at stake – a situation that China in particular could exploit to realise its long-held ambitions in the Arctic. However, there is another aspect which holds additional potential for tensions in the coming years: with the Northern Sea Route looking set to become increasingly traversable, the question arises as to the legal status of this trade route.

The Power of Geography

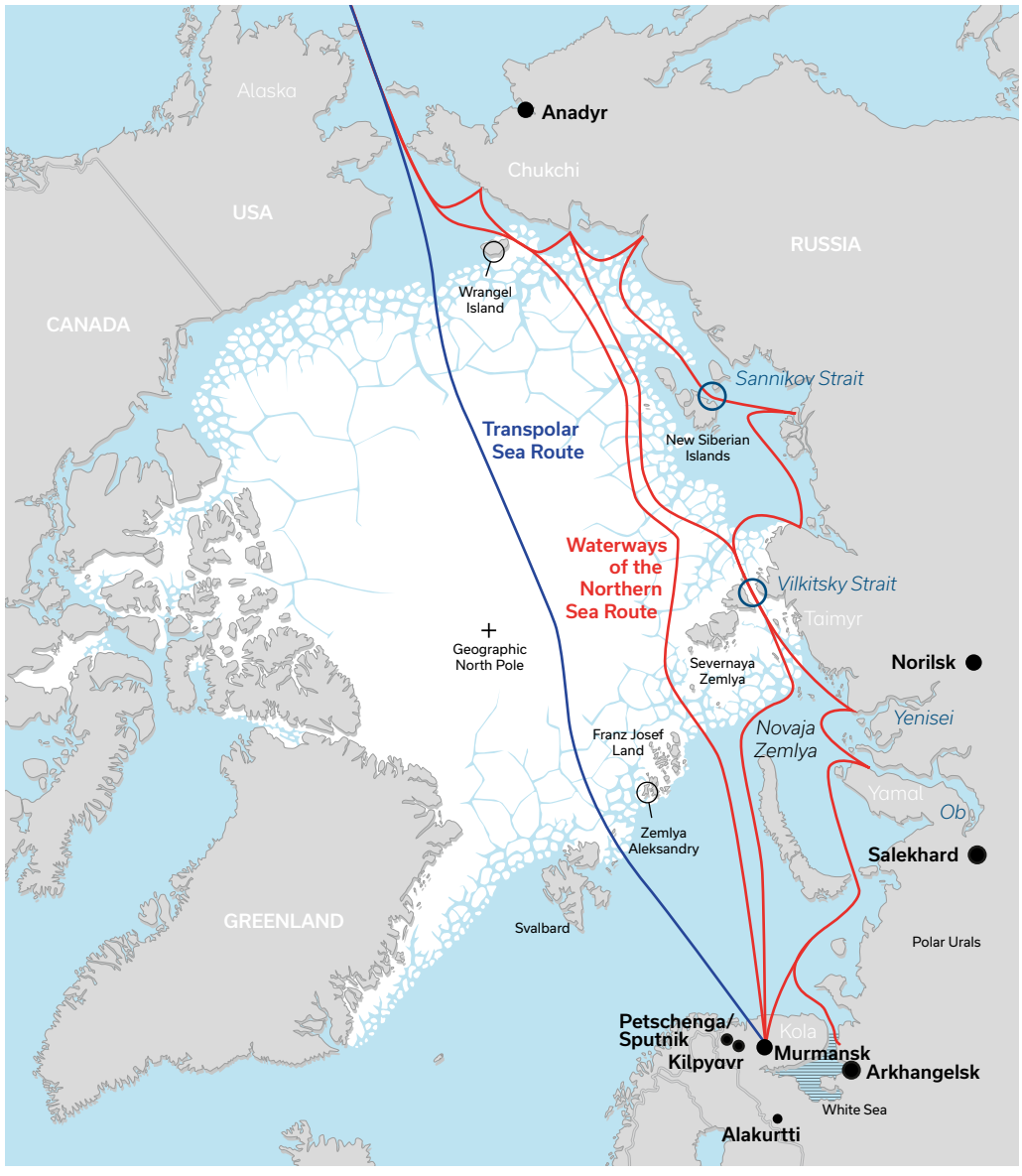
The Russian Federation is the largest Arctic littoral state, with the total surface area of Russia's Arctic territories amounting to some five million square kilometres. The Russian Arctic region is inhabited by around 2.4 million people.[2] Four of the five largest cities in the Arctic are in the Russian Federation, including the key seaport of Murmansk. Within the Russian Arctic itself, however, there are significant differences – especially in terms of infrastructure. While the Kola Peninsula near Murmansk, the Polar Urals near Salekhard and the Yamal Peninsula are relatively well developed with railway lines, roads and deep water ports, east of the Yenisei River neither roads nor train routes lead into the polar desert of the Taymyr Peninsula, the swamps and mountains of northern Sakha, or the Chukchi Peninsula. Many of the ports, settlements and military installations in this part of the Russian Arctic can only be accessed by air or sea. The Northern Sea Route offers the possibility of further developing these areas for civil and military use as well as an option for establishing an alternative transcontinental transport route for energy deliveries and the flow of goods.

Historical Outline

The history of the development of the Russian Arctic region has always been linked to geopolitical considerations. In the 16th century, English and Dutch explorers failed in their attempts to find a sea route to Asia via the Northeast Passage. However, British merchants did find the passage to be a usable sea route to the White Sea and the Russian port of Arkhangelsk – this port city on the Northern Dvina was Russia's only access to the open sea at the time. Trade across the Arctic allowed Russian and English ships to bypass the Baltic Sea, where the ports were controlled by Swedes, Danes and the German Hanseatic League. In the mid-16th century, the new trade route led to the founding of the Muscovy Company, an English company dedicated to trading with Russia. London began to show an interest in northern Siberia. In order to prevent English economic expansion towards the mouth of the Ob river, Michael I, the first tsar of the Romanov dynasty, banned the use of the Arctic sea route to Siberia from 1620. As a result, the Arctic route fell into oblivion for centuries.

When the Great Northern War came to an end in 1721, Russia – under Peter the Great – established

Fig. 1: Northern Sea Route and Transpolar Sea Route



Source: own illustration based on Dutzmann, Silke 2011, here in: Federal Agency for Civic Education (bpb) 2013: Karte: Der nördliche Seeweg, in: https://bpb.de/172284 [17 Feb 2023]. Map: © Peter Hermes Furian, AdobeStock.

itself as a Baltic Sea power and hegemon in north-eastern Europe. This also led to a decline in the importance of Arkhangelsk as a port city. Arctic exploration continued in the centuries that followed, but apart from fur trade and fishing, more extensive economic exploitation was not possible due to the climatic conditions. For a long time, the biggest obstacle to the economic exploitation of the Arctic was the lack of infrastructure. Up until the construction of the Trans-Siberian Railway (1891 to 1916), the whole of Siberia was largely devoid of transport routes, and this was even more the case in the Arctic. The largest city in the Arctic Circle today and Russia's most important Arctic port, Murmansk, was not founded until 1916, during the First World War. Since the Imperial German Navy prevented transportation across the

Baltic Sea, aid and armaments for Russia from the Entente[3] could only be transported via the Northeast Passage, which regained geostrategic and military significance as a result. Allied armaments also reached the Soviet Union via this route during the Second World War. The German Reich's attempt to block this supply route in 1942 – Operation Wunderland – was a failure.

Russia used its membership of the Arctic Council, founded in 1996, to position itself as a leading Arctic nation.

Extraction of mineral resources in the Russian Arctic began relatively late. The mining of raw materials did not start until the 1930s under the tyrannical regime of Joseph Stalin. At the same time, a sea route was opened up through the Arctic Ocean. In 1932, the icebreaker Alexander Sibiryakov travelled the Northeast Passage for the first time without wintering en route. In the same year, the Chief Directorate of the Northern Sea Route was founded – and the Northern Sea Route was born. With the deployment of hundreds of thousands of forced labourers, the necessary infrastructure for the use of the sea route in the Russian Arctic region was created in the years that followed, meaning that even remotely located raw material deposits became accessible for the first time. Most of the ports in this region were established during this period. From then on, the Northern Sea Route primarily served as an inner-Russian waterway to reach the Arctic extraction sites.

Stalin's death put an end to any further infrastructural development in the Arctic for the time being, with major projects such as the construction of a polar railway remaining unfinished.[4] What followed mainly involved the technical maintenance of existing structures. The commissioning of nuclear-powered icebreakers at the end of the 1950s also ensured regular shipping traffic along the Northern Sea Route. During the Cold War, the Arctic played a key role in terms of security policy because the hostile blocs were at particularly close quarters in this region. Strategic submarines armed with ballistic missiles cruised under the ice and were difficult to locate, giving both sides the possibility of a nuclear strike.

The shipping lane was opened to civilian navigation in 1991. As a result of the economic and political chaos after the end of the USSR, however, maintenance of the Arctic infrastructure collapsed. The result was widespread migration from the Arctic regions, with military installations and airfields being shut down. There was then renewed interest in the Arctic after the start of state reconstruction measures in the Russian Federation from the 2000s onwards. Russia's return to the Arctic was demonstratively marked with the North Pole expedition Arktika 2007: this involved a submarine reaching the seabed of the North Pole for the first time and planting a Russian flag there. Use of the Northern Sea Route increasingly became a focus for the Russian government, with climate change a not insignificant contributing factor.

Russia on the Arctic Council

Russia used its membership of the Arctic Council,[5] founded in 1996, to position itself as a leading Arctic nation. The Council particularly seeks to achieve a balance between the interests of the Arctic states and the indigenous population, as well as endeavouring to protect the natural environment of the Arctic. Russia currently holds the Chairmanship of the Arctic Council until May 2023.

In response to Russia's attack on Ukraine, however, all other Arctic states temporarily suspended their participation in the Council from 2022 onwards – a decision that the Russian Foreign Ministry described as "politicised and irrational".[6] This affects the Russian Federation in a number of ways. Firstly, it is detrimental to a policy area in which Russia's international importance still remained largely unbroken.

Far-reaching claims: In 2007, a Russian submarine placed a flag on the seabed at the North Pole.
Photo: © ASPOLRF, AP Photo, picture alliance.

From an economic perspective, the future of major industrial projects and markets for Russia is at stake. Moreover, all Western partners have suspended their cooperation in the area of science and research.[7]

On the one hand, Moscow is therefore seeking to emphasise that as a result of the (envisaged) NATO membership of Finland and Sweden, Russia will be the only country on the Arctic Council that does not belong to the Alliance. In the past, the non-aligned status of Stockholm and Helsinki offered room for manoeuvre, says Moscow, but now a uniform NATO course dictated by Washington will prevail, according to the Kremlin.[8] On the other hand, Russia is trying to maintain a semblance of normality: immediately after the suspension of the Arctic Council's work, the country sent a scientific expedition called Umka-21 to Franz Josef Land, the country's northernmost archipelago, which is separated from the outside world by the ice of the Arctic Ocean. The researchers' goal was to count the polar bear population and carry out studies on the animals.[9] The expedition also included a military component.[10] Russia also announced that despite the suspension of the Arctic Council's activities, work on the Snowflake project would continue on the Russian side. The Snowflake International Arctic Station is planned as an autonomous complex to be powered on the basis of renewable energy

sources and hydrogen (without diesel fuel).[11] Finally, in August 2022, President Vladimir Putin welcomed those attending the festival "The Arctic. Breaking the Ice" in Usinsk – as if nothing had happened. The staging of the festival was part of the events planned under the Russian Chairmanship of the Arctic Council and is dedicated to helping keep the Arctic clean.[12]

It is Russia's stated goal to establish the Northern Sea Route as an alternative transit route to the traditional sea route through the Suez Canal.

Russia and the Northern Sea Route

The traditional sea route from Europe to Asia passes through various straits (Strait of Malacca, Strait of Gibraltar) and the Suez Canal. The blockage of the Suez Canal by the Panamanian-flagged container ship Ever Given in March 2021 illustrated just how vulnerable such bottlenecks are and how crises or accidents there can impact the global economy. It was not until six days after the shipping accident that the canal was navigable again. The Northern Sea Route differs fundamentally from the traditional route in terms of the overall conditions. It leads over thousands of kilometres past Russia's coasts and islands. For centuries, climatic conditions precluded the use of the Northeast Passage as an Arctic sea route to Asia. The limited period of navigability meant that commercial use was not worthwhile. Due to climate change in recent years, the navigability of the Northeast Passage has been extended into September, making the Northern Sea Route increasingly attractive. At the moment, the route is still comparatively unprofitable because of the need for icebreakers, which are costly.[13] This is compounded by the difficulties of Arctic navigation. However, researchers predict that the Northeast Passage could be ice-free for at least nine months as early as 2040.[14]

It is Russia's stated goal to establish the Northern Sea Route as an alternative transit route to the traditional sea route through the Suez Canal. At the Eastern Economic Forum in Vladivostok in 2022, President Putin said that the Far East and the Arctic were the regions where Russia's future lay. Not only were there resources there, he explained, but also "access to a region of the world that is developing actively and at a very good pace".[15]

For Moscow, this route is of both economic and geopolitical importance. The raw material deposits concentrated in the Russian Arctic generate a disproportionately high share of Russia's gross domestic product. But many production sites – such as the Norilsk nickel works – are not accessible overland by road or rail, so they ship their output solely via the Arctic Ocean. From the very outset, therefore, resource extraction in the Russian Arctic was linked to the development of the Northern Sea Route. In addition to its importance in terms of the exploitation and transport of numerous mineral deposits, this route is also used for what is known as the "Northern delivery": due to their remote location, Moscow supplies the isolated settlements and towns of the north with essential goods before the onset of winter. Moreover, at the end of October 2022, the Russian space company Roscosmos launched the satellite Sputnik Skif-D to supply the High North with high-speed internet.[16]

Expansion of the sea route is a significant aspect of the Putin administration's political project to develop the Russian Arctic region. An ongoing increase in freight traffic has been observed on the Northern Sea Route in recent years. Nevertheless, experts are sceptical when it comes to overly optimistic forecasts regarding commercial shipping in the Arctic.[17] On account of the war against Ukraine and the enormous economic and financial challenges Russia is facing as a result of Western sanctions, Moscow is currently focusing on other priorities. Nonetheless, the expansion of the Northern Sea Route is set to continue. The Russian leadership views the project both as an independent transportation

route and as part of China's Belt and Road Initiative.[18]

The Northeast Passage as a goods and transport route differs from the traditional sea route to Asia in that it lies entirely within Russia's exclusive economic zone (EEZ). This means that the Russian Federation has sovereign rights and jurisdiction to a certain extent in this part of the Arctic Ocean under the United Nations Convention on the Law of the Sea (UNCLOS). What is more, the extreme climatic conditions here also mean that Russia needs to maintain the sea route, which involves providing icebreakers, weather stations and sea rescue bases. This has consequences for international shipping in terms of both international law and geopolitics.

The transport and export of oil, gas and coal produced in the Arctic via the Northern Sea Route may only take place under the Russian flag.

Conflicting Legal Interests

As long as Russia was using the Northern Sea Route primarily as a national transport route to reach its raw material sources in the Arctic, questions of international law were of secondary importance. With the increasing prospect of it being used as a transcontinental sea route, however, legal issues are coming to the fore. The legal situation regarding the Northeast Passage is complex and largely a matter of interpretation. As part of international maritime law, UNCLOS also governs shipping in the Arctic, and the Russian Federation is one of the signatories to this Convention. The contractual situation in the EEZ is of particular relevance to the Northern Sea Route. Although foreign states have the right to freedom of navigation in the EEZ without prior notification under Article 58 UNCLOS,[19] Russia reserves the right to require prior clearance for use of the Northern Sea Route, invoking Article 234 UNCLOS. This clause stipulates that laws and regulations are to be adopted and enforced "for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone".[20]

In addition, tankers and merchant vessels using the Northern Sea Route rely on information from the relevant Russian authorities about ice movements and weather conditions, and may also be dependent on the deployment of icebreakers. Following the Russian invasion of Ukraine, the Russian Ministry of Defence has proposed amendments to the Law on Internal Waters to establish new rules governing the passage of foreign vessels along the Northern Sea Route. The Ministry of Defence considers it advisable to add a clause to the current version of the law according to which foreign ships and boats must generally apply for permission to use the Northern Sea Route.[21] A 2017 law also stipulates that the transport and export (cabotage) of oil, gas and coal produced in the Arctic via the Northern Sea Route may only take place under the Russian flag.[22]

Russia's views conflict with those of both China and the United States: the latter regard the trans-Arctic sea routes as international shipping lanes. In such cases, the right of transit (Art. 37 UNCLOS) applies in the relevant straits. In contrast, Moscow considers the Northern Sea Route to be a national shipping route. In the event of a dispute, the Russian leadership could invoke customary international law, since for decades the United States was the only country to challenge the status of the Northern Sea Route as a Russian national shipping route. In addition, Moscow has consolidated its position by the fact that Article 7 UNCLOS on straight baselines[23] has been applied to numerous island groups.[24] This makes the straits between important island groups de jure internal waters under Article 8(1) UNCLOS. Moreover, Russia often puts forward the argument that it was Russia that enabled the sea route to be opened up and used in the first place.

These legal issues hold potential for future conflict, since UNCLOS leaves considerable

room for interpretation due to its low level of regulatory density. The fundamental problem is that parts of international maritime legislation are not clearly formulated. Particularly for ice-covered sea areas such as those in the Arctic, there is no uniform understanding of the law. It is therefore ultimately a political matter of who is able to assert their presence along the

Northern Sea Route. Russia certainly is, and ongoing legislative initiatives and statements leave no doubt that Moscow considers the Northern Sea Route to be a national passage.

An important instrument: Russia justifies its claim to the waters of the Northern Sea Route based on the fact that its infrastructure, including a large icebreaker fleet, ensures that the route is navigable in the first place.
Photo: © Denis Kozhevnikov, TASS, dpa, picture alliance.

The Geopolitical Dimension

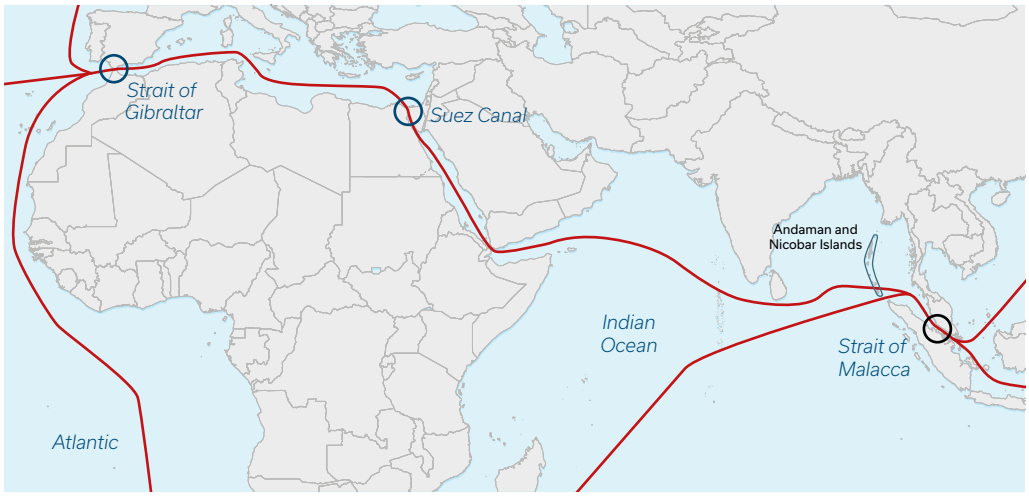
Even the very first attempts by the Dutch and English to find a northern sea route to Asia in the 16th century were based on geopolitical considerations: the aim was to find an alternative to the sea routes to Asia dominated by Portugal and the Ottomans.

Russia hardly has the financial means of its own to develop Arctic infrastructure.

In the 21st century, the rise of China is increasingly opening up the potential for the Russian Federation to become a transit power between East and West. Geography puts the Russian Federation in a favorable position in the future. It can be assumed that Russia will make use of it after the end of the war against Ukraine, if not before. The straits of the Northeast Passage – the Sannikov Strait near the New Siberian Islands and the Vilkitsky Strait near the Severnaya Zemlya archipelago – are all controlled solely by Russia. In the event of a conflict, it would take little effort for the Russian Federation to close this route. This will be particularly important in the event of an intensification of Sino-American or Sino-Indian antagonism.

For the People's Republic of China, the Northern Sea Route offers an alternative to the traditional sea route. This is relevant in view of the Sino-Indian conflict of interests in Asia in that the Indian navy could block Chinese shipping near the Andaman Islands – which belong to India – in the event of a conflict. Something similar would apply in the event of a conflict with

Fig. 2: Conventional Euro-Asian Maritime Freight Routes



Source: own illustration based on shipmap.org. Map: Natural Earth ©.

the United States. This shipping route is vital to the Chinese economy, however: it is not only used to export Chinese goods but also to transport oil and gas supplies to China. From a strategic point of view, the Northeast Passage also theoretically allows the rapid transfer of warships from the Pacific to the North Atlantic and vice versa.

Russia faces a dilemma with regards to the development of Arctic infrastructure: Moscow hardly has the financial means of its own to pursue this, so recourse to foreign investors is unavoidable. Strategically, a diversification of these investors would make sense in order to prevent a single state from gaining unilateral influence in the Arctic. The West is no longer a potential investor as a result of the Russian war against Ukraine. By contrast, Beijing is quite willing to invest in the expansion of the Northern Sea Route. India is also positioning itself here: Indian companies are keen to get involved in the development of the Vankor oil and gas field.[25]

And not only that: while Moscow's attention is currently focused on the western border, there have recently been increasing reports of China exerting its influence on the national republics and autonomous districts in the Russian Arctic. The fact that the titular nations of the Arctic regions are Asian plays into China's hands. Since the outbreak of the war in Ukraine, China's influence has grown in the resource-rich region of Sakha in particular – an area seven times the size of Germany.

The Military Dimension

In addition to the military challenges involved in the Russia-Ukraine war, climatic changes in the Arctic region pose an entirely new set of problems for Russia in terms of military geography. For centuries, the eternal ice of the Arctic formed an insurmountable barrier on the country's northern borders. This natural protection is gradually disappearing. From Moscow's point of view, the Arctic border regions now have to be controlled and indeed defended if the worst comes to the worst – historically speaking a completely new scenario. Operations were carried out in the Arctic by the British in the Crimean War (1853 to 1856) and by the German armed forces in the Second World War, but these were limited to a small area in the west. From Russia's perspective, the entire coastline of the Arctic will have to be kept in a defence-ready state in future if gas production facilities, ports, liquefied natural gas (LNG) terminals, refineries, mines and the Northern Sea Route are not to be left without military protection.

Control over this vast expanse of land is made more difficult by its sparse population and poorly developed infrastructure.

Russia began a military restructuring process in the Arctic from the 2010s onwards. The old Soviet bases were in a desolate state. In 2014, a separate military administrative unit was created for the Arctic: the United Strategic Command "Northern Fleet". In terms of its function and nature, it performs the tasks of a military district, also incorporating all the islands of the Arctic. This means that all naval, air and land formations from Murmansk to Anadyr are united under a single command. Its core is the Northern Fleet stationed near Murmansk, which is considered to be the most powerful and modern of the Russian fleets, equipped with submarines of the 955 Borei and 955A Borei-A classes – the very latest strategic fourth-generation nuclear submarines.

The Russian Arctic is also attracting attention as a testing ground for hypersonic weapons.

Russia introduced a new development plan for its armed forces in 2021 which provides for an accelerated expansion of military infrastructure by 2025.[26] In the Arctic, the old Soviet air bases Severomorsk-1, Severomorsk-3, Rogachevo, Talagi and Kipleovo (island of Novaja Zemlya, literally: "new land") are to be modernised. There are also plans to reopen the Severomorsk-2 military air base, which was closed in 1998. In Nagurskoye (island of Zemlya Aleksandry, literally: "Alexandra Land"), the establishment of a new military base was already completed in 2020.[27] There are plans to expand infrastructure in the settlements of Pechenga, Sputnik, Alakurtti and Kilpyavr (locations of motorised rifle units and naval infantry units).

The Russian Arctic is also attracting attention as a testing ground for hypersonic weapons. In 2019, Russia tested a Kinzhal missile there (literally: "dagger", NATO name: AS-24 Killjoy), which can be equipped with a nuclear warhead, while in 2022, a new type of hypersonic missile, the Zircon (NATO name: SS-N-33), was launched from the Admiral Gorshkov frigate, part of the Northern Fleet.[28] A special multiple missile launcher system for Arctic units is also being planned: this is to be transported on a new autonomous all-terrain chassis, making it suitable for use in the High North.[29]

As things currently stand, the war in Ukraine is likely to mean that Russia will set other priorities in its defence policy and will be forced to concentrate on arms production. Some of the troops stationed in the Arctic are said to have been transferred to other strategic locations or are being deployed in Ukraine.[30] All in all, however, Russia can be expected to continue to pursue an intensive arms build-up. Russian Defence Minister Sergei Shoigu announced in April 2022 that the modernisation of military infrastructure in the Arctic would continue, adding that facilities had already been erected there in 2021.[31] Dmitry Medvedev, Deputy Chairman of the National Security Council, declared in December 2022 that he was seeking to promote "the production of the most powerful means of destruction, including those based on new principles".[32]

Conclusion

In the near future, the Northern Sea Route will not be able to compete with the route through the Suez Canal, although its importance as a route for transporting goods is expected to increase. Moscow would gain political leverage through its de facto control of the Northeast Passage. Any escalation of the antagonism between Beijing and Washington would have an inevitable impact on the Arctic. In this case, relations with Russia would be pivotal in terms of the extent to which China was able to project its power in the Arctic. China already has the largest navy in the world – thanks in part to Russian arms aid.

However, Russia will have to work hard to develop the infrastructure along the Northern Sea Route if it wishes to further expand this potential. Here, the Russian Federation is dependent on foreign investors. To the extent that access to Western capital continues to be restricted by sanctions, Moscow will be forced to resort to Chinese investments. Along with other developments such as increasing gas exports to China and arms cooperation, this is likely to strengthen ties with Beijing.

– translated from German –

Dr. Thomas Kunze is the Konrad-Adenauer-Stiftung's Country Representative for Russia.

Leonardo Salvador was a project assistant at the Konrad-Adenauer-Stiftung's Russia office in Moscow until the beginning of 2022. He currently works for the foundation in Berlin.

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Photo: © Zhang Jiansong, Photoshot, picture alliance.

The Self-Proclaimed Near-Arctic State

China's Policy in the Northern Polar Region

David Merkle

Some 13 degrees of latitude separate the northernmost point of China from the Arctic Circle. Yet for years now, the People's Republic has been pushing to expand its influence in the Arctic. This is firstly due to the fact that as a rising economic power, it is hungry for raw materials. Secondly, the leadership in Beijing has identified the region as an important zone in a potential future superpower conflict.

Any talk of the People's Republic of China in the pre-COVID era tended to emphasise the narrative of unbridled growth and of "China's rise" – becoming the second largest economy in the world, the (still) most populous country on earth, the nation that, drawing on socialist values around the "core of the Communist Party", wants to enable its population to attain world-leading status through "prosperity for all". Even though initial signs of an overheating Chinese economy repeatedly made headlines during that period, the core message sent out by the state and party organs was very clear: China's international rise is unstoppable.

When Xi Jinping took over office as party leader in 2012 and was formally appointed head of state in 2013, it became increasingly clear just how much the Communist leadership's thinking was determined by the aspiration to shape international structures based on a superpower role: driven by a growing demand for raw materials and technological know-how, China has advanced to become a country that demonstrates increasing self-confidence towards the outside world, no longer hides its ambitions and continues to demand the acceptance and support of the global community for its political projects – including its involvement in the various regions of the world in which it has been able to secure considerable political and economic influence over the past two decades. Long overshadowed to some extent by other dynamic regions of world politics, the Arctic has now moved into the focus of Chinese strategic considerations.

China in the Arctic – Origins and Background

China began to show greater engagement in the Arctic as long ago as the 2000s, when numerous research projects were initiated between Chinese institutions and counterparts in Arctic states, and bilateral memorandums of understanding were signed with the governments of the respective countries.[1] This provided the basis for scientific expeditions to be launched in the Arctic region. As early as 1999, research trips began to be carried out with the icebreaker and research ship Xue Long (Snow Dragon), which was acquired from Ukraine.[2] Since then, Chinese research institutes have been closely engaged in climate change research in the Arctic Ocean, including involvement in the international MOSAiC project led by the Alfred Wegener Institute, which brings together scientists from 20 nations.[3] The Yellow River Station (Huánghé Zhàn) was founded in Svalbard, Norway, in 2003 – China's first polar research centre.

In 2013, after years of insistence, China was admitted as a permanent observer country to the Arctic Council, the main regional body for dealing with intergovernmental (but explicitly non-security) issues. In this way, the People's Republic attained the status held by twelve other states, including Germany, France, Poland, South Korea, Singapore and Japan, all of which maintain a powerful presence in the region without being Arctic states themselves.[4] The observer status entitles China to participate in all Council meetings and workshops organised

by the Council, which mainly address issues relating to climate protection and sustainable development.[5]

In the run-up to its admission as an observer, China pointed emphatically to its extensive scientific and economic engagement in the region and argued that developments connected with global warming and ice melt in the Arctic had direct consequences for China and the world as a whole.[6] It was in the 2018 White Paper on China's Arctic policy that the Beijing leadership first declared itself to be a "Near-Arctic State",[7] and China has used this epithet ostentatiously ever since to underline its "legitimate interests" in the region. According to the White Paper, "China is an important stakeholder in Arctic affairs. Geographically, China is a 'Near-Arctic State', one of the continental States that are closest to the Arctic Circle."[8]

In this way, China tries to play down the fact that it does not exercise sovereignty over Arctic territory,[9] referring to the entitlement of non Arctic states too to conduct comprehensive operations on the high seas "as stipulated in treaties such as UNCLOS [...] and general international law".[10] Since the notion of a "Near-Arctic State" does not even exist in international parlance and is not officially recognised, the White Paper primarily attempts to highlight the direct implications that the melting of the ice in the Arctic

Flexible interpretation of geography: China's Vice Foreign Minister presents his country's white paper on Arctic policy at the beginning of 2018. In it, the People's Republic declares itself a "Near-Arctic State". Photo: © Shen Hong, Photoshot, picture alliance.

has in terms of the climate and ecosystem in China itself. It specifically mentions the direct consequences for Chinese agriculture, fisheries, forestry and other areas in the primary sector.[11] It is on this basis that China articulates its claim to be involved in a broad, multilateral form of governance in the region.

In practice, China has also intensified its diplomatic advances towards the eight Arctic countries over the past 20 years, as evidenced by a high number of visits by senior-level politicians and the initiation of track two contacts – activities that are unofficial in nature, bringing together academics, think tanks and business actors.[12] In its White Paper, China clearly sets out its claim to be entitled to have a say in regional governance issues too, with the principal aim of preventing regional governance structures from being directed against Chinese ambitions. This is in line with China's active engagement in global structures.

Greenland and Iceland in particular have long been the focus of Chinese attention.

China's Quest for Energy and Raw Materials

With the "Polar Silk Road", the Arctic region is being incorporated into the so-called New Silk Road (Belt and Road Initiative), a large-scale Chinese project to develop an intercontinental infrastructure and trade network. The potential shipping routes of the "Polar Silk Road" run west from Greenland along the Canadian coast (Northwest Passage), from Scandinavia along the Siberian coast of Russia (Northeast Passage) and centrally between Svalbard and Greenland (Transpolar Sea Route) into the Bering Strait.[13]

These routes through the Arctic pass oil and gas deposits, although the exact quantities are unclear, and whether exploitation is actually profitable depends on numerous factors that are difficult to predict. As a state without territorial rights in the Arctic, China's leadership is aware that these deposits are largely located in areas that are either clearly owned by Arctic states due to their location or are considered exclusive economic zones (EEZs) under Article 55 of the United Nations Convention on the Law of the Sea (UNCLOS), i.e. maritime territory beyond coastal areas in which the respective adjacent coastal state can exercise "control over all economic resources" and therefore sovereign rights and powers.[14] For this reason, Chinese state-owned companies are gaining access primarily by investing in the infrastructure needed to extract the raw materials. They are by no means alone in this, but instead compete with mine operators from countries such as the United States and Australia. In other cases, however, they are also shareholders and cooperate with international companies in the processing of raw materials – an area in which Chinese companies possess the necessary expertise and are in some cases unrivalled, especially in downstream processing.[15] In addition, bilateral agreements have been negotiated at the political level in recent years that give China access to the abundant fish resources, oil extraction and the joint exploitation of sources of rare earths and other minerals.

Greenland and Iceland in particular have long been the focus of Chinese attention. In Greenland, the opening of a planned mine project at a site called Kvanefjeld – the subject of a bitter struggle between the political parties in Greenland – became a core issue in the great debate about the future of the island, which, although autonomous, is formally part of the Kingdom of Denmark: alongside the issue of environmental protection, concerns are increasingly being raised regarding the dangers of growing dependency on actors such as China. The state-owned Chinese company Shenghe Resources previously acquired a 12.5 per cent stake in Kvanefjeld, which is believed to contain a large number of minerals needed to make electronic components of products such as e-cars, wind turbines and mobile phones, including scandium and yttrium[16] – otherwise found almost exclusively in China. In the meantime, however, the political discussion in Greenland has turned around

to such an extent that disillusionment has also set in among the economic actors. With the Uranium Act passed by Greenland, the project was then put on hold for the time being for environmental reasons.[17]

Alongside many other examples, this project reflects the fact that China's involvement is primarily a bet on the region's growing strategic importance as a trade and transport corridor. As the ice continues to melt, shipping routes become navigable both earlier and later in the year. With higher transport volumes – according to the calculation – transport costs also fall and would make the costly investments in building infrastructure, logistics and local economic engagement more profitable. China hopes that the polar routes will enable it to diversify its trade and transport routes, giving it alternatives in case its shipping were to be

Active in polar research for years: The icebreaker Snow Dragon, once acquired from Ukraine, departs from the port of Shanghai for an expedition. Photo: © Qnb, dpa/HPIC, picture alliance.

subjected to a blockade of the internationally most important Strait of Malacca, or of the Suez Canal leading towards the Mediterranean and Europe.[18]

On Track to Becoming a "Polar Superpower"?

China faces global competition for access and navigation rights in the Arctic. The start of an extensive Chinese presence in the region was marked by bilateral agreements concluded between China and individual Arctic countries such as Sweden, Norway and Denmark that allow the People's Republic – or at least did so for a long time – to operate its own research stations or conduct scientific and technological research projects in cooperation with the respective countries. In addition to climate research, there is also close cooperation with Russian institutes, including the expansion of navigation and network infrastructure through the installation of submarine cables.

There are now a number of indications as to how far the development of the region has progressed as a result of its connection to the Chinese satellite system BeiDou, and conclusions can be drawn as to China's security policy ambitions in the region.[19] The dual-use characteristics of Chinese activities in the science and climate sector become evident here, i.e. expertise that can be used in both the civilian and military sectors. Underlining China's strategic intentions in the competition between the superpowers, these activities have been neither downplayed nor concealed in speeches by the political leadership in recent years. On the contrary, China's head of state and party leader Xi Jinping has made it clear that making China a "great polar power" by 2030 is an explicit goal.

Since the Russian war of aggression began, divisions between Russia and the other Arctic states have deepened further.

This is not at all surprising in the context of China's power political considerations: the Arctic has been identified as one of the spheres in the superpower conflict in which the battle for power and control over the future order has yet to be played out. China's leadership therefore sees this as an opportunity to assert its own ideas regarding political order in the region.[20]

This is where military presence and power projection have a crucial role to play: in 2015, five People's Liberation Army ships appeared off the coast of Alaska for the first time, demonstrating China's determination to convey to the United States and its allies that they can expect a growing Chinese military presence in the Arctic in the future.[21]

In addition, China is also specifically courting states such as Iceland and Finland on a bilateral level: these countries have long been perceived by China as politically more neutral actors. According to the People's Republic's calculations, Iceland and Finland could moderate the position of countries such as the US, Canada, Sweden and Norway, which have long viewed China's involvement in the Arctic with a great deal of suspicion, and also influence the decisions of the Arctic Council in this sense. From a Chinese perspective, the region is thus primarily being integrated into the country's global New Silk Road project, one of the central aims of which is to diversify transport routes to open up a range of land and water supply routes for China. Here, too, there are a number of indications from military discourse within China that the country also believes this to be important in terms of security policy: in the event of a direct military conflict, supply routes can be used for military purposes as well. As such, access to port facilities and terminals established for logistics purposes is of particular interest.[22]

Chinese state-owned companies hold 20 per cent of the Yamal LNG plant, which is controlled by the Russian energy company Novatek.

The "Polar Silk Road"

With Russia's encroachment and its annexation of Crimea in 2014, the shifting security axes have already had a noticeable impact on military dynamics in the Arctic region. Since the Russian war of aggression against Ukraine began in February 2022, divisions between Russia and the other Arctic states have deepened further. The current realignment of relations between the West and Russia also specifically affects the close relations between Russia and China, as well as the resulting relationship between the West and these two actors.

The picture of Chinese investments remains multi-layered.[23] Chinese state-owned enterprises continue to invest in numerous projects in the region, while others have been put on hold by the target countries due to safety concerns or environmental regulations. A lack of financial commitment on the Chinese side is another reason why some projects have been suspended or cancelled. The 14th Five-Year Plan, adopted by the National People's Congress in March 2021, underlines the growing importance of the Arctic (and also the Antarctic, where China has been active since the 1980s and has been a Consultative Party to the Antarctic Treaty since 1985) for China's goal of becoming a "maritime superpower".[24] The two polar regions are mentioned in the same breath as the deep sea, outer space and cyberspace as "strategic new frontiers" in which China – in competition with the United States and other powers – has long considered itself to be engaged in a struggle to exert influence and shape the rules, a struggle to which it is devoting extensive financial resources.[25]

The use of the Northeast Passage by cargo ships is still in the early stages and numbers are low. The ships that have sailed this route regularly since 2015 are mainly those belonging to the Chinese shipping company COSCO (China COSCO Shipping Corporation). In 2018, that company alone was responsible for seven out of a total of twelve voyages by cargo vessels via the passage that passes along the Siberian coast.[26] This route is important to the New Silk Road initiative, especially for the transport of natural gas from the Russian Yamal LNG plant to China, but in winter it can only be used with the help of icebreakers.

Russia and China: The Arctic as a Site of Common Strategic Interests?

Chinese state-owned companies hold 20 per cent of the Yamal LNG plant: this is controlled by the Russian energy company Novatek and will in future secure annual supplies of around four million tonnes of liquefied natural gas for China.[27] At the same time, Chinese participation is helping Russia to develop and expand the extraction of liquefied gas deposits in the region, which is technically complex and cost-intensive due to the geographical conditions. In the wake of the geopolitical upheavals between the West and Russia, energy exports to Asia, and especially to China, have gained in importance for Moscow since it has lost most of its Western energy customers as a result of the sanctions. The level of China's energy imports from Russia has increased significantly since February 2022: since the start of the Russian war of aggression, the average value of China's monthly energy imports from Russia has been 20 per cent higher than in the previous year.

China and Russia have made progress on a whole range of research and development projects in the Arctic over the past decade. These scientific initiatives are centred around research institutions that have close links with the military on both the Russian and Chinese side.[28] Joint activities pursued by the two countries are devoted to research into areas such as underwater acoustics, which is considered to be a key technology for detecting marine activities. In the field of satellite-based navigation, the two countries have also taken significant steps to integrate their systems: this particularly indicates that they are actively exchanging intelligence data.[29]

Even after the Russian invasion of Ukraine, Russian and Chinese naval forces continued to carry out joint military manoeuvres – almost as a matter of course. The cooperative exercises in September 2022 focused on such elements as "joint tactical maneuvering, communications between the ships in the group, and exercises involving live-fire artillery shooting and flights of vessel-based helicopters."[30] While China's growing importance in the Arctic is by no means always congruent with Russia's interests, Moscow's growing dependencies on Beijing reinforce China and Russia's shared geostrategic ambitions to balance US influence over the other Arctic states and to expand military and economic control over vast swathes of the polar sea lanes.

The Arctic of the Future: How Should China Be Dealt with?

In the wake of Russia's expansionism and growing Russian-Chinese cooperation, the security policy dimension of the Arctic has now moved to centre stage in the German and European debate. "It is recognized that potential Arctic conflicts and the region's increasing militarization also affect German security interests."[31] One of the conclusions to be drawn from this is that Europe needs to become more involved, particularly in terms of engaging in substantial military cooperation with the Nordic countries and strengthening the resilience of Nordic societies. EU and NATO allies should play an active role here, focusing more than anything on providing complementary support for the Arctic states, in particular the Nordic countries. Germany has the potential to make an important contribution, not least within the framework of the EU Strategic Compass, thereby underlining the fact that its allies can rely on active support in defending the rules-based order and free navigation in the international waters of the Arctic.

The Chinese Communist Party continues to think in the categories of "social stability" and "national security".

Especially in view of China's intensive efforts to push ahead with research projects initiated jointly with Russia that allow maritime and nautical capabilities to be transferred to and implemented in military applications, it is important to be aware of China's long-term intentions (in this case in cooperation with Russia) in terms

of shifting the balance of power in the Arctic region, but also in the Baltic Sea and the North Atlantic. This is particularly true of the Chinese Navy's strategic focus on maritime trade and transport routes in these important waters.

This is why it remains of fundamental importance to combine information and experience from our own discussions with China with observations that allow China's power political objectives to be discerned. This includes China's actions in its own neighbourhood, namely with regard to Taiwan and the East and South China Seas. These mechanisms need to be systematically analysed and elaborated in detail. These activities do not yet provide any indication of the extent to which the People's Republic is prepared to formulate its own interests so openly in the Arctic region too and to demonstrate them in military form. But they do allow conclusions to be drawn about the extent to which China is prepared to challenge the United States and the Western alliance in other regions. They also provide insights into the methods with which China manages (or does not manage) to assert its claims against bordering states.

Not least in view of the 20th National Congress of the Communist Party in November 2022, there are clear signs that the thinking of the leadership in Beijing will continue to be geared towards the principal categories of "social/national stability" and "national security". In essence, the Chinese Communist Party remains trapped in an ideological mindset in which it sees itself in a "struggle with the West". One conclusion must therefore be that cooperation with China on international issues – and also regional issues – will barely be possible without being able to understand and interpret the core elements of China's strategic interests.

In view of China's growing involvement in the Arctic, this means that the EU is called upon to support the Nordic countries – by means including intelligence networking – to realistically judge China's maritime capabilities and the Chinese power projections they feed. Particularly in view of the shortening of trade routes via the polar routes (especially via the Northeast Passage) and the potential savings in CO_2-intensive maritime freight transport, Germany and Europe must do everything in their power not to fall behind technologically in the development of satellite-based navigation capabilities to cover the Arctic. Here, it will be crucial for them to substantially improve their own navigation capabilities and set them up in such a way that they cannot become an easy target of hybrid military operations in the event of a conflict.

– translated from German –

David Merkle is Desk Officer for China at the Asia and Pacific Department of the Konrad-Adenauer-Stiftung.

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What the Various States (Officially) Want in the Arctic

The United States and Russia have one, and so do Norway and Finland: an official Arctic strategy. The Arctic states are not the only ones to have set down their goals and priorities with regard to the northern polar region, however. Other countries at varying distances from the Arctic Circle have likewise adopted strategy papers of this kind, including China and India as well as Germany.

It comes as no surprise that all countries have declared their intention to take climate change seriously in the Arctic too, to use resources sustainably and to respect international law in all matters concerning the region. But in addition to the commonplace policy statements that are to be found in virtually all these strategy papers, the emphases contained in them nonetheless offer some interesting insights into the differing motives for engagement in the region – or at least the impression the various states are seeking to convey in this regard.

At the end of 2022, the United States issued what is currently the most recent of the strategies under consideration here. One particularly clear difference between this one and the oldest strategy under consideration – that published by Denmark in 2011 – is in the area of security policy. While Russia still figures as a partner in the Danish paper, the response to Russia's war against Ukraine pervades the entire US document.

But even setting aside the differences between the strategies due to their differing dates of issue, they still reflect varying priorities: the scale ranges from a domestic focus on indigenous concerns (Canada) to the primacy of security and economic exploitation (Russia), and from a values-based approach (Sweden) to a decidedly matter-of-fact, interest-driven approach (Norway). An overview:

Photo: © Michal, AdobeStock.

Denmark (2011)

"[...] hopefully once and for all dispelling the myth of a race to the North Pole."

- Strategy actually intended for the period up to 2020; new version still not published, however
- Paper issued jointly by Denmark and the governments of the Faroe Islands and Greenland, the latter having their own independent powers in relevant areas (e.g. use of resources)
- More optimistic tone with regard to Arctic security compared to more recent strategies
- Emphasis on confidence-building measures; but Denmark also aims to establish an "Arctic Response Force" from within the ranks of its own armed forces
- Cooperation with Russia to be expanded; increasing engagement of north-east Asian states is also viewed optimistically in principle
- Rapid clarification of Denmark's territorial claims is sought with regard to continental shelf off Greenland
- Use of fossil and metal resources – especially in Greenland – advocated with due regard to sustainability; limited whaling in the Faroe Islands and Greenland should also be possible
- General foreign and security policy strategy of January 2022 already takes into account the more difficult security situation: Russia named as source of tensions; "Arctic capacity package" announced for armed forces

→ https://bit.ly/3FlkA8x

China (2018)

"A champion for the development of a community with a shared future for mankind, China [...] has spared no efforts to contribute its wisdom to the development of the Arctic region."

- China derives its right to a say in Arctic affairs from the impact of climate change in the Arctic on ecosystems in China
- Declares itself to be a "Near-Arctic State"
- Own engagement in the Arctic claimed to some extent to be downright altruistic; basic principles are "respect", "cooperation", "win-win result" and "sustainability"
- Goal of developing a "Polar Silk Road" together with interested partners; state and private Chinese actors encouraged to invest in transport infrastructure as well as the development and exploitation of oil, gas and metal deposits – taking into account sustainability criteria
- UN Convention on the Law of the Sea, and in particular its provisions on freedom of navigation, at the centre of Arctic governance from China's perspective – not the Arctic Council, of which China is not a full member
- Security policy largely omitted, only general commitment to peaceful development based on international law

→ https://bit.ly/3mOQEeD

"The natural conditions of the Arctic and their changes have a direct impact on China's natural environment and Chinese people's work and life. [...] This is an undeniable geographical, natural and social reality."

Zhao Lijian, Chinese Foreign Ministry Spokesperson, at the Regular Press Conference on 31 Aug 2022. Source: https://bit.ly/3Kuy6tA

Canada (2019)

"Canada sees a future in which the people of the Arctic and North are full participants in Canadian society"

- The situation of indigenous peoples is a major focus of Canada's Arctic strategy; the goal is to improve living conditions and increase participation; reconciliation is a key concern
- Status of the Northwest Passage as Canadian waters repeatedly highlighted
- Reference to changing geopolitical situation in the Arctic; region "of critical importance to the natural security and defence of Canada and North America"; Canadian army to increase participation in multinational exercises in the region; expansion of military presence and modernisation of the North American Aerospace Defense Command (NORAD) operated jointly with the US

→ https://bit.ly/3YGMiDx

Germany (2019)

"With these Arctic policy guidelines, the Federal Government is assuming greater responsibility for the Arctic region with a view to shaping it sustainably for the future."

- Climate, environment, sustainability and research at the heart of Germany's Arctic policy
- Fairly restrictive with regard to the use of resources in the Arctic, repeated call for designation of further protected areas; nevertheless, commitment to integrate the Arctic "into a diversified resource security system"
- Advocates "freedom of navigation in Arctic waters" in accordance with the UN Convention on the Law of the Sea
- Section on security policy comparatively short, unspecific and unemphatic: sources of increasing tensions not named ("several states"); NATO and EU to devote more attention to the importance of the Arctic from the point of view of security policy, but: "The Federal Government rejects any attempt to militarise the Arctic"

→ https://bit.ly/3zykeld

Sweden (2020)

"People, peace and the climate are at the centre of Sweden's Arctic policy."

- Values-based strategy: strengthening of human rights, democracy, rule of law in all international cooperation on the Arctic, promotion of gender equality, reference to "feminist foreign policy"
- Relations with Germany are attributed special relevance in connection with Arctic issues
- Clear reference to a changed security situation in the Arctic; as in Cold War times the region is referred to as a "dividing line between western countries and Russia"; strategy sees risk of arms race and calls for close observation of China and its possible military cooperation with Russia regarding the Arctic; own military capabilities in northern Sweden to be further strengthened
- Great importance attached to the fight against climate change and to environmental protection; rather cautious position on possible extraction of minerals; call for "robust regulation" so as to ensure maximum security in oil and gas extraction
- Efforts to achieve "redress and reconciliation" with indigenous Sámi people

→ https://bit.ly/3ZFR6u8

Russia (2020)

"a strategic planning document to ensure the national security of the Russian Federation [...] and [...] defend the national interests of the Russian Federation in the Arctic."

- Strategy defines Russia's key national interests in the Arctic, including securing "sovereignty and territorial integrity", maintaining the Arctic as a "territory of peace, stability and mutually beneficial partnership" and developing the Northern Sea Route
- Threats and challenges to "national security": population decline in Russian Arctic, insufficient development, military build-up by other states, and "actions by foreign states and (or) international organizations" to obstruct the Russian Federation's "legitimate economic or other activities" in the Arctic
- In the economic sphere, the focus is on the utilisation of resources: expansion of private investment ("while maintaining state control over the operation process"), improvement of infrastructure at transshipment points for mineral resources connected to the Northern Sea Route, increase in oil and gas production

"It has been absolutely clear for everyone for a long time that this is our territory, this is our land [...]. We are responsible for ensuring our Arctic coast is safe [...]."

Sergey Lavrov, Russian Foreign Minister, at a press conference in Moscow in May 2021. Source: https://bit.ly/3ZUObNL

- Goal is to improve military effectiveness in the Arctic and to build and modernise military infrastructure
- Special feature: strategy concludes by formulating indicators for measuring implementation of state policy, including: life expectancy in the Arctic, unemployment rate, share of raw material extraction, volume of LNG production and share of modern weapons in the region

→ https://bit.ly/3Jk4TQm

Norway (2021)

"Norway's Arctic policy revolves around security, stability and interest-based international cooperation."

- Matter-of-fact, pragmatic orientation; clear emphasis on national interests in the areas of economy and security
- Strengthening defence capability in the Arctic as a key concern; investment in fighter aircraft, maritime reconnaissance, submarines; the importance of military exercises with the US and other allies is also emphasised
- NATO as the "cornerstone of Norway's security"; security is based on the "guarantee of Allied reinforcements in the event of war or crisis"

- Reference to changes in what were previously cooperative relations with Russia, e.g. due to the annexation of Crimea; modernisation and rearmament of the Russian military as a "challenge to the security of Norway and other Allied countries"; nevertheless, emphasis on the importance of lowering tensions
- Emphasis on the potential of Arctic resources in terms of value creation; support for the exploitation of new oil, gas and mineral extraction areas

→ https://bit.ly/3ZEbOuq

Photo: © Michal, AdobeStock.

Iceland (2021)

"Iceland is the only Arctic State that can be deemed to lie entirely within the Arctic [...]."

- Iceland's Arctic strategy takes the form of a parliamentary resolution with attached explanatory memorandum
- Growing interest of foreign states in the Arctic generally viewed positively, providing they abide by international law and respect the "status of the eight Arctic states"
- In the area of security policy, Russia is identified as the main cause of growing tensions; Russia has legitimate security interests in the region, but its activities are much more extensive than is necessary to safeguard these interests
- As a state without a standing army, Iceland's main pillars of defence are NATO membership and security agreement with the US
- Rather cautious with regard to the use of resources, with priority given to environmental protection, while at the same time endeavouring not to be left out of potential new economic opportunities as a result of melting ice

→ https://bit.ly/3T8DG7z

Finland (2021)

"As cross-cutting themes of all Arctic cooperation, Finland emphasises requiring compliance with the principles of sustainable development, gender equality and non-discrimination."

- Four priorities: climate change, inhabitants, expertise, infrastructure/logistics; security only touched on in introduction
- Explicit reference made to Sustainable Development Goals in connection with all goals and measures
- Security policy statements in introductory section rather reserved: Russia named as source of increased tensions; in addition to reference to role of own armed forces and NATO, however, emphasis on dialogue and confidence-building measures
- Restrictive position with regard to fossil fuels from the Arctic: development of new deposits would be "incompatible" with the goals set out in the Paris Agreement
- Plan to establish a truth and reconciliation commission for the indigenous Sámi people
- Goal of promoting business opportunities for Finnish expertise in pursuing economic activity in cold conditions

→ https://bit.ly/4049ywg

European Union (2021)

"The EU's full engagement in Arctic matters is a geopolitical necessity."

- Importance attached to the fight against climate change and environmental destruction; "making the Arctic more resilient", for example by establishing environmental regulations, but also by demanding that oil, coal and gas are not extracted in the region; reduction of own soot emissions
- EU seeks official observer status on the Arctic Council
- Announcement of the establishment of a European Commission office in Nuuk to pursue the development of relations with Greenland
- Arctic states as "potentially significant suppliers" of important minerals, one aim being to reduce dependency on China, for example; access to sufficient resources "key for the EU's [...] strategic autonomy"

→ https://bit.ly/3ztZVfk

"The Arctic is changing rapidly, owing to the impact of global warming, increased competition for natural resources and geopolitical rivalries. These developments show that Europe must define its geopolitical interests broadly to promote stability, safety and peaceful cooperation in the Arctic."

Josep Borrell, High Representative of the European Union for Foreign Affairs and Security Policy, 13 Oct 2021. Source: https://bit.ly/3MjfnCr

Photo: © Murat Tellioglu, AdobeStock.

India (2022)

"To harmonise polar research with the third pole – the Himalayas."

- Reasons given for entitlement to have a say: changes in the Arctic – especially the melting of the ice – have huge implications for India's national development; also great synergies between Arctic research and India's experience of research in the Himalayas, the "third pole"
- Science and research have a prominent role in India's Arctic strategy; concrete objectives such as expanding the previous 180-day presence to a year-round presence at India's Himadri research station
- Exploration and extraction of raw materials – such as fossil fuels and metals – generally tend to be seen in a positive light; government and private actors in India are encouraged to invest in this area
- Fairly indirect demand to keep the Arctic sea routes free for international shipping ("uphold international law and in particular UNCLOS, including the rights and freedoms contained therein")
- Short and rather vague section on security ("promote security and stability in the Arctic region in accordance with international treaties and covenants")

→ https://bit.ly/3I33o0N

United States (2022)

"[The strategy] acknowledges increasing strategic competition in the Arctic since 2013, exacerbated by Russia's unprovoked war in Ukraine [...]."

- Four pillars: security, climate change and environmental protection, sustainable economic development, international cooperation and governance
- Policy towards Russia as an important aspect: Russia is said to be upgrading its military and developing new economic infrastructure, seeking to restrict free passage through "excessive maritime claims along the Northern Sea Route"
- Deterrence as a central component of security policy orientation; expansion of cooperation with allies and strengthening of military presence; at the same time, emphasis on the importance of risk minimisation and prevention of unwanted escalation
- Various "strategic objectives" in the field of climate change, including support for local communities to adapt to and be resilient to climate change, expansion of climate change research, protection of Arctic ecosystems
- Strengthen the resilience of US supply chains by exploring the potential for "sustainable and responsible critical mineral production"

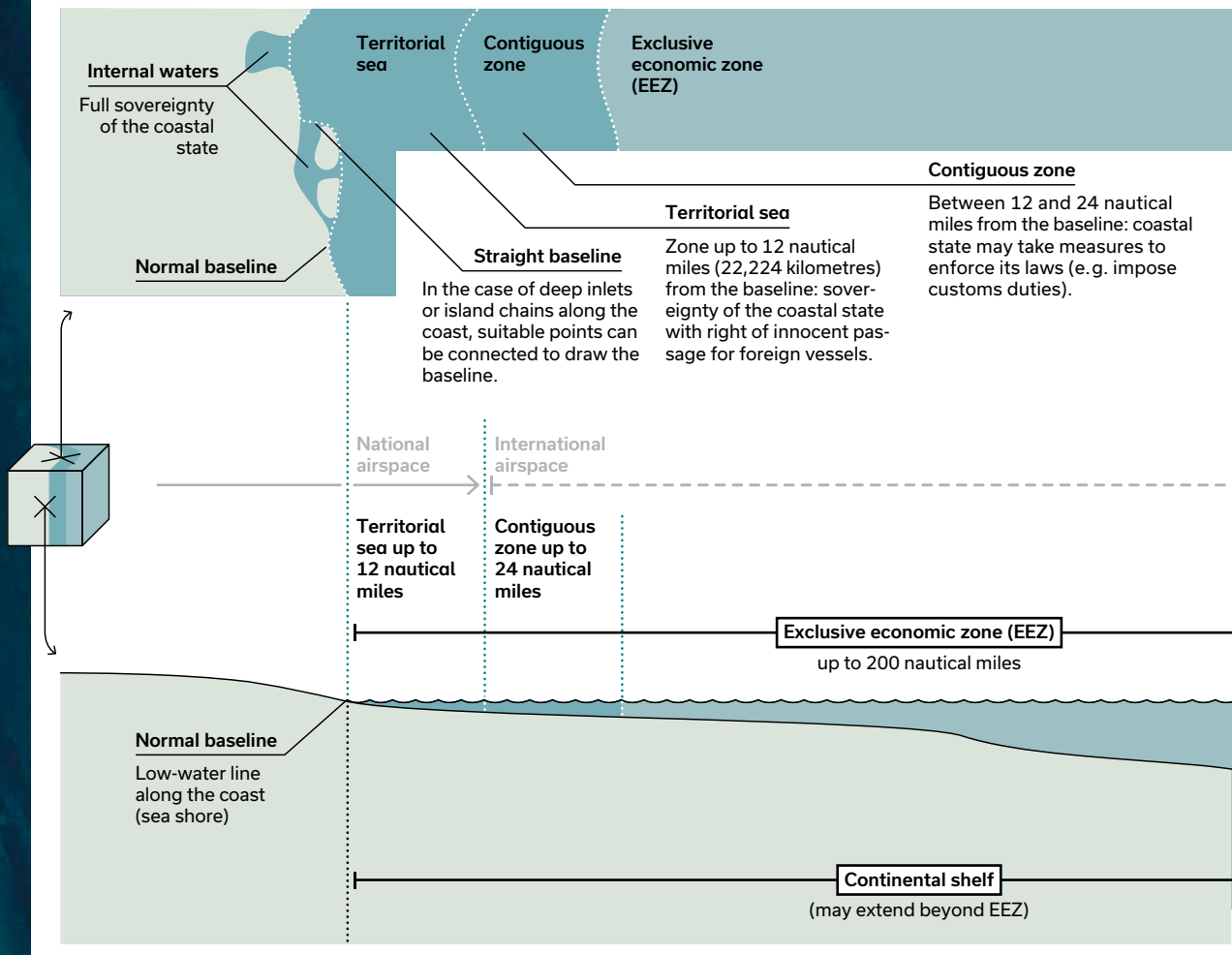
→ https://bit.ly/3YD51Qx

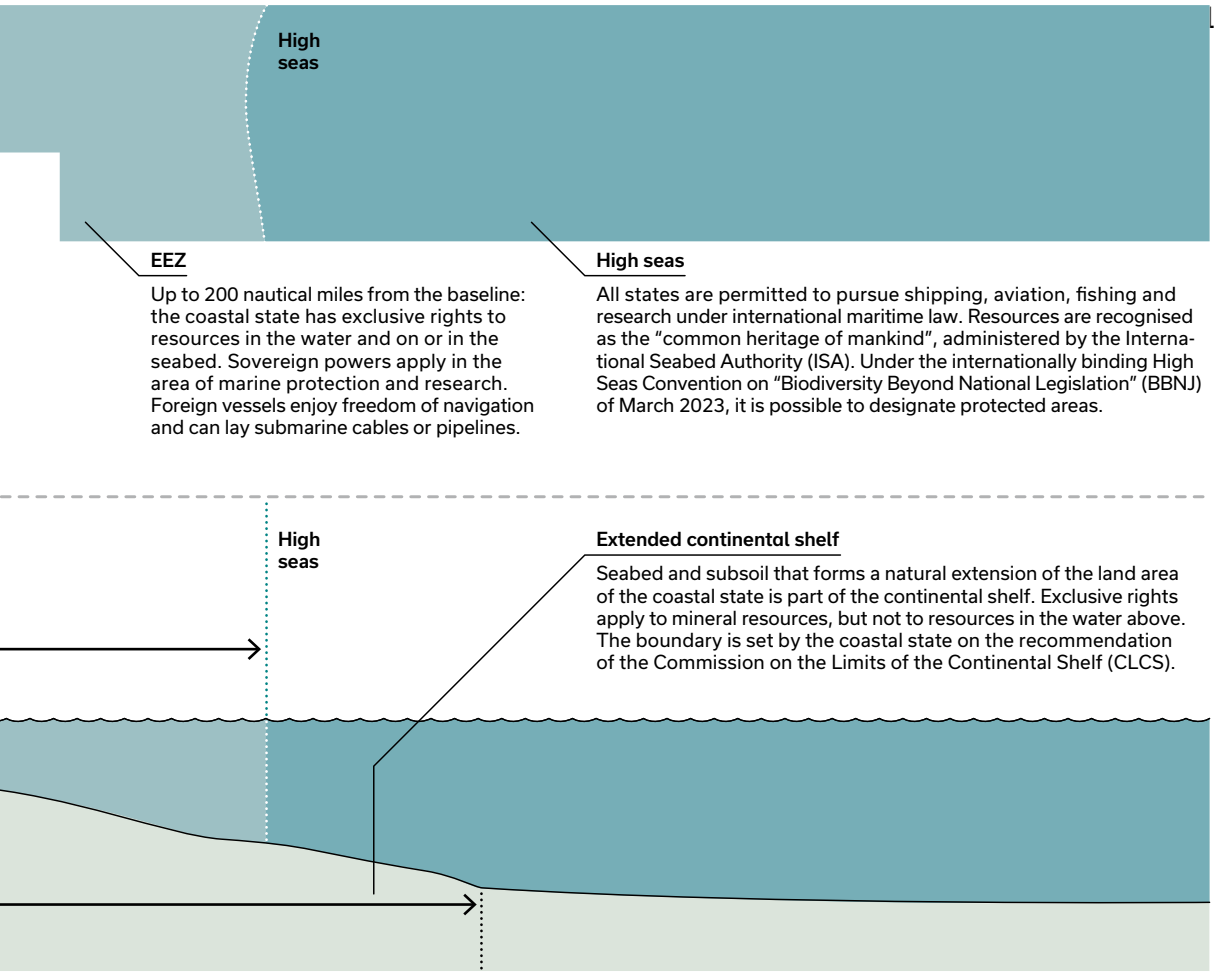
"The Arctic as a region for strategic competition has seized the world's attention [...]."

Antony Blinken, US Secretary of State, at the Arctic Council's Ministerial Meeting on 20 May 2021. Source: https://bit.ly/3zw3u4l

Photo: © Happyphotons, AdobeStock.

Maritime Zones under the UN Convention on the Law of the Sea





EEZ

Up to 200 nautical miles from the baseline: the coastal state has exclusive rights to resources in the water and on or in the seabed. Sovereign powers apply in the area of marine protection and research. Foreign vessels enjoy freedom of navigation and can lay submarine cables or pipelines.

High seas

All states are permitted to pursue shipping, aviation, fishing and research under international maritime law. Resources are recognised as the "common heritage of mankind", administered by the International Seabed Authority (ISA). Under the internationally binding High Seas Convention on "Biodiversity Beyond National Legislation" (BBNJ) of March 2023, it is possible to designate protected areas.

Extended continental shelf

Seabed and subsoil that forms a natural extension of the land area of the coastal state is part of the continental shelf. Exclusive rights apply to mineral resources, but not to resources in the water above. The boundary is set by the coastal state on the recommendation of the Commission on the Limits of the Continental Shelf (CLCS).

Sources: own illustration based on UN 1998: Seerechtsübereinkommen der Vereinten Nationen und Übereinkommen zur Durchführung des Teils XI des Seerechtsübereinkommens (Übersetzung), 23 Jun 1998, in: https://bit.ly/2tyUWse [10 Feb 2023]; Scheid, Walther-Maria 2019, in: Löschke, Sina et al. 2019: Die Arktis und die Antarktis als politische Arenen, World Ocean Review 6: Arktis und Antarktis – extrem, klimarelevant, gefährdet, p. 244, in: https://bit.ly/3MlY1VD [18 Mar 2023].

Photo: © Tobias, AdobeStock.

Photo: © J. Scott Applewhite, AP picture alliance

The Arctic. Between Conflict and Cooperation

The North American View of the Arctic

How Canada and the United States Are Responding to Changes in the Far North

Norbert Eschborn

When the legendary American naval strategist Alfred Thayer Mahan set out the founding doctrine of the US Navy at the end of the 19th century with its central principle of maritime dominance, there was no mention of the Arctic. Yet with the rebuilding of Russian maritime capabilities after the Cold War and the simultaneous heightening of Chinese ambitions to challenge American hegemony at every opportunity, there has been a significant shift in the importance of the Arctic for both the United States and Canada. This poses considerable challenges for both of these Arctic littoral states in terms of their security policy.[1]

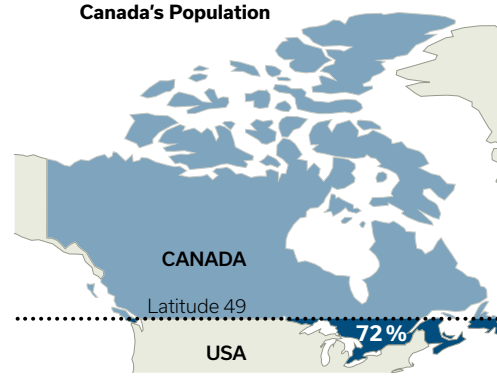
The defence of the North Atlantic begins in the Arctic: this was a point emphasised by the Commander of the US Second Fleet, Vice Admiral Daniel Dwyer, in a podcast by a Canadian think tank in the summer of 2022.[2] Historically, the operational area of the Second Fleet, based in Norfolk, Virginia, has always included the North Pole and parts of the Arctic.[3] The reactivation of this fleet in 2018 (after its deactivation in 2011) reflects more than any other measure the final recognition of new geopolitical realities and an altered threat perception in both the United States and Canada.

Canada as an "Arctic Nation"

From a Canadian perspective, the Arctic has been one of the most critical and important strategic zones since the beginning of the Cold War. The end of that conflict initially contributed to the impression that some of the geopolitical factors that had made the Arctic such a dangerous zone had disappeared – and for a short time this may well have been the case. But when Vladimir Putin came to power and Russia decided to militarise the Arctic, the region regained its key significance within the international system as a zone of strategic interaction. This Canadian assessment has been reinforced by Russia's more aggressive military demeanour since the annexation of Crimea in 2014, and even more so since the start of its war of aggression against Ukraine in February 2022.

Canada is the world's second largest country by area after Russia and has six time zones. From Toronto, the flight distance to the North Pole is greater than to the equator. Yet Canadians nonetheless regard themselves as an Arctic nation. This self-perception is even reflected in the national anthem[4], and it is not uncommon for representatives of the country to refer to Canadians as a "Northern people".[5] Canada would therefore seem to have a powerful attachment to the Arctic, at least rhetorically. Yet the vast majority of the population – about 95 per cent – live within a 400-kilometre-wide zone along the border with the United States, with 72 per cent inhabiting a very small zone south of the 49th parallel,[6] which forms part of the US-Canadian border – hence far removed from Arctic regions.

Fig. 1: Geographical Distribution of Canada's Population



Source: own illustration based on Allison 2021, n. 6. Map: Natural Earth ©.

This is another reason why, more often than not, Canada's three northern provinces and territories (Nunavut, the Northwest Territories and Yukon) are not really of great interest from the perspective of Canadian politics: they occasionally attract political attention but hardly ever provoke political action. This is also true with regard to security policy aspects – despite the strategic importance of the region: even though one government after another has paid lip service to the development of the North, there has often been little to show for it in reality. The United States regularly reminds Canada that if it claims sovereignty in the Arctic, it should take action to demonstrate this. Former Conservative Prime Minister Stephen Harper, in office from 2006 to 2015, went to the North at least every summer to take part in Operation Nanook, an annual military exercise. His successor, Prime Minister Justin Trudeau of the Liberals, has not yet followed suit.

Arctic policy under the incumbent government is focused on domestic issues.

Canada's Arctic Strategy

It is nonetheless the case that Canada has had a formalised Arctic strategy for decades. The main objective of this strategy is to affirm sovereignty through international recognition of Canada's presence and positions in the Arctic. This dates back to the time of Conservative Prime Minister Brian Mulroney's government in the period from 1984 to 1993, when a dispute arose with the United States over sovereignty in the Arctic: this went down in history as the Polar Sea controversy of 1985. At the time, the American icebreaker USCGC Polar Sea sailed the Arctic Northwest Passage from Greenland to Alaska without first obtaining official permission from the Canadian government, since the United States considered the Northwest Passage to be an international strait open to shipping – as it still does to this day. By contrast, the Canadian government took – and takes – the view that the passage is situated within the Canadian border. Nevertheless, Canada was informed about the voyage in advance and decided to cooperate with the United States, and the Canadian government provided observers to remain on board the US vessel throughout the supply voyage. Yet when the plans for the icebreaker's voyage became known, a dispute arose in the Canadian parliament, with critics claiming that the icebreaker's passage violated the country's sovereignty, while the other side denied this, calling the argument "deliberately anti-American".[7]

The efforts of the Canadian Liberals in developing an Arctic policy of their own since they came to power in 2015 have focused on domestic issues. In December 2016, Prime Minister Trudeau committed to working with northern residents and indigenous partners to develop a new Arctic policy framework. 2017 saw round-table discussions being held with residents of the Arctic and the North, young people, key experts and stakeholders including industry, academics and NGOs, with a discussion guideline subsequently being published in November 2017. The political objective of this guideline was to find out from Canadian Arctic residents and from Canadians in general what they wanted with regard to the Arctic, with a focus on the question of what could be done to support a strong, prosperous and sustainable Canadian Arctic. 2018 and 2019 were dedicated to developing and validating the framework with partners, and new funding of more than 700 million Canadian dollars (just under 500 million euros) was subsequently earmarked for the project as part of the 2019 federal budget. Canada's Arctic and Northern Policy Framework was launched in September 2019.[8]

The first and most important issue for the government is the question of reconciliation with the indigenous peoples of the North. Canada tends to be thought of as a young country with a relatively short history and national narrative, but the history of the country's indigenous peoples goes back thousands of years. Since the Confederation in 1867, the beginning of its

colonial self-government, Canada has undergone a complex and gradual process of democratisation. Embedded in Canada's political culture and prosperity, however, is a deep-seated history of exclusion, injustice and indifference. Land that is considered public in Canada is still referred to as "Crown land", ignoring the fact that it was frequently confiscated directly from indigenous peoples and that the latter even have claims to the land under current Canadian legislation (including a share in the proceeds of natural resource exploitation). Justin Trudeau's government, in particular, emphasises that Canada is still only at the beginning of a challenging and painful process of coming to terms with its colonial past.

The second aspect on which the government's policy focuses is environmental and economic development, with the environment being the

New approach in the Arctic? Canada's Prime Minister Justin Trudeau visited Nunavut in August 2022 together with NATO Secretary General Jens Stoltenberg. So far, security policy aspects have played a subordinate role in Canada's Arctic policy. Photo: Jason Franson, AP, picture alliance.

primary concern. The international dimension is not a priority. Canada does say that it would like to see a rules-based system of cooperation in the Arctic wherever possible, and reference is also made to defence policy, but there is a lack of any more detailed explanation of this aspect. Not without good reason, many critics point out that there is little evidence of what this policy aims to achieve in terms of positioning Canada on the international stage.

The start of the war in Ukraine in February 2022 dashed the hopes of many Canadians concerning what they call "Arctic exceptionalism" – the idea that the Arctic is a unique area of cooperation. What is often referred to in Canada since February 2022 as the "resumption" of Russia's war with Ukraine after 2014 has exposed the fact that it is impossible to cooperate with a nation that is willing to use military force in the way that Russia has been doing in Ukraine since the beginning of 2022. For this reason, any initiatives that might be undertaken by Canada to improve the rules-based system in the Arctic region will almost certainly have little chance of success at this point.

Canada has not done enough to develop capabilities of its own in the Northwest Passage.

The Question of Defending Sovereignty in the Arctic

By far the largest shares of the Arctic landmass are held by Canada (about 40 per cent) and Russia (about 50 per cent), although the population of Canada's three northern provinces and territories in the Arctic is comparatively small at about 130,000.[9] Territorial integrity is one of the most emotional issues in the Canadian political psyche. This can be traced back beyond the above-mentioned conflict in the 1980s to a crisis that became known as the Alaskan boundary dispute of 1903 between Canada and the United States. The former colonial power of both parties to the conflict, the United Kingdom, acted as the mediator, but ultimately the dispute was decided in favour of the US.[10] Canada's defeat in this confrontation dealt a blow to that same political psyche, and this was then compounded in the Second World War when Canada was dependent on the United States for the protection of its northernmost border against Japan and Germany, and later in the Cold War against the Soviet Union.

A relic that survives from those times is Washington's refusal to accept Canadian claims to sovereignty over the Northwest Passage. While Canada has always insisted that this route lies within its territory, which would give Ottawa the right to unilaterally determine who can enter and on what conditions, Washington has been equally consistent in its position that it is an international strait, which would mean that as long as ships abide by international rules, they should not have to ask Canada for permission to transit.

From Canada's perspective, the claim to ownership of the Northwest Passage is non-negotiable, giving the Canadian government full control over legislation in this region and what happens there. However, Canada has had to admit that it has not really done much to build the kind of capabilities that Russia, for example, uses to assert its sovereignty over the Northern Sea Route along its territory: there is a lack of suitable monitoring facilities and in particular relevant infrastructure such as ports and military bases; likewise, there are not enough icebreakers to carry out patrols. For this reason, Canadian efforts to control the Northwest Passage are much less effective than Russian measures. The European Union continues to support the US view, and there are increasing signs that some Asian countries may also adopt this position. South Korea has challenged Canadian control in certain forums, for example, including the International Maritime Organization (IMO). The same applies to Singapore.

There can be little doubt that with the melting of the ice and a possible increase in shipping,

the issue of control over the Northwest Passage will return to the political agenda. It will be interesting to see whether Justin Trudeau's government is able to respond adequately to the challenges this involves. Regulation of the Northwest Passage has only been attempted in relation to the United States to date – with mixed results. In the wake of the Polar Sea controversy of 1985, an agreement between the governments of Canada and the US on Arctic cooperation was signed three years later. Both sides agreed that it was "desirable to cooperate in order to advance their shared interests in Arctic development and security".[11] An even more pivotal passage is to be found under point 3 of the agreement, which states that "all navigation by US icebreakers within waters claimed by Canada to be internal will be undertaken with the consent of the Government of Canada." Under international law, there is a difference between permission and consent, however. This choice of words in an international treaty is still regarded by scholars today as a kind of fig leaf to protect Canadian sensitivities regarding territorial integrity, but also to motivate the United States to provide greater support in terms of security policy through a presence in the Northwest Passage. Cooperation under the North American Aerospace Defense Command (NORAD), which was established for the defence sector back in 1958, also points in this direction: this joint US-Canadian facility to monitor space and warn of intercontinental ballistic missile attacks involves tacit Canadian support for US boats operating in its waters, including those passing through the Northwest Passage. Up until the June 2022 announcement by Canadian Defence Minister Anita Anand that funding of more than 40 billion Canadian dollars would be provided for the modernisation of NORAD capabilities over 20 years,[12] there had long been concern among Canadian security experts that without long-term commitment on the part of Canada, the United States might not be willing to continue to contribute its own share of the common defence effort to the same extent in future.

The United States as a "Reluctant" Arctic State

One of the most salient points that Canadian and US policy have in common is that their respective Arctic regions have hardly ever been a focus of interest for political leaders of either country. This was especially true of the part of Alaska that lies north of the Arctic Circle and the surrounding waters, a region that is now the focus of American Arctic policy. With a population of far less than one million, the region was long considered relatively insignificant, not only demographically.[13] Some scholars even go so far as to say that it was not until the state's former governor Sarah Palin was nominated as the Republican vice presidential candidate in 2008 that larger segments of the US population became aware of Alaska again – if indeed they ever had been before. This is one of the reasons why the literature repeatedly describes the United States as a "reluctant" Arctic power.[14]

For a long time, the Arctic was not the focus of US politics.

Nonetheless, a succession of official US government documents detail the country's Arctic strategy under different administrations after the end of the Cold War. These documents also reflect how the US view of the Arctic has changed over the years:

- Presidential Decision Directive/NSC-26 of 9 June 1994[15] contains statements on both the Arctic and the Antarctic, but was not widely disseminated and is therefore considered largely irrelevant.

- Much more effective was the National Security Presidential Directive NSPD-66 of 9 January 2009, issued in the last days of the George W. Bush administration.[16] Here, the United States declares itself to be an Arctic nation. Still influenced by the terrorist attacks of 11 September 2001, the

document reveals a broader understanding of national security that recognises the security interests of the United States in the Arctic, while at the same time addressing new aspects such as the work of the Arctic Council, the resource potential of the region and climate change. The paper is considered the first comprehensive reassessment of US Arctic policy in a long time and a starting point for further initiatives undertaken by the Obama administration.[17] A move of this kind had become necessary: other states had since expanded their Arctic activities, and the impression was starting to prevail in the United States that such issues as resource rivalry could potentially heighten the risk of a military conflict in the region.[18] This concern was also expressed at the time in public statements made by Alaskan politicians, who referred to the risks to oil production in the state.[19] This was also the point at which the idea of protecting this key resource entered the US strategic discourse on the Arctic.

In 2019, US Secretary of State Pompeo voiced harsh criticism of the influence of China and Russia in the Arctic.

- Barack Obama was the first US president to visit the Arctic during his term in office.[20] His administration's National Strategy for the Arctic Region had been published two and a half years earlier, on 10 May 2013. The strategy was criticised by experts as being too unspecific and failing to include aspects such as replacement plans for the ageing US icebreaker fleet and the development of deep-water ports.

- In December 2017, Donald Trump became the first US President to release a National Security Strategy in his first year in office – only the second document of its kind to mention the Arctic. His administration

regarded the protection of the most important resources for US energy dominance as being of vital significance. The resource potential of the approximately one million square miles of the US Arctic, including the relevant exclusive economic zone, was quantified by the US Coast Guard as follows:[21] three billion US dollars in economic volume of the fish and seafood industry in Arctic Alaska, 90 billion barrels of undiscovered oil reserves in the Arctic, an

New priorities: After having played a rather subordinate role in the security policy considerations of the United States for a long time, the Arctic region is now increasingly becoming a focus of interest. Photo: © U.S. Army, ZUMA Press, picture alliance.

estimated 30 per cent of the world's undiscovered natural gas, and one trillion dollars' worth of rare earths in the Arctic. In addition, concrete security policy aspects came to the fore in view of Russia's growing military presence and China's visibly increasing Arctic interests.[22] On the sidelines of the 2019 Arctic Council Ministerial Meeting in Finland, the then US Secretary of State Mike Pompeo gave a speech in which he underlined US security interests in the Arctic and voiced unexpectedly harsh criticism of the influence of China and Russia in the region. This put the Arctic on the agenda of the major international powers once and for all.[23]

- The most recent US Arctic strategy was drawn up by the Biden administration and presented to the public on 7 October 2022.[24] In it, the United States reaffirms its commitment to being an Arctic nation, rating climate change as a key factor for the further development of the Arctic. Washington aims to advance US interests in the Arctic through four mutually reinforcing pillars that encompass both domestic and international issues: security, climate change and environmental protection, sustainable economic development as well as international cooperation and governance.

United States and Canada: A Comparison of Arctic Strategies

The Achilles heel of any maritime activity in the North American Arctic is and remains the ability (or inability) to implement existing strategies. Among other things, the effectiveness of a strategy can be measured in terms of how much political will there is to implement it and the degree to which adequate financial resources are available.

A comparison of US and Canadian strategies in the Arctic shows that there are in fact more similarities than differences, even though US rhetoric over the past four to five years has been in striking contrast to the Trudeau government's restraint, initially suggesting that the two countries might be pursuing very different policies. Examples of points in common include the following:

- The respective government documents of both countries list "strengthening the rules-based order" in the region as being among the top priorities. This includes not only protecting national sovereignty, but also acknowledging that making the Arctic a "shared region" depends on Arctic nations constructively addressing common challenges. Regional cooperation – based on internationally recognised principles such as national sovereignty – is in the interests of the United States and Canada and contributes to a secure and stable Arctic.[25]

- Regional cooperation is also seen as vital in a context that concerns all Arctic nations: while Canada explicitly refers to climate change, the United States initially preferred other terms. It was not until the publication of its most recent strategy papers that the US began to use the same clear language. Today, the realities are acknowledged in US documents too; for example, the US Coast Guard strategy documents refer to thinner ice and particularly to reduced ice cover near the coast in the Arctic.[26]

- In addition, both Canada and the United States recognise that Arctic communities, including Alaska Natives and indigenous peoples, will be at the forefront in the process of adapting to change in the Arctic. It seems that the United States, which (like Canada) has a very tense relationship with its indigenous peoples, is beginning to realise that it makes sense to consult and work with local groups when it comes to expanding activities in the Arctic.[27] Finally, it is also worth noting that adequate funding for implementation does not seem to be available to achieve the objectives set out in either of the strategies. The US Arctic Strategy does suggest that cost is an issue, stating that it will examine its "capabilities, posture, operations, and activities necessary for deterrence in the Arctic [...] in a strategy-driven and resource-informed way".[28]

It is estimated that Russia currently has 20 to 25 times more icebreakers than the US.

The North American Arctic and the Return of Superpower Politics

When NATO Secretary General Jens Stoltenberg visited Canada in August 2022, he publicly noted that Russia's war against Ukraine had fundamentally changed the framework for global security.[29] Diplomatically adopting

Canada's long-standing formula "High North – low tension", he legitimised his hosts' idealistic vision of the Arctic while at the same time confronting them with Russia's wide-ranging military rearmament measures in recent years, leaving no doubt as to the urgent need for broad and resolute action on the part of NATO to counter that not entirely new threat. The message was not something that the hosts had not heard before: after all, their own official conclusions leave nothing to be desired in terms of clarity – "Canada's Arctic is vulnerable. Defence infrastructure is outdated or non-existent".[30] In addition, there is no lack of current research on the topic, although this is only very reluctantly acknowledged, if at all – especially the research from foreign sources.[31] The fact is that the Arctic remains the theatre of deployment for all actors who might threaten the security of North America,[32] and it is ultimately up to Canada to ensure that attacking the United States via the Canadian Arctic is not something that potential military adversaries might regard as a promising option. In a worst-case scenario, it is currently doubtful that this can be ruled out.

As activity in the Arctic increases, so do the demands on security in terms of search and rescue, as well as capabilities for detecting, deterring and engaging potential adversaries. It should be noted that none of the fleets (whether the US or Canadian Navy or the US Coast Guard) has the capability or the capacity to provide a sustained maritime surface presence in the high latitudes.[33]

Reflecting the lack of military interest in the Arctic that prevailed up until 2014, not only in Canada, there was a decline in the number of submarines[34] – generally regarded in the long-term security concepts of all Arctic naval powers as being the most important instrument. Today, for example, Canada's underwater fleet comprises four submarines of the so-called Victoria class acquired second-hand from the United Kingdom in 1998: more than 40 years old, they have mainly been in the headlines due to their numerous defects and lack of seaworthiness.[35] What is more, only one of them is currently operational – a grotesquely small number given that the country has thousands of kilometres of coastline. In view of the challenges involved, the maritime hardware of the United States in relevant areas is likewise in need of significant expansion, at least in quantitative terms. It is estimated that Russia currently has 20 to 25 times more icebreakers than the US.[36] The fact that there is a Coordinator for the Arctic Region within the US State Department[37] and that this position has been filled with a diplomat admired by Canadian experts for his experience in dealing with "great power politics"[38] seems advantageous, but not exactly a "major coup".

Since taking office, Russian President Vladimir Putin has modernised Russia's nuclear arsenal and delivery systems. Many of these weapons systems are stationed in the Arctic, making the region one of the most important and dangerous strategic locations in the world. Yet this line of thinking is something Canadian leaders barely subscribe to. In contrast, after Russia's annexation of Crimea in 2014, the United States did indeed refocus on this issue. It is clearly not in Canada's interests for either Russia or China to conclude that North America is vulnerable to new weapons systems. In view of the Canadian government's completely different set of priorities, however – with an agenda of identity politics and welfare state expansion – it remains unclear whether it is serious about the issue and is actually prepared to pay for more military security, as promised.

– translated from German –

Dr. Norbert Eschborn is Director of the Canada office of the Konrad-Adenauer-Stiftung.

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The Arctic Policy of the Nordic Countries

Between Climate Change, Economic Use and Security

Gabriele Baumann / Julian Tucker

Vast expanses of snow and ice populated only by polar bears: this is an image of the Arctic that only partly reflects reality. Even though protecting the climate and the natural Arctic landscape is of central concern to the Nordic countries, economic activity is also a feature of the regions north of the Arctic Circle. Moreover, the issue of security is now high on the list of priorities again – particularly since Russia's attack on Ukraine.

A Sensitive Ecosystem Begins to Falter

The Arctic has been particularly hard hit by global climate change.[1] Serious changes in the physical make-up of the Arctic have attracted the world's attention since at least 2007, when the summer ice cover in the Arctic Ocean fell to its lowest level ever. But while climate researchers, conservationists and the inhabitants themselves are warning of an irrevocable tipping point and a looming catastrophe,[2] others see new economic opportunities as the sea ice recedes – resulting in easier access to natural resources and potentially ice-free shipping routes between Asia and Europe, such as the Northeast Passage in the Russian Arctic.

Warming in the region is having serious consequences for the environment. Probably the best-known example are the polar bears in Greenland and on Svalbard in Norway: their hunting and social behaviour depends on extensive hunting grounds on the drift ice. But these large Arctic predators are only one aspect of the problem. Even a single ice-free summer would severely damage an ecosystem that is already stressed, not only threatening the survival of polar bears, ringed seals and walruses, but also wiping out countless microscopic life forms. The sea beds and coasts of the Arctic Ocean are inhabited by an astonishing array of microorganisms. Diverse species of algae, bacteria and microscopic organisms form part of the complex mechanisms that make life possible on and under the ice. The irrevocable disappearance of these smallest components of the food chain would not only mean a significant loss for science, it would also destroy the delicate balance in the Arctic.[3]

Biodiversity in the Arctic is not the only phenomenon affected by warming, however. The cold water released by the melting sea ice has a relatively low salinity, and this in turn impacts significantly on water and air currents that determine weather patterns further south. Climate change is particularly noticeable in the North Atlantic, off the west coast of Greenland, where ocean currents are a key factor in shaping global heat distribution. Since the global climate is determined by the energy imbalance between the equator and the poles, even slight changes in the Arctic Ocean can create feedback loops that can be unpredictable and potentially devastating elsewhere.

Although the annual melting and refreezing of sea ice determines the pulse of life and the geophysical nature of the Arctic, it does not affect sea levels, since the displaced volume remains the same. Nonetheless, the disappearance of summer ice still has severe consequences. The greater the amount of sea ice that disappears in the Arctic, the larger the area of the ocean that is exposed, which in turn absorbs more solar energy in the form of heat.

While the disappearance of sea ice does not have a direct impact on sea levels, the melting of the Greenland Ice Sheet is causing the level of the world's oceans to continue to rise. The bright surface of the sea ice (and of the more

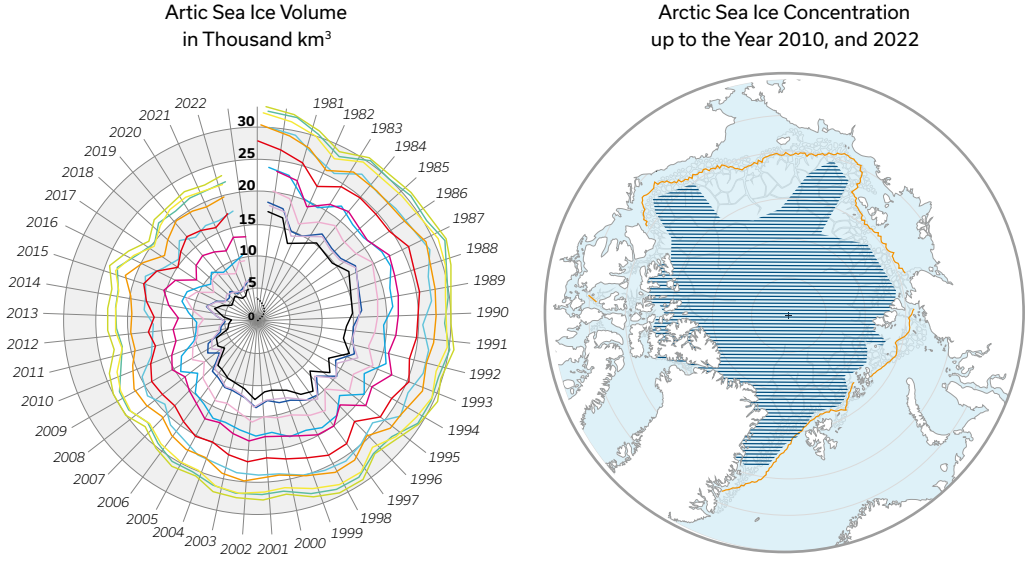
resilient continental ice in Greenland) reflects more solar energy than the dark ocean, helping to maintain the ice caps. Beyond the ice, too, warming is transforming the physical shape of the Arctic. In the Russian part in particular, the thawing of the permafrost is having catastrophic consequences for infrastructure, which is sinking into the ground, causing enormous environmental damage when leaks occur.

Due in part to this sensitive ecosystem and the ongoing warming in the Arctic, the fight against climate change is high on the list of priorities for governments in the Nordic countries and is supported by the majority of the respective populations. Denmark (with Greenland and the Faroe Islands), Iceland, Finland, Sweden and Norway have set themselves the goal of achieving climate neutrality by no later than 2050 (Sweden by 2045 and Finland by as early as 2035) and becoming the most sustainable region in the world by 2030.

Hubs of Economic Activity in the European Arctic

We often imagine the Arctic to be a landscape of snow and ice populated by polar bears. This is only partially true. The Arctic is in fact a key region with important trade, transport and communication networks. The Arctic Circle is home to large cities such as Luleå and Kiruna in Sweden, and Tromsø and Bodø in Norway, and there is a major LNG terminal in Hammerfest in the Norwegian county of Finnmark. These cities are economically strong and innovative centres with growing populations, not least due to attractive overall conditions. Luleå is particularly well known for the production of fossil-free steel using green hydrogen as well as for its renowned University of Technology; in Kiruna and other municipalities in northern Sweden, mining has long been one of the most important economic sectors, including iron ore

Fig. 1: Changes in the Arctic Polar Ice Cap



Monthly averages from January 1979 to January 2023.
Months: • Jan • Feb • Mar • Apr • May • Jun • Jul • Aug • Sep • Oct • Nov • Dec

• Average sea ice extent 1981–2010 • Extent 2022 (each September, recorded by the National Snow and Ice Data Center)

Sources: own illustration based on Lee Robinson, Andy / Horton, Ben 2023: What's The Arctic Death Spiral?, in: https://arcticdeathspiral.org [3 Feb 2023]; Paul, Michael 2020: Arktische Seewege. Zwiespältige Aussichten im Nordpolarmeer, SWP-Studie 2020/S 14, German Institute for International and Security Affairs, 23 Jul 2020, p. 23, in: https://bit.ly/3EHN8sF [27 Feb 2023]. Map: © Peter Hermes Furian, AdobeStock.

and copper. Global demand for iron and steel has led to further investment in the Swedish Arctic.

What is more, the largest European deposits of highly concentrated rare earths to date were identified in Kiruna at the beginning of 2023. With demand for electric vehicles and wind turbines expected to increase, these newly discovered deposits are seen as indispensable for the green transition.[4] 98 per cent of the rare earths used in the EU are currently still imported from China.

Icebreakers are of particular importance to the Arctic economy, providing access to many coastal areas.

Sweden's Arctic strategy aims to ensure that Swedish expertise in cold-resistant civil engineering and transportation contributes to the sustainable development of Arctic infrastructure.[5] Meanwhile, the specific Arctic expertise of Finnish industry and science is likewise highlighted in Finland's Strategy for Arctic Policy, published in 2021. Helsinki is focusing on diversifying the economy in the north of the country, especially with a view to promoting sustainable development.[6]

Icebreakers are of particular importance to the Arctic economy, providing access to many coastal areas; without them, the region could not be integrated into logistics operations at all. Ever since the 1930s, the industry of the Nordic countries, and that of Finland in particular, has been geared towards commercial icebreakers. The Finnish engineering service provider Aker Arctic has been one of the world's leading manufacturers of icebreakers since 2005. When the company ran into financial difficulties in 2013, the state holding company Finnish Industry acquired a majority of its shares to prevent foreign interests from acquiring strategically important expertise and technology.[7]

The Indigenous Inhabitants of the Arctic

As the centres of economic activity in the Arctic expand, so too do the challenges facing the people living in the region, its wildlife and the environment. For this reason, there is a demand for sustainable strategies in all areas. This includes the preservation and protection of the cultural heritage and rangelands of the indigenous Sámi. Their traditional Sápmi settlement area stretches from the central Swedish province of Dalarna to the coast of the Barents Sea and the Kola Peninsula in Russia. The specially protected status of these people as reindeer herders repeatedly comes into conflict with the interests of the mining industry when the latter seeks to expand its economic activities into areas that are traditional grazing land for reindeer herds.

It is estimated that the Swedish population includes more than 20,000 Sámi, and the country's constitution was amended in 2011 to recognise them as an indigenous people. Nonetheless, the government has been criticised for failing to pass legislation on issues relating to the Sámi's rights to land and resources, and for not recognising the indigenous people's right to free, prior and informed consent to mining and infrastructure projects. In Finland and Sweden, the socio-political debate on the rights of indigenous peoples is mainly geared towards ratification of the Indigenous and Tribal Peoples Convention[8], an international agreement adopted in 1989 that promises indigenous groups more decision-making powers in their traditional territories. Norway and Denmark were among the first countries to ratify this convention – a step that is of great importance for Arctic areas such as Greenland.

Greenland: Between Natural Resources Revenue and Environmental Protection

Greenland is an example of how efforts to tackle climate change – a priority in the Nordic states – can lead to conflicts at a policy level over the use of existing natural resources. The Greenlandic government essentially pursues an

environmentally conscious policy. Nonetheless, it hopes that the mining of profitable raw materials will boost its quest for financial independence from Denmark. Greenland was a Danish colony up until 1953; with a current population of about 56,000, it is now effectively autonomous (with the exception of foreign and security policy), especially when it comes to making decisions on resource extraction, even though it remains part of the Kingdom of Denmark and receives a large annual subsidy from Copenhagen. In addition to its own regional government, Greenland has two representatives in the Danish parliament, the Folketing.

Economic powerhouse in Lapland: Kiruna is not only home to a massive iron ore mine. In early 2023, significant deposits of rare earths were also discovered near the northern Swedish city. Photo: © Knut Knipser, image BROKER, picture alliance.

Due to the Arctic climate, people in Greenland live mainly in settlements and towns on the coast. Historically, fishing and hunting have been crucial to survival because of the short summers. The Greenlandic climate and geographical conditions make agriculture and livestock farming almost impossible, except in the very south of the country, where sheep farming is practised. Fishing is still the mainstay of the Greenlandic economy, but the sector is no longer able to provide as many jobs as it used to. The Greenlandic government is looking for ways to profit from the island's mineral resources, which include gold, oil, natural gas and rare earths, although Greenland's climate policy is making this a difficult undertaking. Since coming to power in April 2021, Prime Minister Múte Bourup Egede has delivered on his election promise to pursue environmentally and climate-friendly policies by introducing a moratorium on new oil and gas drilling licences. A mining project to extract rare earths in the south of the island was stopped after protests by inhabitants, as the mine would have exposed uranium as a by-product. Chinese investors have withdrawn from Greenland. Nevertheless, the country's rich mineral resources continue to attract the attention of nations and companies whose supply chains are currently dominated by China and which are in search of alternative sources of raw materials.

The 200 miles area around the Svalbard archipelago is claimed by Norway as its exclusive economic zone.

Svalbard: A Special Case

The Svalbard archipelago, which belongs to Norway, plays a special role in the Arctic region. With a population of 2,640, it is the northernmost inhabited place in the world and one of the largest research bases in the Arctic.

Norway has had sovereignty over this group of Arctic islands since the Svalbard Treaty of 1920,

which now has 46 signatory states. However, all citizens of the signatory states have the right to employment, economic activity, trade and shipping in Svalbard. The area within 200 miles around the archipelago is claimed by Norway as its exclusive economic zone, including for the purpose of fishing. This is contested mainly by Russia, but the European Union and Iceland likewise believe that the Svalbard Treaty also applies outside the territorial waters and on the continental shelf. Norway also reserves the right to conduct regular coastal patrols on Svalbard to underline Norwegian sovereignty. The coast-guard service is part of the Norwegian maritime forces. Russia criticises the Norwegian position, citing Article 9 of the Svalbard Treaty, which prohibits the pursuit of "warlike purposes" in the demilitarised area, yet there has been an increase in the frequency of Russian military exercises off the Norwegian coast. As recently as July 2022, President Vladimir Putin announced his intention to defend the Arctic waters "by all means".[9] In early 2022, an underwater fibre optic cable connecting a satellite ground station on Svalbard to the Norwegian mainland was severed. This incident followed a similar one in April 2021. In both cases, the authorities said the disruptions were likely to have been caused by human activity and not by natural phenomena.

In addition to a Russian consulate general and a research station, Russia also operates a coal mine in Barentsburg, a mining settlement on Svalbard with a population of just under 500, although the mine produces very little and is more a token of economic activity. After the Russian invasion of Ukraine, it was also noticeable that the miners were mainly Ukrainians from the Donbas region, which led to tensions between workers and the Russian operators.

The Arctic Council and Regional Security Issues

Over the past few decades, the Arctic has been described as an exceptional region where peaceful and economically sustainable cooperation has allowed nations and indigenous peoples to coexist. This remained the case even when geopolitical tensions increased in recent years as a result of Russia's imperial claims, for example, and in the wake of the conflict between the US and China.

Historic signature: In March 2023, Finland's President Sauli Niinistö signed the laws for his country's accession to NATO. These had previously been passed by parliament with a clear majority. Photo: © Markku Ulander, dpa, Lehtikuva, picture alliance.

Founded in 1996 after the end of the Cold War, when the military importance of the Arctic declined, the Arctic Council comprises all five Nordic countries as Arctic states, along with Canada, the US and Russia.[10] Security issues have been excluded to date. However, Russia's war of aggression against Ukraine has dramatically changed the attitude of the seven Western countries in the Arctic Council towards Russia, bringing security policy aspects to the forefront. The work of the Council, which is currently being chaired by Russia until May 2023, was suspended by seven of the eight members in early March 2022. Other cooperation bodies followed a few days later, one of which was the Barents Euro-Arctic Council, whose members include the Nordic countries, the EU and Russia. Regional cooperation in the Arctic has thus been put on hold, which is having a sizeable impact on research, environmental protection and transnational dialogue for the indigenous peoples, especially the Sámi, whose traditional settlement area stretches across Russia's strategically important Kola Peninsula and whose

reindeer herds have crossed Russian borders with Norway and Finland for centuries.

In terms of regional and European security, the five Nordic countries have never been concerned solely with military security in the past. Climate change and sustainable development were always seen as the most pressing challenge. Three of these countries are also EU members. Since 2014, if not before, this has also raised the question of the role that the EU might play as a transnational union for development and security in the Arctic and what influence it has as a geopolitical actor. In October 2021, the EU launched a new Arctic strategy, which has now put geopolitics at the forefront of strategic thinking. Among the Nordic countries, there are different interpretations regarding the role of the EU, and it is not easy to identify a common "Nordic view".

New Security Environment Following Russia's War of Aggression against Ukraine

Instead of five NATO members in the Arctic Council – as was the case before Russian troops invaded Ukraine in February 2022 – there might soon be seven: Finland and Sweden applied for NATO membership in May 2022 after being non-aligned for decades (or more than 200 years in Sweden's case). Finland officially joined the Alliance in April 2023. Neither country borders on the Arctic Ocean, so unlike Norway, their security interests lie more in their northern land areas and in the Baltic Sea region. However, the latter is regarded as forming an interconnected security region with the Arctic and the North Atlantic. What is more, the existing border between Finland and Russia has doubled the length of the land border between NATO and Russia. It is to be hoped that Turkey will now abandon its opposition against Sweden. All five Nordic countries would then belong to the defence pact.

Denmark and Norway have also shifted their position in light of the new perceived threats in the Arctic region, the former illustrating its changed attitude by overturning its opt-out from defence cooperation within the EU back in June 2022. The defence opt-out previously meant that Denmark was not able or obliged to participate in the Common Security and Defence Policy or in EU military operations.[11]

It was not until the 2010s that the need for new military planning came to the fore, especially after the Russian annexation of Crimea in 2014.

In the comparatively peaceful decades following the Cold War, the armed forces and military planners of the Nordic countries focused more on foreign operations and less on territorial and maritime defence in the High North. National defence strategies remained relatively unchanged and came to appear increasingly outdated as a result. It was not until the 2010s that the need for new military planning closer to home came to the fore, especially after the Russian annexation of Crimea in 2014. Moscow's rhetoric on the Arctic acquired a significantly harsher tone after that year. This is also reflected in Russian security documents, especially the 2014 military doctrine and the 2015 naval doctrine.[12]

The Finnish and Swedish defence ministers responded in March 2015 with a new agreement on military cooperation that would have allowed for a joint war effort by the two countries in the event of an attack. The Nordic countries' defence alliance NORDEFCO, founded in 2009, was strengthened in 2015 with the addition of an agreement to expand military exercises and exchange information. Due to their proximity to the Russian Kola Peninsula with its high concentration of military installations, including the headquarters of the Northern Fleet at Murmansk, the Nordic countries undoubtedly have an immensely important role to play in the collective security of Northern Europe. As (future) new NATO members, Finland and Sweden will be a valuable addition to the Alliance

with their military capabilities, transforming Northern Europe from the Baltic Sea across the North Atlantic to the Arctic into a compact NATO area.

– translated from German –

Gabriele Baumann is Head of the Konrad-Adenauer-Stiftung's Regional Programme Nordic Countries, based in Stockholm.

Julian Tucker is a Research Associate with the Konrad-Adenauer-Stiftung's Regional Programme Nordic Countries.

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Photo: © Michael Nolan, robertharding, picture alliance.

From No Man's Land to the Continent of the 21st Century?

On the Future of the Antarctic

Inga von der Stein

Remote and almost uninhabited, yet increasingly significant in international politics: the Antarctic is a crucial factor in the fight against climate change. And given the raw material deposits that are thought to be located there, what was once a no man's land has the potential to develop into a geopolitical arena in the medium and long term. Germany and Europe should do more to promote stability and sustainability in the region.

In October 2022, the Russian war of aggression against Ukraine reached the Antarctic: at the annual meeting of the Commission for the Conservation of Antarctic Marine Living Resources, the Ukrainian delegation called for Russia to be excluded from the body. The appeal was unsuccessful. What was more significant, however, was that the assembled nations likewise failed to achieve the main objective of the meeting, namely, to establish marine protected areas (MPAs).[1] The latter were to be declared to conserve the region's unique biodiversity. Although 25 of the 27 member states indeed agreed on this objective,[2] the project failed – just as it had done at the five previous meetings – because of the principle of unanimity and the vetoes cast by China and Russia. China's interests lie in maintaining fisheries in the Antarctic and in the possibility of extracting resources in the future. Russia, on the other hand, regards the Antarctic primarily as an additional part of the geopolitical arena and is seeking to maximise its own room for manoeuvre.

The EU's View of the Polar Regions

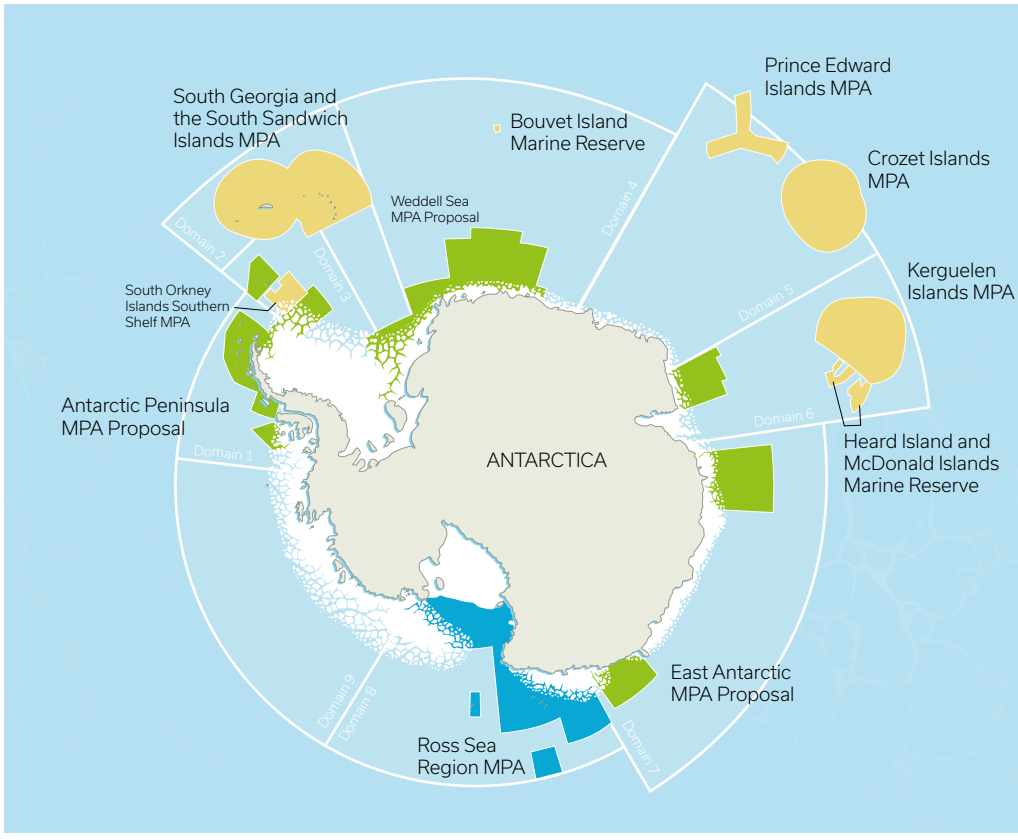
While the Antarctic has received little attention to date, the strategic importance of the Antarctic's northern counterpart, the Arctic, has now been established as an important factor in German and European politics. The European Commission presented its new EU Arctic strategy[3] in 2021, stressing for the first time the "geopolitical necessity" of the EU's involvement in the region and stating that the EU's engagement in the Arctic would now lie in the two areas of sustainability and security. Explicit mention is made of Russia's military activities in the Arctic, as well as China's interests in connection with the Polar Silk Road, such as the expansion of critical infrastructure and the mining of raw materials in the Arctic. The EU's tools include establishing an EU office in Greenland, providing EU funding to promote green change, and advocating for multilateral action in the Arctic Council.

In the case of the Antarctic, however, there is no such communication, no strategy, and virtually no EU funds. The EU's 2022 Strategic Compass[4] does not even mention the Antarctic. The EU views the region primarily from a climate perspective. The fact that its engagement is more selective than broad is due not least to the geography: there is a distance of more than 4,900 kilometres between Brussels and the Arctic, the Antarctic is almost three times as far away. Unlike the Arctic, the Antarctic does not consist of ice alone, but also of land mass covered by ice: the Antarctica is the southernmost continent in the world.[5] What the two poles have in common is that they are particularly hard hit by the impact of climate change.[6] Furthermore, there is speculation that raw materials lie dormant in both polar regions, which could become more accessible as a result of the melting ice.[7]

The Antarctic Treaty as a Guarantor of Perpetual Peace?

The sixth continent remains a model of peace to this day – not least thanks to the Antarctic Treaty

Fig. 1: Existing and Proposed Marine Protected Areas (MPAs) in the Antarctic



Existing CCAMLR MPA Existing MPAs in need of expansion or additional protection MPA proposals or draft scenarios being negotiated by CCAMLR. Source: own illustration based on Kavanagh, Andrea 2017: A Network of Marine Protected Areas in the Southern Ocean, The Pew Charitable Trusts, 25 Apr 2017, in: https://bit.ly/3HExyAb [16 Feb 2023]. Map: © Peter Hermes Furian, AdobeStock.

of 1959,[8] which is considered the first arms control treaty of the post-World-War-II era. Twelve states[9] agreed to put their territorial claims on hold and refrain from both economic exploitation and military activities. Today, a total of 56 states are signatories to the agreement, 20 of which are EU member states.[10] Not all the signatory states are entitled to vote at the consultative meetings: to be able to do so, a state must first set up a research station in the Antarctic or send a scientific expedition to the region. The results of this research are to serve the interests of the international community as a whole. In addition, the Antarctic Treaty provides that the consultative parties are entitled to conduct inspections in all areas of the Antarctic. All decisions are made according to the principle of unanimity. Currently, 29 states have consultative status, eleven of which are EU member states. Germany has been a consultative state since 1981.

The Antarctic Treaty can only be amended by unanimous agreement.

The Antarctic Treaty of 1959 was only the beginning: over the years, five subsequent agreements have been added. One particularly important agreement was the 1980 Convention on the Conservation of Antarctic Marine Living

Resources,[11] which gave rise to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). This commission has 26 members, including the EU itself and eight EU member states. Both the EU and the eight EU member states are entitled to vote. The aim of the CCAMLR is to establish MPAs to safeguard marine life. It is currently the most relevant body under the Antarctic Treaty System. Another agreement of key importance is the 1991 Protocol on Environmental Protection,[12] also known as the Madrid Protocol, which specifies the environmental requirements and explicitly prohibits the commercial extraction of raw materials. This Protocol is considered one of the most comprehensive environmental protection systems in force at the global level.

China and Russia continuously block the establishment of marine protected areas.

Weaknesses of the Antarctic Treaty System

The Antarctic Treaty System is not as secure as it might seem, however. Its most secure element is considered to be the Antarctic Treaty, which prohibits military activity. It can be amended, but this would require unanimous agreement, which poses a major obstacle.[13] No changes have been made to the treaty to date. To amend it would be to open Pandora's box, warns María Teresa Kralikas, who was Undersecretary of State at the Argentine Foreign Ministry from 2016 to 2019.[14] Furthermore, amendments could potentially give states an excuse to withdraw from the treaty altogether. This would make the Antarctic Treaty fragile and ultimately obsolete.

The 1980 Convention has an even greater handicap: the established MPAs do not apply indefinitely. The MPA in the Ross Sea is initially valid until 2052.[15] If no consensus is reached to confirm or amend the status of this protection zone, it will expire. New MPAs can only be established by unanimous agreement. China and Russia take advantage of this by continuously blocking such moves. To persuade the two countries to give in and thus achieve unanimity, the proposed lifetimes of such MPAs are increasingly shortened: as a result, it is questionable whether such zones will endure and achieve the desired effect.

Another loophole in the Antarctic Treaty System is the Protocol on Environmental Protection, which prohibits the extraction of raw materials: consultative parties may request a review of the application of this Protocol 50 years after its entry into force in 1998,[16] that is, in 2048. For the adoption of an amendment or an addition, the approval of the majority of the signatories and three quarters of the consultative parties to the Antarctic Treaty is necessary. Unlike almost all other decisions taken under the Antarctic Treaty System, the principle of unanimity does not apply here. Amendments to the agreement could potentially give the signatory states an excuse to withdraw from the Protocol and possibly to start extracting raw materials.[17]

The Future of the Antarctic as a Continent of the 21st Century

Climate Change

Climate change is increasingly pushing the Antarctic into the international spotlight: the melting of the ice and the resulting rise in sea level have an impact of global proportions, while at the same time there is speculation that raw materials that were previously under the ice may now become accessible. The 2022 UN Assessment Report on Climate Change states that the polar regions are disproportionately affected by the impacts of climate change and will be subject to fundamental change by 2050.[18] However, a lot has not been figured out yet such as the speed of the melting of the ice, the global impact of the melting ice and the effect of the melting of the Antarctic ice – which represents 70 per cent of the world's freshwater reserves – on the ocean currents. This is why climate research conducted in the Antarctic plays such a vital role.

The diversity of the more than 8,000 animal species in the Antarctic is already under threat.[19] The krill is of particular importance here: without this crustacean, the entire Antarctic ecosystem would be in danger. In the past 40 years, the krill population has declined by 70 to 80 per cent.[20] This is partly due to the loss of sea ice, which leads to acidification of the ocean. But overfishing in the Antarctic is also resulting in the depletion of fish populations. Of the estimated 300 to 500 million tonnes of krill in the Antarctic, around 100,000 tonnes are fished each year. Even though this amounts to only a very small part of the total population, the importance of krill fishing is growing: krill is used as an input for food and increasingly for medical and cosmetic products too. For this reason, the krill catch is expected to double by 2050.[21]

There are only assumptions regarding the types of mineral resources, their quality and quantity.

China and Norway fish the largest quantities of krill. While various MPAs have been established in recent years to put a stop to overfishing, Russia and China are stalling current negotiations on extensions and new protected areas, as described above. On top of that, monitoring of these areas is difficult since they are huge in size and are located outside national territorial waters.

Raw Materials

The melting of the ice has led to increased interest in the raw materials believed to be available underneath it. Mario Baizán, advisor to the head of cabinet of the Argentine Ministry of Security from 2015 to 2019, says that the Antarctic's resources would make it the continent of the 21st century.[22] As an economically beleaguered nation, this is a perfect opportunity for Argentina, and Ushuaia is by far the most widely used of the five Antarctic "gateway cities".[23] Rather than reliable calculations, however, there are only assumptions regarding the types of mineral resources that could be accessed, as well as their quality and quantity. This is not only because of the glaciation of the continent but also because of the ban on raw material extraction by the Protocol on Environmental Protection. It can be assumed that the signatory states keep any findings to themselves for the most part. What is known to date is that there are deposits of coal and iron ore in the Antarctic. There are believed to be metals such as nickel, copper and platinum as well as deposits of oil and natural gas. In addition to the legal hurdles, commercial production would not be economically viable at the present time.[24] In terms of raw material deposits, the Arctic has so far attracted greater interest, since the ice there is melting faster than in the Antarctic.[25] Nonetheless, the rising temperatures are affecting the ice in the Antarctic too – and all players are well aware of this fact.

Dormant Territorial Claims

Given the interest in the raw materials that are believed to be present in the region, the question of who owns these resources is back on the agenda. Seven states asserted territorial claims in the first half of the 20th century, based on explorations of the claimed areas or on geographical proximity: Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom (see figure 2). The Antarctic Treaty froze these territorial claims but did not eliminate them.[26] Should the treaty cease to apply in the future, it is conceivable that the states with territorial claims will insist on pursuing or even extending them. Furthermore, other states could potentially advance such claims too. The territorial claims asserted by Argentina, Chile and the UK, for example, partially overlap; meanwhile, Russia and the United States have not recognised other territorial claims in the past while at the same time reserving the right to assert their own. Furthermore, disagreements could potentially arise with regards to the exclusive economic zones, that is, the maritime area up to 200 nautical miles off the coast. Exclusive rights to

fisheries and mineral resources are at stake here. As such, these dormant territorial claims hold the potential for conflict in the future.

Geopolitics at the South Pole

Similar to the Arctic, the Antarctic is increasingly attracting the attention of the global political actors of the 21st century. Unlike the Arctic Council, the Antarctic is not a closed club: every state that operates a research station in the Antarctic has voting rights in the Antarctic Council. This allows for broader participation. The three players that stand out based on their involvement in the Antarctic are the United States, China and Russia. The United States is the front-runner in terms of the quality of research in the Antarctic, and more than 1,200 US citizens are permanently in the Antarctica for research purposes – more than from any other country.[27]

Russia views the Antarctic primarily as an arena of geopolitical competition, but it does not have sufficient economic means to establish a presence in the same way as the Soviet Union did during the Cold War. Russia is thought to not abide by the rules of the Antarctic Treaty System: examples here include suspected activities involving dual-use technologies, such as satellites. It is suspected that Russia might be deploying these technologies not just for civilian research but also for military and intelligence purposes, which would violate the ban on military activity. What is more, a Russian vessel was in breach of the fishing ban in an MPA in 2020.[28] Like some of the Chinese research stations, there are also Russian stations that have not been inspected for more than ten years. This poses the risk that the international community is not aware of Russia's activities. With regards to the future of the Antarctic, it can be assumed that Russia will continue to act in concert with China so as not to limit its own options. It is conceivable that Russia could team up with China in an attempt to amend the Protocol on Environmental Protection in 2048 so as to open up the possibility of mining raw materials in the Antarctic in the long run.

China has been a consultative party of the Antarctic Treaty without territorial claims since 1985, but it has greatly increased its presence over the past ten years. Climate research alone cannot account for this involvement, which leads to the conclusion that China is pursuing other interests in the Antarctic such as military research and the exploration of raw material deposits. China has greater room for manoeuvre in the Antarctic than in the Arctic. In the Arctic Council, only eight states are involved in the decision-making process:[29] this means that Chinese influence in the Arctic is limited at the institutional level. By contrast, the institutional structure in the Antarctic

The most widely used gateway to the Antarctic: The southern Argentinian port city of Ushuaia. Photo: Alvis Upitis, Design Pics, picture alliance.

is highly attractive to China, since it gives every state with research activities a say. Strategically, it plays into China's hands that the Antarctic has been virtually a no-man's land up until now.

In building its Antarctic infrastructure, China benefits from its good relations with Argentina.

In order to position itself, the country has established four research stations, with a fifth currently under construction. China is also planning to build an airport near the Zhongshan research station.[30] Much of China's activity takes place in the East Antarctic sector, which is where most of the country's research stations are located. It is an area that is strategically relevant as many resources such as iron are suspected. It is noteworthy that the Chinese stations form a kind of corridor from the South Pole to the coast of East Antarctica. María

Teresa Kralikas believes that in the medium to long term, China might seek to assert a territorial claim based on the strategic positioning of its stations. The country has repeatedly been criticised for a lack of transparency in reporting on its activities in the Antarctic. It conceals the use of its military for supposedly scientific projects, for example, thereby presumably violating international law,[31] and Kunlun Station has never been inspected.[32] Based on the information provided by China itself, this station is used for both space research and deep drilling.[33] The country also deploys numerous satellites that could potentially offer significant military benefits in addition to being used for civilian purposes.

Economically speaking, the Antarctic is lucrative for China because of the krill catch and the mineral resources that are assumed to exist there. The Polar Research Institute of China considers Chinese access to these resources to

Not just tourism: China has massively increased its activities in the Antarctic in recent years, transparency not being a priority for the People's Republic. Photo: Ashley Cooper, Global Warming Images, picture alliance.

be essential to the economic development and continued existence of the People's Republic.[34] In building the necessary infrastructure, China benefits from the good relations it maintains with Argentina. Argentina has been part of the "New Silk Road" since the beginning of 2022, and China has shown interest in investing in the port city of Ushuaia: the latter is precisely the kind of city that the People's Republic needs as a logistical gateway in order to realise its ambitions in the Antarctic. In January 2023, there were several reports that China was even looking to build a port of its own in Tierra del Fuego.[35] All in all, the Antarctic is a key building block for China in its quest to become a world power by 2049.

The fight against climate change requires cooperation not just with partners but also with competitors and systemic rivals.

Regarding China's future positioning in the Antarctic, the following scenario is likely: because of its interest in krill fishing, the People's Republic is likely to continue torpedoing the work of the Commission for the Conservation of Antarctic Marine Living Resources. China can be expected to block the establishment of new MPAs, or to only agree to MPAs if they are of short duration. At present, the country has no interest in fundamentally changing the Antarctic Treaty: the People's Republic itself benefits from the status quo, which enables it to further expand its influence in the Antarctic Ocean. However, it is conceivable that China will seek an amendment to the Protocol on Environmental Protection in 2048 in order to open up the possibility of legally extracting raw materials. If China were to start extracting raw materials, this could potentially trigger a chain reaction: the frozen territorial claims would resurface, putting the Antarctic Treaty System at risk or in a worst-case scenario even causing its collapse. The People's Republic itself has no territorial claims, but the Chinese research stations are located in an area that is subject to dormant Australian claims, and this could potentially give rise to a conflict.

Time to Act: Greater Focus on the Antarctic by Germany and the EU

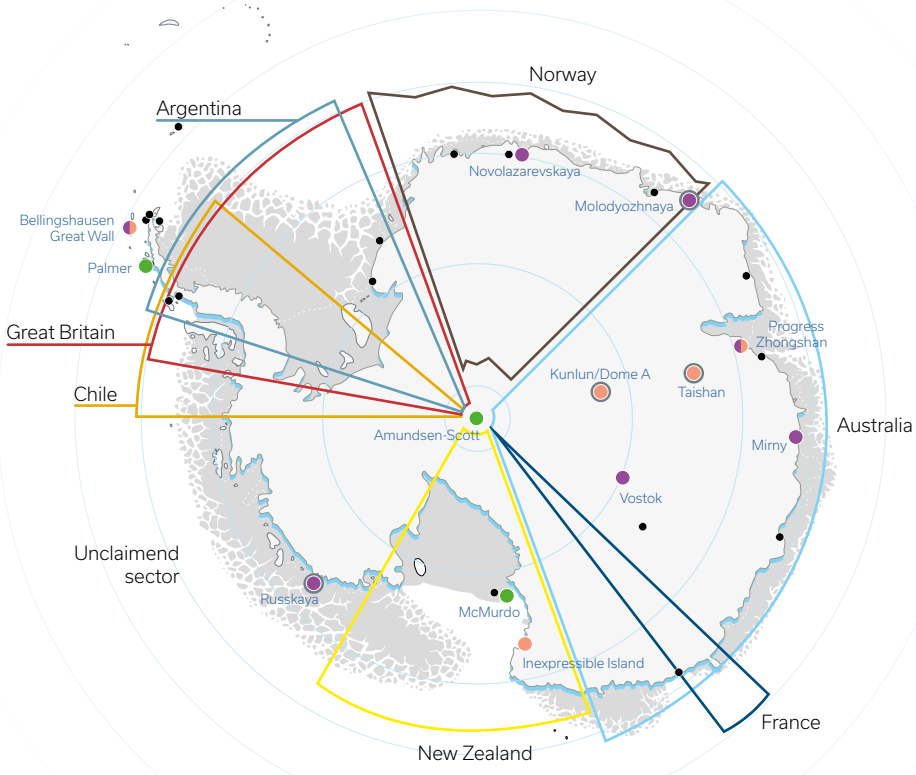
Despite its geographical remoteness, the sixth continent should be a factor in the EU's political considerations. Particular attention should be paid to China. The starting point here could be the EU's new Arctic strategy. Many of the challenges in the Arctic and Antarctic have aspects in common – such as climate change, the increased accessibility of raw materials due to the melting ice, and the interest that external actors show in these same resources. There is a need for a holistic "EU polar strategy" applicable to both the Arctic and Antarctic. This would give the EU member states that are parties to the Antarctic Treaty System pragmatic guidance for their actions, while at the same time enabling the EU to increase its influence as a normative power, thereby promoting sustainability and stability among the Antarctic Treaty states. The Antarctic should also be more in the focus of the European External Action Service through the European Commission's Directorate-General for Maritime Affairs and Fisheries. The position established for the Special Envoy for Arctic Matters should further include the issue of the Antarctic in its portfolio. The Directorates-General for Climate Action and Trade should also be involved. Furthermore, Germany should not overlook the Antarctic in the China strategy it is currently drawing up. China's ambitions must be viewed globally, and Germany needs to coordinate its actions and ambitions with the United States and other democratic partners.

Under the Antarctic Treaty System, the EU and EU member states should continue to work towards climate protection and biodiversity conservation in the Antarctic. This includes promoting the establishment of MPAs in the Commission for the Conservation of Antarctic Marine Living Resources. The latter will not be enough

on its own, however, as illustrated for the sixth time in succession by the vetoes imposed by Russia and China on the establishment of MPAs in 2022. For this reason, MPAs need to be discussed at a higher political level and be put on the agenda at bilateral meetings held by senior German and European politicians with their Chinese and Russian counterparts. The fight against climate change is of global interest: it requires cooperation not just with partners but also with competitors and systemic rivals.

The fact that the EU's engagement in the Antarctic has been somewhat limited is partly due to legal factors, since only nation states may be signatories to the Antarctic Treaty and its Protocol. Nonetheless, the signatories do include eleven EU member states. Instead of financing the infrastructure of national research stations, there should be more joint projects – one example here is Concordia, which is jointly run by France and Italy. Another positive example is the international mission being planned by the Alfred Wegener Institute. In addition, the EU should make funds available, for example, under the scientific research framework programme Horizon Europe, both to improve research coordination among EU members and to provide financial support to non-EU states. Economically crisis-ridden Argentina maintains numerous research stations, although most of these are of low quality. The EU should support Argentina in modernising these bases or establish an EU-Cono-Sur research station with the

Fig. 2: Territorial Claims (Dormant) and Research Facilities in the Antarctic



Research facilities of ● Russia ● China ● the US. ○ Seasonally operated research facilities. ● Other year-round research stations. Sources: own illustration based on Polar-Journal 2000: Gebietsansprüche in der Antarktis, 1 Jan 2000, in: https://bit.ly/3VVwFHZ [16 Feb 2023]; Boulègue 2022, n. 28; The University of Texas at Austin 2009: Polar Regions and Oceans Maps. Antarctic Region (Political) 2009, 803412AI (R02207) 6-09, CIA, in: https://bit.ly/41wLXpu [27 Feb 2023]. Map: © Peter Hermes Furian, AdobeStock.

help of the signatory states, for instance. In addition, the Argentine port of Ushuaia needs investment too. It is only a matter of time before other states fill this gap and bind Argentina to them – not only financially. China is already actively seeking to establish itself in that gateway to the Antarctic. Here, for example, the EU's Global Gateway initiative or the G7 Partnership for Global Infrastructure and Investment could be key alternatives to Chinese investments and the Silk Road initiative.

In addition, better use should be made of the tools available under the Antarctic Treaty. European states need to plan collaboratively when carrying out inspections, targeting Russian and Chinese stations so as to detect violations of the Antarctic Treaty. Supporters of a rules-based multilateral order such as Australia, Argentina, South Africa and Chile should also be included here.

Time may be running out for the Antarctic Treaty System as a peace-making framework. Germany and Europe should be prepared for this and should seek to preserve the Antarctic as a common good of the international community and as a symbol of stability and sustainability.

– translated from German –

Inga von der Stein is a Research Associate at the Konrad-Adenauer-Stiftung's Argentina Office.

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Polar night with northern lights: a launcher station of a Patriot M903 surface-to-air missile system during military exercise Arctic Edge 22 at Eielson Air Force Base in Alaska. The exercise was conducted by U.S. Northern Command in February and March 2022.

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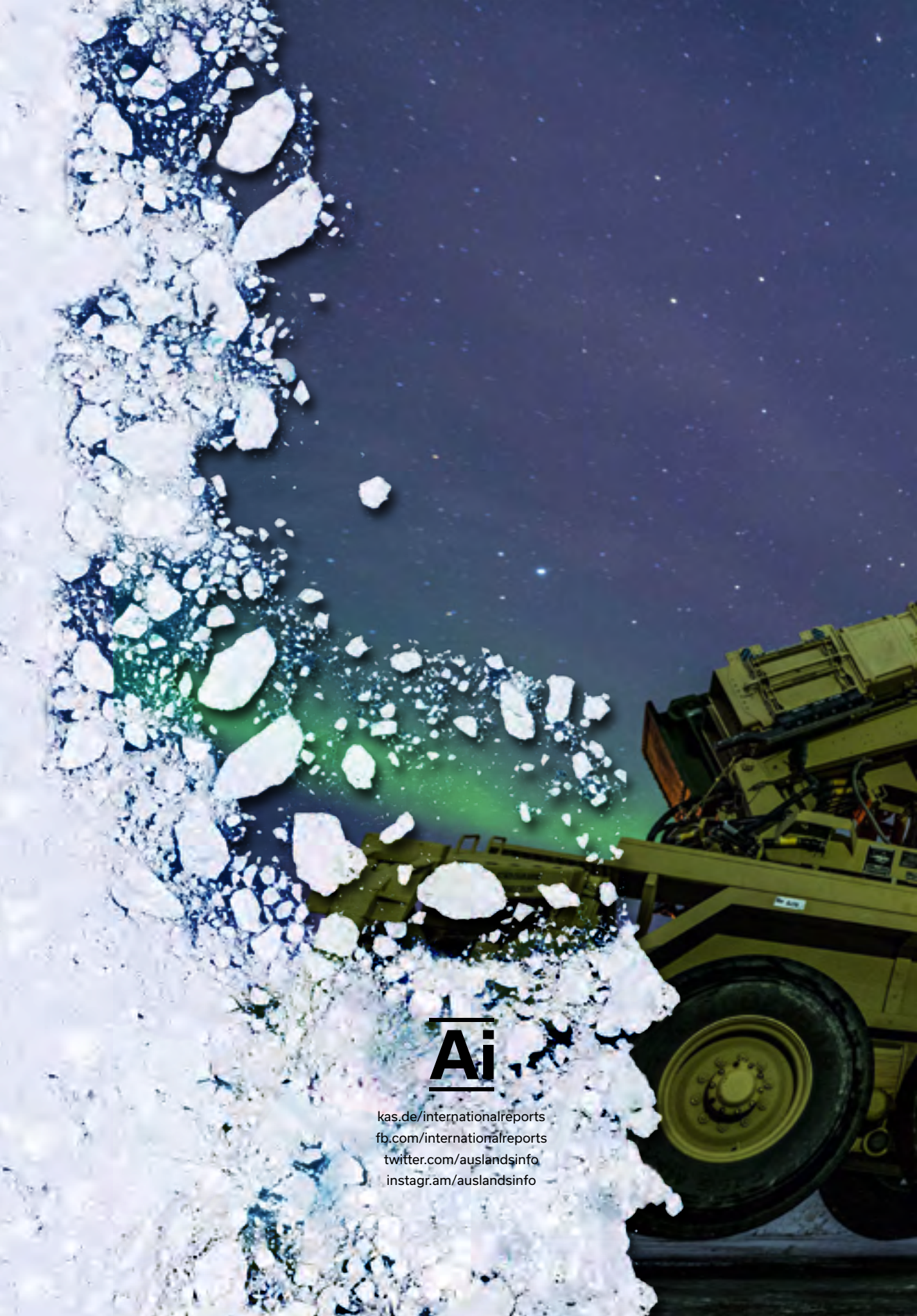

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