

# **The Kremlin's Arctic Dreams. Geo-Strategic Implications for Russia and the World in 2040**

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# 1. EXECUTIVE SUMMARY

## REPORT

### 1. Introduction

The Arctic is not the new geopolitical pivot-point of the twenty-first century, but it will be one of the *balance shifters* in the global equilibrium of power.

The Arctic will set the tone for evolving relations between twenty-first century actors: states, private actors, NGOs, populations, and supranational organizations.

Expected climate change constitutes an important element of the global picture, but the future of the Arctic is not limited to it. Certain strategic factors and economic components could develop without climate change.

A global geo-strategic uncertainty in the Arctic pushes certain states like Russia not toward conflict but toward proactive policy in order to diminish this uncertainty.

Heightened potential for accidents (collisions of ships or oil spills), for small-scale tensions (over mineral or fish stock resources) that could suddenly degenerate, or for misinterpretations of attitudes of the other players creates security risks in the Arctic.

Perceptions of threats and projections of power constitute major elements in the Arctic security debate.

The Arctic does not face a real *risk of conflict* but is a legitimate *security concern*.

The growing role of non-Arctic powers, mainly Asian ones, can be an element of stability but also a component of strategic escalation. Their role in the Arctic balance needs to be carefully monitored, especially because China, Korea, and Japan could partly transfer their mutual tensions to this region. The Russia-China axis of convenience, already complex, will be influenced by the relation in the Arctic.

Moscow views the world through its fear of being confined to the periphery of international decision-making. The focus on the Arctic suddenly opens new options, albeit ones that are ambitious and largely disconnected from its actual capacities. Russia hopes to gain a dynamic, innovative place on the international scene, and to be seen as more than a merely symbolic player in the world balance.

Russia's global geopolitical fundamentals are moving. The Arctic Ocean was an aspect of geopolitical containment for Russia's competitors and a secure major transport route for Moscow. Today, this balance has shifted. Russia could suddenly present itself as a maritime state, break its encirclement in a direction until now unused, but at the same time find itself with a new border to protect.

The spatial projection of Russia in general and of landlocked northern Eurasia in particular would emerge drastically changed.

Russian strategic thinking on the Arctic is formulated on a long-term perspective. For Moscow, the Arctic is not its back door, but its potential twenty-first century front door.

The Kremlin thinks that maintaining the status quo in terms of strategic equilibrium has almost always been unfavorable to Russia for the past two decades. For this reason, although Russian foreign policy is fundamentally reactive, Moscow's approach to the Arctic is pro-active.

Russia hopes to find in the Arctic a solution to its economic dead-end. The central problem that the Kremlin must face is that of rising costs and diminishing capabilities.

The Russian regime is fixated on three pillars: financial autonomy, energy security, and domestic stability. However, these pillars do not always seem to have compatible priorities, and they have divergent timeframes over the short, medium, and long term.

Russia faces an unprecedented demographic crisis and lack of workforce, particularly the educated workforce. But Russia also believes that the size and location of its territory can ensure the survival of the country. The Arctic therefore illustrates Russia's current crossroad of whether demography or geography will be its destiny.

## **2. Expected Climate Change and its Impact on Russia**

Though a general consensus on global climate change exists, the role of anthropogenic factors is still largely debated, as are strategies of mitigation. Such strategies have an enormous cost on the economy for an effect that has yet to be demonstrated or will possibly only be minimal.

The historical tradition of the Soviet school of thinking on climate does not compel Russian scientists to give an alarmist reading of changes in climate. They criticize the current "politically correct" mood on this issue in Europe, and uphold a viewpoint that is more qualified and contradictory, with similarities to that found in the United States.

To safeguard its economic interests, Russia tends to emphasize the unknowns by favoring a minimal, and rather skeptical, reading of climate change, and by promoting strategies of adaptation and not of mitigation.

Russia will not commit itself to binding agreements if it considers that it will come out of them worse off relative to the American, Chinese, or Indian economies.

Russia is the only developed country that is expected to derive economic advantages from climate change. It is thus hedging its bets on the future: on becoming self-sufficient in food thanks to climate change, as well as on building a unique system of hydroelectric power that could potentially be used as leverage over its Asian and European neighbors.

However, 1) the negative aspects of climate change, especially its economic costs, are often passed over in silence and not taken into account in Russian calculations; and 2) the hopes of benefitting from climate change thwart the capacity of the Russian state to implement efficient strategies of adaptation.

The cost of expected climate change in Russia has to be calculated not only for itself, but above all in its interaction with the other challenges that the country will have to contend with in the decades to come, including its loss of human capital and its lack of competitiveness.

### **3. Arctic as a Narrative Component of the Nationhood**

The Kremlin-led nationalist rhetoric on the Arctic is mainly for domestic audiences. It is part of the symbolic arsenal used by the Putin regime to legitimate itself: references chosen from the Stalinist myth of the Arctic—people’s heroism and industrial prowess in hostile environments—are still well-received among some parts of the Russian population. The Arctic is a virgin land on which it is easy to project, albeit difficult to realize, dreams of great power.

On the international stage, Russia negotiates its viewpoint in accordance with the other actors. It is rather threatening toward NATO, but distinctly more reconciling in the Arctic Council and the Barents Euro-Arctic Council. It mirrors back the image that the others send of it: it is bellicose with Canada, in competition with the United States, but celebrates cooperation and pragmatism with Nordic European countries. It is thus necessary to strike a symbolic chord in order to integrate Russia better into international debates on the Arctic, and in particular to bring into the foreground its scientific competences.

The rise of Russian nationalism, specifically xenophobia directed at migrants, North-Caucasians, and, in a general way, “Muslims,” constitutes a long-term driver that will shape the future of the stance taken in Russian public opinion on the Arctic. The theme of a White Russia, or of Russia as a Nordic power, is bound to take on a greater magnitude in the decades to come. Russian nationalism must therefore be a part of the strategic planning, as it may lead the decision-making process to run counter to rational logic, especially if it is motivated by questions of pride and symbols of nation-making.

### **4. The Russian Stance on Territorial Conflicts in the Arctic**

Russia has succeeded in settling its territorial disputes with Norway but still has to manage two problems, the Svalbard/Spitzenberg archipelago and the ratification of the U.S.-Russian treaty on the Chukchi and Bering Seas. The first dossier will probably be settled in the framework of Russian-Norwegian relations and is above all a financial matter (payment of taxes to the Norwegian state). The second might find a favorable outcome if the Kremlin decides to ratify the agreement. But it is refusing to do so at the moment so that it has a way of pressuring Washington in their negotiations over the fishing industry.

Russia respects all the international procedures for delimiting the continental shelf. Following the pending decision of the UN Commission on the Limits of the Continental Shelf (UNCLOS), Moscow could acquire vast Arctic territories, amounting to as much as 1.2 million square

kilometers, which would enable it to move radically closer to the Canadian and American coasts. Legally acquiring this advantage means that Russia would not be able to be undermined by the other Arctic states. It would, however, modify the overall geostrategic balance, as well as the prospects of economic exploitation in Russia's favor.

It is entirely possible that the UNCLOS will refuse to validate these Russian claims, or only meet a small part of them, or even refuse to give a ruling by considering the scientific information provided insufficient to make a decision. Russia has invested considerable sums in scientific research in order to legitimate its claims, and has projected grand nation-building rhetoric onto it. In case of failure, Moscow's reaction will be unpredictable, but it would probably mean growing resentment against UNCLOS.

Will Russia continue to respect international legislation if it deems the legal decision unjust or unfavorable to it? The issue is worth discussing by way of preparation for Moscow's potential attempts to circumvent a legal framework in the decades to come.

## **5. Russian Military Strategy: Projection of Power and Capacities of Action**

The traditional gap between rhetoric and the real capacities of the Russian army is still more clear-cut on Arctic-related questions, which are challenging for all actors.

Russia will find the idea of a nuclear-free zone in the Arctic difficult to accept, as its nuclear deterrence is intrinsically linked to its northern territories. Nuclear deterrence is the only hard security element that Moscow intends to maintain in the Arctic as a symbol of its power balance with the West. The other security stakes are linked to non-traditional threats.

The future of Russian defense in the Arctic will be concentrated on potential small-scale conflicts around energy deposits or transit, smuggling, illegal immigration, terrorism risks, and environmental issues. It is legitimate that Russia wants to strengthen the security of its Arctic coastline, and this serves NATO's interests; the risks of smuggling nuclear or biological arms cannot be dismissed.

Russia is more likely to be amenable to international cooperation in soft, rather than hard, security issues, hence the duality of its discourse. The military narrative is still focused on NATO as its main strategic concern, while the Ministry of Emergency Situations promotes international cooperation, for instance on a research and rescue system.

Military reform will be a challenging process. The country's demographic evolution encourages the birth of a professional army, and its lack of financial resources requires the modernization of the entire army corps and military-industrial complex. The Russian Armed Forces will be forced to increase civil-military cooperation and foreign participation, and probably to privatize part of the military-industrial sector.

Although the aviation and navy sectors are the two priorities in the modernization of the Russian Armed Forces, they nonetheless also have other more difficult challenges to contend with: Russia's accumulated deficit in matters of communication, radars and satellites; and the loss of

human capital in the army. To this must be added the lack of cooperation, and even rivalry, between the Ministry of Defense and the *siloviki*, which may hamper efficiency in securitizing the Russian Arctic.

The revival of Russian military activities, mainly naval and in aviation, in the Arctic is not a sign of re-escalation with the West. Moscow is behaving preemptively. Strategic uncertainty is pushing it to flex its muscles. Russia knows that it cannot expose itself to real tensions with NATO other than in small, post-Soviet states and non-NATO members like Georgia.

The trend towards desecuritization of the Arctic has to be openly discussed between NATO and Russia. In each country, strategic planning needs to articulate more clearly the growing shift from hard to soft security and the possibility of uncontrolled escalating tensions

## **6. Arctic Wealth: Resource Nationalism or Cooperative Patterns?**

Russia benefits from uncommon subsoil wealth. While Russian predominance in oil resources is not assured, as North America is also well endowed, it is a clear leader in terms of gas reserves and rare minerals, especially rare earth metals.

Russia has the potential to transform its reserves into actual output, which would give it a significant geopolitical advantage: the ability to maintain great power status in energy and minerals, and the capacity to delay its economic transformation from an energy-based economy toward a knowledge-based and service one.

However, the factors that will determine whether this potential becomes reality are partly outside of Moscow's control, including the world price of hydrocarbons and minerals, growth of energy competition, alternative energies, and the state of demand in Europe and Asia.

It is therefore necessary to consider that the Arctic fields might not be profitable to operate in coming decades, which would cause Moscow to lose significant revenue, limit its geopolitical ambitions, and weaken Russia's public finances, especially if large-scale investments were undertaken.

In any case, Russia will continue to combine patterns of exclusion and cooperation, but seems to give priority to the latter because the potential for energy sector profits is at stake.

The current focus on oil and gas tends to obscure sectors that could be more powerful over the long term: minerals, rare earth metals, uranium, and hydroelectricity production.

Even if it is partial, the increasing use of Arctic regions multiplies security risks. The most serious are small-scale conflicts over fields in the western part of the Arctic, the collision of hydrocarbons extraction structures and the military vessels of one or more countries, clashes between Russian, American, and Asian fishing vessels, and the growing smuggling to fish stocks to Asian markets.

A powerful Russia based on “Arctic-resource” nationalism must be included among the scenarios put forward in strategic planning; however, there is little chance that it will come to pass. Either Moscow will be unable to meet the enormous investments required and expected profitability will not come about, or it will have to change its patterns of threat perception and open itself more widely to international cooperation.

## **7. The Northern Sea Route: International and Domestic Shipping Issues**

Legally, Russia will continue to define the Northern Sea Route (NSR) as national waters in which foreign navigation is welcome but controlled. It could try to use the legislation in its favor to restrict foreign presence. The Northern Sea Route is therefore potential new leverage for Russia over the international community.

However, the revenues that Moscow could draw from this traffic are high, and they legitimate the building of a new fleet of icebreakers. They are vital for the survival of Russian domestic Arctic shipping. Russia thus has every interest in a growing foreign presence to finance its own development objectives.

Moscow will remain ahead of the United States and Canada in terms of its Arctic fleet, and will seek to strengthen its shipyard facilities. However, a large part of the trade fleet will continue to be purchased from abroad, whether in Asia, or in cooperation with the naval yards of northern Europe.

It will probably take around twenty to thirty years until Arctic conditions have become suitable for regular transits. Large-scale, year-round transit operations will hardly be possible before the ice cover has disappeared for most of the year, and this does not seem realistic in at least the next forty to sixty years.

The NSR as an international trade line has few chances of becoming economically profitable to the point of really competing with traditional sea routes. However, the volatile situations in the Middle East and Asia could suddenly alter the status quo. Were the Suez Canal to be closed, or crossing the Hormuz or Malacca Straits made impossible, the Arctic may become a necessary option and this would enable Moscow to impose higher fees than shipping companies would currently accept.

Destinational traffic in the Russian Arctic will be dominated by private actors, mainly energy firms, and patterns of commercial profitability, while strategic interests will drop back to second place. The growing role of Norilsk Nickel is worth following closely.

The division of the Russian Arctic into three regions—the Barents and Kara Seas, the eastern coastlines of the Arctic, and the Far East and Bering Straits—of rather separate economic systems will increase. Strategic planning therefore must not see the Russian Arctic as a unified area that faces similar issues, but must emphasize a micro-regional interpretation.

The role of Asian states in Arctic shipping is still little known, but it will probably be central. The Arctic could therefore become a crucial element of the (im)balance between Moscow and Beijing, and shape the future of their bilateral relations in a cooperative or defensive way.

## **8. Russia's Challenge: Space and Population Patterns**

Even if in years to come the birth rate slowly rises—as already happens to be the case—and the male mortality from violent death decreases—which is not presently the case—the population deficit, in particular of youths and women of childbearing age, will continue and the Russian population will drastically decline in the decades to come.

Russia lacks skilled people. Soviet-trained generations are entering retirement, the country is enduring a steady brain-drain to the West, technical professions are lacking in motivation, and student numbers have collapsed. All of these factors will plunge the country into an unprecedented economic and social dilemma in the two decades to come.

Immigration is the only viable solution to Russia's economic development. However, this implies an in-depth alteration of the narrative concerning Russian national identity, not to mention the establishment of efficient public policies of migrant integration, which do not yet exist.

The major industries such as Gazprom and Norilsk Nickel are developing lobbying rationales to foster a policy of massive migration. However, the Kremlin has founded its political legitimacy on nationalist and xenophobic discourses. If the political authorities do not recognize the economic rationality of immigration, then they will have to revise their ambitions for development downwards due to a lack of labor power, but without being able to avoid already tense interethnic tensions.

If Russia can attract lots of migrants from Central Asia and the Caucasus, these latter will occupy positions at the bottom of the social ladder. This immigration will therefore not make up for the deficit in its skilled workforce, which will have to be made up of workers from other countries, probably other Asian ones.

If the great industrial sites of the Arctic do eventually concretize, the south-north migration flows will increase in magnitude, and the phenomenon of “polar Islam” will become one of the shaping components of Russia.

The fragmentation of the Russian territory will increase. The North-Caucasus is probably lost, the Far East risks being rocked by autonomist tensions, and the Russian population will continue to remain concentrated in the country's European regions. For Moscow, at issue is learning whether the population will “withdraw” only into the country's west, or if more propitious conditions will also be experienced in the north.

Russia's population/wealth/territory gap will create major problems for the state's political survival, a state that has always conceived of itself in centralized terms. The challenge to be met is therefore much more than an economic or demographic challenge. It requires an in-depth

change of Russia's historical patterns of development. Space can be blessing, but also a burden for Russia.

The future of the Russian Arctic will be a divorced one. The successful development of the European part, between Murmansk and Arkhangelsk, is the most likely; that of the Central Arctic, founded on hydrocarbons and minerals, is potential but not guaranteed, while a revival in Sakha-Yakutia and East Siberia seems quite unrealistic.

## **SUMMARIZING THE IMPORTANCE OF THE ISSUE FOR THE U.S. DEFENSE AND SECURITY PLANNING COMMUNITY**

Even if the validity of data on global warming is still debated within the U.S. security community, this must not halt preparations for possible futures. As said in the *2010 Quadrennial Defense Review Report*, climate change acts as an “instability accelerant.” As with nuclear terrorism, deadly pandemics, or biological warfare, climate change must therefore be an integral part of strategic planning.

Climatic *uncertainty* calls for strategic *flexibility*. It is therefore necessary to highlight those procedures likely to increase *predictability* in the region.

A twenty-first century security architecture for the Arctic has to be built now, otherwise trends that are unfavorable to U.S. interests could influence global orientations to come.

The U.S. stance on the evolving strategic landscape in the Arctic needs:

### 1) To be more visible internationally

- The ratification of UNCLOS is a necessary element for international recognition of Washington's legitimacy in jointly shaping the Arctic future. The UNCLOS maintains the freedom of navigation and offers a unique legal framework for U.S. claims on its continental shelf.
- The issue of creating legally-binding instruments in the framework of the Arctic Council needs to be discussed.
- The creation of an Arctic Command has to be discussed, and, if it not created, then the overlap of responsibilities – or rather the gap – between EUCOM, NORTHCOM and PACOM has to be solved.

### 2) To be better balanced in terms of regional priorities

- The U.S. view on the Arctic is too focused on internal North American issues, especially on relations with Canada.

- The entire north of Europe (Nordic countries and Germany) is rethinking its relations with its Russian neighbor. Russia's resilience or otherwise to climate change and its strategies in the Arctic could be critical to protecting transatlantic security interests. The United States must put forward an Arctic framework to the EU as a part of its transatlantic commitment, and to avoid European countries having to face Russia alone.
- The United States also needs to valorize the U.S.-Russia "border" by developing activities between both Pacific coasts.

### 3) To be more innovative

- Hard security is well defined, but soft security is not.

The U.S. Arctic Policy, ratified in January 2009, naturally focuses on the defense of national interests in the Arctic, in particular highlighting the strategic location of the region for deterrence systems and the freedom to travel at sea. On these two questions, the New START treaty with Russia guarantees the nuclear balance between Russia and the United States in the Arctic. As for the second question, that of free navigation in the sea, it will remain unresolved for the time being as the American viewpoint stands in contradiction to the stances of Russia and Canada concerning the Northwest and Northeast Passage, but entails no risk of conflict. It is mainly a symbolic and financial issue.

The focus of the U.S. Arctic Policy is on hard military issues. Soft issues are mentioned, but, as shown by the 2009 U.S. Navy Arctic Roadmap, the capabilities gap is huge. Looking forward, soft issues are the main problem, and soft can sometimes evolve into hard. It is therefore necessary to advance the discussion on the U.S. role in framing soft security procedures in the Arctic. This includes search and rescue systems, climatic emergency and pollution preparedness, satellite control, and the fight against smuggling. The question of tensions over fishing stocks between Russian, Asian, and U.S. trawlers needs to be properly addressed, as this kind of conflict can impact negatively on North Pacific security, mainly because of the tense relations between North and South Korea, China, and Japan.

- Time Management is an issue for the U.S. Navy

The Arctic does not appear to be a pressing and hot issue in comparison with the problems that the United States is facing in the Middle East, Afghanistan and Pakistan, and Asia. However, time management is key for the Arctic and Russia. On this point, Russia is clearly ahead. Even with its financial difficulties, bureaucratic inertia, and the disconnection of its great ambitions from reality, Moscow is the most forward looking of the Arctic powers (with Norway) and has an elaborated holistic vision of the objectives and outcomes it wants to achieve there.

The question of building a new icebreaker therefore needs a public debate on its costs and benefits. The United States will already be in a critical situation in the second half of the 2010s, with almost no means of travelling in an autonomous way in the Arctic. Given the necessary construction time, the issue needs to be put on the table as soon as possible. Geostrategic uncertainty in the Arctic cannot afford to be lacking in areas such as logistics. Should the

Northwest and Northeast Passages become ice-free and traffic grow, the capabilities gap will increase and U.S. polar icebreaking capability will be at risk.

This also goes for the U.S. Navy in Asia. In the next several decades, the most challenging contingencies are likely to be maritime and in Asia. If nothing changes in U.S. shipbuilding strategy very soon, before 2030 the Chinese submarine fleet will outnumber that of the United States. China will also have at its disposal the space systems necessary for intercontinental power projection. Beijing could challenge the U.S. Navy's access to the western Pacific and the Arctic, and the time needed to close the gap will be too long to protect U.S. interests.

- Enhance both bilateral and multilateral activities to reduce the ambiguities of Russia's revival of military activities in the Arctic

The question remains of whether NATO can serve as the primary vehicle for ensuring Arctic security, and if so, then how. NATO's weakness in the Arctic is its focus on hard security, while the chief local security concerns will be soft ones. However, both NATO and Russia have already collaborated in search and rescue and disaster management, and have the experience of joint counter-piracy operations in the Horn of Africa. This framework can be transposed and developed in the Arctic.

On a bilateral level, the U.S.-Russia joint task force on search and rescue through the Arctic Council and the joint-traffic control systems operated through the NATO-Russia Council's Cooperative Airspace Initiative (CAI) can each serve as a departure point for expanded cooperation. The Global Maritime Partnership initiative can also be used as a global framework for joint activities in the Arctic.

Because of the importance of soft security issues in the Arctic, the most concerned body is the U.S. Coast Guard, more than even the Navy itself. Possible joint coordination of Arctic littoral coast guard activities should be explored. This would imply, however, that the U.S. Coast Guard is better equipped, in particular on the northern border in Alaska. It is not easy to cooperate with the Russian FSB; the Ministry of Emergency Situations (EMERCOM) is the most open to international cooperation and has to be prioritized.

3) To be more holistic and forward-looking

#### *Arctic is knowledge*

Just like the United States, so too Russia aims to have knowledge power status in the Arctic. This civil side can be easily developed with no risks of tensions and will respond to Moscow's need for symbolic recognition of its status in the Arctic. In twenty or thirty years, China will be able to challenge the United States in terms of knowledge, and to have knowledge is to have political power. This issue needs to be closely monitored.

*The main actors in the Arctic can be private ones*

The private sector is summoned to play a major role in developing Arctic infrastructure and capabilities. For this it has both the financial means and the technical knowledge, and the more it gets involved in the Arctic, the greater it will need a joint security strategy with the defense community. The U.S. strategic planning community should therefore discuss ways to engage the private sector. Seasonal U.S. coast guard activities on the Alaskan Arctic side could, for instance, be carried out using infrastructure built by the private sector. It is important to discuss dual use for some infrastructure and logistical means.

### *The future of the Arctic can be Asian*

The role of Asian countries in the Arctic has yet to be studied in detail. The U.S. security and defense communities need to get more information and draw up more scenarios, first on the role of China, and then on those of Japan and Korea. These countries could radically alter the shape of the Arctic landscape, both strategically and commercially. For Russia, the Asian countries can become both key partners and key competitors. The Russia-China axis of convenience will be influenced by relations in the Arctic. The place of India in the Arctic may also be discussed in a global framework dealing with the reshaping of the maritime world order.

## **THREE SCENARIOS FOR 2040**

Russia's Arctic faces multiple possible futures. What do these futures look like? What are the strengths and weaknesses of each of them? What kind of geopolitical axes with the main and regional powers will shape them? What is the pathway to each of these futures? The U.S. defense and security planning community needs to understand what these possible futures look like. Without this knowledge, it will not be able to participate in shaping the Arctic picture in a way that corresponds to its own interests, and not be able to prepare itself should the actual future be detrimental to its interests.

Scenarios are not designated to forecast the future, but to help us to cope with any of them, as the worst scenarios are the ones we have not thought about. Most of the possible futures will never become reality, but they still are part of the range of future possibilities. They are based on the proper identification of current drivers and trends that may shape the decades to come.

The three scenarios presented here do not all have the same degree of probability. The first is the least probable and the most provocative while at the same time certainly plausible in its main trends. The two others are more probable.

In the first scenario Russia has become an Arctic superpower. Due to extreme climate change that took place more quickly than anticipated and rampant demand for energy, Russia is bringing in major revenue from the exploitation of hydrocarbons and rare earth metals (REMs), not only from its Arctic territory but also from the continental shelf, which was attributed to Russia by the UN Commission. Russian companies control the sea lines of communication along Russia's entire Arctic coast. The country has strengthened its hydroelectric and wind power generation, and manages the technologies adapted to climate change. Moscow was able to contain Chinese expansion by addressing Beijing's mineral and energy needs in exchange for the respect of

Russia's far eastern borders and a controlled influx of migrants. Russia has also overtaken Europe – weakened by internal problems – and the U.S. – busy with the Middle East and confined by its relations to Beijing and Mexico. Due to a series of global economic and geopolitical circumstances, Russia has pursued a political regime that is authoritarian, nationalist, partly autarkic, and pro-birth. The regime provides increased salaries to its population, which has shifted to the North due to the loss of the southern part of the country. Ideological constraints are strict, natalism is strongly encouraged, and migration is tightly controlled as Kremlin-led propaganda glorifies Aryan ethno-nationalism. Moscow cultivates the image of a pure Nordic Russia, the final fortress of the “white world” in the face of the invasion of “peoples of color,” and endowed with a world mission in the Arctic lands.

In the second scenario the Arctic has entered the globalized world much more slowly than anticipated. Following nuclear and oil-related disasters, the region obtained a specific legal status making it protected from economic exploitation, which has been partially suspended. Climate change more chaotic than anticipated has prevented the Northern Sea Route from becoming an effective trade line. Only the Barents Sea section is active, and Asian trade takes place on the Pacific front. After significant Russo-European tensions, the Arctic eventually became a space of international cooperation due to a legally binding Arctic Treaty Organization. Russia tried to pursue resource-based nationalism in the Arctic, but it did not work. In the end, Russia has only survived through closer relations with Unified Europe and increasing integration with the Nordic countries. The Russian political regime reflects the population's general shift toward Europe, and it is similar to those in the rest of Europe – democratic with populist xenophobic tendencies. Most of the Arctic and subarctic regions are no longer inhabited, except by indigenous populations, while ethnic Russians have all moved to the country's western and southern regions. The North Caucasus region was lost in the 2020s, but the Far East has not attracted China's interest as had been expected. Russian activities in the Arctic are limited, focused on environmental protection and preparation for emergency climatic situations. Russia has not become an Arctic superpower, but a fragile, medium-sized, European-centered power.

In the third scenario the Arctic has become a globalized frontier, mirroring the evolutions of the twenty-first century as a whole. The region has become an integral component of the global economic system, but the exploitation of hydrocarbons and minerals and shipping along Northern Sea Route have been slowed down by climate change that was more complex than envisaged. The excessive price of exploitation in the Arctic compared to the Middle East, along with new technologies, were not attractive to Western companies, so they remained marginal actors in the sector. The big Russian companies were not successful in their reforms in the years 2010-2020 and thus could not undertake Arctic resource exploitation by themselves. These two conditions left the field open to the Asian powers. For China especially, but also for Korea, Japan, India, and Indonesia, the high prices of Arctic resources are not a problem because their energy security and geopolitical security are of greatest importance. The Chinese flag now flies over the exploitation sites, the ships, and the polar scientific stations in the Arctic, and the technologies adapted to climate change are also from Asia. In the years 2020-2030, Russians moved to the European areas of the country, the Far East came under Chinese control, with the wealth of the Arctic being exploited by 30 million migrants. To avoid interethnic riots, segregation mechanisms have been instituted. The two principal communities of migrants – Central-Asian and Chinese – are in increasing conflict and their powerful lobbies are clashing. The Muslims of Tatarstan and the North-Caucasus region constitute a significant part of the

population. Moscow is no longer the master of the development of its Arctic territory and the geographic fragmentation of Russia as a whole is becoming increasingly noticeable: Russians in Europe, Central Asians in Siberia, and Chinese in the Far East.

## 2. REPORT

### 1. INTRODUCTION

The analysis of the changes taking place in the Arctic today is often framed by historical references, as though the new patterns of the twenty-first century need to be explained in familiar terms in order to be understood. For example, the strategic issues are framed using significant, albeit journalistic historic parallels. These include the conquest of the West (*the New Far West*), the Cold War (*the Ice Cold War*), or the Great Game in Central Asia at the end of the nineteenth century (*the New Great Game*). The economic issues, often presented without taking into account real commercial context and knowledge of private actors, evoke the Gold Rush (*the Arctic Rush*).<sup>1</sup> At the other part of the spectrum, that of environmental concerns, the messages target emotional sensitivity to nature and wildlife, such as the National Geographic photo of a polar bear, the quintessential symbol of the Arctic, trapped on a melting iceberg.<sup>2</sup>

Expected climate change is an important driver in the global picture of the Arctic, but it is not the only factor shaping its future. The Arctic is a region where various countries' warships and submarines will continue to cross paths; where the fragile ecosystems of local populations and wildlife need international oversight and protection; where, according to the global price of hydrocarbons and minerals, potentially profitable exploitation of these resources could begin despite extreme conditions; and finally, where air traffic linking North America, Eurasia, and Asia continues to increase because the route via the polar area saves time and fuel. Nevertheless, a great deal of the Arctic's future does depend on climate change. This could encourage broader perspectives on human activities, but it could just as easily mean the region becoming increasingly inhospitable, and unpredictable to human and animal life.

#### 1.1. The Complexities of the Arctic Debate

The Arctic debate has several distinctive features. Like discussions on climate change, it is a globalized debate. Interested parties come not only from North America and Europe, but also from Asia, Latin America, and Africa. The Arctic debate is even more multidisciplinary than that on climate change, with climatologists, geographers, oceanologists, scholars from the human and social sciences, and security specialists all in the mix. The public voices on the Arctic also epitomize the wide diversity of people involved in the debate: scientific groups, indigenous communities, politicians and members of the military, NGOs with environmental agendas, and private businesses are all invited to hear and take into account other points of view. The feeling of a growing contradiction between environmental protection and natural-resource development accentuates the impression of many views coming together but not connecting.

But the Arctic is also distinctive in the way that it stimulates our imaginations. As the last *terra incognita* of humanity—with its great marine depths—it is apt to evoke romantic and utopian clichés. The two poles remain largely unknown and untamed spaces. The entire weight of cultural history thus comes into play. Everyone has their own concept of the Arctic, influenced by readings from childhood, and sensitivity to the great human epics of traveling around the planet by sea or air, along with the polar expeditions of the nineteenth and early twentieth centuries.<sup>3</sup> Moreover, the Arctic is eminently visual. Photos play a key role in public awareness,

sometimes seeming to communicate more than words can, and demanding respect for “Mother Earth.” Another striking visual element of the Arctic is maps. To understand the Arctic, one must look at the globe from a very different angle. Visual representations have a direct impact on perceptions of identity, place in the world, and security. But they are also capable of distorting reality and power relations.<sup>4</sup>

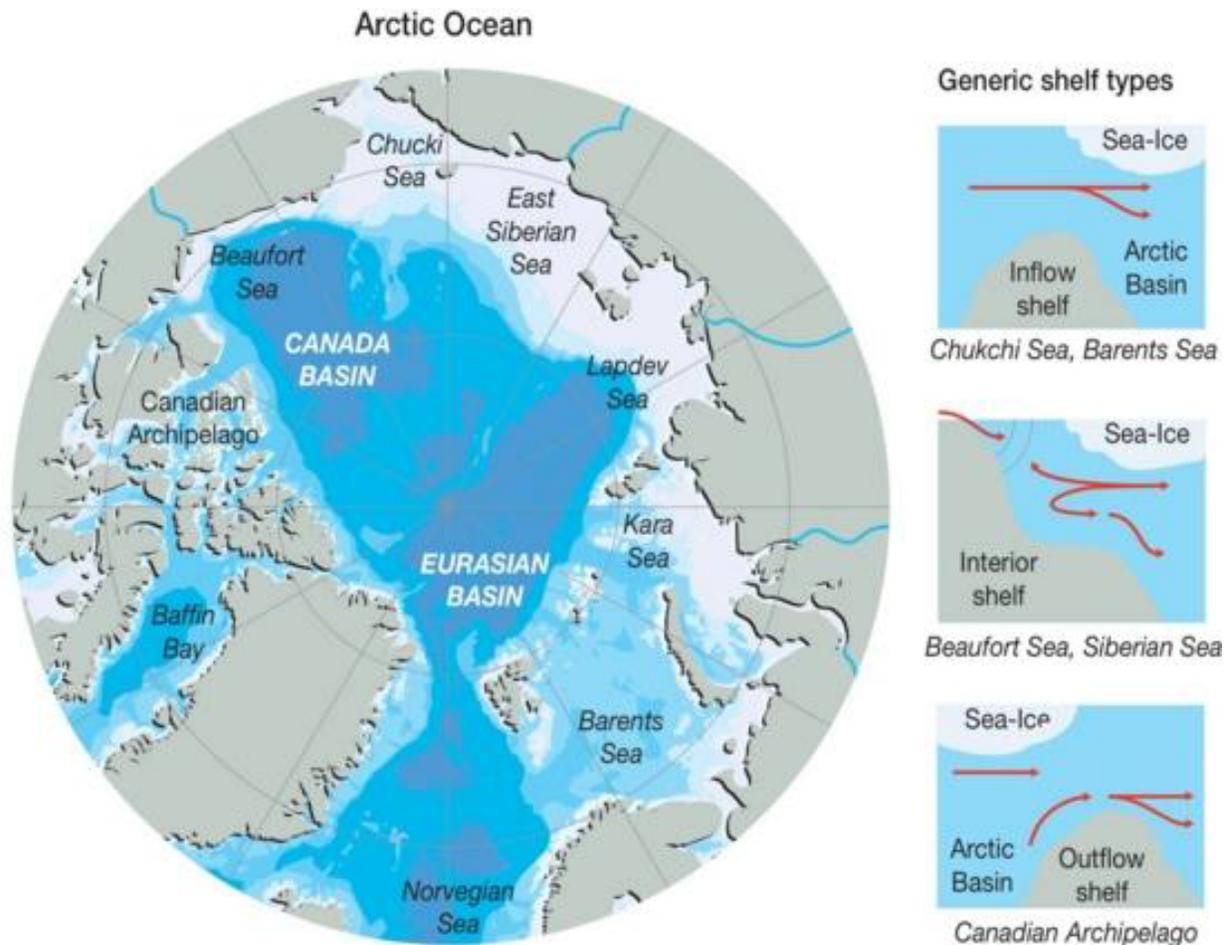
A great number of arguments and viewpoints must be taken into account in order to discuss the Arctic. As such, collecting information is sometimes challenging. Journalistic reports are plentiful, and they tend to overshadow any academic works, which are usually very rooted in their own disciplines with little or no cross-referencing. Connections between natural sciences, human sciences, and security studies are largely underdeveloped. Moreover, most information is presented from a national point of view. American and Canadian publications are almost entirely focused on their bilateral issues (Northwest Passage, Beaufort Sea, and Alaska), and Scandinavians and Russians focus likewise on their own such issues. The importance of the Arctic in the transatlantic partnership is as yet rarely discussed, and Russia is generally the major missing contributor in Western discussions. All the concerned states have published their Arctic strategies, Norway and Canada first, the United States last, while the civil society links to Arctic subjects are more or less exclusively Western. Non-Arctic states like China and Japan also want to promote their points of view, and many international organizations are part of the picture: the International Maritime Organization (IMO) and other UN entities, NATO, the European Union, the Arctic Council, and the Barents Euro-Arctic Council (BEAC). Everyone wants to participate in creating the Arctic narrative.<sup>5</sup>

## **1.2. The Geographical Arctic and its Political and Institutional Landscape**

There is currently no universally accepted definition for the spatial scope of the Arctic. Climatologists, oceanologists, historians, and geopoliticians all lay out their own criteria. Some definitions only take into account the Arctic Ocean, which is the smallest of all the oceans with only 3 percent of the world’s total ocean surface area and 1 percent of its volume. Although it is classified as an ocean because of its size (14,000 square kilometers), it is also reminiscent of the Mediterranean Sea, being mostly surrounded by land. The Arctic Ocean’s distinctive feature is a more extensive continental shelf, covering about one-third of the seabed and reaching a width of 1,200 kilometers in Siberia. A vast number of islands rise up from the shelf, considerably limiting opportunities for deep draught vessels.<sup>6</sup> Even Arctic maritime borders differ. The U.S. National Oceanic and Atmospheric Administration (NOAA) has defined seventeen large marine ecosystems for the Arctic,<sup>7</sup> while the Food and Agriculture Organization (FAO) classifies the Arctic waters in a different way, according to the purposes of fisheries.<sup>8</sup>

Other definitions include land, in which case the criteria of delimitation are even more complex. Bio-regions are often the leading criteria: for example, the natural borders where vegetation ceases to grow (the tree-line), the zones whose temperatures do not exceed 10 degrees Celsius in July, or the regions where the permafrost begins. The Arctic Climate Impact Assessment (ACIA) divides the Arctic into four sub-regions: Eastern Greenland to Western Russia, the Siberian shelf, Chukotka to the Western Canadian Arctic, and the Central Canadian Arctic to Western Greenland.<sup>9</sup> Still other definitions consider that the entire Arctic Circle (66° 33’ North) must be included, which means all of Greenland and the Faroe Islands, as well as the Bering Sea and the

Aleutian Islands.<sup>10</sup> The Arctic Council defines the region as spreading over more than 30 million square kilometers with a population of about four million.<sup>11</sup>



But if one takes into account the criteria of extreme climate conditions, almost all of Siberia, a large part of Canada, and Iceland can be classified as Arctic or subarctic. The borders could extend still farther; China tests its polar scientific advances in the high plateaus of Tibet, which it considers its own “High North.” Everyone seems therefore to have their own definitions of the Arctic. The question of the Arctic’s southern borders has direct consequences on the level of analysis and on the decision-making process. Even the terminology used to describe the Arctic is vast, such as High North, Circumpolar North, and Polar regions. The differences are often poorly defined and depend primarily on national traditions. Russia refers to its Arctic regions as the High North (*Dal’nii* or *Krainii Sever*), Norway is more accustomed to the term “polar” or “European Arctic,” the institutions focused on indigenous issues favor “Circumpolar North,” etc.

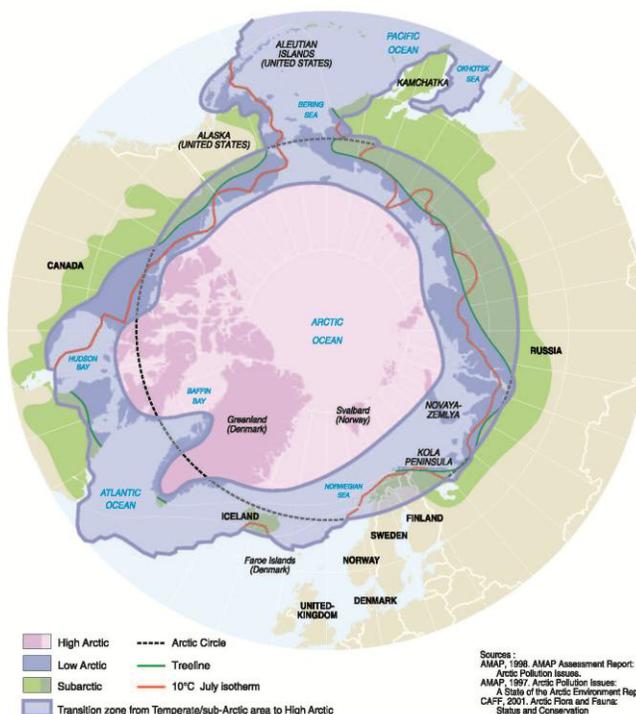
However, the Arctic is not merely a geographic space. It is also a political space, with its already blurry borders further distorted by state-centric mindsets. Five states, known as the Arctic Rim,

have coastal Arctic waters: the United States, Canada, Denmark, Norway, and Russia. For two of them, the coastal waters are not geographically contiguous with the mainland: Alaska for the United States and Greenland for Denmark. While Alaska is still part of the North American continent, Greenland is a specific, isolated component of the Kingdom of Denmark, likely moving toward independence or at least a growing level of autonomy. Three other states have Arctic territories but without access to the Arctic Ocean: Iceland, Finland, and Sweden. This categorization may impact policy-making. In the 2008 Ilulissat Declaration, the five Arctic Rim countries announced their cooperation on high-level ocean policy issues without the participation of the three other states, which protested their exclusion from the decision process.<sup>12</sup>

A great number of regional institutions are also involved in the future of the region.<sup>13</sup> All the Western Arctic Ocean states are members of NATO (the United States, Canada, Iceland, Denmark, and Norway). Although Denmark, Finland, and Sweden are members of the EU, Norway is not, which means that the EU has Arctic lands but no Arctic coastline. Iceland and Norway are members of the European Free Trade Association (EFTA), but Greenland is not, also having opted out of the European Economic Community (EEC), which preceded the EU. In addition, the situation is evolving since Greenland and the Faroe Islands may well proclaim their independence from Denmark in the years to come, becoming new independent players and thereby reducing Copenhagen's role. Iceland, Norway, Sweden, Denmark, and Finland make up the Nordic Cooperation. Three Arctic states are members of the G8: the United States, Russia, and Canada. The same three are federations that have given some autonomous rights to their sub-administrative units and their indigenous peoples. The presence of the U.S.-Russia partnership in the Arctic and the memories of the Cold War complicate negotiations, as do perceptions of threat.

Apart from the organizations mentioned above, two others are specifically devoted to Arctic questions: the Barents Euro-Arctic Council (BEAC) and the Arctic Council. The Foreign Affairs Ministries of Finland, Norway, Sweden, Russia, Denmark, and Iceland, and the European Commission made the BEAC formal in 1993. Today, Canada, France, Germany, Italy, Japan, the Netherlands, Poland, the United Kingdom, and the United States participate as observers. The BEAC engages in manifold activities, such as managing spent nuclear fuel and radioactive waste, simplifying border crossings, cooperating on the environment and emergency and rescue, and strengthening the history and cultures of the region with the involvement of indigenous peoples.<sup>14</sup> To this day, the Barents area remains Europe's largest for interregional cooperation.

## Boundaries of the Arctic



## Vital Arctic Graphics

People and global heritage on our last wild shores

1

The Arctic Council, established in 1996, is an intergovernmental forum designed to build consensus on issues of environment and sustainable development, as well as to monitor pollution, disseminate information, and promote cooperation among the eight Arctic nations. It was born from the Arctic Environmental Protection Strategy (AEPS), which was founded in 1991 to deal with the threat of polar pollution. It includes the four initial AEPS working groups<sup>15</sup> and two additional groups: one on sustainable development (SDWG)—particularly active after the 2004 Arctic Climate Impact Assessment—and the other on the Arctic Contaminants Action Program (ACAP). The Arctic Council has worked in particular to improve the membership status accorded to the Arctic's indigenous peoples, making their NGOs permanent participants equal to the states. The Council also works mainly on issues related to environmental protection and sustainable development and excludes matters linked to military security.<sup>16</sup> In the absence of a permanent secretariat, the work of the Arctic Council is heavily influenced by the priorities of whichever state is chairing the two-year rotating presidency.

The Arctic is often presented in the media and public opinion as a new Far West, in which international law is either nonexistent or not applied by the rival players. However, the Arctic has many complex legal charters, which sometimes overlap, and some specialists think there is too much rather than too little legal framework. Since the Arctic Ocean possesses no particular status, it is subject to the decisions of the International Maritime Organization. Moreover, it also comes under the United Nations Convention on the Law of the Sea (UNCLOS), which was signed in 1982 and came into force in 1994. The Convention has been ratified by more than 150 states including all the Arctic coastal states except the United States, and therefore has major legal influence over the region.<sup>17</sup> According to UNCLOS, all states, coastal or not, possess legitimate rights and interests on the high seas and in deep seabeds, in the Arctic as in the other oceans, and are therefore able to participate in decision-making, which some have not hesitated to point out. Accordingly, the European Union, China, Japan, and South Korea have been accepted as *ad hoc* observers in the Arctic Council, some of them having applied for observer status, others for permanent observer status.<sup>18</sup>

In spite of the existing legal framework, many experts stress the fact that these regulatory systems and supervising institutions are founded on soft-law status, an *ad hoc* funding system, and consensus. The legislation and institutional mechanisms do not seem fit to handle any serious tensions that may arise.<sup>19</sup> For instance the Arctic Council has no regulatory mandate and cannot enforce its decisions on member states. To date, only one genuinely circum-Arctic agreement has been signed—the 1974 Agreement for the Protection of Polar Bears. Impending climate change pushes all participants to consider a more consistent normative framework, since the Arctic Council is currently unable to do much for the sustainability of the region. The EU and increasing numbers of states question whether the Council is able to perform the tasks expected of a forum in charge of managing a region that is undergoing such significant transformation. However, in Ilulissat, the five states of the Arctic Rim stated that they saw no interest in forming a new comprehensive international legal regime for the region.

For several years the idea of an Arctic Treaty based on the model of the 1959 Antarctic Treaty and the 1983 Madrid Protocol on Environmental Protection to the Antarctic Treaty has been suggested by some experts and politicians as a means of giving the region a strong institutional structure, but without leading to anything precise. As of now, only the Antarctic is governed by a legally binding regime. It is clear that the Arctic and the Antarctic are fundamentally different geographically; one is an ice-covered ocean, the other is an ice-covered continent, one has human inhabitants, the other does not. But they are also very different in legal terms. Much of the Arctic falls under the sovereignty of various states, while claims on the Antarctic have been frozen.<sup>20</sup> The Antarctic model is therefore not particularly relevant for a regional legally binding system in the Arctic, and other legislative ideas must be explored.<sup>21</sup>

### **1.3. The Arctic: Not a New Geopolitical Pivot, but a Balance Shifter**

Long dismissed as a frozen waterland, for better or for worse, the Arctic is suddenly in the spotlight. Moving from unknown to known, marginal to central, this new front-page story gives rise to analyses that are fond of wielding superlatives: the most northern region, the coldest one, the region with the longest nights and longest days, the most fragile ecosystem, the region richest in hydrocarbons, etc. Similar extremes can also be found in strategic thinking. Some hasten to

predict an Arctic completely altered by climate change, with a sudden growth in population, filled with international terrorists looking for an unregulated haven, and having become the next Suez Canal in terms of shipping and the next Middle East in terms of hydrocarbons. However, this vision tends to distort the realities of the Arctic region, and it also neglects to compare the opportunities to be found there to those found in other regions of the world.

Must the Arctic bring about a drastic change in the twenty-first century global balance of power? Is it a new geopolitical pivot similar to the one announced by Sir Halford Mackinder in the nineteenth century for Siberia, and Central Asia? While the previous *Heartland*—the pivotal point between continental and maritime powers—was found in the expanses of Eurasia, will the new one be the High North? Will “whoever controls the Arctic controls the world” become the maxim of the twenty-first century? The viewpoint defended here is that the Arctic is not the new geopolitical pivot point, but it will be one of the *balance shifters* in the global equilibrium of power.

The states that are most active in the Arctic will increase in prominence, not only through their strategic and economic engagement in the region, but also through scientific efforts that bring international prestige and recognition, display technological mastery, and participate in nation-branding. It will also contribute to re-shaping geopolitical axes such as transatlantic commitment, Nordic Europe-Russia partnership, or an Asia-Russia pairing. Growing interest in the Arctic coming from Asian states including China, Korea, Japan, and possibly India confirm the Arctic’s role as a global balance shifter. It does not change the fundamental order, but it adds new weight for various states. Moreover, the Arctic will set the tone for evolving relations between twenty-first century actors: states, private actors, NGOs, populations, and supranational organizations. Here again the issue of prestige is important: a state with better relations with private corporate actors and civil society is able to take advantage of superior international branding and has more levers in its favor.

In the second half of the 2000s, the geostrategic uncertainty in the Arctic gave rise to a proliferation of discourses predicting its transformation into a war-like zone. Having been a central area of the U.S.-Soviet opposition during the Cold War and marked by numerous incidents that could have led to an escalation of the conflict, the Arctic could potentially be added to the long list of “hot” or “frozen” conflict zones. Indeed, the great world powers—the United States, Russia, Europe, and Japan—have long rubbed shoulders here, while the rising Asian powers—China in the lead and India following—do not conceal their interest in the region. The changing status of NATO, as it tries to redefine its missions in a post-Cold War world, combined with the ups and downs of NATO-Russia relations, certainly complicates the Arctic security debate. This conflict-oriented vision has been reinforced by self-assertive rhetoric coming from some coastal states, particularly Russia and Canada. Certain politicians and public figures have engaged in the inflation of aggressive formulations, from the “we will not give the Arctic to anyone” of Artur Shilingarov, the Russian president’s special representative for cooperation in the Arctic and Antarctic, to the “use it or lose it” of the Canadian Prime Minister Stephen Harper. Although their rhetoric was aimed primarily at domestic public opinion, it also has significant international repercussions.

Verbose rhetoric aside, taking the realities of climate extremes into account makes the players much more modest and hesitant than they wish to admit. Arctic domination poses real technological, human, and financial challenges. The economics of such an endeavor depend on factors like long-term climatic changes and world prices for hydrocarbons and minerals, which are difficult to measure and cannot really be assessed until 2020-2030, maybe even later. On strategic issues the tendency has very clearly been one of de-securitization, as the Arctic region is no longer hanging in the precarious nuclear balance of the Cold War. Despite the reprisal of some military activities, the Arctic is increasingly persuasively viewed as a space of growing potential cooperation where the central stakes pertain to soft security, environmental challenges, and human security.<sup>22</sup> No one has expressed a desire to redraw the land boundaries of the Arctic. Claims on the Arctic continental shelf have all been presented peacefully within the framework provided by UNCLOS. Moreover, more than 80 percent of the coveted offshore resources are located in the exclusive economic zones of each state, and therefore do not present any potential for conflict.<sup>23</sup> As Alison J. K. Bailes rightfully notes, since Arctic challenges are cross-sectoral, multi-functional, and multi-institutional,<sup>24</sup> they push toward geopolitical cooperation and legal innovation.

Although the Arctic does not face an objective risk of conflict, it is a legitimate security concern.<sup>25</sup> Several elements must actually be taken into account. First, there is a global geo-strategic uncertainty in the Arctic that pushes certain states like Russia not toward conflict but toward proactive policy in order to diminish this uncertainty. Second, there is a high potential for accidents (collisions between ships or submarines, with oil platforms, or oil spills), for small-scale, localized tensions over mineral or fish stock resources that can suddenly degenerate, or for the misinterpretation of other players' actions. Finally, some states may have subjective feelings of being marginalized vis-à-vis the Arctic or of having been robbed of their international rights. Perceptions of threats and projections of power therefore constitute major elements in the Arctic security debate. All of these elements combined confirm that Arctic security, being understood as an "inter-subjective speech act," is definitely an issue.<sup>26</sup>

#### **1.4. Geostrategic Drivers of Russia's Objectives in the Arctic**

Due to its geography and history, Russia is probably the least known regional actor. Nonetheless, Moscow dominates the Arctic from many points of view. Geographically, Russia has direct control of half of the Arctic coastline, 40 percent of the land area beyond the Circumpolar North, and three quarters of the Arctic population. In total, the sea and land surface area of the Russian Arctic is about 6 million square kilometers. Economically, as much as 20 percent of Russia's gross domestic product (GDP) and of its total exports is generated north of the Arctic Circle.<sup>27</sup> In terms of resources, about 95 percent of its gas, 75 percent of its oil, 96 percent of its platinum, 90 percent of its nickel and cobalt, and 60 percent of its copper reserves are found in Arctic and sub-Arctic regions. To this must be added the riches of the continental shelf, seabed, and the water itself—often estimated but rarely proven—ranging from rare earth minerals to fish stocks.

Russia has always played a key role in the Arctic strategic balance. During the Cold War this contributed to rising tensions between coastal states and to a focus on hard security and sovereignty issues, but it has also facilitated the region's strategic de-escalation and the promotion of international cooperation. Mikhail Gorbachev's famous speech in Murmansk in

1987 inspired the negotiations (that began two years later) for an Arctic environmental protection strategy, and called for a series of wide-ranging proposals to be adopted on regional cooperation in the Arctic. These include restrictions on naval activities, the establishment of a nuclear weapons-free zone in Northern Europe, and the development of trans-border cooperation.<sup>28</sup> The Arctic is vital to Russia's national security. It is its most dynamic NATO border (much more than the Bering Strait), its border with the EU, its access to the Atlantic Ocean, and convenient locations for nuclear and other strategic deterrence systems.

As with other international issues, Putin's Russia has been sending mixed messages on the Arctic to the international community. Moscow played an undeniable role in the escalation of aggressive rhetoric when the Russian flag was planted in the Arctic seabed in 2007, and gave voice to Artur Shilingarov and his provocative speeches—even though the Russian state itself had not made any illegal claims on the continental shelf. However, since 2008-2009, Moscow has been noticeably focused on creating a more cooperative "Arctic brand" and positioning itself as co-leader of international consensus on the region. At the time of the Arctic Forum in September 2010, Putin affirmed, in a very Western-style speech, that "while we are taking care of a steady and balanced development of the Russian North, we are working to strengthen our ties with our neighbors in our common Arctic home. And we think that preserving the Arctic as a zone of peace and cooperation is of the utmost importance. It is our conviction that the Arctic area should serve as a platform for uniting forces for genuine partnership in the economy, security, science, education and the preservation of the North's cultural heritage."<sup>29</sup>

The revival of Russian interest in the Arctic led to a great deal of technocratic activity, with a profusion of policy guidelines that were complemented by detailed programs under various ministries and governmental agencies. A first state strategy for the Arctic was published in 2001, and although it was hardly implemented, it signaled that the region was once again included in Moscow's global security concerns, following its disappearance from the agenda during the turbulent Yeltsin years. During his second term, Vladimir Putin re-emphasized the Arctic's strategic importance for Russia, with among other things a report completed in 2004 by the Russian State Council Working Group on National Security Interests in the North. Several legal texts were adopted: a new Russian maritime doctrine through 2020; development plans for naval construction, maritime transport, and the fishing industry; a state policy for maritime military activities; and a defense strategy for state borders, inland waters, territorial seas, the continental shelf, and Russia's exclusive economic zones.

Finally in September 2008, a second Arctic Strategy of the Russian Federation through 2020—designed under the auspices of the Security Council—defined the main goals and strategic priorities of Russia in the Arctic, including socio-economic development, military security, environmental security, science, technology, and population challenges.<sup>30</sup> In this document the Arctic is explicitly presented as "the main strategic base for Russian natural resources" in the twenty-first century.<sup>31</sup> Russia's goal is to be able to start taking advantage of the Arctic resources in 2020, which seems like an optimistic timeframe. The National Security Strategy of the Russian Federation through 2020, released in May 2009, also underlines the quest for energy resources, which are considered to be the potential means for Russia to remain a great power. The document confirms Russia's interest in the Arctic, which is elevated to the status of the Caspian Sea and Central Asia as one of the main energy battlegrounds of the future.<sup>32</sup> Over the

next decade Moscow plans to elaborate a comprehensive security system for the Arctic, including coastal defense infrastructure, navigation aid, satellite and radar surveillance, protection of economic activities, and early warning and crisis management capabilities.

Since the collapse of the Soviet Union, Moscow has viewed the world through its fear of being confined to the periphery of international decision-making, and in the forthcoming decades it will have to face many strategic dilemmas. Russia can either be a “mediocre power,” as stated by John W. Parker,<sup>33</sup> meaning a primary international player *by default* due to its nuclear capabilities, its veto power on the UN Security Council, and its size and location, but without the capacity to promote a “Russian voice” in the world order; or it can become a more European-centered, medium-size power, with limited but assumed ambitions and capacities. In this context the focus on the Arctic suddenly opens new options, albeit ambitious and largely disconnected from true capacities. It could give Russia a dynamic and innovative place on the international scene, allowing it to be seen as more than a merely key symbolic player in the world balance.<sup>34</sup> The role of Asian countries in the Arctic, especially of China, could radically alter the shape of the Arctic landscape, both strategically and commercially. The Russia-China axis of convenience, already complex,<sup>35</sup> will be influenced by relations in the Arctic.

### **1.5. The Arctic as a Domestic Challenge: Rethinking Russia’s Human Geography**

Expected climate change and the evolution of the geostrategic, economic, and human landscape in the Arctic constitutes a challenge for all countries concerned, but even more so for Russia, as the Arctic directly impacts its domestic future.

The Arctic is first of all an integral part of Russian imperial history, particularly the conquest of Siberia starting as early as the sixteenth century; then of the Soviet Union’s history. The Stalinist myth of the Northern Sea Route used in the 1930s and 1940s to exert the military and industrial prowess of socialism remains influential today. Since the mid-2000s, the Arctic has been approached as an important identity-building project for the new Russia and a domestic and international flagship for the Kremlin, with popular support that is difficult to measure but in all likelihood real. The Arctic also holds a significant place in Russia’s collective imagination, an integral part of nationhood. The dream of a “second chance” due to climate change creates the background, often subconsciously, of the Russian mindset. The notion that an evolving Arctic might provide Russia with a last chance for great power re-opens long-term visions for the country’s survival, while forecasts for the medium term are largely pessimistic.

Because of the Arctic, Moscow’s geopolitical fundamentals are shifting. Russia—a traditional symbol of continental power, both autarkic and imperialistic—suddenly sees a new ocean opening for it.<sup>36</sup> The Arctic’s being frozen made it into a key element of geopolitical containment for Russia’s competitors, and was a major domestic route for the Soviet Union. Despite U.S. submarine traffic in Arctic waters and regular encounters with the Norwegian navy, Moscow felt the High North was secure and could focus on securing its west, south, and east. Today, the balance has shifted. Russia could present itself as a maritime state, break its encirclement in a direction until now unused, but at the same time find itself with a new border to protect. Moscow can suddenly look with certain optimism at its immense Siberian continental hinterland, cut off from the southern routes of the Trans-Siberian, which could become connected to the rest of the

world by the transformation of the Arctic Ocean into a sea transit route. Access to the Pacific North would also shift the geopolitical and economic domestic order by emphasizing the value of Russia's Pacific face, which opens onto the dynamism of Asia. The spatial projection of Russia in general and of landlocked northern Eurasia in particular would emerge drastically changed.

Russian strategic thinking on the Arctic is thus formulated on a long-term perspective. For Moscow, the Arctic is not its back door, but its potential twenty-first century front door. Moreover, Russian decision-makers think—probably rightfully—that maintaining the status quo in terms of strategic equilibrium has almost always been unfavorable to Russia for the past two decades. For this reason, although its foreign policy is fundamentally reactive, Russia's policy in the Arctic is pro-active—a new approach for Moscow thought to be better suited to advancing its interests.<sup>37</sup>

Russia also hopes to find in the Arctic a solution to its economic dead-end. The country cannot remain a major power without energy and mineral resources, which make up the backbone of its economy. Even if the strategies of modernization—which have remained mere rhetoric until now—that Dmitry Medvedev has proposed become a reality and Russia transforms itself into a kind of post-industrial economy focused on services and the high-tech sector, the Russian state would have to spend enormous amounts of its budget for at least two decades to finance structural economic changes and workforce education, and the necessary funds would still have to come from its hydrocarbons rent.<sup>38</sup> Yet, these energy revenues needed for modernization cannot be maintained without immediate massive investments of hundreds of billions of dollars. The squaring of the circle will therefore be difficult to avoid. However, Western analyses that suppose that an oil and gas-based economy is archaic are misled. The hydrocarbons industries, and more so harsh-weather technology, is fundamentally high-tech. The major problem of the Russian economy is therefore not limited to the question of the “diversification” of its sectors.

The central problem that the Kremlin must face is that of rising costs and diminishing capabilities: rising costs of maintaining Soviet-era infrastructure while simultaneously looking to develop new investment sectors, and diminishing human and technological capacities. The Russian state therefore tends to promote ways to camouflage its deficiencies while also trying to overcome them—opening itself to international cooperation without which it cannot modernize its industries, but without having to pay a political price. In the Arctic, Moscow will therefore have to learn to manage the rather classical contradiction between the imperatives of competitiveness, which imply more openness to industrial partnerships with foreign companies, and considerations of sovereignty. This balance is perhaps more critical in Russia than in other countries because the regime is fixated on three pillars: financial autonomy, energy security, and domestic stability. However, these three pillars do not always seem to have compatible priorities, and they have divergent timeframes over the short, medium, and long terms.<sup>39</sup>

When Moscow dreams of the strategic and economic potential of the Arctic it projects on the region the ghost of the Soviet past in terms of managing a territory and its population. Russia's new Arctic strategy thus indirectly reopens the debate on “the cost of cold” and Russia's hope of turning this cost into an asset. In a work titled *The Siberian Curse*, