CHAPTER 15

The Geopolitical Implications of Russia's Arctic Natural Resource Development Since the War in Ukraine

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15.1 Introduction

'*… we are concerned about the fact that NATO countries are increasingly often designating the Far North as a springboard for possible conflicts and are practicing the use of troops in these conditions, including by their "new recruits"—Finland and Sweden, with whom, incidentally, until recently we had no problems at all. They are creating problems with their own hands for some reason. Why? It is impossible to understand. But nevertheless, we will proceed from current realities and will respond to all this.*' Vladimir Putin (President of Russia, 2025).

In his speech at the International Arctic Forum held in Murmansk, Russia, in March 2025, President Putin accused the West, and particularly NATO, of militarising the Arctic. At the same time, he praised Russia's readiness for co-operation. He also highlighted the significance of the Arctic for Russia and emphasised that Russia will safeguard its national interests in the region (President of Russia, 2025).

Almost 40 years earlier in Murmansk, the Arctic was characterised as a zone of peace and co-operation by Mikhail Gorbachev (Gorbachev, 1987), and following the dissolution of the Soviet Union and the end of the Cold War, political tensions in the region temporarily eased. However, nowadays, the Arctic is again the focus of great power competition and a target of increasing militarisation. Russia's full-scale invasion of Ukraine in February 2022 fundamentally changed the geopolitics in the Arctic and beyond. Two Arctic states that had remained neutral for a long time—Finland and Sweden—joined NATO in 2023 and 2024, adding weight to Arctic security and defence co-operation within the alliance. Due to Russia's invasion of Ukraine, the collaboration mechanisms between Russia and the other Arctic nations, for instance in the framework of the Arctic Council, have been suspended, and Russia is focusing on co-operation with non-Arctic states, such as China and India, labelling the

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other Arctic countries as 'unfriendly'. China, calling itself a 'near-Arctic' country, is also interested in the economic opportunities and strategic significance of the Arctic (Brimmer, 2023; Lamazhapov and Moe, 2025; Pechko, 2025). US President Donald Trump's claim over Greenland for national security reasons, and because the island is rich in rare earth elements (Vock, 2025), has further increased geopolitical tensions in the Arctic.

While global interest in the Arctic is growing, the region is facing the far-reaching effects of climate change, affecting the lives of millions of people living there. The melting of sea ice caused by global warming changes the accessibility of the Arctic, and its emerging shipping routes and rich natural resources attract countries and companies from both inside and outside the region, although threatening the vulnerable Arctic ecosystem (Brimmer, 2023; Pechko, 2025). Russia seeks to maintain its presence and exert influence in the region also in the changing climate conditions and geopolitical situation. Russia has been strengthening its military presence and capabilities in the Arctic by re-opening Soviet-era military bases, modernising its navy, developing advanced missile systems, investing in the development of infrastructure and organising military exercises, including with China (Gronholt-Pedersen and Fouche, 2022).

The Arctic is an important driver of the Russian economy, particularly due to its abundant oil and natural gas reserves. The Russian Arctic also holds significant mineral reserves, such as cobalt, copper, gold, lithium, nickel, palladium, platinum and titanium (Staalesen, 2021; Vidal, 2023). The development of Russia's Arctic natural resources and the region's infrastructure are strongly interlinked. In particular, Russia sees the development of the Northern Sea Route (NSR) as economically and strategically important, providing access to remote locations along Russia's Arctic coast and a shipping route for liquefied natural gas (LNG) and oil, as well as a transport corridor between the Atlantic Ocean and the Pacific Ocean (Raimondi, 2024; Lamazhapov and Moe, 2025). Lastly, the far north plays an important role in the Russian national identity, and Russia's political claims in the Arctic are founded on a belief in Russia's historical rights in the region.

Russia is an economy characterised both by resource abundance and resource dependence, and from a historical perspective, energy wealth, especially oil revenue, has been essential for Russia's, and its predecessor the Soviet Union's, economy (Bradshaw and Connolly, 2016). Russia's geopolitical and geoeconomic power has also been largely founded on natural resources, and particularly on hydrocarbons. Revenue from energy exports has been vital for funding Russia's defence budget and maintaining its status as a major global power. These exports have also supported Russia's international influence (Rossbach, 2018). By controlling energy supplies, Russia has aimed to exercise political leverage on countries heavily dependent on Russian gas and oil (Mikkola et al., 2018). However, the EU's disengagement from Russian hydrocarbons since the start of the full-scale war in Ukraine has diminished Russia's ability to use energy as a weapon. Furthermore, the EU, the USA and

their allies have imposed sanctions on Russian energy in response to the invasion of Ukraine, aiming to significantly limit Russia's ability to sustain its operations in the energy sector and to reduce its revenue from energy exports that are used to finance the war (European Commission, 2025b; U.S. Department of State, 2025).

Global dependency relationships are also changing due to the green transition. While breaking its dependence on Russian energy, the EU has grown increasingly reliant on China in terms of clean technology and critical raw materials. China dominates supply chains in many key sectors of green technology, from extraction and processing of raw materials to manufacturing. (Bobba et al., 2020; IEA, 2023; Schäpe, 2024) Besides being essential for the green transition, many of these critical raw materials and technologies also have strategic and military importance. Hence, the production, processing, and supply of natural resources—both energy and minerals—play an important role in geopolitical and geoeconomic power and dependency relations on a global scale, which is also reflected in the Arctic region. In addition, they are among the key factors defining Russia's future economic and social development.

Based on a desk study and expert interviews, this chapter[1] examines how Russia's war of aggression against Ukraine has impacted Russia's current and future Arctic natural resource development. We explore the multifaceted importance of the Arctic and its natural resources to Russia, the challenges and opportunities in Russia's Arctic natural resource extraction and the related international collaboration, and the potential implications of these developments for Russia's international relations and the country's future in general. Through this analysis, the research contributes to a deeper understanding of the implications of Russia's Arctic natural resource development for the broader geopolitical dynamics in the Arctic and beyond.

15.2 The Importance of the Arctic Region to Russia

The Arctic is a historically important region for Russia—for economic and logistical reasons, given its large natural resources and their transportation routes, but also for security reasons and symbolic, soft power reasons. Russia's strategies and policy documents in relation to the Arctic reflect this importance. The key Russian interests according to these documents include ensuring national sovereignty and territorial integrity, reducing the level of threats to national security, preserving the Arctic as a region of peace, stability and mutually beneficial co-operation, guaranteeing the socio-economic development of the Russian Arctic, protecting the Arctic environment and the traditional way of life of the indigenous peoples, developing the Russian Arctic as

[1] The interviewees are listed at the end of this chapter. This research was supported by the MUUTOS project funded by the Foundation for Economic Education (Liikesivistysrahasto) in Finland.

a strategic resource base and economic growth booster and developing the competitiveness of the NSR as a transport corridor (President of Russia, 2020a; 2020b; 2023a; 2023b).

To start with its economic importance, 7% of Russia's gross domestic product and 11% of its exports are generated in the Arctic Zone[2] according to Russian estimates (President of Russia, 2025). The Russian Arctic is a strategic resource base for the country; besides oil and gas, various minerals in the continental and sea areas are of increasing interest along with the green transition, military, and other needs. Russia is the holder of the world's largest proven natural gas reserves and the world's 7th largest proven oil reserves (OPEC, 2023), and the Russian Arctic accounts for over 80% of natural gas production and, depending on the source, 10%–20% of oil production in Russia (President of Russia, 2020b; IEA, 2022; Lamazhapov and Moe, 2025). Although oil still keeps flowing abroad and constitutes the country's key source of revenue, Russia does not expect to increase its future oil production considerably—rather, it is expected to start slowly reducing. In May 2025, Russia's Minister of Natural Resources, Alexander Kozlov, mentioned in a State Duma session that at the current level of production, proven oil reserves in Russia will run out in 26 years (RBC, 2025). Instead of oil, high hopes are set for the growing production of LNG. Despite the challenging conditions in terms of accessibility, the production of LNG in the Arctic is advantageous to Russia due to the cold climate, which does not require that much energy for cooling down the gas for liquefication. However, the lifetimes of such hydrocarbon projects last for decades, whereby the investments in them must be made under highly unpredictable circumstances. The prices for both oil and gas are determined in the world markets, further determining whether the development of the respective new projects in the Russian Arctic is, in the eyes of commercial companies, feasible and stable enough in comparison with the projects in other oil and gas supplier countries.

With regard to other underground resources, coal production is important as well, but domestically instead of as an export product, as it is also relatively easily accessible elsewhere, and its production is currently excessive in relation to the demand in global markets—hence, the development of Arctic coal production is not feasible for pure commercial reasons. Nickel, in turn, is an example of an important export product that is of increasing demand in the green transition. Minerals required in fertilizers are in continuous demand in Europe, as well. However, in the case of minerals, the investment costs of the sheer geological exploration are enormous (in terms of density, which will considerably influence the project's feasibility in relation to proven high-density nickel resources in China, for instance), not to mention the costs of actual

[2] The Russian Arctic Zone comprises four entire Russian federal subjects – Chukotka Autonomous Okrug, Murmansk Region, Nenets Autonomous Okrug, and Yamalo-Nenets Autonomous Okrug – and the northern parts of Arkhangelsk Region, Komi Republic, Krasnoyarsk Territory, Republic of Karelia, and Sakha Republic.

mining in the challenging Arctic conditions, requiring long-term planning and the attraction of long-term investment. Nevertheless, the extraction of such resources slowly follows Russia's mineral strategy. As yet another dimension on natural resources, organic resources, such as fish, are also abundant in the Arctic. The fish are expected to move further north due to global warming, and China's global fishing fleet is already in the Arctic waters chasing food. Forestry might also be worth consideration, although it is not expected to be feasible to supply raw wood from the Russian Arctic to anywhere far away. The bioenergy resources could also be considerable, but their employment is only at a nascent phase.

When it comes to its logistical importance, expectations regarding the NSR are the key. Russian and Chinese vessels already operate along the NSR, particularly related to Russian energy projects and LNG shipping towards Asia in the summer months, but none of our expert interviewees expect to see a rapid increase in Arctic shipping between Asia and Europe. Russia controls the route accessibility and navigation with its icebreakers, norms and fees, whereby it is not economically attractive or even feasible for Western shipping companies. Given the low costs of shipping on the alternative routes, it does not make economic sense for companies to invest in special vessels for Arctic conditions (still required even if the ice melts and shrinks from the extent where it is now) for a route accessible only with the assistance of Russian state actors, just to reduce the freight time by a couple of weeks. However, should Russia wish to attract more shipping activity there, it could reduce the fees and attract investments in developing the coastal infrastructure. In addition, if trade between Europe and China were to increase, for instance due to complicating transatlantic relations, the NSR could become more considerable for shipping companies in the long-run. However, for the time being, the NSR is an instrument to bring in equipment and machinery for the large hydrocarbon projects in the Russian Arctic, and if their implementation slows down, there will be much less traffic on the NSR than anticipated,[3] reducing the need for the planned large icebreaker fleet. Thus, the development of the NSR is currently largely dependent on the route's infrastructure development needs and financing from Arctic hydrocarbon projects. The commercial shipping activity between Europe and Asia via the NSR is a story of its own, with specific growth preconditions. However, the development of the NSR is worth keeping an eye on, since China, for instance, finds the route of strategic importance given the increasingly insecure transportation routes in southern waters.

[3] According to Russian company Rosatomflot, in 2024, the cargo traffic along the NSR reached nearly 38 million tonnes, and a total of 92 vessels sailed across the whole NSR (Rosatomflot, 2025). President Putin has anticipated the cargo volumes to reach 70–100 million tonnes by 2030 (President of Russia, 2025). The cargo volumes in the Suez Canal, in contrast, totalled 458 million tonnes in 2024, indicating a significant decrease compared to the 1,323 million tonnes in 2023. A total of 13,213 vessels passed the Suez Canal in 2024, which was 50% less than in 2023. (Suez Canal Authority, 2025)

Regarding the security importance, Russia aims to protect its interests, maintain its presence, and show power in the Arctic, which it considers strategically important. Hence, we may find all activities in the region, including natural resource production, to be relevant in terms of Russia's national security. In addition, energy export revenues finance Russia's military budget. The Arctic waters are of crucial strategic importance to Russia, and by controlling these waters, Russia controls the access of other powers to navigate in the Arctic. Russia has been strengthening its military presence and capabilities in the Arctic over the past 15 years, developing military infrastructure across its Arctic coast and islands, organising military exercises and reforming the Northern Fleet, its main military force in the Arctic based in the Kola peninsula (Mikkola, 2019; Kjellén, 2022). The Arctic is also important for Russia's nuclear deterrence: the Northern Fleet operates several nuclear-powered ballistic missile submarines that are essential in maintaining Russia's second-strike capability (Kjellén, 2022; Kristensen et al., 2025). Furthermore, Russia's objectives to develop the Arctic region comprehensively, expand both civilian and military activities and improve infrastructure support strategic and socio-economic goals alike (Kjellén, 2022). Russia's interests with respect to militarising the Arctic have only increased since the start of the war in Ukraine, but given that most of its military resources are tied up in Ukraine, no considerable military upgrading is currently taking place in the Russian Arctic. Many of the expert interviewees see that development in this respect is, at the moment, more rhetoric than practical activity.

Symbolic importance, in turn, relates to ways of gaining soft power in both domestic and foreign politics. Concerning its importance for domestic soft power, the Arctic is today seen as part of the glorification and regaining of Soviet imperialist nostalgia. This can be conducted peacefully, within the territorial claims acceptable under the United Nations framework, and with the narrative of bringing socio-economic development to the remote regions of the high north. For instance, President Putin stated in his recent speech that modernising infrastructure and living conditions are among Russia's key priorities in the region, while at the same time cultivating a mystified image of the Russian Arctic as a magnet, whose harsh conditions attract people and foster a unique sense of belonging (President of Russia, 2025). The Arctic plays a culturally and historically strong role in Russia, with a narrative of being, on the one hand, something pure and authentic, and on the other hand, spectacular and resourceful with considerable wealth potential—even if it does not generate that wealth for the ordinary people.

At the same time, the symbolic objective of treating the Arctic as separate from other world conflicts and as an area of international collaboration still remains and is used as a tool for foreign soft power. In fact, one of the interviewees expects to see Russia soon returning to the 2000s' narrative of protecting the Arctic international collaboration platform from external conflicts for mutual benefit in economic and climate policy objectives, thereby creating a positive, collaboration-favouring image of Russia in this context. This narrative

was also visible in Putin's speech in Murmansk, in which he claimed that Russia has constantly advocated peace and mutually beneficial co-operation in the Arctic to protect the vulnerable ecosystem and ensure a sustainable future for the whole planet, in contrast to the confrontational approach of the West (President of Russia, 2025). By this positive image, the coercive intent will again be to lure Western companies and countries to engage in interactions and dependencies for collaboration for peace and economic benefit in the Arctic, whereas if they do not accept these invitations, the militarisation and escalation of threatening developments in the region will only increase. Thus, although collaboration with Russia, for instance, within the Arctic Council has ceased, it would be in Russia's interests to re-establish it in various forms in order to regain such soft and hard power to influence the West. Consequently, it is a matter of framing and prioritising. Even in Western academia, there are voices highlighting the need to prioritise Arctic climate research collaboration over current inter-state conflicts in order to collect global data (also from Russia) on the progress of climate change, work together towards mitigating it, and thereby secure our collective sustainability. Although our expert interviews indicate that the purpose of Russian climate policies has never been to actually reduce environmental harm, but to offer a new framework to refer to when controlling the planning and implementation of energy projects, and also to establish a new climate coalition of pro-fossil Asian countries, Russia is obviously strongly supporting such climate-prioritising voices, indicating that the full-scale war in Ukraine is just a local special operation instead of a big deal at the global scale.

These dimensions of the Arctic region's importance to Russia are compiled in Table 15.1, all linked more or less directly to the extraction of natural resources. On that basis, we continue discussing the future outlook of Russia's natural resource extraction in the Arctic.

15.3 The Outlook for the Development of Russia's Arctic Natural Resources

The future of natural resource extraction in the Russian Arctic rests on two aspects: first, on Russia's capabilities to develop the resources independently and in collaboration with external actors, and second, on the international demand for those resources. Russia's war of aggression in Ukraine and the ensuing Western sanctions have impacted both aspects.

