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The EU, Climate Change and Geopolitics of the Arctic: Great Power Strategies and European Response

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Master in International Studies

Supervisor:
PhD, Bruno Cardoso Reis, Visiting Assistant Professor
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SOCIOLOGIA
E POLÍTICAS PÚBLICAS

Department of History

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ABSTRACT

Due to its unique characteristics such as strategic location and appearance, the Arctic is a natural area of great importance for the Earth and its biosphere. Because of climate change, it is increasingly warmer, and in the summer months almost ice-free. This presents big threats for flora, fauna, and mankind. At the same time, these changes provide great opportunities and development potential in terms of new sea trade routes, unexploited raw materials, strategic security advantages. The goal of this thesis is to find out which Arctic strategies the EU, USA, Russia, and China have adopted to deal with the changes in the Arctic. What are their main interests and goals? Is there cause to fear an open conflict or not? Furthermore, it provides an analysis of how the EU is preparing for the changing Arctic. The basic assumption of this thesis is rooted in political Realism and the associated geostrategic variety of Geopolitics. It contains a qualitative analysis, primarily critically analyzing existing literature, but also some primary published sources. The thesis concludes that the EU is already an Arctic actor, sharing partially similar goals for the Arctic as China, with a focus on the region's economic development. Whereas Russia and the USA give, alongside the economic development, a more prominent role to defense and security matters. However, currently, there is no cause to fear an open armed conflict.

KEY WORDS

Geopolitics, Arctic, Climate Change, European Union

RESUMO

Devido às suas características únicas, tais como localização estratégica e aparência, o Árctico é uma área natural de enorme importância para a Terra, e para a sua biosfera. Devido às alterações climáticas, é uma região cada vez mais quente, e nos meses de Verão já quase sem gelo. Isto comporta grandes ameaças para a flora, a fauna e a humanidade. Ao mesmo tempo, estas mudanças criam grandes oportunidades e potencial de desenvolvimento em termos de: novas rotas comerciais marítimas, matérias-primas não exploradas, vantagens estratégicas em termos de segurança. O objectivo desta tese é identificar as estratégias que a UE, EUA, Rússia e China adoptaram para lidar com as mudanças no Árctico. Quais são os seus principais interesses e objectivos? Há ou não motivos para recear um conflito aberto? Além disso, apresenta uma análise de como a UE se está preparando para a mudança em curso no Árctico. A abordagem desta tese está enraizado no Realismo político e na variedade geoestratégica da Geopolítica a ele associada. Contém uma análise qualitativa, analisando principalmente de forma crítica a literatura existente, bem como algumas fontes primárias publicadas. Esta análise documenta conclui que a UE já é um actor do Árctico, partilhando uma abordagem parcialmente semelhantes para o Árctico à da China, com enfoque no desenvolvimento económico destas regiões. Enquanto que a Rússia e os EUA adoptam, a par da aposta no desenvolvimento económico, uma abordagem mais centrada em matérias de defesa e segurança. No entanto, actualmente não há motivo para recear um conflito armado aberto na região.

PALAVRAS-CHAVE

Geopolítica, Árctico, Alterações Climáticas, União Europeia

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GLOSSARY OF ACRONYMS

AC	Arctic Council
AMAP	Arctic Monitoring Assessment Program
AMSA	Arctic Shipping Assessment Report
AWI	Alfred-Wegener-Institute for Polar- and Marine Research
BEAC	Barents Euro-Arctic Council
°C	Degree Celsius
CARA	Circum-Arctic Resource Appraisal
CO2	Carbon Dioxide
COREPER	Committee of Permanent Representatives
CFSP	Common Foreign and Security Policy
CLCS	Commission on the Limits of the Continental Shelf
CSDP	Common Security and Defence Policy
EC	European Commission
EDA	European Defence Agency
EEA	European Economic Area
EEAS	European External Action Service
EEZ	Exclusive Economic Zone
EFTA	European Free Trade Association
EIB	European Investment Bank
ENP	European Neighborhood Policy
EP	European Parliament
EU	European Union
EUGS	European Union Global Strategy
EUMSS	European Union Maritime Security Strategy
FAC	Foreign Affairs Council

GDP	Gross Domestic Product
Gt	Gigaton
IAPG	Interagency Arctic Policy Group
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
km	Kilometer
km^2	Square kilometer
m^3	Cubic meter
MARPOL	International Convention for the Prevention of Pollution from Ships
Mio.	Million
mm	Millimeter
NATO	North Atlantic Treaty Organization
NEP	North-East Passage
nm	Nautical mile
NPC	National Petroleum Council
NSR	Northern Sea Route
NWP	North-West Passage
PAME	Protection of the Arctic Marine Environment
PESCO	Permanent Structured Cooperation
SAR	Search and Rescue
UNCLOS	United Nations Convention on the Law of the Sea
USA	United States of America
US	United States
USGS	United States Geological Survey
UN	United Nations

WWF	World Wide Fund for Nature

INTRODUCTION

"You never really know your friends from enemies until the ice breaks." - Inuit Proverb (osmquote, n.d.)

This Inuit proverb leads to the question of how would 'great powers' such as the United States of America (USA), the Russian Federation, the People's Republic of China, and the European Union (EU) react to the 'breaking of the ice' in the course of a warming Arctic? Will it be visible who are friends or enemies, as the Inuit's say? The goal of this Thesis is, to find out which Arctic strategies these States and Institutions have adopted to deal with the changes in the Artic due to climate change. What are their main interests and goals? Is there cause to fear an open conflict or not? Last but not least, it provides an analysis of how the EU is prepared for the changing Arctic conditions. This is relevant as the analysis of the EU's interest in the Arctic is rare, especially in comparison with the other actors.

This topic is of relevance as the Arctic is one of the most affected regions by climate change in the World. It is important to note that the environmental impacts of Arctic warming will go far beyond the region: If the thawing process of the previously permanently frozen tundra soils continues unabated, it will release large amounts of methane which was previously bound in the soil. And this would further intensify the additional greenhouse effect and thus further warming. The same is possible on the seabed, where methane hydrate could dissolve, and reach the atmosphere if the water temperature further rises. Not least because of this self-reinforcing dynamic, a further increase of arctic climate change is considered to be a tipping point, after that an accelerated global and presumably irreversible environmental change will result. One can say, therefore, that climate development in the arctic region has a very far-reaching effect on the environment and societies all over the world. (Zetsche, Faller, & Broich, 2019, pp. 6-10)

Since the end of the Cold War, the Arctic has been a *"zone of peace"* for a long time, as Mikhail Gorbachev the last leader of the Soviet Union has claimed in his famous Murmansk speech in 1987. (Gorbatchev, 1987, p. 4) However, the fall of the iron curtain did not mean the *"end of history"* as Francis Fukuyama argued. (Fukuyama, 1989, pp. 3-4) Indeed, history continued as the rivalry about power and influence, and even the principles of liberalism in the form of democracy and a market economy did not succeed all over the globe. Nevertheless, the former ideologic rivals started to cooperate within the Arctic space. They created the Arctic Council in which the eight Arctic Nations had an intergovernmental forum for debates about all issues that are related to the Arctic – except military security ones. (Dodds & Nuttall, 2019, p. 163) After all, climate change and the dramatic pictures of suffering polar bears and the meltdown of the ice caps brought the region more into the focus of the public again. Still, the scramble for the Arctic was ongoing, perhaps more discretely and less aggressively but decision-makers did not lose their interest. The following examples illustrate this appropriately. Some scholars like Elana Wilson Rowe point as a turning point to a more open competition to Russia's flag campaign in 2007, in which a submarine planted a flag on the north pole's seabed to symbolically express their claims. (Rowe Wilson, 2019) Since then, the time has changed. At

the latest with the Russian annexation of Crimea, the relationship between the Western States and Russia got worse, and western sanctions were imposed on a major Arctic power. China, another major power of our times has also presented an Arctic strategy and this without even being an Arctic Nation. With a polar route as part of its Belt and Road Initiative, it has clear development plans, and the creation of artificial islands in the South China Sea has also shown that the country is not hesitant with the enforcement of its interests. This and other political actions like dealing with human rights led the two countries to a block-building, which is often described as an opportunistic partnership. (Gorenburg, 2020) The USA has, as an Arctic State, also a fundamental interest in the region. This got highly visible with Donald Trump's attempt to purchase Greenland. However, it alienated also an ally as Greenland belongs to Denmark which is a member of the European Union and the North Atlantic Treaty Organization (NATO). (Paul, 2019, p. 2) The EU, which stretches from the Mediterranean to the Arctic, and which has three Arctic member states has also a natural interest in participating in the great game for the Arctic caused by the meltdown of the massive ice shields.

1. RESEARCH PLAN & METHODS

The basic assumption of this thesis is rooted in political Realism and the associated geostrategic variety of Geopolitics. This led me also to construct the following hypothesis, which I like to test as a part of my work:

- The own interests (of every actor) prevent a common action in dealing with the implications of climate change in the Arctic.

To find appropriate answers to the research questions, and to test the basic assumption, the following order will be obeyed:

Chapter two provides an overview of the concept of geopolitics, covering its early beginnings and further development. Furthermore, gives this thesis an idea about what geopolitics deals with and why it's necessary to observe the arctic region through a geopolitical lens. The Arctic region will be defined geographically as the subject of study in Chapter 3, followed by a historical outline of the region. A more in-depth section discusses regional climate change in the Arctic and its consequences. The next phase is to highlight the geopolitical implications of climate change, which could result in potential economic, environmental, and security policy confrontations. Each of these will be taken into account separately. In the political science discussion of economic conflict motives, two geopolitical features prove to be particularly salient: oil and natural gas deposits, and the use of polar shipping routes as a shorter connection between Eurasia and North America. But we will also discuss to what extent non-energy raw material deposits such as gold, iron ore, or rare earth elements, and possible changes in fish stocks due to a changing water temperature could be significant for the conflict potential in the Arctic. Because of climatic changes and thawing tundra soils, as well as predicted economic growth, ecological considerations should not be overlooked when discussing conflict potential.

The fourth chapter examines the most important statute for the Arctic region (the United Nations Convention on the Law of the Sea), as well as the Arctic Council as the most important intergovernmental Arctic forum. The Arctic plans of the People's Republic of China, the Russian Federation, and the United States of America are then discussed. Which are all, according to the scholar Joshua Goldstein, 'great powers'. (Goldstein & Pevehouse, 2014, pp. 54-55) The United States of America and Russia are Arctic states, and China calls itself a 'near-arctic' state, underscoring its claim to be a relevant player in the region. All three countries are not only ideological rivals but also members of the UN Security Council. The fifth chapter focus on the European Union and its interests in Arctic affairs. Germany and France, two other great powers of our time, are members of this association of states, which stretches from the Mediterranean to the Arctic. (Goldstein & Pevehouse, 2014, pp. 54-55) Three other EU members (Denmark, Finland, Sweden) are also Arctic states and members of the Arctic Council. Subsequent in chapter six, shall the interests of the presented actors be summarized to identify the conflict potential, it is linked with a conclusion.

This Master thesis is a qualitative actor analysis, primarily critically analyzing existing literature but also some primary and secondary sources. The sources were either published in English or German, the languages in which I am fluent. Furthermore, I chose to apply a document analysis namely the United Nations Convention on the Law of the Sea (UNCLOS), and official government documents of the examined actors. In the Geopolitics chapter, I have identified a few geopolitical features regarding the Arctic. This means that I have identified categories (e.g. economy, ecology, security, etc.) that are related to the subject. I did this to examine to which extent a certain state or institution valued them. This allows me to analyze if there is cause for conflict, or if the observed states are rather following a cooperative approach. That is important as Political-science tries to describe the subject of politics based on three dimensions: Polity, Politics, and Policy. All three levels are equally important and take place parallel to one another. Polity describes the formal dimension of politics, i.e. structures such as norms or institutions. Politics describes the processes of politics, for instance, the enforcement and implementation of political content. The policy describes the content of politics, such as political programs in the sense of problem-solving strategies. The classical policy analysis orients itself on the policy cycle that includes: problem definition, agenda setting, program formulation, implementation, and evaluation or scheduling. This policy cycle is not delimited, but often overlapping. In the case of the Arctic conflict, this cycle is not yet finished, and the actors have progressed in it to different degrees. The policy analysis does not only examine the process of the problem development but also of the involved actors and the formal framework in which this process takes place. Thereby it is important to examine the actors not only individually, but also in their interaction with one another. (Schubert & Blum, 2018, pp. 105-112) An important question in this context is whether there are any constellations of interests that can be observed, and if yes: what are their interests, how many shared interests do they have, how is the conflict intensity of their relationship, etc. As part of the policy analysis, it will also be examined which facts are considered important or unimportant by the actors, and how are those weighted

concerning their interests, and if they fit into a certain ideology. The policy analysis and the observation of the actual political action allow me also to analyze the states and institutions between the poles of aspiration and reality.

2. ABOUT GEOPOLITICS

Geopolitics is a term that is often in use, but as such, also one without a consensual fixed definition. The well-known scholar Saul Bernard Cohen wrote in his book *"Geopolitics: Geography of International Relations"* that: *"Geopolitics is a product of its times, and its definitions have evolved accordingly."* (Cohen, 2014, p. 15) One can say therefore that the understanding and thus the definition of geopolitics is in constant flux, and can be interpreted differently depending on the Zeitgeist and the theory one applies to it. Regardless of the absence of a single definition, a useful one for this work is; geopolitics can be seen as the spatial, political action of states within the framework of a strategy. This includes the assumption of how geography influences the security and overall performance of a state and how one can use these geographic features to achieve certain goals. Already in ancient times philosophers, statesmen, and military strategists bothered themselves about how to use certain geographic features for achieving a specific goal. (Hoffmann, 2012, p. 26) Or as Jeremy Black wrote in his book *"The Quest for Dominance"*: *"A practice exists before a concept, and a concept exists before a term."* (Black, 2016, p. 15) Good examples are Aristotle, Napoleon, or Bismarck, who all knew about the importance and influence of geography for political action and the performance of a state, without knowing the term nor the concepts of geopolitics. (Hoffmann, 2012, p. 27)

The term itself was established by the Swedish political scientist Rudolf Kjellen in a scientific essay in 1899. (Dodds, 2014, p. 24) However, the spiritus rector was not Kjellen but the German zoologist and geographer Friedrich Ratzel. He was the first scientist who tried to research comprehensively and systematically the inter-relationship between geographical factors and political dynamics. His work is characterized by a biological conception of the state as a living being and dominated by an organic social Darwinism. For him, states were subject to biological laws, which he formulated in a fundamental essay. According to his observations, states are always based on their respective people and their dynamics. The observation of this dynamic led him to believe that states would grow and incorporate surrounding areas in an ideal case, and a growing state initially strives for the valuable areas, which he called the 'selection of the geographical advantages'. Every state ultimately strives for size and 'Lebensraum' (living space). (Hoffmann, 2012, pp. 26-27) As already mentioned before, the term geopolitics was first used by Rudolf Kjellen. He understood the state also as a 'Lebensform' (life form), but geography was for him ultimately subordinated to politics. The territorial viability was crucial but could be significantly influenced by political action. Both, Kjellen and Ratzel, set the foundations for further development of geopolitics in the German-speaking area. Besides the Nordic-Germanic root of geopolitical thinking, there was a second path of origin that had emerged more or less at the same time; the Anglo-American tradition of geopolitical thinking. In addition to the US

Navy Admiral, Alfred Thayer Mahan, it was, in particular, Halford Mackinder who influenced geopolitical thinking in the Anglo-American space. Although Mackinder did not explicitly mention the term geopolitics in his 1904 published article *"The Geographical Pivot of History"*, his work is still seen as a milestone in the history of geopolitics. He called for a reorientation of geography. In addition to that, he explicitly linked geography and politics, which isn't surprising as he was a lecturer in geography and a member of the British parliament. Mackinder's ideas had major impacts on policymakers and stoked fears of a German-Russian alliance in Great Britain. (Helmig, 2007, pp. 32-33)

The ideas and concepts of Ratzel, Kjellen, Mackinder, and their contemporary colleagues were taken up and further developed after the end of the First World War by a large number of scholars. Numerous new concepts emerged in the following 100 years. I will focus on the most useful for my analysis.

2.1. GERMAN *'GEOPOLITIK'*

The historical context is of enormous importance for the development of German geopolitics in the early 20th century: This variety of geopolitical thinking was historically rooted in the 'Kleinstaaterei' ('small-states') of the Holy Roman Empire, German romanticism, and the associated German nationalism, but overall in the German defeat in the First World War. Because of the toxic atmosphere which arose after the defeat of the once-powerful empire, German geopoliticians were guided by the goal of changing the post-war order in favor of Germany. The essence of the geopolitics of those years was the function of overcoming the 'Diktat of Versailles'. German *Geopolitik* provided, with its concepts, a pseudo-scientific justification for the expansion and the (if necessary, violent) resurgence of the German Empire. To wage the fight against the Versailles-treaty, and to change the status quo, German geopoliticians like Karl Haushofer developed several concepts that were based on the assumption in which the state is an organism. (Chapman, 2011, p. 8) The associated premises were taken over from Friedrich Ratzel's and Rudolf Kjellén's works and assumptions. They assumed that great powers need to expand and need their space/territory and recourses for further development. This organic conception of the state was expressed in the concept of 'Lebensraum' (living space) originally devised by Ratzel. This basic concept of German geopolitics from the 1920s to 1940s was for Karl Haushofer, the main representative of German *Geopolitik* in the interwar period, the basis in any debate about questions of foreign policy. From this central position of the Lebensraum-concept, Haushofer derived two specific demands on politics: first, the need to protect the existing habitat and, secondly, to enlarge it. German geopoliticians did not doubt that large areas would be necessary for the future to ensure the survival of a state. Karl Haushofer called this concept the 'geopolitics of pan ideas', a world based on three to four large cultural areas (Pan-America (US hegemony), Eurafrica (German hegemony), Pan-Russia (Russian hegemony), Pan-Asia (Japanese hegemony)). Another essential premise of German geopolitics was that the states which were disadvantaged after the First World War and due to this also 'natural allies' (Germany, Italy,

and Japan) had to fight back and retake the hegemony in the world. Applied to the German situation and its central location within Europe, this meant that a new Central Europe should emerge under German leadership. For some researchers, Haushofer was a pioneer for the Nazi ideology, for others he was not. However, nowadays there is at least a consensus that his influence on Hitler's thinking was overestimated. Those authors who see Haushofer as Hitler's inspiration, often neglect one crucial point: The paramount importance of racism and anti-Semitism in Hitler's worldview. Racial ideas shaped the dictator's mental image far more than conceptions of space. The importance of Haushofer for the development of the Nazi ideology should therefore not be overestimated. Regardless of this knowledge, it can still be stated that because of its linkage with the National Socialist rulers and because of the specific goals, statements, and methods, the German geopolitical school around Karl Haushofer discredited itself. (Hoffmann, 2012, pp. 30-34)

Due to the abuse of its theories and due to some wrong reporting in media the term Geopolitics was banned for almost 40 years from the scientific discourse and stigmatized as an 'intellectual poison'. (Dodds, 2014, pp. 22-23) However, there was, as already mentioned, also a second path to Geopolitics. The *geostrategic* assumption, rooted in British and North-American interests and which had developed more or less parallel to those in Germany. Some of them will be investigated in the following section.

2.2. THE ANGLO-AMERICAN GEOPOLITICAL TRADITION

In contrast to old German *Geopolitik*, which was based on a romantic-mystical, transfigured view of the state as an organism and the resulting need to expand the state at the expense of neighboring states, geopolitical thinking in the Anglo-American space evolved over the twentieth century on a more rational basis. While German geopolitics was a concept of national expansion and subordinated, therefore, everything to this goal, the Anglo-American tradition developed more into a variety of equilibrium politics, which aimed at a balance of interests instead of unconditional expansion. Anglo-American geopolitics is also strongly based on the school of foreign policy neo-realism, especially since the work of Nicholas Spykman in the 1940s. This close connection to the theoretical school of Realism is a major characteristic of American geopolitics. (Hoffmann, 2012, pp. 34-35) Two persons can be stated as being the origin of the *geostrategic* school of thought; Alfred T. Mahan, and Halford Mackinder.

Alfred T. Mahan was a naval historian and US Navy Admiral, who achieved attention with his 1890 published book: *"The Influence of Sea Power upon History"*. He believed, that a global power needs to have an effective navy to be the dominant power on the oceans respectively on the globe. He said once that: *"Where the cargo ships go, the warships are sure to follow."* (Blunden , 2012, S. 129) His perspective regarding world power can be described as Eurasian-centered. He recognized Russia as the dominant Asian land power, whose situation made it unassailable. However, he believed as well that Russia's inland position was giving it a disadvantage because, in his view, the maritime movement was superior to that of the land. The critical zone of conflict was for him between the 30th and 40th parallel in Asia, where the Russian 'land power' and the British 'sea power' faced each other. In many ways,

Mahan's views and the resulting strategic conclusions were diametrically opposed to Mackinder's. This resulted from different evaluations of the effectiveness of land and sea communications, and of land and sea power. (Cohen, 2014, p. 23) The British geographer Sir Halford Mackinder is famous for his 'Heartland theory'. This is probably also the most significant idea in the history of geopolitics. Mackinder understood history essentially as a struggle between land power and sea power. However, in the early 20th century, Mackinder believed that sea powers faced with great challenges and predicted a strengthening of the land powers. He thematized this for the first time in his 1904 published paper *"The Geographical Pivot of History"*, in which he identified a land power in the so-called 'Heartland' as the potential world power in the future. He saw this 'Heartland' in inner-Eurasia (Russia / Central Asia), and this core was surrounded by the 'inner/marginal crescent', both of which together form the 'World Island'. The Heartland owes its position to the fact that it can hardly be conquered by sea powers. Additionally, it is rich in mineral resources, and (in Mackinder's opinion) should soon be characterized by technical developments such as the railroad which would provide a greater military and economic dynamic and internal coherence. (Dodds, 2005, pp. 137-140) When he summarized his findings in his 1919 published book *"Democratic Ideals and Reality"* just after the end of World War I, and with a view to the special importance of Eastern Europe for preventing a German-Russian bloc, he created his famous dictum: *"Who rules East Europe commands the Heartland. Who rules the Heartland commands the World-Island. Who rules the World-Island commands the World."* (Blouet, 2005, p. 1)

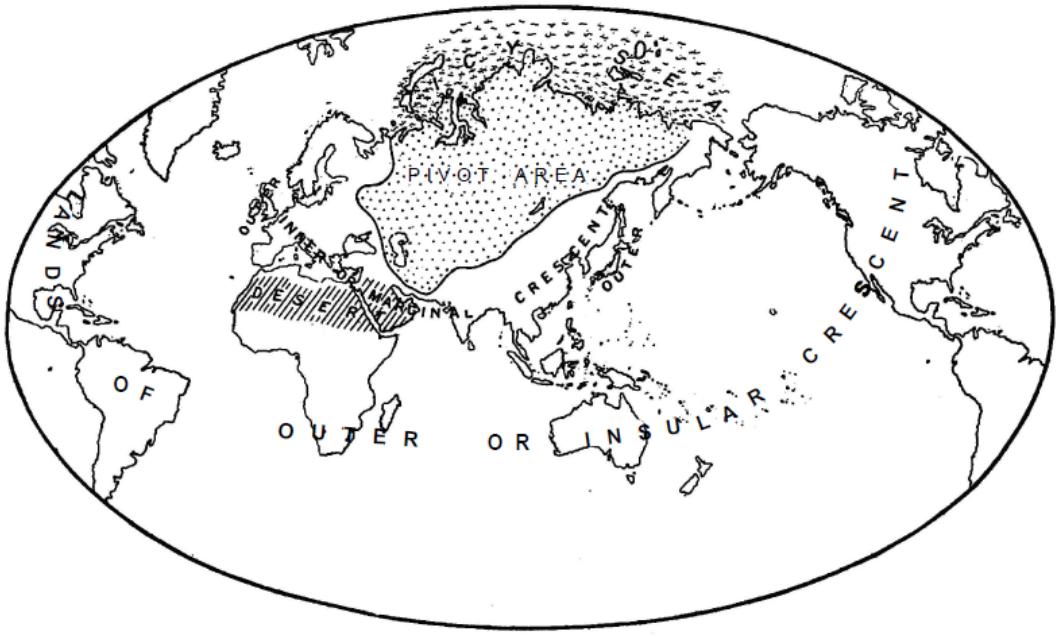

Figure 1: Mackinder's World and the Pivot-area / Heartland in 1904 (Mackinder, 1904, p. 435)

Building up on Mackinder's considerations, but also influenced by the challenges that were posed by German geopolitics, the Amsterdam-born US-American political scientist Nicholas J. Spykman developed strategic recommendations during World War II, for a post-war American foreign policy. Spykman understood geopolitics as an expression of realism and contributed significantly to a

fusion of geopolitics and political realism. Spykman's geopolitical work was posthumously published as *"The Geography of the Peace"*. Following Mackinder's ideas, Spykman saw the main threat to America's security and independence in an anarchic international system in which power is the central component. His view was also Eurasia-centered. However in his theory, the critical zone is not the heartland, but the so-called 'Rimland' (peripheral zones of Eurasia), as the greatest danger for the western hemisphere would come from there. Spykman's geopolitical recommendation for the United States was that they should be active and committed, they should have influence in the key geographic regions, and establish and maintain a geopolitical pluralism in Eurasia, particularly in the Rimland. This idea of a geopolitical balance of power in Eurasia's peripheral regions is the central legacy of the geopolitician Spykman, and it is influential to this day. (Cohen, 2014, pp. 26-27) The impact of Spykman's ideas becomes clear when one observes the Polish-American strategist Zbigniew Brzezinski. He had a significant influence on American foreign policy since the 1970s and was for long considered being the most influential American geo-strategist. Brzezinski's study *"The Only World Power"*, in which he developed strategic recommendations for the United States towards Eurasia, is of particular relevance for the period after the Cold War. (Hoffmann, 2012, p. 37) Following Mackinder and Spykman, the 'World Island' is of paramount importance for Brzezinski's worldview, he wrote in his book *"The Grand Chessboard"*: *"Eurasia is thus the chessboard on which the struggle for global primacy continues to be played"*. (Brzezinski, 1997, p. 30) He shared in his works a geographically shaped view of the world in which the United States should focus in its foreign policy in particular to situation-related conditions, and pay special attention to the corresponding target regions. Brzezinski's geopolitical perspective primarily implies the need for an active security policy in the sense that the United States has to influence the key geopolitical regions of the world. (Hoffmann, 2012, pp. 37-38)

Overall one can say those Anglo-American geopolitics developed after the Second World War as a pragmatic, geography-related variety of political realism. Indeed, numerous links can be discerned between geopolitical strategists and American foreign policy advising, and geopolitics is still an integral part of the USA's foreign policy in the world. (Moniz Bandeira, 2016, pp. 4-5)

2.3. THE VARIETY OF GEOPOLITICAL THINKING

After highlighting mostly thinkers and representatives of *classical geopolitics* it is also necessary to show some other thoughts and concepts that have emerged in the past decades. The theorists that were treated so far represent a policy-driven variety of geopolitics with an aim of formulating national security strategies. In contrast to this stands for instance the geopolitical work of Peter Taylor. His goal was deconstruction, so he examined how territories are determined. His basic starting point is the concept of a national interest from which governments derive a perception of the geographic conditions to safeguard their interests, and following this, they formulate strategies to ensure their interests. (Osterhammel, 1998, pp. 384-386)

The so-called *critical geopolitics* approach follows the path that was predefined by Taylor and goes even one step further. The core thesis of this post-modern approach is that 'space' cannot be determined objectively, and is rather a social construct that is designed by political actors. Critical geopolitics is strongly influenced by the ideas and concepts of the French philosophers Michel Foucault and Jacques Derrida. As already mentioned is space, in the concept of critical geopolitics, no longer understood as an objective thing, but rather as socially constructed through language. In reversing the more traditional and realistic understanding of space, emerged an understanding of geopolitics that was formed up to understand the traces and claims of geopolitical representations. Space and territory are no longer understood as a passive stage for human activity that determines the possible space for social processes. The focus is rather on how space is instrumentalized for political purposes. Language, texts, speeches, and communication play hereby a central role and are therefore at the center of the epistemological interest. For proponents of critical geopolitics, geographical features (such as a mountain range) only become significant for the public through so-called 'social attributes'. Without this communicative emphasis of a geographic feature, it would not have any relevance. The special function or strategic importance of a geographic feature 'exists' only through the human attribution to it. The aim of the analyzes is therefore the 'discursive practice' and to understand the social constructs. Thus, critical geopolitics always aims at the application of sociological or philosophical methods in a geographical context. (Helmig, 2007, pp. 34-36)

Another approach, which attempts to combine new determinants of the international system with classical geopolitical analysis, is G*eoeconomics*. This variety of geopolitics descended largely from the ideas of the Romanian-American strategist Edward Luttwak. Robert D. Blackwill and Jennifer M. Harris define Geoeconomics in their book *"War by other means: Geoeconomics and Statecraft"* as: *"The use of economic instruments to promote and defend national interests, and to produce beneficial geopolitical results; and the effects of other nations' economic actions on a country's geopolitical goals."* (Blackwill & Harris, 2016, p. 20) Whereas Edward Luttwak defines it simply as the *"modern version of the old rivalry between states."* (Hoffmann, 2012, p. 43) Luttwak and other Geo-economists assume that economic and trade policy methods replace military methods in the conflict between states, for example, by using resources and capital for diplomatic and foreign policy purposes, using aid supplies as leverage or infrastructure projects for more external influence. Another geo-economic principle is that the nation-state is not increasingly disappearing from the scene, but is rather increasingly important in the course of new conflicts. Furthermore, studies in *Geoeconomics* try to ascertain how trade-, investment-, technology-, and energy- policies can be used to achieve strategic goals. Conversely, it also assesses how strategic goals can be pursued through the reformation and organization of the trade and currency system or the access to critical technology. (Wigell, Scholvin, & Aaltola, 2019, pp. 1-3) However, one can say that the concept of *Geoeconomics* becomes more and more relevant in a globalized World in which military conformation as a form of political altercation is not anymore as accepted (at least in western democracies) as it was in the past. (Mair, 2018)

2.4. GEOPOLITICAL FEATURES OF THE ARCTIC

As already mentioned, one can say that the understanding and thus the definition of geopolitics is in constant flux, and as expressed in the previous paragraphs it can be interpreted differently depending on the Zeitgeist and the theory one applies to it. Regardless of this fact, geopolitics is about the connection between international relations and geographical range respectively between the space and a nation´s interests. It can be described as the spatial, political action of states within the framework of a strategy. Nowadays attracts the Arctic political interest from a growing number of states. May they be big or small, or from East-Asia, Europe, or even from the tropics. The Arctic region is incrementally adopting a new role in geopolitics. According to the scientist and expert in arctic affairs, Willy Østreng, six geopolitical features stand out of why the region is so interesting for many states. In his opinion the synergy of the following features is what makes the Arctic substantial in international relations: *"(1) Its spatial location between three continents, (2) Its abundance of strategically important industrial and mineral resources, (3) Its dwindling sea ice regime opening up new spatial areas of economic exploitation and prospecting, (4) Its sea lanes - inside and outside of the region, (5) Its unique environmental fragility and eco-systemic interconnections with eco-systems in southern latitudes, (6) Its regulatory affinity to existing global ocean conventions, in particular to UNCLOS III."* (Østreng, 2010)

3. BASIC INFORMATION ABOUT THE ARCTIC

3.1. THE GEOGRAPHY OF THE ARCTIC

The Arctic is not just the only habitat of the polar bear, it also owes its name to the Greek word 'arktos' (bear): The Arctic is the land under the stellar constellation of the Great Bear, and the polestar which belongs to the constellation of the Little Bear, is almost vertically above the geographic North Pole. But what exactly is the 'Arctic'? Its exact delimitation is a little problematic, as several possible definitions are depending on the respective scientific discipline. Climatic or other natural spatial criteria, such as lines of certain annual average temperatures (so-called isotherms) or vegetation boundaries, can be used as the determining characteristic that can define a region 'Arctic'. (Federal Environment Agency, 2015)

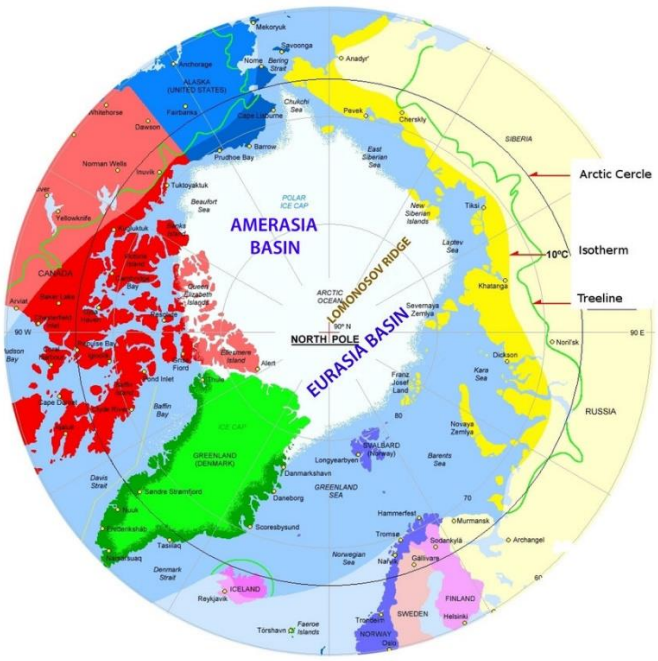

Figure 2: The Arctic Region (Mandea & Gaina, 2012)

The delimitation is precise when using geographical scales: The Arctic Circle refers to all land and water locations above 66° 33' north latitude on a cartographic scale. The line upon which sun stays 24 hours underneath the horizon on the shortest day of the year and 24 hours above the horizon on the longest day of the year is established by utilizing the two solstice days of the calendar year. The northern polar zone, to the north, has a massive maritime expanse of roughly 20 million square kilometers, or 56 times the size of Germany or eight times the area of the Mediterranean. The central Arctic is de facto a semi-enclosed sea, a body of water bordered by the coasts of adjacent nations and dotted with islands and archipelagos, and covered in floating ice to varying degrees depending on the season. The Alpha Mendeleev Ridge, the Gakkel Ridge, and the Lomonosov Ridge cut across the body of water, which is over fourteen million square kilometers in size and around one thousand meters deep on average, with shallow coastal waters and depressions of over five thousand meters of sea depth. Access to the world's oceans exists on the one hand through the Bering Strait between Siberia and Alaska in the North Pacific, on the other hand through the Fram Strait between Greenland and the Svalbard Archipelago in the Norwegian Sea and the North Atlantic. (Arctic Centre - University of Lapland, n.d.)

In contrast to the South Pole, which is on the solid continent of Antarctica, the geographic North Pole is a point on the ocean ground. The arctic mainland areas in the hinterland of the coast begin as a barren tundra covered with mosses and lichen, which further south gradually changes into forest-tundra and then into coniferous taiga. Arctic states determined by using the Arctic Circle are Russia, the USA (through Alaska), Canada, Denmark (through Greenland), Iceland, Norway, Sweden, and Finland. Within the Arctic states, the 'Arctic Eight' (all of the aforementioned countries bordering the Arctic Circle) and the 'Arctic Five' are distinguished (coastal states of the Arctic Ocean: Norway, Denmark, Russia, Canada, USA). This is due to the fact that Iceland only touches the Arctic Circle in its far north,

whereas Sweden and Finland have significant land masses above the Arctic Circle but no access to the Arctic Ocean. (Federal Environment Agency, 2015)

3.2. A BRIEF HISTORY OF THE ARCTIC

Despite low temperatures and long periods of darkness during the winter months, humans opened up the Arctic early on. It is the story of a settlement movement that has lasted for thousands of years and which probably originally began on the Asian continent. The currently oldest traces of mankind in the Far North are about 12,000 years old and were found in 1947 in Yakutia in northeastern Russia. These are the remains of human hunting tools in a collection of mammoth bones, which bear witness to the fact that early representatives of Homo sapiens followed their preferred prey far into the arctic tundra. Later finds in the north of Russia, dating back about 3500 years, attest to the existence of a society of people who lived from both fishing for marine mammals on the coasts and hunting reindeer in the arctic hinterland, using not only domesticated dogs as support but also technical equipment such as kayaks, sleds, and skis. Today's Bering Strait, the sea area between the far east of Russia and the west of Alaska, was about 10,000 years ago a land bridge that allowed settlers from Asia to reach the Arctic regions of North America and across to the northern Canadian islands. The indigenous settlement had lasted for several thousand years with intensive trade between the various groups and communities, this did not stop on the east coast of northern Canada but crossed over to Greenland from there. Regardless of the great similarities in their way of life, often due to the environment, the indigenous peoples of the Arctic of North America, Northern Europe, and North Asia differed in their languages, traditions, and other cultural assets. For the Europeans of the southern latitudes, the Arctic was initially an unknown area of sometimes fantastic myths since ancient times. Presumably, it was the Greek explorer Pytheas who first reached a country beyond Britain around 325 BC, which he called ‘Thule’. Only from the 15th and 16th centuries have attempts to map the Arctic come down to us, for example by Gerhard Mercator from 1569. They show largely imaginary outlines, even if individual landmarks can be assigned to existing locations such as Iceland. The references in contemporary writings to the existence of polar days and nights in summer and winter, during which the sun does not set or rise for months after reaching a certain degree of latitude, shows that at least an approximate knowledge of the natural conditions of the Far North was to be known. (Bartsch, 2015, pp. 1-3)

The Vikings, who set off from Scandinavia for Iceland and Greenland around the 9th century, played an essential role in the early medieval development of the Far North by sea. They may have even reached the Svalbard Archipelago north of Norway on their voyages. Individual traces that point to temporary stays by the Vikings or their trade with the local indigenous peoples were found on the west coast of Greenland. The most famous Viking settlement in Greenland was Brattahlid, which was founded by Erik ‘the Red’ Thorvaldsson around the year 982, and was inhabited for around 400 years. But the Scandinavians also expanded their influence to the north and east by land: Settlers had made their first contact with the Saami, the northern European indigenous peoples, around the birth of Christ.

Later, the Russian Novgorod, a trading post originally founded by the Swedish Vikings, became an essential starting point for expeditions to northern Russia and a hub for the trade in furs and other goods from Siberia. The age of the great sea powers began with the early modern era, which also had an impact on the waters of the Arctic. Maritime trade between the 'old' and 'new world' began to flourish. To bypass the long-standing Spanish and Portuguese dominance on the main Atlantic routes between Europe and America, smaller maritime trading nations in particular, such as France, the Netherlands, Denmark, and the initially weaker Great Britain, began to look for an alternative navigable route in the far north. A time of exploration began that lasted into the 19th century. In daring and often dramatic sea expeditions, Willem Barents, Martin Frobisher, Vitus Behring, John Davis, Henry Hudson, William Baffin, and John Franklin, among others, explored and mapped the polar sea, which has not yet been systematically explored. Even today, those parts of the sea and islands of the north that are named after them and their voyages still bear witness to it. To this day, it has not been fully understood who and when it was possible to reach the geographic North Pole on the floating ice. It is believed that the US-Americans Robert Peary and Matthew Henson, accompanied by some indigenous people, were the first in 1909 to reach the northernmost point on earth across the Arctic ice. However, to this day, this performance cannot be proven beyond doubt. Research, economic, and, last but not least, national prestige interests seemed to be the only driving forces behind the exploration of the Arctic for a long time. (Coates & Holroyd, 2020, pp. 260-262)

At the latest, by the Second World War the waters of the north came into focus from a military perspective: supply convoys from the USA, loaded with armaments to support their Soviet allies in the fight against Nazi-Germany, crossed the Atlantic right up to the ice border. Finally, during the Cold War, the Arctic was to some degree an inaccessible buffer zone directly between North America and the Soviet Union (USSR). Military activity remained correspondingly high: the polar sea became an important operational area for atomic submarines and a key direct route for nuclear bombers and intercontinental nuclear missiles. A chain of reconnaissance and early warning systems along the US and Canadian coastline to the east of Greenland, the so-called Distant Early Warning Line (DEW Line), monitored the Arctic airspace. With the end of the East-West conflict, the way was cleared for formal cooperation between Russia and the western Arctic countries. In the following period, an intergovernmental forum was created: The Arctic Council, which offers the Arctic states a platform to jointly work in the areas of security, environmental and nature protection, and sustainable development in the region. The Arctic Council will be in focus precisely later in the thesis. However, public and political attention for the Arctic decreased sharply in the 1990s: it seemed that all adventures for explorers had been accomplished, peace was secured and all access possibilities were prevented by the eternal ice. For a while, it was only highly specialized representatives of the natural- and social sciences who dealt with the Arctic and its four million inhabitants, of whom only about 10% are of indigenous descent. This remained that way until the two driving factors climate change, and globalization began

quite soon after the turn of the millennium, to profoundly change the Arctic and our view of it. (Dodds & Nuttall, The Arctic: What everyone needs to know, 2019, pp. 138-139)

3.3. CLIMATE CHANGE IN THE ARCTIC

Nowadays people all around the world talk often about climate change, but what exactly do they mean by climate change? Generally, this is the term that is used to describe global warming as a result of the so-called additional greenhouse effect. “Additional” because we owe the life-friendliness of planet Earth to a natural greenhouse effect that exists even without human intervention: Physically, there would be a balance between the solar heat radiating onto the earth's surface and the solar heat reflected by it. Certain components of the earth's atmosphere, in particular carbon dioxide and water vapor, hold back some of this heat and make the earth habitable in the first place. Without this effect, the average planetary temperature would be around 35° C lower (the current average temperature on earth is around 14,5° C). In an atmosphere with more greenhouse gases, less solar energy is reflected. As a result, the earth absorbs more and more heat, resulting in global warming. Correlations between increasing levels of greenhouse gases in the atmosphere and rising temperatures illustrate this connection. (Federal Environment Agency, 2013)

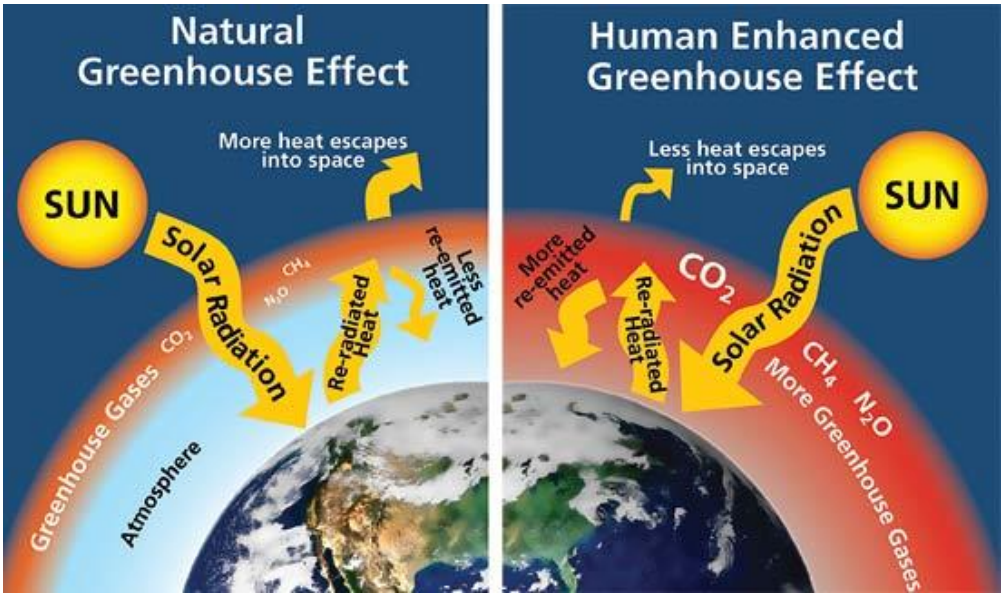

Figure 3: Natural vs. Human-enhanced greenhouse effect (revcom, 2021)

A long-term series of measurements that have begun in the 1950s, confirms an upward trend that has continued to this day (this can be read in the Keeling-curve, named after its developer). It suggests that today’s level of greenhouse-gas-concentration is unique (as long as there has been human life on the planet). The same applies to the development of global temperatures: as already mentioned is the average temperature on Earth is around 14.5 °C. It is assumed that it has increased by around 0.75 °C on a global average since the beginning of the industrial age. The temperature changes of the last few decades occurred at a speed that far exceeds the one which can be proven for comparable effects in the past. According to the current state of knowledge, a temperature increase between 2 °C and 4 °C can

be expected for the 21st century. However, these are average values. Climate change will not always occur in the same way everywhere on the planet; it will vary by region, and the Arctic has a special place in climate change discussions. The above-mentioned increase in the Earth's average temperature since the beginning of the industrial age over a period of around 200 years, seems like moderate warming. However, such an arithmetic average naturally also includes significantly higher regional values. In the Arctic climate change is noticeably more drastic than in more southern latitudes. It has generally risen north of the Arctic Circle by around 1.8 °C in the last 100 years and places, such as in Alaska or the Canadian Yukon and Northwest Territories, even around 3 ° to 4 °C only in the last 50 years. The following rule of thumb can therefore be applied to the warming of the Arctic: Twice as fast and twice as intense as the global average. (Stephen, Knecht, & Bartsch, 2018, pp. 7-8)

Studies of bottom sediments and ice cores from the region, that allow a look far into the climatic past, suggest that the current Arctic summer temperatures mark a record high for no less than the past 2000 years. In the recent past, new maximum temperatures were measured in the Arctic almost every year. After the years 2007 and 2012, which had already set negative records for the summer ice expansion, the year 2020 almost set a new record. In 2020, the second smallest summer ice extent was measured after 2012. (Alfred Wegener Institute, n.d.) This warming has far-reaching consequences for the Arctic's natural space and its ecosystems in water and on land. The extent and thickness of the floating polar ice are decreasing as well, precipitation falls as rain instead of snow, and so far permanently frozen soils in the Arctic are beginning to thaw. Although, the most visible change in the region is the loss of substance of the so-called 'eternal ice'. This term includes not only the mainland ice of Greenland, which represents the largest freshwater reservoir in the northern hemisphere with a volume of almost three million cubic kilometers but also the floating polar ice surface. The latter drifts, due to wind and ocean currents, from Siberia northwards over the pole towards the coasts of Canada and Greenland in the North Atlantic, where it's pushed together and thus grows from one to two meters in thickness to so-called 'pack ice' of three to five meters in thickness. The ice surface is subject to regional and seasonal fluctuations in terms of thickness and extent, with a maximum extent around March and a minimum in September when its extent is usually reduced to around half the maximum ice surface in the winter months. In the past decade, however, this seasonal minimum has also become smaller from year to year; In 2017, the mean extent of sea ice was only 4.85 million square kilometers. (Zetsche, Faller, & Broich, 2019, pp. 6-7)

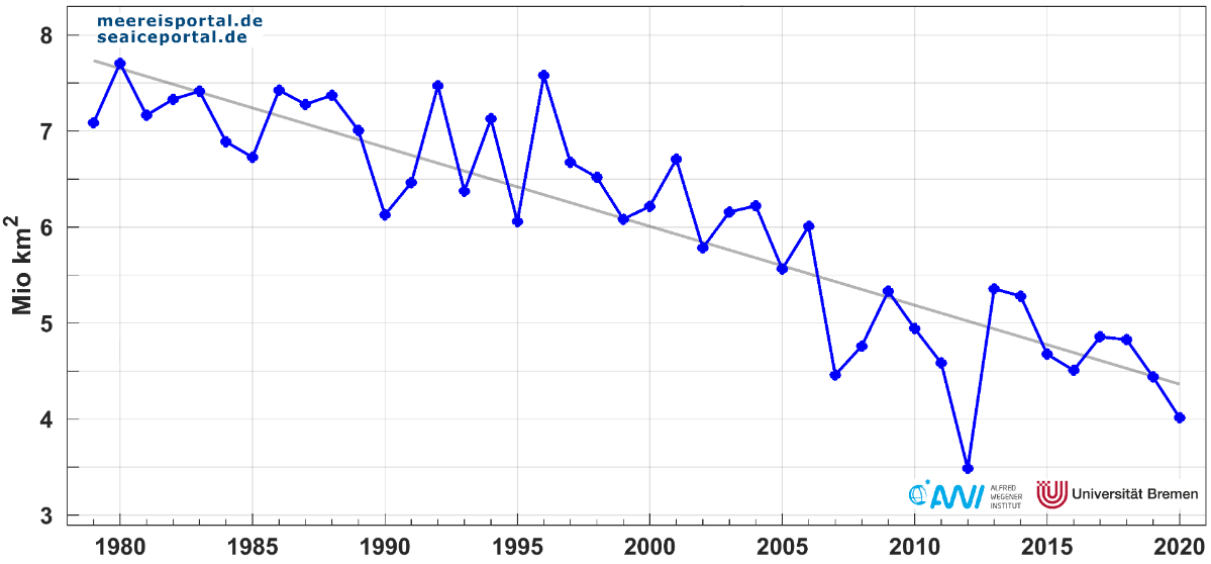

Figure 4: Development of the Arctic summer (minimum) sea ice extension (Meereisportal, 2021)

Overall, today's summer ice cover still comprises around 60% of its area in the 1970s (when it was first possible to continuously observe it). The average ice thickness has decreased to about the same extent, although the development here is even more rapid: While it has taken about 40 years since the beginning of the area's observation to achieve the reduction to today's level, the approximately halving of the ice thickness has, so far measurable, just needed five years (2007 – 2012). In the natural sciences, the arctic ice retreat is largely explained by the higher air temperature and the reflectivity of the ice, the so-called albedo-effect: Light surfaces, such as ice, reflect more thermal radiation into space than dark surfaces, such as the oceans. The less ice there is, the more heat from the sun is absorbed by the sea water during the summer, which means that more and more ice is melting into the warmer sea below than can be added to the surface. (Esken, 2018, p. 8) Above all, the perennial ice that has been preserved over the summer months and formed the permanent core of the Arctic sea ice is increasingly being lost. A steadily increasing proportion of this area consists only of annual ice, which forms anew in the winter months and melts again in summer so that the ice altogether changes from a permanent to a seasonal blanket. At the moment, the volume of today's winter ice maximum roughly corresponds to that of the summer minimum of the late 1970s. In the meanwhile flows parts of the mainland ice of Greenland continuously over glaciers into the polar sea and calves into icebergs, while constant snowfall in the inland creates new glacier ice. However, the velocity of the glaciers flow and thus the amount of ice separating from this shield increased by around one-third between 1995 and 2005, so that today a significant annual decrease in circumference can be measured. If this trend continues, up to one-third of the ice could be lost by the end of the 21st century. Other changes can also be observed on land. For example in northern Scandinavia and Alaska where the duration of snowfall and the extent of the areas which are covered by snow until early summer, have decreased significantly in the last 50 years. The effects of the missing white snow surface correspond to the albedo-effect of sea ice: The earth's surface is warmed up where less heat from the sun is reflected, as a result, the snow melts even faster, and the

permafrost zones, those areas of the polar riparian states, in which the soil remains deeply frozen all year round, shrink and release additional greenhouse gases when thawing. For example, has the permafrost area in Siberia retreated up to 80 km since the 1970s and in Quebec by up to 130 km to the north. This has already triggered consequences: For instance, has the thawing of the ground in northern Siberia released an anthrax pathogen in 2016, that was presumably trapped in the ice for a long time, and this has noticeably decimated the reindeer population which was living there. (Stephen, Knecht, & Bartsch, 2018, pp. 9-12)

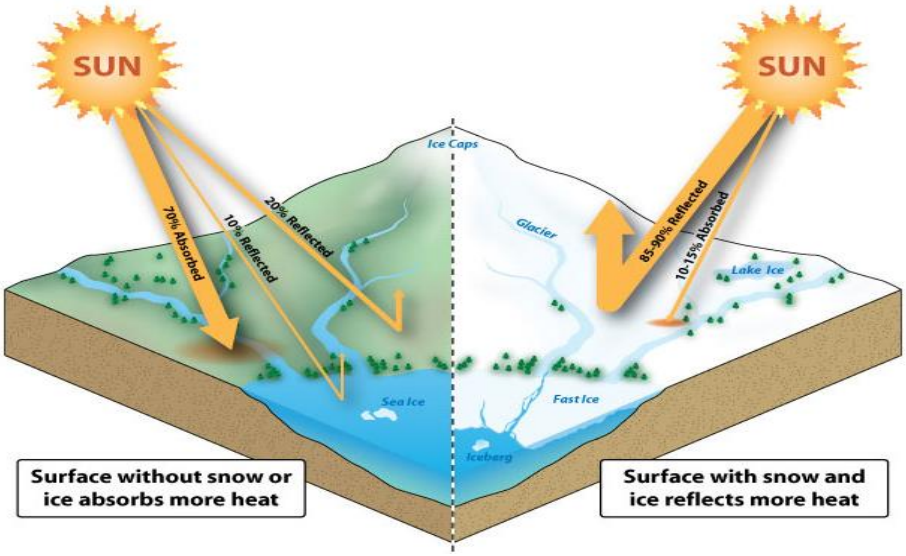

Figure 5: The Albedo effect (Purdue University, 2014)

In what way and speed these changes continue to take place in the future, can currently not exactly be calculated. Not all the complex interrelationships between the polar environmental factors have yet been fully scientifically ascertained: Will the ice retreat be more linear or more gradual? How self-reinforcing is the albedo effect exactly? What role do factors such as changing ocean currents, or changes in the salinity of the sea play? Model calculations for the case of medium-scenarios show a decrease of the sea ice extent of about 54% between the first and last decade of the 21st century. The sea ice area is even expected to decrease by up to 70%. According to these model calculations, large parts of the Arctic could be ice-free in summer 2050, and latest by 2100. More pessimistic forecasts believe that almost ice-free summers are even possible in the 2030s. (Stephen, Knecht, & Bartsch, 2018, pp. 12-13) Despite the currently wide range of temporal forecasts, the effects of these tendencies on the ecosystems of the north are already manifold and serious. The Arctic flora and fauna are directly affected by the partly radical changes in their habitat. This affects polar bears on the coasts, who are hardly able to hunt on the dwindling ice floes or seals, and walruses who lack the opportunity to raise their offspring. In the tundra of the hinterland, the nature of the land, the forms of vegetation, and the fauna will change too. The extinction of entire animal species that have been adapted to the previous polar living conditions is just as impossible to rule out as the penetration of invasive species from more southern habitats. Other possible environmental impacts of Arctic warming go far beyond the region: If the thawing process of

the previously permanently frozen tundra soils continues unabated, it will release large amounts of methane that was previously bound in the soil. And this would further intensify the additional greenhouse effect and thus further warming. The same is possible on the seabed, where methane hydrate could dissolve, and reach the atmosphere if the water temperature further rises. Not least because of this self-reinforcing dynamic, a further increase of arctic climate change is considered to be a tipping point, after that an accelerated global and presumably irreversible environmental change will result. One can say, therefore, that climate development in the arctic region has a very far-reaching effect on the environment and societies all over the world. (Zetsche, Faller, & Broich, 2019, pp. 6-10)

3.4. GEOPOLITICAL CONSEQUENCES OF ARCTIC CLIMATE CHANGE

The aforementioned regional and global effects of global warming are enough cause for concern and illustrate an undesirable future scenario. But at this point, it should be said, once again, that many possible consequences are often worst-case scenarios that can occur but don't have to. As so often in life, consequences have two sides and this also applies to the warming Arctic. Despite all the negative effects, be they regional or global, the receding ice also opens new opportunities for the neighboring countries and mankind. These possibilities or consequences are highlighted and discussed in the current chapter, but first a brief introduction: The Arctic is rich in economic opportunities: be it fossil fuels or other mineral resources, be it trade routes or fishing grounds, the Arctic offers many possibilities. The production of mineral resources such as coal, zinc, copper, gold, diamonds, platinum, nickel, palladium, iron ore, and rare earth elements are important industries in many Arctic regions or, as in Greenland, possible future markets. The nickel and palladium production at the Norilsk Nickel site on the Kola Peninsula (Russia) is one of the largest in the world. The discovery of diamond reserves in the Northwest Territories has catapulted Canada into the top five of the largest diamond producers of the world. The Red Dog Mine in Alaska (USA) is the world's largest zinc mine, with the world's greatest zinc resources and a share of worldwide zinc production of roughly 10%. The Barents region is one of Europe's most important suppliers of metals and minerals, with large mineral resources such as iron ore in Norway, Finland, and Sweden. Minerals are expected to account for a significant portion of Greenland's future revenue, according to policymakers on the island. The development and exploitation of mineral raw materials in the Arctic takes place entirely on land (onshore) and is, therefore, less affected by the climatic changes in the region. In addition, mineral resource extraction has been taking place in many regions of the Arctic for decades and hasn't made it therefore onto the front pages of major magazines in recent years. Apart from strategic and safety considerations, the current focus of the general debate is mostly on the region's oil and gas reserves, the prospect of employing new and quicker shipping routes, and access to new fishing areas. The development and exploitation of oil and gas in Arctic regions is often an important branch of the export economy of Arctic countries. For instance in Russia and Norway, where the exports from oil and gas reserves represent a large part of their income. Furthermore, is the participation in energy economic projects often a magnet for investments from growing economies (such as China) and large industrial nations (such as Germany). (Haftendorn, 2012, pp. 446-447)

All this shows the necessity of an examination of the new arising opportunities in detail, to be able to analyze the potential of conflict in a certain field. If there is cause for concern or not. The presentation of the following fields will therefore be part of the subsequent sub-chapters: Arctic oil and gas reserves, other raw materials, shipping lanes, fishing grounds, and military-strategic aspects. They will be analyzed concerning their relevance, the current status, and future potentials as well as the associated risks and challenges.

3.4.1. OIL AND GAS RESERVES

The high oil price at the time contributed considerably to the enormous interest in Arctic energy resources when the US Geological Survey (USGS) published the Circum-Arctic Resource Appraisal (CARA) research concerning prospective oil and gas reserves in the Arctic in 2008. Energy companies usually react to high raw material prices with an increased interest in locating new deposits, even in areas that are relatively difficult to access and poorly developed, such as the Arctic. The companies' central factors for the final investment are first; the existence of suitable markets and second; the associated price at which Arctic oil and gas could profitably be sold. As further explained below, the fluctuating oil price is a significant hurdle due to the high investment and mining costs as well as the long planning and preparation phase of Arctic energy projects. However, it should also be noted that the provision of licenses in the Arctic does not always follow the development of oil prices. In short: a prognosis for the development of Arctic energy projects is always fraught with considerable uncertainty. There is often no distinction between discovered reserves and suspected resources, in the debate about Arctic oil and gas reserves. If one makes this distinction, it becomes clear that the Arctic is not a new territory for oil and gas exploration. Likewise, fields that have already been discovered provide information about where the best opportunities exist to discover new deposits. A large amount of infrastructure has been built for large oil and gas fields, and this infrastructure is often a prerequisite for mining smaller deposits as they would otherwise not be profitable due to high investment costs. The search for oil and gas has resulted in the discovery of hundreds of oil and gas fields on the Arctic continent. The Arctic mainland remains underdeveloped, even after decades of oil and gas exploration. (Haftendorn, 2012, pp. 446-447) About 22% of the world's undiscovered oil and gas reserves could be in the Arctic, according to the USGS study mentioned earlier. Specifically: 30% of the undiscovered natural gas, and 13% of the undiscovered oil. The Arctic continental shelf's relatively shallow waters are thought to be home to over 80% of these resources. The study evaluated only areas in the Arctic with an estimated 10% possibility of having an oil or gas field (those with deposits greater than 50 million barrels of oil or 8.5 billion cubic meters of gas). The largest deposits, in general, are presumed to be in the West Siberian Basin, the Timan-Pechora Basin, Alaska's North Slope Basin, and the Central Norwegian Shelf. The oil richest areas are in Alaska, followed by the arctic waters of Canada and Greenland, and most of the suspected natural gas is in the West Siberian Basin of Russia, especially in the southern Kara Sea. The USGS examined in total 25 regions in the Arctic from where ten regions have over 90% of the total assumed resources. This indicates a strong concentration of the so far

undiscovered resources in just a few areas of the Arctic. There is also a suspicion that the Arctic holds three times as much natural gas as oil. Nearly eight times larger than the largest estimated oil field is the largest estimated natural gas field. The strong concentration of Arctic resources indicates also the dominance of some Arctic states in the resource sector. According to the USGS, around two-thirds of the expected resources are located in the Eurasian Arctic and only one-third in the North American Arctic. The Eurasian resources are expected to be almost 90% in the form of natural gas. Whereas the North American Arctic is expected to provide more oil than gas. The dominance of Russia becomes clear if one distributes the resources between the individual states of the A5, as around half of the undiscovered Arctic resources are believed to be there. In second place is the USA through Alaska (with a fifth of the resources), followed by Norway, Denmark (Greenland), and Canada. In any case, the data on the distribution of Arctic resources show that these are largely located in maritime regions that can be assigned to individual states, too. (Gautier, 2009, pp. 1175-1178)

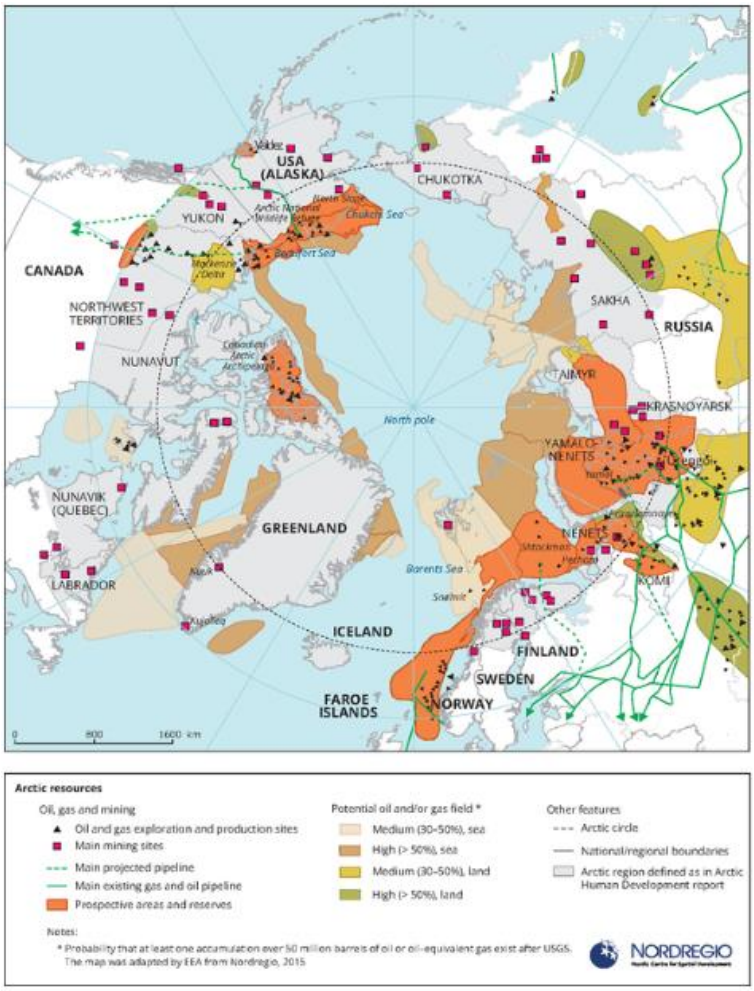

Figure 6: Oil, Gas and mining in the Arctic (European Environment Agency, 2017)

Since their publication in 2008, the USGS figures have sparked a veritable media hype about the Arctic as the world's new energy resource stronghold. However, even if the USGS study is the only pan-Arctic estimation of oil and gas resources until today, and it's generally considered to be the most

reliable source in this field, its figures, as stated by the USGS itself, should be treated with caution, as they come with some uncertainties and reservations. It is important to remember that the estimations are based on geological probability calculations, and aren't actually confirmed findings. Indeed, the above-mentioned percentages are averages of a wide range of resource estimations. According to the Peace Research Institute Frankfurt, much of the conflict potential about offshore resources depends also on the Arctic's future governance model and the willingness of cooperation between states. (Humrich & Wolf, 2011, p. 6)

3.4.2. OTHER RAW MATERIALS AND ORES

After the USGS Study respectively the oil and gas estimations in the Arctic got examined, it is necessary to focus also on the other available raw materials and ores. Let's begin in the European part of the Arctic, namely Scandinavia. One can say that the general geological knowledge of the deposits in the Scandinavian part of the Arctic is good. That's due to the good accessibility from the warmer south and the permanent settlement. Therefore, new major discoveries aren't expected in northern Norway and northern Sweden, and the exploration will probably only focus on investigating already known deposits. Both states can look back on a long tradition of raw material extraction. For example, Copper has been mined in Sweden (Falun mine) since the beginning of the 16th century, and in northern Norway since the middle of the 17th century, and to this day these extractions are still part of the countries' economies. However, Finland is an exception, as only small parts of the expected deposits there have been explored so far. This difference is due to the numerous lakes and bogs in the country that make the exploring of the Finnish Arctic more difficult. If we go further west from Scandinavia, one reaches the island of Iceland and has to acknowledge that the geological structure of the country is dominated by a mighty series of volcanic rocks, which do not contain any minable mineralization. (Braune, 2016, pp. 157-158)

Greenland has, on a world scale, considerable raw material deposits that are favored by the deposition of various volcanic and sedimentary rocks. Overall, the metallic and mineral potential of Greenland has not yet been fully explored, but the retreat of the glaciers could uncover additional deposits. Already since the middle of the 19th century, copper, graphite, coal, marble, lead, zinc, silver, gold, cryolite, and olivine were mined, but most of those deposits have been closed, so that the extraction of raw materials in Greenland is at the moment concentrated mainly on copper, graphite, and rare earth elements. Alaska and the northern regions of Canada also have a long mining tradition (like Sweden and Norway), that began with the discovery of gold deposits on the Klondike River near Dawson, which resulted in a gold rush in the North American Arctic. Besides gold is lead, zinc, diamonds, iron ore, and copper to be gained. However, the region is, for the most part, insufficiently explored and the raw material potential is still largely unknown. The mining of non-energetic deposits in Russia is mostly concentrated on the Kola Peninsula in the far west of the country, and central Siberia. On the Kola Peninsula the following raw materials are mined: Iron ore, nickel, copper, cobalt, silver, gold, platinum group metals, niobium, tantalum, rare earth elements, and industrial metals. Furthermore, around one-

sixth of the world's nickel and almost one-third of the platinum group metals are currently mined in the Norilsk region of central Siberia. Apart from these areas, is the Russian Arctic still largely under-explored, but due to the geological diversity of the developed deposits, the raw material potential is estimated to be high. (Haftendorn, 2012, pp. 450-452)

The known deposits of non-energetic raw materials in the Arctic such as metals and rare earth elements are located on the mainland, and so far there haven't been concrete estimates of deposits in the sea. Since there are currently no border disputes on the Arctic mainland, and that the affiliation of the minerals and metallic raw materials on land is regulated, these resources are not relevant for the assessment of the conflict potential. The uncertainties about the existence of deposits in the Arctic Ocean allow a connection, of possible disputes between the Arctic countries with non-energetic raw materials, to a limited extent. In contrast, marine resources such as fish could play a greater role.

3.4.3. FISHING GROUNDS

According to the World Wild Fund for Nature (WWF), around 30% of the world's commercially used fish stocks are considered overfished, and 57% are considered to be fully exploited. (World Wildlife Fund For Nature, 2018) New possible lucrative fishing areas offer a positive prospect for the Arctic littoral states. Nevertheless, some Arctic areas are already in use for commercial shipping. The above-mentioned numbers include namely the Barents Sea, in which mainly Atlantic cod, herring, and king crabs are fished; and also the Bering Sea, which is home to the Pacific cod, and already more than 50% of all caught seafood in the USA is coming from Alaska. (Braune, 2016, p. 166) So, one can say that the fishing industry is an important economic factor for the coastal states. However, the fishing areas play only a subordinate role, as there are more and more small fish species that have no economic value and that are often only known to local fishermen, but with the dwindling sea ice cover, commercial fish stocks could potentially recover as their habitat expands. Another opportunity could be that the species composition of the marine fauna in the Arctic changes, as more species migrate northwards in response to the rising water temperatures and the changing ocean salinity. Little is known so far about which fish originally appeared in the Arctic, and which ones have already immigrated. The experiences of Norwegian and Russian fishermen indicate that different fish species are already moving northwards, and displacing native fish from the Arctic waters. For instance, salmon are increasingly entering their nets further north. The extent to which the catch potential could increase cannot be accurately assessed due to the lack of research on the effects of climate change on the marine ecosystem. (Stephen, Knecht, & Bartsch, 2018, pp. 144-145)

Currently, fishing takes only place in the territorial waters and the Exclusive Economic Zones (EEZ) of the five coastal states, and not on the high sea. (Keil, Arctic security matters, 2015, p. 30) The Arctic bordering countries have signed an agreement in July 2015, in which they have banned commercial fishing in the 2.8 million km² high sea area of the Arctic Ocean. The intention behind the agreement was to protect the environment from unregulated fishing unless there is sufficient scientific

knowledge of the effects of climate change on the marine ecosystem. The declaration contains, among other things, the following three measures: (1) Commercial fishing in the deep sea area of the Arctic Ocean is only carried out within the framework of regional or subregional fishing organizations or agreements that regulate fishing by international standards, (2) Creation of a joint program of scientific research about the Arctic ecosystem and (3) the coordination of control and monitoring activities. The problem with the agreement is, that the contracting parties have only agreed on a non-binding declaration of intent that does not include all Arctic states equally. For example, Iceland was excluded from the consultations on the declaration, although the country has repeatedly submitted that it wishes to participate in the cooperation. (O'Rourke, 2017, pp. 38-39) A possible potential for conflict could emerge from such exclusions from the negotiations on the future of the Arctic region. Another factor that turns out to be problematic is that fishing in the high sea area of the Arctic Ocean is also open to non-Arctic states since the high seas are viewed as a common heritage of humanity and aren't subject to any sovereign rights. Sine the agreement does not cover any third countries, and since there is no regional fisheries organization, unregulated fishing by third countries could threaten the arctic environment and living marine resources in the area. The example of the cod wars in the northeast Atlantic in the 1950s and 1970s showed how important it is to regulate fishing. At that time, many foreign trawlers fished near the Icelandic coast because, unlike today, there was no 200 nautical miles wide Exclusive Economic Zone (EEZ). During these times there was a dispute over the use of fish stocks, especially between Iceland and Great Britain. At the peak of the conflict in 1975/1976, the Britons deployed warships. It was not until 1982 when the Exclusive Economic Zones were introduced with the United Nations Convention on the Law of the Sea, that the situation eased. (World Ocean Review, 2013) This example shows how big the demand for lucrative commodity fish is, and what serious consequences poorly regulated fishery can have.

3.4.4. INTERNATIONAL AND REGIONAL SHIPPING

The melting Arctic sea ice also offers another opportunity; it opens up new shipping routes along the Arctic coasts, which could be economically interesting for both: Arctic and non-Arctic actors. For example, ships would have better access to the marine resources in an ice-free ocean; and new transarctic routes, that connect the Atlantic- and the Pacific Ocean, could also arise. These new shipping lanes would shorten the distances between destinations in Northeast Asia and Northern Europe or North America significantly. The new northern routes might be used to supplement the existing Panama and Suez Canal routes, perhaps alleviating capacity issues on the 'old' routes. Transarctic shipping lanes could also increase the security of maritime world trade, as they would bypass regions and straits that are struggling with terrorism, piracy, and regional conflicts. For these reasons, many commentators have compared the opening of the Arctic sea routes in the twenty-first century to the openings of the Suez Canal and the Panama Canal. (Stephen, Knecht, & Bartsch, 2018, p. 134)

Two main routes run through the Arctic, namely the Northwest Passage (NWP) and the Northeast Passage (NEP). The NWP is a collection of seven major routes between the Atlantic- and the Pacific Ocean, coming from the Bering Strait and the coast of Alaska, running through the islands of the Canadian archipelago, and flowing along the west coast of Greenland into the North Atlantic. The NEP consists of various routes from northwest Europe around the North Cape along the northern coast of Eurasia and Siberia, to flow into the Pacific after the Bering Strait. In the debate about Arctic shipping, the so-called Northern Sea Route (NSR) is also often mentioned. However, the NEP and the NSR are often used as synonyms, although they do overlap reaches the NEP much further than the NSR, especially in the west. The NSR is administered by the Russian Ministry of Transport and has been open to all states since 1991. Since 1979 there have been year-round shipping on the western part of the route until the Yenisei River, supported by the Russian icebreaker fleet. The prospect of an ice-free Arctic summer within the next few decades brought also up the idea of a third Arctic route that would run centrally through the Arctic Ocean (Transpolar Sea Route) instead of alongside the coast. However, this route is still more of a theoretical nature as difficult ice and weather conditions prevail all year round in the central arctic ocean and this will remain a high probability in the short and medium-term. When it comes to the discussion about sea ice, one has to bear in mind that there are significant regional differences in the development of Arctic sea ice. The decrease is particularly big on the Russian coast and in the waters of Alaska. Due to the warm Gulf Stream, there isn't any ice, all year round, on the Norwegian coast. However, in the Canadian archipelago, the decline of the ice is much less pronounced. This is because the Arctic sea ice thickness increases from the Siberian side to the Canadian archipelago due to the ocean current and the resulting accumulation of sea ice. In addition, the temperature on the Canadian Arctic Ocean is generally lower than on the European side, partly because of the Gulf Stream. As a result, the remainder of the sea ice after the summer melt is more likely to be in the eastern North American Arctic. All the above-mentioned transarctic routes have in common that they cross the rather narrow Bering Strait on the Pacific side. For this reason, the Bering Strait is referred to as the entry road for transarctic shipping. In addition to the transarctic routes, which are considered particularly interesting for international merchant shipping, the routes are also used for regional shipping. Regional shipping concerns routes that start and end within the Arctic region, and routes that begin in the Arctic and end somewhere else outside the Arctic, or vice versa. The Northern Sea Route, in particular, is used much more as a regional shipping route by mostly Russian ships. Additionally, to the above-mentioned routes, exists the so-called Arctic Bridge, from Hudson Bay in Canada along the south coast of Greenland and north of Iceland and Norway to Murmansk in Russia. (Drewniak, Dalaklis, Kitada, Ölçer, & Ballini, 2018, pp. 4-5)

Figure 7: Arctic Shipping Routes (Haw, 2019)

The anticipation that Arctic sea ice would continue to shrink in size and thickness, as well as technological advancements in the shipping industry, will make shipping in the Arctic conceivable and profitable, are the main influencing factors for new shipping routes in the Arctic. In the early 2000s, the receding summer-sea-ice opened the above-described routes for the first time. For instance, the NEP was completely ice-free for the first time in summer 2005, and the NWP in summer 2007. Anyway, in 2008, it was observed for the first time since satellite records began, that both routes were free of ice at the same time. In August 2009, two German merchant ships used the Northern Sea Route from Vladivostok to Rotterdam for the first time without an icebreaker, and the advantages of this route can hardly be ignored. The arctic passages can offer significantly shorter distances across the sea compared to the established shipping routes, and thus significantly reduce fuel and charter costs. The distance from Yokohama in Japan to Rotterdam in the Netherlands via the Suez Canal is 11430 nautical miles (21000 km) long; via the Northeast Passage, the distance would be shortened by around 40% to 7000 nm (12.964 km), which saves around ten days or one-third of the travel time. Via the Northwest Passage, this route would be shortened by around 30% to 8000 nm (14.810 km), and over the Transpolar Route to around 6600 nm (11.120 km). Compared to the Panama Canal, the NWP is also considerably shorter, so on the way from Tokyo to New York with 2,500 nm (4.500 km), around 25% of the route could be saved. However, a differentiated view is required about possible advantages through time and distance savings, because the Arctic trade routes are not equally profitable for all connections. Considering their

geographic location, the Japanese and Korean markets would benefit most from transports via the NWP and NEP. Gibraltar and Singapore are seen as breakeven points for the northern routes, so trips to more southern regions would not be economically viable as the cost of the route exceeds expected profits. For example, the route over the Suez Canal for port locations in Southeast Asian countries is between 15 and 32% shorter than the NEP, while the polar sea routes are completely uninteresting for the entire Indian market. For catchment areas in which both routes are roughly the same length, the Arctic routes could be of particular interest if problems arise on the route over the Suez Canal or if piracy in the Horn of Africa increases again. (Paul, Arctic Sea Routes: Ambivalent prospects in the Arctic Ocean. (Arktische Seewege: Zwiespältige Aussichten im Nordpolarmeer), 2020, pp. 17-20)

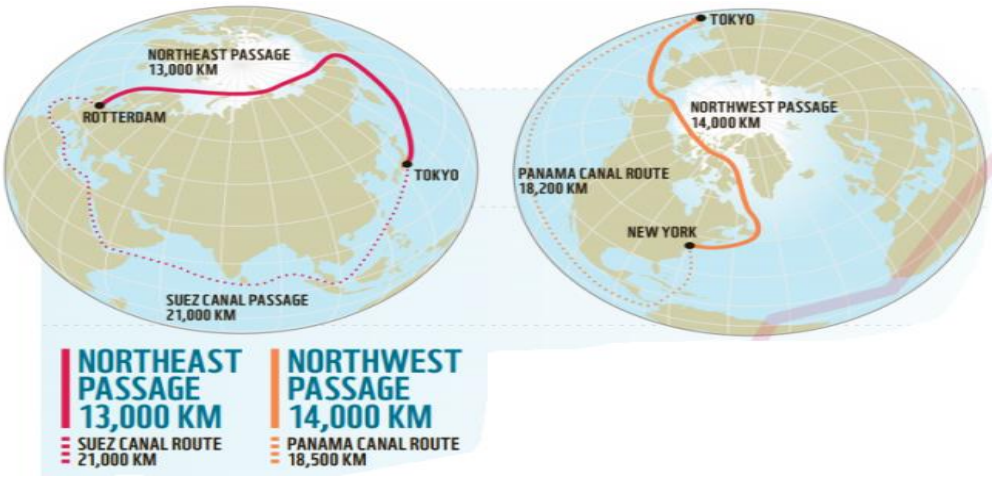

Figure 8: NEP and NWP in comparison (WWF, n.d.)

Even if both passages offer the potential for a considerable distance and time saving, the NEP could most likely be of economic importance as a possible alternative to conventional transport routes in the future. These expectations are first because the Arctic sea ice has retreated from the Russian coast in the summer months in particular, and Canadian waters have been blocked by ice relatively more frequently. Second, and as noted in the previous chapters, is the Russian Arctic likely to have a greater raw material potential, so that the regions around the NEP have a higher cargo potential. Third, the infrastructure in the Eurasian Arctic is already better thanks to Russian investments in the construction of ports and icebreakers during the Soviet era. (Keil, Arctic security matters, 2015, p. 26) Furthermore, Russia is currently investing enormous sums of money through its 'plan to develop the Arctic'. Until 2035, new traffic routes, transshipment terminals, energy systems, and communication infrastructure are to be built along the route. To enable the use of the NEP all year round with the help of an escort of atomic icebreakers. Another fact is that China has a strong interest in developing the Arctic infrastructure by planning a polar route within their Belt and Road Initiative. (Wittmann, Russia is expanding the Northern Sea Route into a trade route, 2020, pp. 3-6) Later in this thesis, further information about Russian and Chinese investments and interest in the Arctic will be offered. In conclusion, the Arctic sea routes are of little interest to global merchant shipping at the moment, but they have tremendous

potential in the medium and long future. Much about its development will depend on the further decline of the ice and the development of oil, gas, and raw material extraction alongside the Arctic routes.

3.4.5. SECURITY AND MILITARY DIMENSION

The central Arctic was an underutilized region from a military point of view, at least until World War II. The harsh climatic conditions and the drifting ice prevented military activities and protected the northern borders of the neighboring countries. However, during the Cold War, the strategic location of the Arctic between the two superpowers made it a suitable area for the application of strategic weapon systems. In no other region of the world did the former Soviet Union and the NATO member states meet so closely from a geographical perspective. The arctic airspace served also as an deployment area and attack route for strategic bombers in the 1950s and 1960s. To counter this threat, both superpowers turned their arctic land areas into militarized zones with numerous surveillance posts and warning systems. Since the late 1960s, this included the use of intercontinental ballistic missiles (ICBM). The Soviet Union had with the port of Murmansk and the nearby facilities, well-located strategic bases in the Arctic which led along the demilitarized Svalbard Archipelago into the North Atlantic, and they stationed their Northern Fleet with Delta and Typhoon submarines in the late 1970s, under the ice cover of the Arctic Ocean. The USA behaved similarly, as their Trident submarines were capable of attacking military targets throughout the former Soviet Union from arctic waters. Nuclear submarines were able to operate undetected in the polar ocean since the ambient noise of the pack ice reduced the effectiveness of acoustic monitoring systems and the opaque ice cover made visual monitoring methods difficult. The Arctic developed into a region of nuclear deterrence and mutual military armament. The gradual inclusion of the North in the strategic planning of the Cold War meant that security was understood in military terms. (Østreng, 1999, pp. 21-22)

In October 1987, during a visit to Russia's Kola Peninsula, then-General Secretary of the Soviet Communist Party, Mikhail Gorbachev, made the first plea in his speech, known as the Murmansk Initiative, for a reduction in military confrontation and the establishment of a zone of peace. The military activities in the Arctic changed significantly through the end of the East-West conflict. Many of the Soviet submarines of the Northern Fleet were decommissioned and the locations of the DEW line were abandoned. The decommissioning of nuclear submarines that were dumped on the Arctic seabed by the Soviet Union gave rise to the problem of radioactive waste, which continues to this day. Since 1991 the Arctic was characterized by multilateral cooperation, which institutionalized itself with the establishment of the Arctic Council (AC) as an intergovernmental forum for circumpolar affairs. In the Canadian capital Ottawa, the representatives of ‘Arctic eight’ signed the declaration on the establishment of the AC, which guaranteed also the arctic’s indigenous peoples a right of participation. The AC is an extension of the previous Arctic Environmental Protection Strategy (AEPS) and deals essentially with the protection and monitoring of the Arctic environment and the assessment of environmental impacts.

Climate change did not play the same role in the political discourse of the 1990s as it does at the moment. (Braune, 2016, p. 90)

However, a new understanding of arctic security has developed since the Murmansk initiative. The new maritime accessibility of the polar sea has impelled new areas of security policy, which can be differentiated as follows: (1) Questions about military security of each individual state, such as the protection of their northern state borders and (2) The common security of Arctic states, dealing among others with topics like terrorism and environmental disasters in the region. (Coates & Holroyd, 2020, p. 479) In the past 15 years there has been an increasing discussion in the scientific literature about the danger of a new militarization of the region, many of these scholars were pointing to the Russian flag campaign in 2007 as the beginning of it, and on the latest attempt by Donald Trump to acquire Greenland from Denmark, as a continuation of this. (Paul, 2019, p. 3) According to the political scientist and expert in arctic affairs, Willy Østreng, two new global forces are emphasizing the strategic importance of the Arctic: First, the global war on terrorism and the defensiveness of North America against nuclear states like North Korea, and secondly leads the receding ice to a new conflict potential about sovereignty in the region. (Paul, 2020, p. 13)

In sum, it can be stated that the security policy challenges have increasingly expanded in the period after the East-West conflict, and should not be viewed in a military context alone as civil and military security are closely linked. For example, legitimized the 2011 agreement on cooperation in the search and rescue of aviation and seafaring in the Arctic (SAR agreement) the military presence of the neighboring countries. Over the past decade, the five coastal states have increased their military capacities in the region, which is often seen as evidence of an expected confrontation. Technical and organizational changes in the arctic armed forces are used as empirical evidence. This includes announced or already completed armaments, investments in infrastructure and reconnaissance, and management technology, as well as, organizational changes like the establishment of an Arctic Command. (Bartsch, 2015, pp. 14-15)

4. ARCTIC GEOPOLITICS

Now, it is time for analyzing the Arctic's political environment, the relevant actors, and the legal basis for their actions. I will look at how the United Nations Convention on the Law of the Sea (UNCLOS) regulates territorial issues offshore. Then at the Arctic Council (AC), the foremost relevant forum for Artic politics, its tasks and principles are going to be envisaged. This is followed by a brief examination of the Arctic strategies of the EU its main rivals and partners globally and in this region (China, Russia, USA). Last but not least, I will look at the engagement and strategy of the EU in the region.

4.1. UNCLOS

The Arctic governance system has evolved over time from a variety of organizations at various spatial scales. The first significant spatial level is international cooperation between governments, which

includes Arctic nations (A8) as well as states outside the Arctic region. The United Nations Convention on the Law of the Sea (UNCLOS), sometimes shortened as UNCLOS, is one of the most important tools for cooperation in the Arctic. The agreement, which was signed in 1982 and implemented in 1994, is widely regarded as the most complete collection of laws for the use and conservation of the seas. UNCLOS' central point is the definition of various maritime zones, in which the scope of sovereign rights of coastal states is determined. Except for the USA, all other states of the A8 have signed UNCLOS (168 states in total have signed it). However, the provisions of UNCLOS can also be viewed as valid customary law for the USA. (Fairhall, 2010, pp. 29-30)

Among others, the following things were established by UNCLOS: The internal waters (also called inland waters) of a coastal state, which are inland from the low water line (also called the baseline), as well as the territorial sea, which is also known as territorial waters. The territorial sea cannot exceed a maximum extent of 12 nm (nautical miles; 1 nm = 1852 m) from the baseline. A state has unrestricted sovereignty, thus full sovereignty, in its internal waters as it has on its land territory. Sovereignty in the territorial sea is also quite extensive, as it extends to the airspace, the water column, the sea bed, and the underlying subsoil. However, third countries must be granted certain rights. A so-called contiguous zone follows the territorial sea, which can extend a maximum of 24 nm beyond the baseline. In this zone, coastal states may exercise extended powers, for example, to enforce their customs and other regulations against third countries. Beyond the connection zone, there is a 200 nm wide Exclusive Economic Zone (EEZ), during which coastal states have the right to exploit the resources of the water column and the continental shelf. (Stephen, Knecht, & Bartsch, 2018, p. 46)

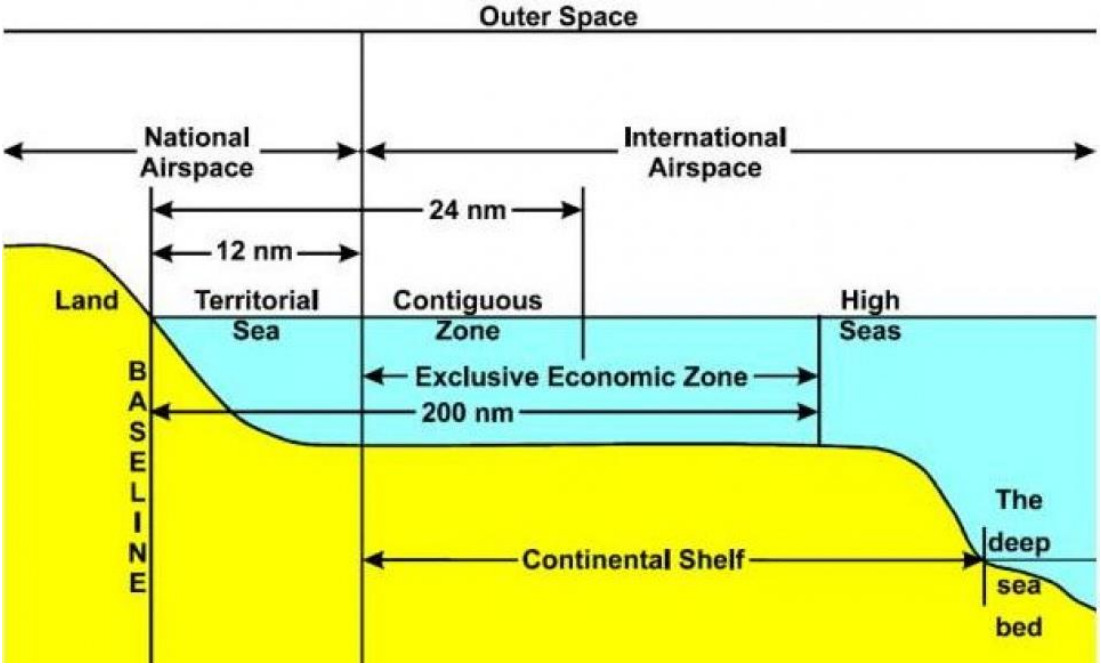

Figure 9: Maritime zones under UNCLOS (Kassinis, 2014)

The Arctic states have all established their EEZs and have concluded corresponding bilateral and trilateral agreements with one another since the 1970s, to determine exactly where the zone boundaries run. All maritime borders, with a few exceptions (more on this later), in the Arctic are legally agreed upon. If a state's continental shelf extends beyond the EEZ's 200-nm boundary, it can petition to the CLCS (Commission on the Limits of the Continental Shelf) to have the outer limit of its continental shelf determined as an extension of its EEZ. However, this limit cannot go beyond 350 nm from the baseline or not further than 100 nm from the 2500 m water depth line. In this extended zone, the coastal state is allowed to research and exploit resources. However, these exploitation rights on the extended continental shelf only affect the seabed and its subsoil and not the water column above. This regulation of Art. 76 UNCLOS, is from time to time the topic of lively discussions within the Arctic debate, because it determines which state 'owns' the continental shelf areas within the Arctic that have not yet been assigned. It must be noted that Art. 76 is not about the assignment of property or sovereignty, but only about the concession of certain sovereign rights which, as explained above, are granted to coastal states in the respective areas. Not all Arctic states have yet submitted corresponding applications to the Commission, and some have applications pending there, which, however, have not yet been decided or not fully decided. So far, only Norway has been granted an extension of its continental shelf in 2009. In determining the rights of coastal states, UNCLOS also determines where these rights end and where, either those of third states begin or no state may exercise sovereign rights. Third countries are therefore allowed to exploit commodities in the waters of its extended continental shelf areas. In addition, they enjoy different distinct features in the individual zones like the crossing rights for ships. (While a foreign vessel has no right of passage in the internal body of water of a coastal state, a coastal state cannot hinder the peaceful passage of a foreign vessel within its territorial sea.) Under certain circumstances, ships in the territorial sea must also be granted the right of so-called transit passage. According to Art. 37 UNCLOS, this applies to straits that are used for international shipping between the high seas or EEZs. The right of transit passage limits the power of the coastal state to enforce restrictions on the passage of foreign ships since transit passage essentially corresponds to the liberty of navigation that prevails on the high seas. Whether ships enjoy transit or not is often a matter of dispute between states, also in the Arctic. The problem with Art. 37 UNCLOS is that it does not indicate whether the right to transit through a strait only exists when international shipping takes place through this strait, or if it is sufficient that such shipping could take place. The high seas begin at the 200 nm limit of the EEZs, thus include all waterbodies that do not belong to the internal waters, the territorial sea, or the EEZ of a state. The freedom of the high seas applies to all states and includes, among other things, the freedom of navigation, overflights, fishing, and scientific research. The use of the high seas must be peaceful, and no state may subordinate any part of the high seas to its sovereignty. States' rights end beyond the extended continental shelf boundaries concerning also the seabed and subsoil. From here on, the sea floor and subsoil are referred to as the deep sea bed. It is part of the common heritage of humanity, over which no state can exercise sovereign rights. (Stephen, Knecht, & Bartsch, 2018, pp. 47-51)

There are currently numerous disagreements within the Arctic Sea, regarding territorial sovereignty. For example, Denmark and Canada claim both for the small, uninhabited Hans Island in the center of the Kennedy Channel between Canada's Ellesmere Island and North Greenland. Furthermore, there is an unresolved dispute over the lateral demarcation of the 200-mile zone between the Yukon territory and Alaska in the Beaufort Sea. A comparable disagreement between Norway and Russia in the Barents Sea had persisted since the early 1970s, but was settled in April 2010 when the two nations agreed on a boundary in the Barents Sea. Furthermore, there are discrepancies in economic access outside the territorial sea between Norway and the signatories to the Spitsbergen Treaty. Norway deems the continental shelf around Svalbard to be a natural extension of the Norwegian landmass, which is therefore not subject to the Spitsbergen Treaty. Another unclear point is the legal status of the shipping lanes. There has been disagreement between Canada and the U.S. over the status of the NWP for Arctic shipping since the 1960s. Canada considers it a waterway that is part of its internal waters. The U.S., on the other hand, considers it an international waterway that legitimizes the right of transit. Similarly, the Russian government considers the NSR as an internal waterway under its jurisdiction. Whereas the U.S. considers it an international waterway. (Braune, 2016, pp. 120-126)

However, the biggest disagreement is in the central Arctic. The littoral states equally invoke Art. 76 UNCLOS, according to which the continental shelf may extend beyond the 200-mile zone if it can be demonstrated based on geological data that the continental shelf is a natural extension of its land mass. Russia requested the establishment of new external boundaries for the Arctic continental shelf in 2001, arguing that the Lomonosov and Mendeleev ridges are submarine continuations of the Russian landmass. The CLCS requested further scientific data from Russia to better substantiate this claim, a revised application was then submitted in early 2016. (Braune, 2016, pp. 129-133) Canada and Denmark also applied for continental shelf extension, and the claims formulated therein, overlap considerably with those of Russia in some cases, as the following graphic illustrates:

Figure 10: Maritime boundaries in the Arctic region (European Environment Agency, 2017)

As noted above, a coastal state exercises sovereign rights to explore and extrapolate natural resources on the expanded continental shelf. For Arctic states, this means they can undertake and authorize mining and drilling operations for the exploitation of commodities on the continental shelf granted to them. (UNCLOS , 1982, pp. 51-52) For this reason, the dispute over the division of the Arctic Ocean is mostly linked to the presumed oil and gas deposits.

4.2. THE ARCTIC COUNCIL

In addition to international law, various multilateral and intergovernmental institutions are devoted to the Arctic, one of them is presented in more detail in this chapter: the Arctic Council. This council includes in addition to the Arctic Eight, also six NGOs that are representing the indigenous interests. It was created to facilitate international cooperation in the Far North between the Arctic states. It emerged from the amalgamation of several regional organizations (from 1987 until it was officially established with the Ottawa Declaration in 1996). The presidency of the council rotates between the member states.

Additionally to the A8 States and the indigenous peoples, several nations and organizations enjoy an observer status without voting rights; this group includes, along with a few other, politically powerful states such as China, France, Great Britain, Germany, and Japan. (Dodds & Nuttall, 2019, p. 163)

The tasks of the council are mainly the promotion of environmental and nature protection and the sustainable development of the region. It serves as a forum for regular consultations between the responsible ministers of the member states. Six permanent working groups (ACAP, AMAP, etc.) develop for this meetings scientific recommendations in the fields of nature-, marine- and disaster management. Additionally, the groups develop recommendations for environmental monitoring, sustainable development, and combating environmental toxins. However, the recommendations made by the working groups are not legally binding to this day. In general, it can be stated that the Arctic Council does not make any binding decisions. The principle of consensus applies, and only the arctic countries have a say. Security issues are officially excluded from the body. Furthermore, there is no sanctioning body or an instance that guarantees that everyone abides by the decisions made. The Council's biggest weakness is the fact that the recommendations are not yet legally binding, on the other hand, this non-binding nature allows also a certain degree of flexibility since potential political conflicts are less likely to be obstacles. (Keil, 2018, pp. 2-3)

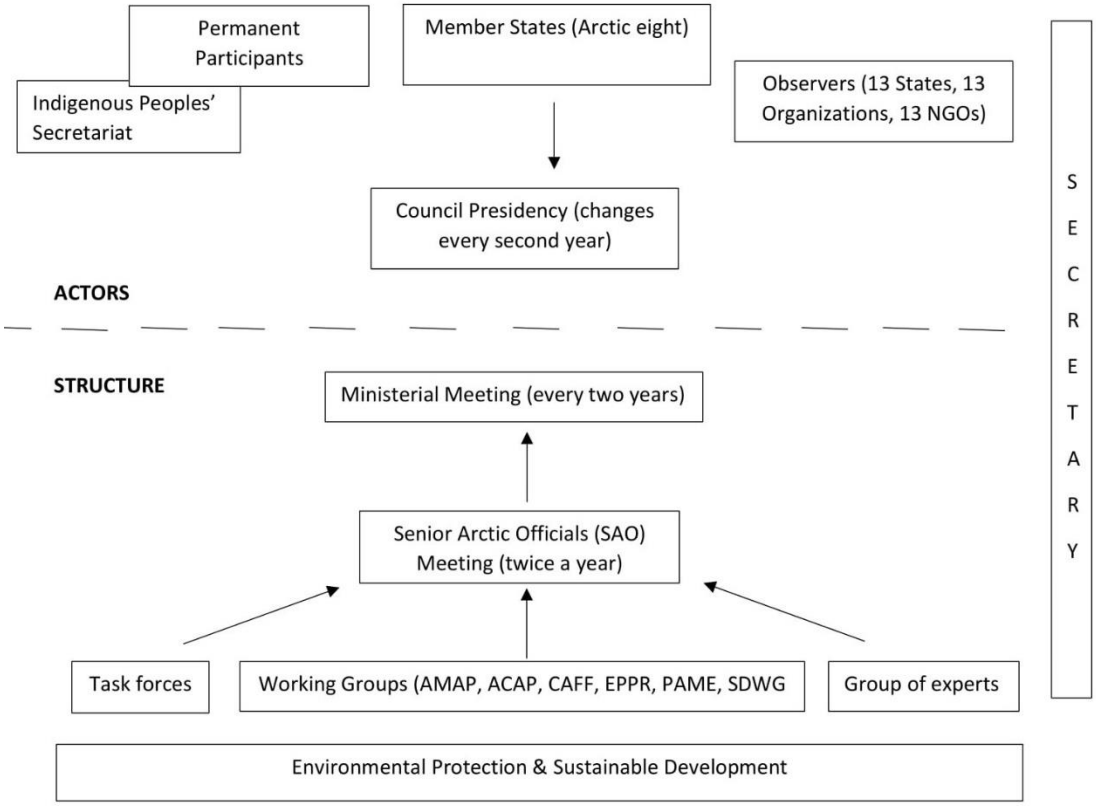

Figure 11: Structure and Actors of the Arctic Council (own illustration)

Due to its inclusiveness (with the involvement of the indigenous peoples, the council connects the national with the sub-national governance level) and its extensive knowledge network, the council

can also represent a potentially powerful control mechanism in the future. Through its previous work, it has already become probably the most important Arctic institution, which by far surpasses others such as the Euro-Arctic Barents Council. It is still questionable to what extent, on this basis, it will in the future be able to represent a comprehensive, binding regulatory factor in the coordination of the numerous national interests. However, steps towards further institutionalization are recognizable such as the decision to set up a permanent secretariat in Tromsø, Norway. It is also worth highlighting its recent success in 2011, when the Search and Rescue Agreement (SAR) was adopted in Nuuk, Greenland. This is the first legally binding agreement that was negotiated by the Arctic Council. The extent to which the Council will be able to issue further regulatory measures of this kind is not yet foreseeable, but at least the Council has been recommended to work more closely in the future for comparable mandatory results. (Stephen, Knecht, & Bartsch, 2018, pp. 57-62)

Therefore appears the Arctic Council currently, among all international regimes in the Arctic, to be the most promising forum for comprehensive and legally binding cooperation, certainly not in competition, but complementary to the existing norms of international law, such as UNCLOS and the numerous environmental protection conventions. The question of the composition of the Council, the admission of other observers, and their right to have a say thus provides a significant indication of the political interests that will hold out in the future: to influence the design of an increasingly ice-free Arctic.

4.3. CHINA'S ARCTIC STRATEGY AT A GLANCE

The People's Republic of China is an economic giant, with a GDP of approximately 14.5 trillion USD it is the second-largest economy in the world. (Urmersbach, www.statista.de, 2020) In the meantime, it has also reached the rank of superlatives in military terms, its budget of approximately 261 billion USD for military spending in 2019 was the second-largest globally. (Ghosh, 2020) China is also the country with the highest population on Earth, with around 1.4 billion inhabitants. (Urmersbach, 2021)

China's willingness and capabilities to gain power and influence cannot be denied. Projects like the creation of artificial islands in the South China Sea, and the Belt and Road Initiative (BRI) underline this. In this course, the Arctic as a natural space for foreign policy came also into the focus of China. Nevertheless, still in 2009, China had no Arctic Strategy, according to an interview of State Secretary Hu Zhengyue. It is difficult to verify whether this was true or not, but it needs to be noted that the government did not publish an official document at that time. China observers, therefore, started to analyze publications by Chinese scientists to get at least an idea of how people in China think about Arctic affairs. While the government was at that time cautious to not provoke any distrust in the circumpolar north, the internal Chinese discourse on the Arctic was very lively. Chinese academics' were calling for an active role in the Arctic (to secure sea routes and to exploit natural resources). (Mohr, 2018, pp. 239-240). In 2013, the country was granted an 'observer status' in the AC and had been pursuing since then an ambitious strategy in the far north. (Cepinskyte & Paul, 2020, p. 3) With the

publishing of the white paper ‘China's Arctic Policy’ at the beginning of 2018, it became clear that the communist party had gained more self-confidence in the ‘scramble for the Arctic’, as it was openly formulating its interests. (Mohr, 2018, p. 240)

Throughout the publication, China described itself as a ‘Near-Arctic-State’. Beijing is claiming more and more of the Arctic pie through its Arctic Strategy, which also reveals Chinese intentions for marine routes via the Arctic Ocean as part of its Belt and Road Initiative, and is openly considering the construction of a 'Polar Silk Road' as part of its Belt and Road Initiative (BRI). (Brzozowski, 2019) After the maritime Silk Road through the Mediterranean and the land corridor through Central Asia, the Arctic Ocean will serve as the BRI's third major corridor. The focus here is mostly on China's supply security. Beijing is looking for suitable alternatives to the Malacca Strait and the Suez Canal in order to diversify its transportation routes (which both can be blocked in the event of a conflict). Shipping across the Arctic is not as vulnerable. Secure supply routes are also beneficial for military use if a conflict arises. It can be assumed that China is not only interested in the Arctic sea routes for economic reasons, but also for geopolitical ones. (Cepinskyte & Paul, 2020, p. 4) Several agreements for economic development and resource exploitation in the Arctic (alongside the NSR) are already signed, and a few projects are already realized. For example the world’s biggest Liquefied Natural Gas (LNG) project, with the name Yamal LNG. Furthermore, the Payakha oilfield is in planning, and the further expansion of Zarubino Port on the Russian-Chinese Border, and the Arkhangelsk Deepwater port on Russia’s northern coast is under construction. This list could be carried forward with more projects. (Chun, 2020)

A comparison between China's actions in the Arctic and the South China Sea seems far-fetched at first glance, but it is entirely valid when it comes to China's behavior towards other countries. Denmark and the USA decided to invest ‘strategically’ in Greenland after Chinese investors had planned to expand airports and build sea ports on the island. The US had already disapproved of China's expansive efforts in the South China Sea, as early as 2013, when China was granted observer status at the AC. The National Security Law of 2015 postulated the right to ensure the safety of Chinese activities in the polar regions (Article 32). (Cepinskyte & Paul, 2020, pp. 4-5) Three years later, Beijing's Arctic policy was published in detail in the State Council's White Paper. It presented the involvement in Arctic affairs, including security and governance, as essential because: *“These issues are vital to the existence and development of all countries and humanity, and directly affect the interests of non-Arctic States including China.”* (The State Council Information Office of the People’s Republic of China, 2018) It also says that China has the task of promoting peace and security in the far north, not least because the sea routes and the exploration of the resources *"have a huge impact on the energy strategy and economic development of China."* (The State Council Information Office of the People’s Republic of China, 2018)

China claims primarily that its Arctic engagement serves to ensure the security of shipping and trade as well as to promote stability and peace in the region. Although there are no references to military security in the White Paper, China's broader energy strategy aims to secure and protect supplies of raw

materials. This has also advanced the development of the Chinese navy to guarantee access to maritime trade routes, ensure their safety and, as in the South China Sea, to hinder rivals from operating in resource-rich regions. One of the reasons for the substantial investments in Chinese naval armaments during the last 20 years is this holistic approach. The importance of the military development by China was demonstrated by five warships in September 2015 when they crossed the American territorial waters of Alaska in the first 'Freedom of Navigation' operation in Chinese history. The planned first nuclear-powered ice breaker in China could serve to implement such a strategy. Scientific work on navigation and communication, as carried out by China, is always relevant for civil as well as for military purposes. This applies, for example, to the BeiDou-2 satellite navigation stations on Greenland and Svalbard. (Cepinskyte & Paul, 2020, p. 5)

Chinese officials included in their Arctic policy also an increased exploration and scientific research towards the Arctic. It's important to note that China is already relevant in Arctic-focused research. Since 2004, China has had its own research center on the Svalbard Archipelago, the so-called Yellow River Station. Since 2014, the Chinese science academy has already had an acoustic research program, especially for underwater acoustic measures. In 2018, China and Iceland jointly opened an observatory center (China–Iceland Arctic Science Observatory) in Iceland. Another observatory Center in northern Finland is currently in planning (China–Finland Arctic Monitoring and Research Centre), it shall conduce to the BRI as a 'Digital Silk Road', which aims to design a spatial information system for the regions that are covered by the BRI. (Chun, 2020) These supposedly civilian observatories and research activities have increased concerns of other Arctic states that China could use this information for military activity. For example, the Danish authorities of defense intelligence warned in 2019 that the Chinese Army *"is increasingly utilizing scientific research as a means of entering the Arctic, describing such activities as not just a matter of science but serving a 'dual purpose'."* (Lean & Koh, 2020)

In sum, it can be said that China's main interests in its Arctic Policy are as follows: The main priority is the economic development of the Arctic region. China makes efforts and participates also in many projects in developing the infrastructure and shipping routes, in the exploration and exploitation of resources such as oil, gas, and minerals but also fishing and tourism. The second priority is the scientific exploration of the Arctic, followed by the Eco-environmental protection of the Arctic and the fight against climate change. Fourth is the participation in the regional governance system and international cooperation. The fifth priority is the promotion of stability and peace in the region. All these priorities are extremely important for China's willingness to utilize the Arctic as a part of its Belt and Road Initiative and its attempts at energy security. (The State Council Information Office of the People's Republic of China, 2018)

4.4. RUSSIA'S ARCTIC STRATEGY AT A GLANCE

With a size of 17.1 million km², Russia is by far the biggest country in the world. (Urmersbach, 2021) And with about 9 million km² of its size which is located in the Arctic, it is also by far the biggest Arctic

State. Therefore it is not surprising that the region play a big role in the Russian self-perception. It had military spending's of about 65.1 billion USD in 2019. (Ghosh, 2020) According to the World Bank, Russia's GDP is around 1.5 billion USD (World Bank) of which 12-15% is created in the Arctic and around 25% of its exports as well. Moreover, Russia has with 2.5 million people, the biggest share of the approximately 4 million people living in the entire Arctic. (Kulik, 2019, p. 2) All these numbers show the significance of the Arctic for Russia.

During the Cold War, the Arctic was one of the most militarized places in the globe (because to its strategically significant location). Fortunately, there was no violent fighting in the end, although regional cooperation was hampered by tensions between the Soviet Union and the United States. However, this started to alter in October 1987 when Mikhail Gorbachev initiated a series of measures that were summarized as the 'Murmansk Initiative'. The goal was to limit military activity in the Arctic and turn it into a peaceful environment. This should be done by creating a nuclear-weapons-free zone, restricting naval activities, and, above all, by the promotion of cross-border cooperation on non-military issues. The Murmansk Initiative represented a pivotal shift in Soviet Northern policy, resulting in the normalization of regional intergovernmental relations. For the next two decades, the regional order in the Arctic was generally considered to be exceptional. The A5 sought to keep the area conflict-free by arranging a balance of power through multilateralism and cooperation. By the late 1980s, military security concerns had largely faded from Arctic policy, and the founding of the AC in 1996 provided a forum for deliberations on regional issues. Russia disbanded numerous units of its northern fleet and gave up military installations from the Soviet era by the end of the Cold War, but the Arctic's geopolitical relevance reappeared in Moscow's politics in the 2000s. As a Russian contribution to the fourth International Polar Year in 2007, the submarine MIR 1 placed the flag of the nation on the sea ground at the North Pole. This was perceived as an aggressive gesture as it signaled expansive territorial claims in the Arctic. In addition, the Kremlin adopted the first comprehensive document on Russian Arctic policy in 2008. It comprised the region's aims and strategic priorities for the years 2008–2020. In March 2013, this paper was revised and re-published. According to the document, Russia was now a leading Arctic power and one of the basic political objectives has been identified as maintaining military capabilities in the region. (Cepinskyte & Paul, 2020, pp. 1-2)

In October 2020, the Russian Federation implemented a new development strategy for the Arctic, which replaced the one from 2013, and which is intended to shape Russia's policy in the region until 2035. Since May 2021, Russia is also chairing the AC for two years. Most of the signs in the new strategy point to continuity. However, between the lines, some changes can be seen together with the change that occurred in Russian domestic and foreign policy since 2013. The new strategy also refers to possible international cooperation but provides more space for potential threat scenarios. The initiative places a special emphasis on improving the living conditions of Arctic residents. By 2030, the population decrease that has afflicted the whole Arctic zone since the dissolution of the Soviet Union should have

come to an end. Every year, an average of around 18.000 of the 2.5 million inhabitants leave the Russian Arctic. Besides of the rough climatic conditions, the biggest problem for the people and the economy, is the lack of infrastructure. At the same time, many already planned projects for the construction of new roads, rails, and ports are suspended as there are not enough financial resources from the state budget (also due to western sanctions). From Russia's point of view, the Arctic region is one of several structural weak areas in the Federation. Although a state program for socio-economic development in the Arctic was launched in 2014, only 17.6 billion rubles (190 million euros) are for this purpose in the federal budget for the years 2021–2023. To compare: the program for the development of Crimea is said to cost over 300 billion rubles (3.2 billion euros). (Kulik, 2019, p. 5)

Nowadays it is mainly Russia's powerful energy industry that is leading in the development of the far north. Over 90% of Russian natural gas and 17% of its oil production comes from the Arctic region. Many more big reservoirs are estimated to be there. New major projects (often with Chinese help) such as the Novatek Group's liquefied gas plants on the Yamal peninsula are the driving force for the local infrastructure's development. This counts for the construction of rails and roads in Russia´s western Arctic, but also for the ports on the NSR and their further connection to the industrial areas. One of Russia's main goals is to establish the NSR as a main-route for global trade between Asia and Europe by 2035. The development of the NSR as a trade route and logistics hub is also key for the government's 'Plan to open up the Arctic'. On the 5th of March 2020, President Vladimir Putin approved this plan. New traffic routes, transshipment terminals, energy systems, and communication infrastructure are to be built along the route until 2035. The state nuclear holding company Rosatom is responsible for the smooth transport of goods by the Northern Sea Route. In 2018, President Putin claimed in his national targets that the annual transport volume on the NSR should be quadrupled to 80 million tons by 2024 (the biggest share by raw materials. Alone Novatek wants to increase its liquefied natural gas (LNG) production to 70 million tons by 2030). According to the estimation done by Rosneft, only one-third of the entire 11.7 billion USD that needs to be invested for the development has to be carried by the Russian state. The remainder would be invested by Rosneft, Rosatom, Novatek, Nornickel, Gazprom Neft, Gazprom, some banks, and the future users of the NSR. The Kremlin expects also further development impulses through commercial projects from the offshore production of oil and gas in the Arctic. (Kluge & Paul, 2020, pp. 1-2)

Generally, it can be stated that Russia wants to use its geographically favorable location between Europe and Asia to benefit more from global trade. New ports of which some are already under construction are to be created along the NEP because there are currently too few ports with docking points that meet the requirements for large merchant ships along the route. To be able to handle cargo ships or to do maintenance work on cargo ships, the port infrastructure must be expanded. However, Russia has already a fleet of 40 ice-breaker ships and an additional 11 are in planning this ensures an

unproblematic passage for merchant ships. It should be stated that no other nation has such a big fleet. That's a big advantage for the NEP versus the NWP. (Drewniak & et al, 2018, p. 11)

Nevertheless, new transport routes must also be created on land, to develop the NEP, and to connect the ports with the hinterland. There are even plans, with the mega-project 'International Transport Corridor Arctic- Siberia-Asia' (Sibirski Meridian), to connect the sea ports of the NSR with those of the East China Sea by railway. Investments to achieve this purpose are planned with around 4.93 trillion rubles by 2035. The sheer endless expanse of space and the harsh climatic conditions in the Arctic are making currently communication along the NSR difficult. However, to ensure an excellent exchange of data and information, fiber optic cables for broadband internet are to be laid as an addition to the existing satellite communication. The cold climate makes the Arctic also an interesting location for building data storage or processing centers. The space agency Roskosmos and the Ministry of Disaster Control (MChS) are already setting up centers for receiving and processing data from space. Furthermore, a network of data processing centers will be established in the Republic of Karelia by 2025. (Wittmann, 2020, p. 4)

Another main target of Russia is to keep its rank as a leading Arctic nation and to protect its territory and sovereignty. The protection of Russia's long northern frontier has for long been ensured by the extreme climatic conditions, which acted as a barrier (Halford Mackinder named the Russian northern frontier in its heartland map simply as the icy sea). The melt-down of the ice leads, therefore, to a growing concern. One can say therefore that Russia is almost getting new borders in its north. Warships could theoretically start an attack through the Bering Strait from the east, or from the west via military bases on Norway and Greenland. The retreat of the ice opens up a new, very long line of attack. Furthermore, from a Russian perspective, are oil and gas production terminals justifiable targets in and of themselves? As previously stated, the new policy has a passage regarding a rise in the risk of confrontation, which necessitates a constant deployment of Russian military forces in the Arctic. Many of the military bases, which had been closed since 1990, were therefore reactivated or even newly built. This includes 10 stations for sea rescue, 16 deep-water ports, 10 new airports (out of a total of 14), and 10 radar stations for air defense along the NSR. In the Russian Arctic, the military often serves as a substitute for inadequate or too expensive civilian skills, for example for sea rescue. The increasing military presence does not necessarily have to be seen as a sign of expansionary action. Despite this, military activity have increased, including a simulated air strike on radar systems in Norway, the use of GPS jammers against Finland, and increased submarine patrols (e.g. 10 Russian submarines passed through the North Sea in October 2019 to the North Atlantic, which was the largest deployment since the end of the Cold War). Russia's status as a sea power is to be strengthened, according to its naval policy (with a focus on the Arctic and the Atlantic). The Northern Sea Route is designed to provide permanent access to both the Atlantic and Pacific Oceans in this setting. Therefore, the Northern Fleet has absolute priority on the Kola Peninsula, it has also to defend the submarines which are armed with

ballistic missiles if a conflict emerges. The reactivated bastion concept from the Soviet-era provides for a shelter that extends across the Barents Sea to Iceland. (Kulik, 2019, pp. 6-7)

In an ongoing conflict, the country's fleet shall guarantee an access to the Atlantic, while others should be hindered in accessing the Russian Arctic. As a demonstration of strength, Russia stationed in 2019 new anti-aircraft missiles near Novaya Zemlya in the Barents Sea, furthermore was a hypersonic missile tested. In combination with the mobile S-350 anti-aircraft systems, the military bases in the Russian Arctic (on Franz Josef Land, the New Siberian Islands, Wrangel Island etc.) are to be protected. The scope of the entire system covers all archipelagos and islands along the northern route. In addition to economic and security issues in its Arctic policy, has the Russian administration again expressed its will to protect the Arctic ecosystems. This is urgently needed: the heavy industry in the north, combined with the consequences of climate change such as the thawing of permafrost soils, is a toxic mix for the sensitive ecosystems of the Arctic. This got visible in May 2020, when over 20.000 tons of diesel entered the Ambarnaya River after the permafrost under a large oil tank yielded. And in 2019 it was not possible to contain the forest fires in the Russian Arctic, they spread again in Siberia in 2020. A particular goal in the policy is therefore also to make the sensitive infrastructure fit for climate change. It is also planned to feature new environmental protection areas and to provide state support for waste management. Meanwhile, there is no issue of turning away from oil and gas production. On the contrary: The Kremlin wants to increase the production and export of fossil fuels. This counts also for coal, which is particularly bad for the climate. Even if the willingness to cooperate internationally in Arctic affairs was partly replaced by the perception of threats, international cooperation did not completely disappear. The policy contains also a section about international cooperation in which foreign investments play a central role. Russia is primarily interested in technologies and investments in the energy sector that are under Western sanctions. Western companies could cooperate in setting up the infrastructure and also in overcoming environmental problems. Without Russia's cooperation and experience in the Arctic, the worldwide MOSAiC expedition (Multidisciplinary floating Observatory for the Study of Arctic Climate) would have been impossible to complete. As a result, common international research projects on the marine ecosystem and climate change consequences should continue to be successful. (Kluge & Paul, 2020, pp. 2-4)

In sum, it can be stated that Russia's Arctic policy has two key points: establishing Russia as the leading Arctic nation and developing the Russian Arctic’s economic potential. To ensure its sovereignty and territorial integrity, Russia is investing in the development of military facilities and troops, border controls, and civil protection. Nevertheless, Russia is looking for cooperation with the other Arctic countries and the Arctic Council, to keep the region safe and stable. Economically, Russia is relying on the further exploring and exploitation of the resources that are located in the Arctic, such as oil, gas, mineral raw materials, and fish. The development of Arctic shipping on the NEP is of particular importance for the nation and its further development. For this purpose, Russia is investing in railways,

marine infrastructure, modern navigation, and monitoring systems. The income from the NEP is to be used for the socio-economic development of the local population and indigenous minorities. Finally, research programs and investment in critical infrastructure shall help to protect the environment. (Kluge & Paul, 2020)

4.5. THE USA'S ARCTIC STRATEGY AT A GLANCE

The USA is the third most populous country in the world, with a population of around 330 million in 2020. (Urmersbach, 2020) It has the world's largest economy with a GDP of $20.7 trillion, (Urmersbach, 2021) and with a military budget of $732 billion (in 2019), they also had by far the largest spending on security and defense. (Ghosh, 2020) Since the United States acquired the former colony of Alaska from the Russian Empire in 1867, it has been an Arctic state with immediate access to the Arctic Ocean. Alaska is the world´s largest exclave with an area of 1.7 million km². It shares a border with Canada in the east, and is elsewhere surrounded by sea. In the north by the Arctic Ocean, in the west by the Bering Sea, and in the south by the Gulf of Alaska. Russia and Alaska are only 85 kilometers apart from each other, at the narrowest part of the Bering Strait. However, since the fall of the iron curtain, the Arctic played a subordinated role in political Washington, but this has been increasingly reversed in recent years. (Paul, 2019, p. 2)

In 1994, the White House under the Clinton administration published the *"Presidential Decision Directive/NSC-26"* on the *"United States Policy of the Arctic and Antarctic Regions"*. It was the first directive after the Cold War, it was characterized by the willingness to secure stability and peace in the far north and by the will to use the new atmosphere of openness and cooperation with Russia to improve cooperation among the Arctic States for an environmentally sound economic development of the region. In addition to the cooperative approach, the White House also emphasized the need to meet national security and defense needs and to maintain the ability to protect against attacks from the North. To this end, it should be ensured that ships and aircraft can move freely under the principles of customary international law and UNCLOS and that the northern territories are effectively controlled. It was not indicated from which side the USA feared possible attacks over the Arctic. However, the economic development of possible offshore deposits and the increased use of Arctic waters as shipping corridors were already in the interest of the USA in the 1990s. (The White House, 1994, pp. 2-4)

The White House published a new presidential strategy about the Arctic towards the end of George W. Bush's term in office in January 2009. It had the name *"National Security Presidential Directive/NSPD-66"* and *"Homeland Security Presidential Directive/ HSPD-25"*. It was set in the context of the consequences of climate change and from it resulting economic opportunities and ecological challenges. The directive adopted in key words the policy objectives of the Clinton directive and developed the principles of US Arctic policy based on seven different areas, which at the same time integrated measures for implementation: (1) national security and homeland security, (2) enhanced international cooperation, (3) resolution of the continental shelf and border issues, (4) promotion of

scientific cooperation, (5) maritime transportation, (6) promotion of economic and energy issues, and (7) environmental protection. The listed areas will not be presented in detail below; instead of this will the focus be on the expansion of American interests. Bush went into greater depth than Clinton on national security and defense objectives in the Arctic, which covered missile defense, early warning systems, strategic deterrence, maritime presence, and maritime security operations, among other things. Furthermore, the directive underlined the need of preventing possible terrorist attacks and reducing criminal or hostile behaviors that could make the US more vulnerable to terrorist attacks. The focus was also on forming a more active and influential national presence against the backdrop of increased human activity in order to protect its interests in the Arctic and present itself as a maritime power, as well as to exercise sovereignty and jurisdiction over maritime zones, such as the continental shelf and free passage through the NWP and NEP. In terms of international cooperation, the Directive emphasized the importance of adapting to changes in the Arctic through new international agreements or improvements to existing ones, as well as the importance of maintaining the AR as a high-level forum rather than transforming into a formal international organization. The directive also urged the United States to join UNCLOS in order to get global recognition and constitutional security for an enlarged continental shelf, as well as sovereign rights to allegedly huge natural resource deposits. Bush also addressed the need for infrastructural improvement of sea routes and the importance of sustainable energy development. This would've required cooperation with the other Arctic states, especially since most of the resources were assumed to be outside American jurisdiction. (The White House, 2009, pp. 2-14)

Barack Obama issued his Arctic strategy at the beginning of his second term. The document had the name *"National Strategy for the Arctic Region"*. In it the responsible development of fossil fuels was seen as an vital contribution to secure energy supplies and to reduce the dependence on imported oil. The strategy paper emphasized concerning the scientific exploration, the significance of mapping the Arctic Ocean to use the resources more effectively and to make faster progress, and to make navigation through the passages safer. In great detail, the document was dedicated to strengthening international cooperation through bilateral and multilateral agreements based on shared values and goals, and cooperation within the AC. The US supported in the policy also the peaceful settlement of border disputes, and the principles of established international law laid down in UNCLOS. Additionally, the strategy explicitly advocated cooperation between the US and other Arctic nations with non-Arctic states and non-state actors that had expressed an increased interest in the far north. In this way, common goals in the Arctic should have been further developed which would protect the national interests and resources of the Arctic states. (The White House, 2013, pp. 2-4)

Under Donald Trump, the Arctic policy differed from his immediate predecessor mainly in that he withdrew from the Paris Climate Agreement and withdrew numerous environmental protection measures. Obama's 'Clean Power Plan' was described as harmful and unnecessary. In this course it should not come as an surprise that the Trump administration wanted to increase coal production instead

of decreasing it. Trump issued in an edict, in March 2019, also the opening of around 52 million acres of a priorly protected area for oil drilling. Beyond that, as wildfires raged in August 2019 in many parts of the Arctic including Alaska, Trump directed the Secretary of Agriculture to release more than half of the Tongass National Forest in Alaska (the largest intact temperate rainforest), from the deforestation ban. Furthermore, for almost the first time in the AC´s history, the meeting in May 2019 ended without a final declaration. This was because the US delegation, which was led by the foreign minister Mike Pompeo, rejected the notion of climate change. (Spiegel, 2020) In terms of security policy, under Trump, it was above all great power rivalry that shaped the way the Arctic was dealt with. The Pentagon published an Arctic strategy in June 2019. It deviated openly from the earlier cooperative approaches. In it the main challenge for US security were the two countries China and Russia. In the new paper, the Arctic was now considered to be a possible area for an attack on US territory - which was nothing new because of Russia´s northern Fleet, but should in future also refer to Chinese submarines. For implementing the new strategy, extensive measures were made. Specially to maintain and expand the military bases, in particular those of the Air Force. However, to this day it is vague whether the Pentagon is willing to invest the necessary funds or not. (Department of Defense, 2019, pp. 1-8) Another point in which Trump and the Pentagon had an converse opinion about was the network of American allies and partners. It was seen by the Pentagon as the country's greatest strategic advantage in the region, and therefore as a cornerstone of the strategy. However, this was countered by Trump's attempt to buy the island of Greenland from Denmark. The European country is a relevant ally of the US in the Arctic, and also a NATO member. Mette Frederiksen, the Danish Prime Minister, dismissed this idea as absurd. Trump's attempt to purchase the island was mainly due to China's interest in Greenland. Furthermore, the deposits of rare earth elements (the production is already dominated by China) make the island attractive. Additionally, is Greenland geographically located at the tip of North America and is strategically extremely important for the defense of the US territory. In general, the region is significant for air and missile defense as part of strategic deterrence and defense. Indeed, the shortest routes for missiles from Russia and China to the United States are via the Arctic. (Hermann, 2021, pp. 1-3)

Having Russia in mind, the US Navy reactivated its 2nd Fleet in July 2018. The fleet had already fought the Soviets in the North Atlantic during the Cold War. The new area of operations included now also the Arctic. An operations center was temporarily established for this purpose in Keflavík, Iceland. In another strategy paper by the US coast guard from April 2019, Russia and China were also named in the context of multiple challenges. Like in the Pacific Ocean, 'Freedom of Navigation' (FONOP) operations are considered as useful for the Arctic Ocean. This affects in particular the sea routes that are claimed by Canada and Russia. Both actors consider them as internal waters and not as international waterways. Washington especially criticizes Moscow's strategy about the NSR. Additionally, a new deep-sea port in the Bering Sea was planned which could accommodate coast guard and navy ships in the future. In this way, an ongoing attendance in the Arctic is to be re-established. Because the US Coast

Guard currently only has a single icebreaker, there are plans to purchase new icebreaking ships for polar operations, they shall be delivered from 2024 on. (Paul, 2019, pp. 2-4)

Under the current president, Joe Biden, the Arctic policy has changed until now, especially in that climate and nature protection is being given much more space again. Immediately after his election, the US rejoined the Paris Climate Agreement, which Trump had withdrawn. Biden also announced that the US will reduce its CO2 emissions by 50 percent by 2030 compared to 2005. In addition, the drilling rights granted under the Trump administration have been revoked on the causes that the award should be reviewed again legally and with a view to environmental protection. Some US media assume that the temporary stop could end with a definitive end of further oil exploration and exploitation in the region. Joe Biden has not yet commented in detail on his Arctic policy. However, in terms of security policy, he is likely to pick up where his predecessor left off: with efforts to contain Russia's and China's influence in the Arctic and to strengthen his own position, especially in the military and economic spheres. For example, he deployed already a B1 bomber squadron in Norway a few weeks after his inauguration, and he wants to set up a huge radar surveillance screen on the Faroe Islands together with Denmark, the former US airbase near Reykjavík/Iceland shall be reactivated, too. (Köhne, 2021)

In sum, it can be said that the USA is pursuing a more or less coherent and constant strategy, despite its sometimes changing approaches and priorities in Arctic policy. Although with varying degrees of emphasis and dedication, the following are certain constants in U.S. Arctic policy (other than international cooperation and environmental protection under Trump): international cooperation and collaboration, the economic development and exploration of raw materials, the freedom of navigation, scientific research, environmental protection and cope with climate change, as well as (increasingly) national security and defense.

5. THE EUROPEAN UNION AND THE ARCTIC

This chapter deals with the strategy of the EU for the Arctic, more precisely whether and why a European Arctic policy is necessary. In addition, it should be clarified why the EU is interested in the Arctic and how it formulates its strategies in this regard. However, first of all, the condition of the institutional framework is to be worked out, followed by some important strategies which also concern the Arctic, and finally, the general development of the EU's Arctic policy will be expressed. By analyzing the content of the relevant EU documents, the motives and legitimation for the EU's action in the Arctic are made clear.

The EU area makes up a size of ca. 4.48 million Km², it stretches from the Mediterranean to the Arctic. This sets the EU currently in seventh place in terms of area. It has a population of around 446 million, which is currently the third biggest. (European Union, n.d.) Furthermore, it had a combined GDP of €13.3 trillion in 2020. (Urmersbach, 2021) According to the European Defence Agency (EDA), the military spending of the member states (all EU members except Denmark which opted out of CFSP)

was 186 billion Euros. (European Defence Agency, 2021) So, one can say that the EU is densely populated, economically strong and its member states spend a lot of Euros for security. Therefore, it should not surprise one that the EU has also an interest in the Arctic. Furthermore, it should be noted that all Arctic states which are also members of the EU have also formulated their own strategy for the Arctic. In addition, other EU members such as France, Germany, or Poland have also their national Arctic strategies. Due to the limited number of pages in this work, not all of these strategies can be examined and presented in detail. I will focus on the need for a more developed EU.

Three Arctic States, Denmark, Finland, and Sweden, are EU members, as previously indicated. Furthermore, Norway and Iceland, two other Arctic countries, are members of the European Economic Area (EEA) and hence have close ties with the EU. In the EEA, the four principles; free movement of goods, persons, services, and capital apply in particular (with special regulations for agricultural goods). The EEA extends from the Arctic to the Mediterranean. (EFTA, n.d.) Furthermore, are three of the mentioned states (Norway, Denmark, and Iceland) also members of the Defense Alliance NATO. (NATO, 2020) The other two countries (Sweden and Finland) are part of the EU's CSDP and participate in PESCO, which does not regard itself as a replacement for NATO but rather as a supplement. (Rehrl, 2021, pp. 18-20) As a result, all of these countries have a common economic and security interest. Even though the European Union does not have a direct coast on the Arctic Ocean, it is inexorably tied to it and shares deep historical, economic, trade, and geographical relations with it. Moreover, a number of EU operations, financial policies, projects, and decisions have already had a direct impact on the region's long-term development.

5.1. EU FOREIGN POLICY

5.1.2. THE COMMON FOREIGN AND SECURITY POLICY (CFSP)

A common foreign and security policy (CFSP) was not yet envisaged in the Treaties of Rome; this only developed in stages over time. Since the Maastricht Treaty from 1992, one speaks of the CFSP, which was the second pillar in the three-pillar model, thus one of intergovernmental cooperation. The Treaty of Lisbon, which came into force in 2009, gave the EU a legal personality and an institutional structure. It brought significant innovations in the CFSP structures. It resulted in the creation of the new position of "High Representative of the Union for Foreign Affairs and Security Policy" as well as the independent European External Action Service (EEAS). The High Representative also acts as one of the European Commission's Vice-Presidents in order to ensure maximum coherence in EU foreign policy. The Foreign Affairs Council (FAC), which is made up of the foreign ministers of EU member states and meets once a month, is also chaired by the High Representative. The FAC is the primary decision-making body for CFSP and, by extension, the Common Security and Defense Policy (CSDP), which is a vital aspect of CFSP. (Rehrl, 2021, pp. 16-21) The Spaniard Josep Borrell holds the position of High Representative since November 2019. His mandate ends in October 2024, so the CFSP is the political pillar of the EU's external action, which also includes the EU rapprochement process (before new EU accessions), the

European Neighborhood Policy (ENP), foreign trade, development cooperation, and humanitarian aid. Instruments of a unified foreign policy generally consist of the coordination between the member states, the formulation of common positions, joint activities, and cooperation in diplomatic missions. (Federal Ministry for European and International Affairs, n.d.)

International relations are generally pursued by the European Union in two different ways: Economic Relations and Foreign Policy. Economic relations fall within the scope of the common market and are therefore dealt with at the supranational level, and foreign policy takes place at the intergovernmental level. Thus, despite the formal dissolution of the pillar structure, this division continues to exist informally. The EU can be considered as an unified bloc, if one assumes that the EU is represented by a negotiator in economic negotiations. Nevertheless, it should be kept in mind that the EU is made up of member states that control this negotiator, for example, the European Commission or the Council Presidency, or cooperate with him/her. This means that the member states hand over their negotiating competence to the EU but can still negotiate for themselves to achieve the best possible outcome. During international negotiations, EU coordination meetings are held to ensure that member states and the negotiator are on the same page. Actors of the CFSP are member states as well as EU institutions such as the European Council (which sets the general guidelines), the Commission (in particular the Directorate-General for External Relations), the European Parliament (which is mainly involved through the consultation procedure), and COREPER (the Committee of Permanent Representatives). The objectives of the CFSP are: the preservation of common values and interests, peacekeeping, the security of the Union, the promotion of international cooperation, the strengthening of democracy, the rule of law, and the protection of human rights - thus values and interests are combined in the CFSP. (Rehrl, 2021, pp. 16-21)

5.1.3. THE EU GLOBAL STRATEGY

Federica Mogherini, at the time the EU's High Representative, was mandated by the European Council in June 2015 to prepare an EU Global Strategy (EUGS). This came after the High Representative conducted a strategic assessment of the main changes and challenges in the global environment, which revealed the need to revise the 2003 European Security Strategy (ESS). This strategy should provide the basis for a focused, efficient, and sustainable EU foreign policy in the context of new geopolitical challenges. The High Representative presented the Global Strategy for the European Union's Foreign and Security Policy to the European Council in June 2016. (Rehrl, 2021, p. 18) The Global EU Strategy identified the following priorities for the EU's foreign policy:

The Union's security and defense have to be improved by strengthening the joint action on defense, in terms of cybersecurity, energy security, strategic communications, and the fight against terrorism. Furthermore is increased cooperation with international partners, especially NATO desired. Furthermore, should the resilience capacities be strengthened, especially in the states and civil societies in the Southern and Eastern Neighborhood. Peacebuilding and crisis management shall be made more

sustainable and integrated into all available policy areas. Another point is taking to account regional dynamics in the EU's external action and the support for regional cooperation initiatives. Lastly, global governance should be supported by the principles of international law, the promotion of human rights, sustainable development, and effective multilateralism. Nonetheless, in November 2016, the High Representative provided the Foreign Affairs Council with a CSDP Implementation Plan that contains the following 3 types of priorities to flesh out the contents of the CFSP Global Strategy in the field of defense and security: Responding to external conflicts and crises, increasing partner capacity, and defending the European Union and its inhabitants are all priorities. The strategy includes 13 security and defense recommendations. For example, a Coordinated Annual Review on Defense (CARD), better EU quick reaction capabilities (including the use of EU-owned combat groups), and a new Permanent Structured Cooperation (PESCO) for member states that are interested in increasing cooperation in security and defense commitments. Currently, 34 projects are being developed under the PESCO with the participation of 25 Member States. (Biscop, 2021, pp. 29-35)

The EU dedicates a separate subchapter to the Arctic in its global strategy called 'A Cooperative Arctic'. It relates to the EU's three Arctic members (Denmark, Sweden, and Finland) as well as the two Arctic EEA members (Iceland and Norway) having a strategic interest in maintaining a tension-free zone in the Arctic. It should continue to be characterized by cooperation and coexistence, which is particularly characterized by a functioning legal framework and solid political cooperation. The EU specifically claims that it intends to contribute to climate change research, Arctic sustainable development, telecommunications, search and rescue agreements, and increased cooperation with Arctic states and appropriate authorities. (European External Action Service, 2016, p. 38)

5.2. THE EU AND THE OCEANS

5.2.1. THE INTEGRATED MARITIME POLICY

In 2007, the European Union published its Integrated Maritime Policy as a holistic approach to all sea-related EU policies. The rationale behind the notion is that by coordinating operations connected to oceans, seas, and coasts, the Union can get more value out of its maritime territory while reducing environmental impacts. As a result, the Integrated Maritime Policy is geared toward strengthening the blue economy, which is defined as all activities related to the sea. However, the Arctic Ocean is mentioned only in passing, reference is made to the Arctic policy for more detailed information. (European Commission , 2007) All sea-based activities and coastal regions should be developed in a sustainable manner, according to the law. As a general summary, the main objectives and fields of action of the integrated maritime policy are as follows: Making the use of the oceans and seas more sustainable is of paramount importance to the growth of shipping, ports, jobs, and fisheries management in maritime and coastal regions. It is also prioritized to build up a comprehensive knowledge and innovation base for marine science and technology across Europe. Promotion of coastal and marine tourism and the development of a common disaster management strategy will improve the quality of life in coastal

regions. As a result, Europe's leadership position in the international maritime sector will be consolidated, among other things through improved cooperation at the level of the international maritime policy and the European Neighborhood Policy (ENP) as well as through the Northern Dimension. The action plan thus contains numerous individual measures from the areas of maritime transport, maritime economy, environment, tourism, labor law for seafarers, and many others. Three instruments are vital for an integrated maritime policy: An improved maritime spatial planning shall enable the sustainable use of marine spaces and renewable energies. It is important to become better at marine observation and to collect more marine data for smart and sustainable growth. Finally, European maritime surveillance should achieve a common information space for the EU maritime domain. This is important for shipping safety and security, border control, marine environment preservation, fisheries management, and EU trade and economic interests. In general, all operations that have an impact on law enforcement and defense are relevant. (Breuer & Dinkel, 2021, pp. 1-7)

5.2.2. THE EU MARITIME SECURITY STRATEGY (EUMSS)

Maritime security is the focus of another EU maritime strategy, the EU Maritime Security Strategy (EUMSS). The policy was adopted by the Member States in 2014. The EUMSS provides a framework for the EU to promote its initiatives in the area of maritime security. By identifying maritime security concerns, important parties, and geographies, this method is used to organize a country's or region's maritime security actions. In 2018, a revised version of the action plan took its place. The strategy paper is a 16-page document, stating that the purpose of the paper is to safeguard European interests at sea. This will be accomplished by a multi-sectoral, cost-effective approach that adheres to current treaties and international law (in particular UNCLOS). The EU sees maritime security primarily as a matter of state in the global maritime domain, where international and national law is applied and freedom of navigation is guaranteed. Furthermore, every European person, along with infrastructure, transportation, the environment, and maritime resources, must be safeguarded. (General Secretariat of the Council, 2014, p. 3)

The EU writes that: "*This Strategy takes particular regard of each of the European sea and subsea basins, namely the Baltic Sea, the Black Sea, the Mediterranean and the North Sea, as well as of the Arctic waters, the Atlantic Ocean and the outermost regions."* (General Secretariat of the Council, 2014, p. 4) So, it has a specific reference that the strategy includes the Arctic Ocean. This makes sense when one considers the specific objectives, which can be summarized as follows: maintain the general security and peace, promote the rule of law and freedom of navigation, the control of its external borders, the creation of maritime infrastructure (ports, underwater pipelines, and cables, offshore wind farms, etc.), and the preparation for climate change. Most of those objectives are of particular relevance for the Arctic region. The EUMSS thus forms the core of a common European maritime security. This should also help to be able to react at an early stage to maritime security risks such as piracy and terrorist threats at sea. After all, shipping has traditionally been a significant factor in Europe's economic development

which is also visible in its amount of maritime policies. Today, the EU is the largest exporter and the second-largest importer of goods by volume in an international comparison. For example, in 2019, 107 million standard containers alone were handled in the main ports of the then EU 28. Shipping and all related shipping services are therefore of crucial economic importance to the Union. An efficient, safe, and sustainable shipping and port industry is thus in the interest of the EU. (European Union, n.d.)

5.3. THE NORTHERN DIMENSION POLICY

Although it cannot be directly described as the forerunner of European Arctic policy, the so-called 'Northern Dimension' of the EU should be briefly outlined here. It is a regional policy that geographically also falls within the Arctic region and was initiated by Finland in 1997. The Arctic region already plays an important role in the Northern Dimension, according to a statement by the Council of Ministers on EU Arctic policy. It was not only recently "discovered" by the EU as a new policy subject. The then Finnish Prime Minister Paavo Lipponen named political, social, and economic EU interests as the goals of the Northern Dimension. As part of the EU's foreign policy, it was to encompass all Nordic states, as well as Great Britain, Canada, and the United States. The special feature of the Northern Dimension can be seen in the combination of domestic and foreign policy (regional cooperation and international cooperation). Since 1999, the EU, Russia, Norway, and Iceland have collaborated on the Northern Dimension, which focuses on economic and (environmental) political cooperation in the Baltic, Barents, Arctic, and sub-Arctic regions. The Northern Dimension's cooperation is predominantly at the regional and municipal levels, and it is seen as a model of transnational regional cooperation. The Northern Dimension is co-created by a number of organizations, including the Barents Euro-Arctic Council (BEAC), the Nordic Council of Ministers (NCM), the Council of the Baltic Sea States (CBSS), the Arctic Council (AC), the European Investment Bank (EIB), the European Bank for Reconstruction and Development, the Nordic Investment Bank, and the World Bank, among others. The Northern Dimension Policy Framework outlines the following key objectives: (1) economic cooperation, (2) freedom, security, and justice, (3) external security, (4) research, education, and culture, (5) environment, nuclear safety, and natural resources, and (6) social security and health care. (Ministry for Foreign Affairs of Finland, n.d.)

5.4. THE EU'S ARCTIC POLICY

To this day, the European Union has issued various documents on its Arctic strategy. With its announcement 'The European Union and the Arctic' in November 2008, the European Commission laid the groundwork for an independent Arctic strategy. The EU identified in it three main objectives: Protecting and conserving the Arctic in consultation with indigenous peoples, promoting sustainable resource use, and participating in enhanced multilateral governance of the Arctic. Increased commitment to the foundations of long-term cooperation, particularly with Norway and Russia, was identified by the EU as a key objective for economic and social development in order to facilitate the sustainable and environmentally sound operation of Arctic hydrocarbon resources, thereby enhancing energy and

overall raw material supply in the EU. Hereby was the focus on the development of offshore technologies with the help of European expertise. Furthermore, the notification emphasized the need to establish an international legal framework for the high seas to ensure sustainable fishing. In addition, the EU intended to support the development of merchant shipping while working towards stricter safety and environmental standards. Safer navigation in Arctic waters and better predictability of ice movements could be achieved possibly by the Galileo satellite system. It also stated that member states should defend the freedom of navigation principle and the right of transit passage for new sea routes, as well as find ways to avoid discriminatory practices such as fees, requirements, or regulations imposed by coastal states on commercial vessels from third countries. (Østreng, 2010) In 2012 published the EU and the newly formed EEAS a joint communication, that had the name "Knowledge, Responsibility, Engagement" and which was based on three policy objectives for sustainable and circumspect Arctic development. The three concerns of the communication were: Protecting and conserving the Arctic in consultation with indigenous peoples, ensuring economic development and promoting sustainable resource use, and lastly, contributing to better multilateral governance of the Arctic. So, the core topics of the paper didn't differ significantly from its predecessor. (European Union, 2012)

Finally, in April 2016, the latest policy, titled *"An Integrated European Union Policy for the Arctic"* was published. Federica Mogherini, the then-High Representative of the Union for Foreign Affairs and Security Policy, sent it to the European Parliament and the Council as a joint communication. This policy is reviewed in further depth in the upcoming sections due to its continuing validity. Accordingly, it states that:

"A safe, stable, sustainable and prosperous Arctic is important not just for the region itself, but for the European Union (EU) and for the world. The EU has a strategic interest in playing a key role in the Arctic region." (European Commission, 2016, p. 1)

The Communication builds on the content of earlier announcements, advocating for an EU policy centered on enhancing international collaboration to mitigate the effects of global warming in the North and supporting sustainable development, particularly in the European part of the Arctic. The subject priority are as follows: first, climate change and environmental protection in the Arctic; second, economic development in the Arctic and neighboring areas; and third, international collaboration on Arctic issues. Several policy measures are proposed for each of the content priorities. In total, the integrated policy included 39 policy measures for the further development of the Arctic. (European Commission, 2016, pp. 1-5)

The following initiatives have been proposed for the first critical point, combatting climate change and ensuring environmental protection: In comparison to 1990 levels, the EU pledged to lowering greenhouse gas emissions by 40% by 2030 and by 80% by 2050. It also urges for the Paris Climate Agreement to be implemented globally. Climate change climate change mitigation and adaptation initiatives have also been allocated 20% of the EU budget. The EU also seeks to build a

climate change adaptation agenda in the Arctic region in collaboration with Arctic nations, indigenous and local inhabitants. The EU also communicated in this framework to maintain the funding level for Arctic research of the Horizon 2020 program (2014-2020), which is a funding program for research and innovation. The program brought together 22 European institutions that are leaders in their respective fields into an integrated European polar research program through the EU PolarNet initiative. Furthermore, the EU aims to continue to encourage international accessibility to Arctic research infrastructure. In this context, the EU's Copernicus space program will boost international climate change science in the Arctic. In addition, the EU will support international conventions that are relevant to the Arctic but have not yet been fully implemented (e.g. the UN Convention on Biological Diversity). The EU proposes for the creation of a network of protected marine zones in the Arctic as part of the long-term management of the Arctic Ocean. In order to avoid unregulated fishing in the middle Arctic Ocean, an international treaty should be formed. In the long run, the EU believes that marine biological resources should be managed either by a regional fisheries organization or with the help of an appropriate convention. (European Commission, 2016, pp. 5-9)

The following measures are planned for the second major point, which is the long-term development of the Arctic region and its environs: The European Union aims to help the Arctic adopt modern technologies. For instance, in the research and development of innovative materials (which are more suitable for the extreme conditions of the Arctic winter). The funds will also be used to support efforts to improve energy savings and use renewable resources. Such technologies have the potential to provide significant social and economic benefits both inside and outside the Arctic. ESIF initiatives, in addition to the Horizon 2020 program, provide financing support for innovation activities in the European section of the Arctic, and ESIF has already committed 25% of its financial resources to supporting climate change goals in the period 2014-20. A European Arctic Stakeholder Forum should also have been established, bringing together EU institutions, member states, and regional and municipal governments to participate to the region's important investment and research goals. Iceland, Norway, and Greenland will be able to participate in this process as well. For the European sector of the Arctic, a network of head offices from several regional development initiatives will be developed. This will aid in the exchange of information, the planning and coordination of calls for proposals, and the monitoring of the programs' impact on the region. Arctic stakeholder meetings were planned to bring together the results of the Forum and the Network, which will be funded by the Commission. The first meeting was held in September 2018. Investments in infrastructure projects, especially in the European part of the Arctic and Greenland, are also to be increased. The European Investment Bank (EIB) will contribute to the funding of projects aimed at enhancing land, sea, and air transportation, as well as telecommunications, fuel efficiency, and low-carbon technologies. The EIB will invest in cross-border projects between Sweden, Finland, Denmark, Norway, and Iceland in accordance with its mandates. In this area, the EU sees a lot of opportunity for growth. The participation of the private sector will be maximized. Special platforms will be developed in this area to bring together the various Arctic

investors. The European Bank for Reconstruction and Development (EBRD) is also mentioned as a major Arctic investor. The promotion and assistance of space technology and the general improvement of safety in Arctic shipping are also mentioned. For example, EU space programs such as Copernicus and targeted EU research projects shall improve the monitoring and controlling of shipping and ice movements, and the provision of Galileo's navigation services are expected to contribute also to maritime safety in the region. (European Commission, 2016, pp. 9-15)

As for the substantive focus of international cooperation, the Policy envisions the following: The EU wishes to maintain its active participation in relevant international fora dealing with the Arctic, such as the Arctic Council, the BEAC, and the Northern Dimension strategy. It also intends to work with all Arctic partners, not just those with Arctic territories, but also those with growing regional interests like China, India, and Japan. Science and research are specifically mentioned as examples. Furthermore, because its policies have a direct influence on the region, the EU wishes to maintain interaction with indigenous and local populations to guarantee that their rights are maintained and that their perspectives are considered as the EU develops. (European Commission, 2016, pp. 15-19)

6. CONCLUSION

As shown deals geopolitics, among other things, with the distribution of power and influence, these things can be achieved by different actions respectively by applying different theories. It turned out that six geopolitical features stand out, of why the Arctic region is globally important: *"(1) Its spatial location between three continents, (2) its wealth of strategically important industrial and mineral resources, (3) the melting sea ice opens up a new area of economic activities, (4) the new potential shipping lanes, (5) its environmental fragility and eco-systemic interconnections, and (6) its regulatory affinity to existing global ocean conventions."* (Østreng, 2010)

Accordingly, the various properties were examined for their potential, whereby it became visible that global warming isn't constantly the same everywhere on the planet, but will vary from region to region. The far north is one of the regions that will be heavily affected by it, and this has impacts on the planet's entire ecosystem. The following rule of thumb can be applied to the warming of the Arctic: Twice as fast and twice as intense as the global average. This is also due to the mentioned albedo effect. Besides ecological threats, the receding ice opens up a sum of opportunities, especially for economic development. According to the CARA study conducted by the US Geological Survey, the Arctic could hold around 22% of the world's undiscovered oil and gas reserves. Over 80% of these resources are thought to be offshore, largely on the Arctic continental shelf's relatively shallow seas. According to the USGS, around two-thirds of the expected resources are located in the Eurasian Arctic and only one-third in the North American Arctic. The strong concentration of Arctic resources indicates also the dominance of Russia and the USA in the resource sector. Contrary to the expected oil and gas reserves, the known deposits of non-energetic raw materials in the Arctic are mainly located on the mainland. Currently, fishing takes only place in the territorial waters and the Exclusive Economic Zones (EEZ) of the five

coastal states, and not on the high sea, as the central Arctic is still almost always frozen. Fishing stocks play therefore only a subordinated role in the conflict potential. The Transarctic shipping lanes are also one of the crucial outcomes of the melt-down. They are supported as they could increase the security of maritime world trade, as they would bypass regions and straits which are struggling with terrorism, piracy, and regional conflicts. Even if both main passages (NWP and NEP) offer the potential for a considerable distance and time saving, the NEP could most likely be of economic importance. These expectations are first because the Arctic sea ice has retreated from the Russian coast in the summer months in particular, and Canadian waters have been blocked by ice relatively more frequently (due to the ocean currents). Second, is the Russian Arctic likely to have a greater raw material potential, so that the regions around the NEP have a higher cargo potential. Third, the infrastructure in the Eurasian Arctic is already better thanks to Russian investments in the construction of ports and icebreakers during the Soviet era. After examining security and military dimensions one can say that security policy challenges have expanded but should not be viewed in a military context alone as civil and military security are closely linked in the region (the SAR agreement has legitimized the military presence of the Arctic countries). Furthermore, have the increased military capacities in the region included also investments in infrastructure and reconnaissance, and management technology, as well as, organizational changes such as the establishment of an Arctic Command. Especially, Russia is seeking to gain dominance in the Arctic and has formulated this objective also in its Arctic policy. It can therefore be concluded that especially the following three features prove to be particularly salient and represent currently the most perceived conflict factors: (1) oil and natural gas deposits, (2) the use of polar shipping routes as a shorter connection between Eurasia and North America, (3) and the overlap in claims to an expanded continental shelf in the central Arctic Ocean. The ecological threat does currently not bear any conflict potential, as a forum for intergovernmental affairs (Arctic Council) which deals in particular with ecological matters is already established, and all Arctic states want to cooperate in this matter. Its tasks are mainly the promotion of environmental and nature protection and the sustainable development of the region. It is specially designed for solving ecological problems, thus it can prevent ecological conflicts. Another regulating force is UNCLOS, as it is currently the most comprehensive law for the use and protection of the seas. UNCLOS' central point is the definition of various maritime zones, in which the scope of sovereign rights of coastal states is determined. All maritime borders, with a few exceptions in the Arctic, are already legally agreed on. One object which isn't solved yet is the status of the central arctic ocean on which different states claim to extend their continental shelf. Another unclear point that could lead to tensions is the unclear articulated Art. 37. The paragraph does not indicate whether the right to transit through a strait only exists when international shipping takes place, or if it is sufficient that such shipping could take place.

When considering all aspects, it becomes clear that the potential for conflict over energy resources is relatively low, since the estimated oil and gas resources lie within clearly regulated EEZs, and the raw material potential in the area of the disputed continental shelf is estimated to be low. The conflict

potential of Arctic sea routes can currently be considered medium. A dispute has emerged over the legal status of the Northwest and Northeast Passages. It can be noted that existing regulations do not seem to offer clear solutions. Due to the present low transit volume and the fact that those states which consider the passage to be internal waters (Canada and Russia) have so far granted transit permission at any time. Security and military dimensions are of particular importance in assessing the conflict potential. The expansion of military presence to protect the northern borders could promote a regional arms race. The conflict over the national division of the Arctic Ocean in the context of continental shelf development stems primarily from sovereignty concerns, as evidenced by increased military involvement. In the realm of purely military security, the officially proclaimed aspiration of the littoral states is to have the ability to defend themselves against potential attacks across the Arctic. Traditional threats from the time of the East-West conflict resurface in this setting, leading to the conclusion that the increase of military capabilities could partly reflect an arming in the classical sense, owing to the Arctic Ocean's geostrategic significance. However, emerging conflicts about sovereignty also seem to be not high at the moment. So, one can say that there is currently no cause to fear an open conflict.

Considering the Arctic strategies of the examined actors it can be said that tall of them pay attention to the relevant geopolitical features. However, they emphasize them to different degrees. The observation of each of the Arctic strategies led to the conclusion of the actor´s following interests and goals:

China’s main interests in the Arctic can be weighed as follows: First, the region’s economic development and its infrastructure. Second, the scientific exploration, and the Eco-environmental protection of the Arctic. Third, the participation in the regional governance system and international cooperation. Whereas Russia's Arctic policy is shaped by two key points: the establishment of Russia as the leading Arctic nation, and the economic development of the Russian Arctic. To accomplish this vision and to ensure its sovereignty and territorial integrity, Russia is investing in the development of military facilities and troops. It is also relying on the further exploration and exploitation of the resources located in the Russian Arctic. The development of Arctic shipping on the NEP is of particular importance for the nation´s further development (as the income from the NEP shall be used for the socio-economic development of the local population). For this purpose, Russia is investing in railways, marine infrastructure, modern navigation, and monitoring systems. However, even though the country has increasingly dropped international cooperation from its strategy, it is still seeking ways for joint action in the Arctic. Especially in the areas of marine research, environmental protection, and investment in critical infrastructure. On the North-American side of the Arctic, the USA is pursuing a more or less coherent and constant strategy, despite its sometimes changing approaches and priorities in Arctic policy. Although with varying degrees of emphasis and dedication, the following are certain constants in US Arctic policy: international cooperation and collaboration, the economic development and exploration of raw materials, the freedom of navigation, scientific research, environmental protection, as well as national security and defense.

Regarding the question if and how the EU is prepared for the changing Arctic conditions, it can be stated that: The EU set already, with its policies, the cornerstone for being an Arctic Actor. The necessity of an EU Strategy for the Arctic is essential for several reasons. Among other causes, are three Arctic States part of the EU. The Union shares also economic and security interests with Norway and Iceland. Furthermore, it has a long border in the East with the biggest Arctic state, Russia. So it makes sense, and not only from a geographical point of view. As the Union is also an economic giant with a big interest in international trade it should be clear that the EU is interested in safer and shorter trade routes. Furthermore, its three biggest ports (Rotterdam, Antwerp, and Hamburg) are located at the North Sea. Therefore, are minimized maritime distances to states like South Korea, Japan, and China is a big advantage for trade. The creation of CFSP established the institutional basis for an united European foreign and security strategy. The global strategy, as part of the CFSP, laid the groundwork for a focused, efficient, and long-term EU foreign policy in the face of emerging geopolitical challenges. With the establishing of PESCO, it has also strengthened its security capabilities. The planned improvement of Arctic infrastructure is not only covered by the EU Arctic policy but also by its maritime policies, and especially by the Northern Dimension policy which aims to strengthen cooperation (especially with Russia) among the North European states. Moreover, it focuses on the economic and (environmental) political cooperation in the region. The Union's overall approach to all sea-related issues is known as the Integrated Maritime Policy. It is founded on the premise that by following a wide range of interconnected activities related to seas and coasts, one can get better returns from the maritime domain (such as lowering the environmental impacts). Its goal is to boost the 'blue economy' which refers to all sea-based economic activity. Shipping and all related shipping services are of crucial economic importance to the Union. Thus, an efficient, safe, and sustainable shipping and port industry is in the interest of the EU. The purpose of the second observed maritime-related policy EUMSS is generally said to safeguard EU interests at the seas (such as freedom of navigation). It thus forms the core of a common European maritime security. The EU's Arctic interest and action seem to be quite coherent, especially in combination with the other observed strategies, and also constant over time taking to account the major documents of the past decades. Its main objectives in the Arctic can be stated as follows: Environmental protection, ensuring economic development and resource extraction, the promotion of cooperation, and the contribution to enhanced multilateral governance by taking to account the indigenous concerns. Those objectives shall be achieved by following several policy measures such as; improved scientific research, increased investments, or the use of technology like the Galileo satellite system. Finally, it is crucial to note that the EU and the EEAS are presently working on a new strategy, which will be released by the end of 2021, under the leadership of high representative Josep Borell. It will be interesting to see if and to what extend the policy objectives have changed. The hypothesis got tested negative. The own interests of every actor do not prevent a common action in dealing with the implications of climate change in the Arctic. Future research in this field could in particular be about the new EU Arctic strategy and its changes in comparison with its successor.

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