To start with the natural resource production part, the interviewees see that Russia is able to extract its continental resources in the High North, even though it has been largely dependent on Western technologies, services and expertise in oil and gas drilling. The interviewees see that Western sanctions have not dramatically slowed down the running of the existing resource extraction projects, although the income Russia receives from oil exports is lower than with prices prior to the war, particularly due to increased taxation

Table 15.1 The dimensions of the importance of the Arctic region to Russia

Dimension	*Description*
Economic	• A strategic resource base of oil and gas, and to a lesser extent of minerals. • Export revenues and taxes as the backbone of the economy.
Logistical	• Northern Sea Route as a shipping route for hydrocarbons. • Arctic continental, onshore and offshore infrastructure development for socio-economic and strategic purposes. • Increasing accessibility of remote locations for industrial, social and military needs. • A transport corridor between the Atlantic Ocean and the Pacific Ocean.
Security	• A region of strategic importance for resources and logistics. • Energy export revenues to finance military spending. • Projection of military power. • Central to Russia's nuclear deterrence.
Domestic soft power	• Source of wealth. • Showcase for progress. • Stage of imperialist nostalgia.
Foreign soft power	• Image-building of Russia as peaceful and collaboration-favouring. • Political leverage from energy exports (less significance since the start of the war in Ukraine).

Source: The Authors.

and the reorganisation required to replace the markets that disappeared due to the war. While the sanctioned oil has found its way to customers through foreign refining, the monetisation of gas resources is currently a major challenge for Russia. According to the interviews, Arctic gas production has been mostly targeting the European market, and Russia's LNG supplies represent only 10%–15% of the piped gas that Russia used to supply to Western Europe. While Russia's domestic consumption constitutes a varying yet considerable share of the produced oil and gas, the rest is important for revenue generation and has recently been used to finance the modernisation of the Russian military forces. Oil and gas production is, and continue to be, in the hands of state-controlled companies, such as Gazprom, Lukoil, Novatek and Rosneft, which are, after the imposing of Western sanctions, increasingly dependent on state financing. Rather few people live in the Russian Arctic, whereby the state has been easily able to control the flow of resources and revenues up there already for decades, and continues to do so.

However, as sanctions have targeted foreign technology transfer and financing, they have mostly impacted the establishment of new LNG projects, delaying or freezing their implementation. The EU has banned future investments in and exports to LNG projects under construction in Russia, as well as the provision of goods, technology and services for Russian LNG and crude oil projects. It has also prohibited the use of EU ports for the trans-shipment of Russian LNG (European Commission, 2025b). The USA has directly targeted Arctic LNG 2, Novatek's flagship project located on the shore of the Kara

Sea, imposing sanctions on the project itself and entities involved in it (U.S. Department of State, 2025). In addition, the secondary sanctions imposed by the USA have impacted foreign companies' willingness to co-operate with Russia (Aliyev, 2024). The sanctions also led to the freezing of participation of Chinese, French and Japanese shareholders in the Arctic LNG 2 project (Soldatkin, 2023). However, the French energy company TotalEnergies is still involved in Novatek's Yamal LNG project, having retained a 20% share in it. TotalEnergies also owns 19.4% of Novatek (Hernandez, 2024).

Particularly the exploration of the Arctic Ocean basin, not to mention the extraction of resources on the bottom of the Arctic Ocean, would require plenty of research and development effort, and the respective extraction technologies are so expensive that such activity is not feasible for Russians on their own. These technologies and expertise might be available elsewhere, but at a cost that is not currently worth the investment. Thus, our findings indicate that in the production of Arctic LNG, the bottlenecks generated by sanctions concern the technologies required in the actual gas production in new projects, and also gas liquefication, LNG terminal infrastructure construction, and the accessibility of icebreakers and ice-class LNG vessels. Russians lack the equipment and technological solutions needed in the construction of such vessels, and co-operation with, for instance, Finnish and South Korean shipbuilding companies has ceased (Aliyev, 2024). Nevertheless, there are still plenty of resources in the continental, easily accessible basins, whereby some of the interviewees see that Russia is not in a hurry to enter the most challenging fields in Arctic waters. However, hydrocarbon resources are the backbone of the Russian economy, and a considerable share of those are located in the Arctic region, whereby other interviewees find Russia in a rather desperate situation in need of foreign assistance in getting started with new projects, if not from the EU or China, possibly even from the USA. Russia does not have many alternatives for income generation, and the unpredictable production costs and the unpredictable international markets will define how much export revenue they will generate in the future.

The signs of interest in the extraction of natural resources, for instance, from the new Trump administration might indicate that the employment of Arctic resources might return to the agenda of Western corporations in the future, for instance in the form of collaboration in oil drilling. With regard to LNG, the challenging Yamal fields constitute an important resource bank for Russia, but the field construction has not followed the planned speed due to the obstacles set by sanctions, as particularly the US sanctions have hit hard the LNG projects that were supposed to become the new crown of Russia's Arctic development and a new cornerstone of Russia's energy exports. Some Western technologies flowed into Russia still after the full-scale invasion of Ukraine, due to existing contracts, and the Chinese have helped in technology, infrastructure and financing issues, but the pace has slowed down. Some of our interviewees evaluate that the Chinese wish to avoid exposure to secondary sanctions, and are hence reluctant to offer more extensive help to Russians, but should the

sanctions be lifted, they might be willing to step in more strongly—if they see it worth the risks of investing in Russia—and particularly if Western companies do not return. Russia is not technologically advanced enough to run the demanding new, Arctic LNG projects on its own.

The interviewees expect that Western companies will not see enough incentive to return to Russia in the near future, even if peace is achieved in Ukraine, given the considerable political risks still associated with the Russian business environment. Some interviewees see that this real argument is framed under the moral consideration of unwillingness to collaborate with Russia, and assume the business actors are mainly driven by business interests. If the Trump administration decides to abandon its sanctions and the American oil companies see worthy business opportunities in Russia, they might consider entry. They could be highly incentivised to do so also from the Russian side, as such connections and dependencies would open new ways for Russia to influence the West, but the incentivisation and push might even emerge from US politics—depending on potential deals between the Putin and Trump administrations—as Trump might even want to see oil production increasing to lower inflation in the USA. For European companies, the situation might be morally trickier, but they are also eventually considered to be global business actors, not representatives of European values. In this question, the interviewees' opinions diverge to some extent—in the time after the war in Ukraine, if fruitful business opportunities emerge in Russia, some interviewees expect to see a rather rapid return of Western businesses there, whereas others consider that companies such as BP, Exxon and Shell lost billions of dollars in their Russian hydrocarbon project engagements and are unlikely to try it again soon.

With regard to the demand for natural resources, oil and natural gas are global commodities that are sold where the price meets the demand. According to the IEA Stated Policies Scenario, global oil and natural gas demands are both expected to grow until around 2030 and to start decreasing after that, and emerging markets and developing economies—such as China, India and African and Middle Eastern countries—are mainly driving that growth (IEA, 2024). Hence, the markets for Russian oil and gas continue to exist at least in the near future. Since the beginning of the full-scale war in Ukraine, China and India have been the largest importers of Russian oil, followed by the EU and Turkey (CREA, 2025). Less than 10% of Russian oil exports currently flow through pipelines, to Europe and China, and the overwhelming majority are seaborne. The EU prohibited the import of seaborne crude oil from Russia in 2022 and refined petroleum products in 2023, but Russian oil still enters Europe after being refined in some other country in between, such as India or Turkey. At the moment, Russian oil is shipped mostly with vessels owned by other than Western shipping companies and without Western insurance (Herrala and Solanko, 2025). Indeed, the continuation of Russian oil exports has required significant investments in old oil tankers, or the so-called Russian shadow fleet (BOFIT, 2024). At the end of 2024, about 80% of tankers carrying Russian crude oil were from the shadow fleet, which Russia uses to

circumvent the price gap that the EU, along with the G7+ Price Cap Coalition, has set on Russian oil and petroleum products. The sanctions imposed on Russian oil exports aim to limit the revenue Russia gets from them by increasing the costs of production and export, and through the price cap, but not to stop oil exports completely (BOFIT, 2025; European Commission, 2025b).

Regarding Russian natural gas, the EU has remained by far the largest importer since February 2022, followed by China and Turkey (CREA, 2025), but particularly the EU's pipeline gas imports from Russia have decreased significantly. The direct exports through pipelines from Russia to the EU ceased already in 2022, and in January 2025, gas transmission via Ukraine was also ended. At the moment, Russian pipeline gas is exported to the EU only via Turkey (BOFIT, 2025). In contrast to pipeline gas imports, LNG imports from Russia to the EU have increased, but the revenues Russia gets from them play a minimal role in its economy (Lindholm, 2025). Furthermore, the EU Commission has proposed stopping gas imports—both pipeline and LNG—from Russia completely by the end of 2027 (European Commission, 2025a).

While Russia's pipeline gas exports to EU countries have collapsed since 2022, Russia also faces difficulties in increasing pipeline exports to other markets. The Power of Siberia pipeline between Russia and China already runs at full capacity, and constructing new pipelines would take many years (BOFIT, 2025). China has not been interested in investing in new pipelines from Russia, such as the Power of Siberia 2 through Mongolia, whereby the limited growth of gas flows has emerged only through the shipping of LNG. Hence, Russia needs to develop its LNG production and exports if it wishes to compensate for the loss of Europe as its main gas market (Raimondi, 2024). The situation is tricky for Russia, as it is in need of Chinese financing and technology, but it would not want to give control over the resources to China, become too dependent on its involvement, or sell the resources at a low price. According to the IEA (2024), the electrification of transportation in China has progressed rapidly, whereby oil demand growth has started to slow down, and China's oil demand is expected to peak before 2030. The demand for natural gas in China, in turn, is expected to keep increasing, driven by the growing electricity demand (IEA, 2024). For Russia, developing LNG would address both commercial and political goals: it allows Moscow to tap into a dynamic industry, ensuring revenue and market share, and opens up new opportunities for forging international relationships with current and potential customers (Raimondi, 2024). Besides Russia, however, other suppliers, such as Australia, Qatar and the USA, are also responding to the globally increasing demand, whereby the production flows are rather high at the moment, thus not immediately encouraging risky and costly investments in Arctic LNG production. For key buyers, such as India, there are also alternative sellers closer by.

In terms of demand for other natural resources, the traditional supply routes of coal have gone from Russia to Europe, but now that the EU has set an import ban on Russian coal, it is difficult to turn the logistical routes around and have this relatively widely accessible material feasibly sold and

transported elsewhere. The production and export of Russian coal continues, but for the time being, the lack of transport capacity on the Russian railways has limited the production and export possibilities (BOFIT, 2024). While the Russian ground also holds various other minerals, their global demand is more challenging to estimate than that of fossil fuels. Given the increasingly electrified and technology-driven societies with continuously higher living standards, the interviewees expect the demand for many minerals to increase dramatically in the future, for the production of batteries or solar panels, for instance. Therefore, the world's superpowers are not only eying technological advancement, but also realise the strategic importance of the required natural resources: some have them and some do not, whereby, for instance, the USA is currently interested in the resources in Greenland and Ukraine. Indeed, the USA has taken a turn in attempting to get rid of dependencies globally, and the US government has recently introduced new frameworks for dealing with the strategic challenge of dependence on Russian uranium, for instance.

According to our interviews, Europe imports some 97% of the mineral resources it currently uses, with increasing demand resulting from, for instance, the electrification needs in order to meet the Paris Agreement emission reduction objectives. The EU has defined certain raw materials as critical and some even as strategic, the latter including minerals essential to aviation, defence, digitalisation and the green transition, and aims to diversify their supply, decreasing dependence on third countries (Council of the EU and the European Council, 2025). For instance, in terms of rare earth elements required in the green transition and defence industry, the EU is highly dependent on China. As an example of raw materials identified as strategic by the EU, nickel is produced, for instance, in the Kola Peninsula in Russia, and continues to flow to Europe despite the war in Ukraine. Nickel is used in steel production and is essential in the production of batteries, as well as tanks, whereby it is of key importance for countries arming themselves or waging war. According to the interviews, Russia is the world's third-largest producer and refiner of nickel, whereby it is highly difficult for the EU to completely cut its natural resource imports from Russia. China is the world's largest nickel refiner, and it is gaining increasing control over the world's largest nickel producers, Indonesia and the Philippines, and also manipulates the nickel price, making nickel production economically unfeasible everywhere. Aluminium, copper, diamonds, gold, lithium, platinum and titanium constitute similar minerals with large reserves in Russia and growing global demand. Nevertheless, Russia does not have the kinds of mineral reserves and production that would not be available elsewhere, whereby Europe is not dependent specifically on Russia in terms of minerals.

Hence, minerals do not play that significant a role for Russia in terms of income, although they constitute a resource flow that still contributes to Europe's remaining trade with Russia while not requiring assistance from Western companies. The revenues from mineral exports support Russia's war chest, but even in total do not reach the revenues from oil exports. Moreover, some interviewees assume that if the demand for critical minerals suddenly

exceeds the supply, new technologies will emerge to aid the production from more challenging locations, as well as to substitute and recycle them. Due to the rapid innovation cycles in advanced sectors, raw material demand is difficult to predict. Nevertheless, the interviewees predict that these innovations will not be generated in Russia, as the cutting of research and development collaboration ties with the West, combined with the brain drain, has ensured that Russia will be left a stagnated hostage of its natural resources, trusting that the respective international revenues and dependencies will secure its power to exist.

15.4 The Geopolitical Impacts of Russia's Arctic Natural Resource Extraction

Russia is currently a useful partner for China as it challenges and fragments the West, and also sells China the raw materials it needs. The interviewees highlight that while China and Russia today present their relationship as partners with no limits, the relations between them have historically been highly complicated, whereby China is not expected to develop dependence on Russia's resources. Instead, it is spreading its energy resource portfolio globally. In addition, the energy transition in China is progressing, and therefore Russia cannot rely on Chinese demand for Russian fossil fuels, particularly oil and coal, in the future (BOFIT, 2024). Nevertheless, Russia's dependence on China is obviously welcomed by the Chinese, and therefore the interviewees see that China supports Russian natural resource extraction to the extent that Russia can supply resources for use by China and can maintain its own military equipment production to continue challenging the West. Not for further advancement, however, since China does not want to see Russia becoming a technologically advanced economy. China's investments in Russia remain limited, possibly due to this limited willingness to help and due to the avoidance of risks related to US secondary sanctions, and it more or less silently accepts Russia's invasion of Ukraine. Russia's Arctic region is of particular strategic interest to China, since China is interested in the various resources, as well as in access to the sea routes, including the one through international waters across the North Pole once the ice melts in the summer time.

With regard to Russia's relations with the USA, our interviews indicate that President Trump's potential interest in Russia's natural resources, together with his interpreted admiration of Putin as a strong, authoritarian great-power leader, might suddenly bring these countries closer. In this respect, the future seems highly uncertain, and also highly volatile, because even if these leaders agreed on some kind of a deal, the friendship might still end as quickly as it started, which might result in a dangerous situation. At the global scale, Russia utilises various resource flows coercively to influence other countries, yet in generating such dependencies, Russia offers these resources attractively with courtesy and kindness. Amid its current expulsion from many of the

great power tables, Russia is actively seeking symbolic wins that would support regaining its reputation in the Western world and thereby the ultimate great power ambition.

However, Russia no longer uses the term 'energy superpower' of itself in its rhetoric. Through the war in Ukraine, Russia has largely lost its ability to use energy as a weapon against Europe, and none of the interviewees expect that, for instance, the oil and gas pipelines to Germany would be brought back into use under the current Russian regime. Instead, oil and gas have become global shipping goods that can be bought anywhere without direct dependency. With the progressing green transition and expected lowering petroleum demand, the EU is likely to prefer European fossil fuels from Norway, or American in order to buy goodwill from the USA, and the appetite to return to the dependence on Russian energy flows seems currently low. And where Russia currently directly sells its hydrocarbons, such as China and India, Russia does not have a key role or strategic leverage; it is not the refiner of these materials, only a supplier of the raw material, and not even a dominant one. Russia is trying to gain influence among the BRICS[4] countries by other means, but from a geoeconomic perspective, Russia no longer has the energy weapon to pressure other countries in its international relations. Moreover, Russia may be a superpower in digging the energy of the past world, but excellence in the production of renewable energy, and in energy storage and efficiency solutions are the constituents of the next-generation superpowers. Russia is not even involved in that power game.

However, predictions are difficult, and as the 2020s have shown, international relations rarely build on sheer economic reasoning. Returning to the dimensions of the Arctic region's importance to Russia, even if the direct economic importance was not that high, the Arctic natural resource projects serve many other areas, such as domestic and foreign soft power politics, by generating jobs, a sense of progress and platforms for international collaboration. Moreover, in some scenarios, economic feasibility might also follow if technology advancement does not meet expectations in substitute generation or if the demand for hydrocarbons and/or minerals increases irrespective of the production costs and conflicts. Nevertheless, it has become clear that economic development is not a priority for the current Russian regime as such, but solely a tool to enforce what it defines as Russia's national security. Neither are environmental concerns a priority, although changes caused by global warming, such as permafrost thaw, melting sea ice extent, and rising sea levels, will transform the Russian Arctic and the lives of its people, also impacting the development of Arctic natural resources. For the people of Russia, all this means, based on the insights gained in the interviews, an increasingly militarised, corrupt and technologically stagnated society, with a worsening economic situation

[4] BRICS is a group of eleven countries – Brazil, China, Egypt, Ethiopia, India, Indonesia, Iran, Russia, Saudi Arabia, South Africa, and United Arab Emirates – that aims at strengthening economic, political, and social co-operation among its member states and increasing the international influence of Global South countries.

depending on the revenues generated through the natural resource exports and the extent to which those revenues are directed to rearmament. The Russian leadership has chosen its own vision of security over long-term economic gains and enhanced societal well-being. The natural resources constitute the treasure chest to enable this development, yet twistedly building on revenues from countries that simultaneously constitute the so-called security threat against which the same revenues are used.

15.5 Key Takeaways: How Should the West Approach Russia's Arctic Natural Resource Development?

Building on the variety of dimensions and dynamics of Russia's Arctic natural resource development discussed above, Fig. 15.1 synthesises the key aspects. While the importance of the Arctic region to Russia emerges and manifests itself in various ways, all of those are linked to the extraction and utilisation of natural resources. The developments of these Arctic dimensions influence both Russia's domestic capabilities for natural resource extraction and Russia's international collaborations—in terms of capabilities and attractiveness—for natural resource extraction. Besides these two aspects, natural resource extraction depends on the foreign demand for these resources, which, in turn, depends on prices, production volumes, technological advancements and international trade relations globally. As a result of these internal and external dynamics, the value of various natural resources in the Russian Arctic emerges, defining which resources are worth extracting in such distant and harsh conditions. This value, in turn, strongly influences the importance of the Arctic region to Russia.

While the Arctic region seems simultaneously close to and distant from the Western world, how should the West approach the developments in the Russian Arctic? Based on our analysis, the following takeaways are of key importance.

(1) Moving on as if the Russian treasure chest did not exist: There is difference between imposing sanctions and seriously implementing them. If European countries truly wanted to force Russia to end the war in Ukraine, they would need to completely cut hydrocarbon imports from Russia, direct and indirect, and also mineral flows. However, this seems impossible given the current strategic priorities concerning both the green transition and military development. Even at a limited scale, sanctions constitute a double-edged sword—by tightening the sanctions on hydrocarbons, the EU reduces their flow to the market, hence increasing their price in the domestic market while maintaining the revenues gained by Russia. Currently, Russian crude oil flows to Europe after being refined elsewhere, whereby the effects of modest sanctions may be questioned. Nevertheless, the EU should prepare for a scenario of ceased hydrocarbon and mineral deliveries from Russia: what would it mean to various industries, where else could the respective minerals be sourced from, and which minerals could be possibly produced within the European small yet existing reserves, if they were no longer accessible from Russia? Even though

there is this natural treasure chest right across the border, the European strategic autonomy objectives guide the European economies and businesses to make strategic investments in sectors that enable maximum decoupling from Russian natural resources, hence forcing the EU to gain competitiveness and economic power by other, increasingly innovative means, such as pioneering circular economy systems, with resources in-house and accessible elsewhere. The EU needs to choose its way and truly follow it.

(2) Not falling for the symbolism again: What has been learned in the past decades is that the ability of foreign countries to influence Russia's development is fairly limited. European countries have invested a lot of effort, money and contacts into making Russia turn into a more like-minded neighbour, even into a modern, democratic country one day. While Western businesses, such as large energy corporations, were seeking profits, and European policymakers were pursuing economic interdependence to spread European values, they fell into the symbolism of kindness and mutual concerns signalled by Russia, only to realise later that the effort was merely to support the continued imperialist governance and the generation of new interdependencies. Our interviews

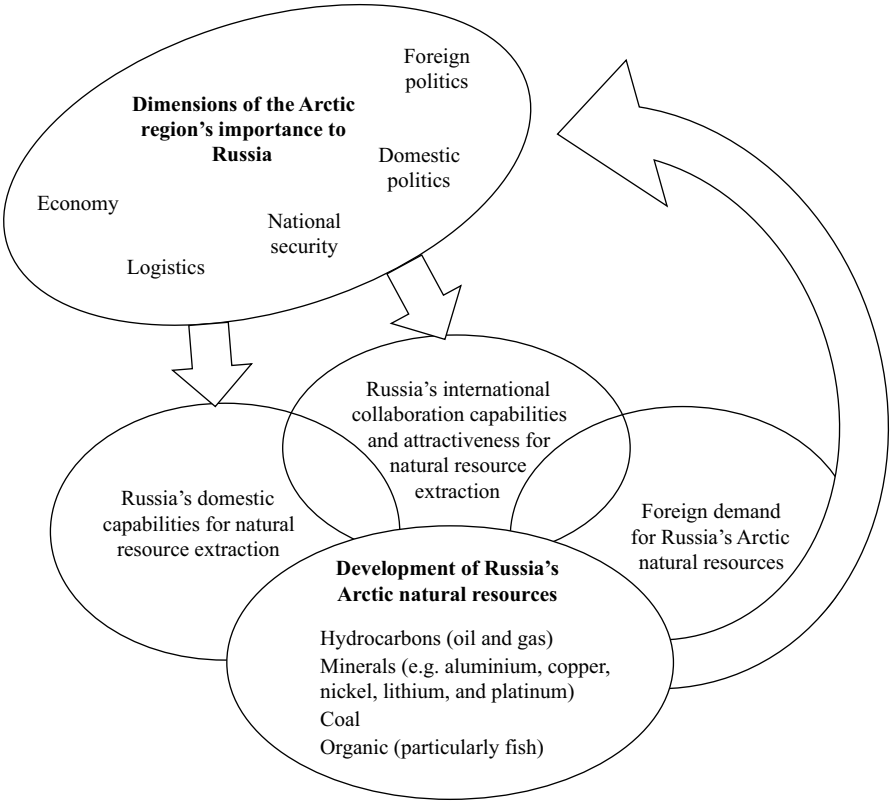

Fig. 15.1 Dynamics of Russia's Arctic resource development. Source: The Authors.

indicate that nothing has changed in Russia in this respect, whereby it is of high importance to remember, even in the post-Ukraine-war era, that the same symbolism is likely to be used to lure Western actors to new interdependence. The Arctic, with its environmental concerns and such common broader interests, is going to be an attractive tool for it, complemented with offers for handy access to Russian natural resources.

(3) Strengthening European industries' Arctic expertise: The exploration of Arctic natural resources is somewhat jammed due to the market situation and sanctions, but also due to the limited ice-class fleet capacity, whereby the possession of icebreaker construction capability and the respective Arctic expertise and know-how is crucial for the Western economies. This capability and expertise is and will be of increasing demand globally, as the world turns its eyes towards the Arctic. Besides Arctic technological expertise, the respective industries need strong international networks and policy support in order to gain a strong foothold and persist in global competition. Through such expertise, the EU will not only be in the audience, but can also be an active player with agency in the developments in the Arctic region. Together with Norway, the EU, led by the Nordic countries, can update its Arctic strategy, proactively defining what kind of a role it is to have in the region in the future, with respect to the extraction of Arctic natural resources, the infrastructure development of the remote regions and the preservation of the indigenous peoples and the environment, in line with the European values.

(4) Observing and researching the Russian Arctic: In the 2020s, the public availability of statistical data from Russia has decreased. At the same time, academics in the West have been forced to cut their collaboration ties with their Russian counterparts, or those counterparts have themselves left Russia. Along with that, many Western scholars who previously focused on the Russian economy have changed their research focus. Hence, the research-based information that we are getting from Russia, including on its Arctic natural resource projects, has become more distant, even though we would need it perhaps more than ever in order to understand Russia's mineral wealth and its implications in geopolitics. For instance, even though Russia's technological advancement is not at the level of Western actors, it is still at an adequate level for continuing natural resource extraction, and the lack of up-to-date information generates the risk of the West underestimating Russia's capabilities and endurance through economically difficult times. Thus, continued public, academic research on Russia is strongly encouraged in order for Western policymakers and businesses to make information-based judgements and decisions in the evolving circumstances, particularly in the contexts of rapid decarbonisation and rearmament. However, while keeping one's eyes on the ball, namely Russia, it is of equal importance to observe and research what is going on elsewhere on the playground. At the outbreak of the war in Ukraine, Europeans assumed that the world largely viewed Russia's aggression towards Ukraine in the same way they do, while others' relations with Russia build on different perspectives of challenges and opportunities, even values. In fact, the perceptions of external powerholders, such as China, the

USA and 'the global south', will eventually strongly influence how EU–Russian relations will evolve in the future, and who has access to natural resources and where. It is of great importance for the Western policymakers and businesses to understand these global, systemic dynamics and their implications in the Russian Arctic. Thus, in the context of Russia's Arctic natural resources, intelligence refers to the comprehensive understanding of the global natural resource interactions and dependencies, combined with up-to-date views on the developments and perceptions inside the Russian bubble.

(5) Envisioning the future: Besides intelligence and wise actions, geopolitically turbulent times call for sheer imagination to envision possible futures—how else could we prepare for not only the likely future developments, but also the unlikely yet realistic futures, for better or worse? Given that particularly the Europeans have been surprised several times in the 2020s, first with the Covid-19 pandemic, then with Russia's full-scale attack on Ukraine, and most recently with the unpredictable moves in US foreign and trade policies, there is a need to develop futures literacy and foresight capabilities among European policymakers, businesses, and also the general public, for enhanced resilience against sudden disruptions, and also for the agility to act on emerging opportunities. While distant from the daily lives of most Western countries, the Arctic region is at the centre of global geopolitical interests, tensions, and uncertainties. Therefore, Russia's Arctic natural resources are not just natural resources, but an element in global geopolitics that should continue to be analysed closely and with an extremely open-minded approach, to avoid new surprises.

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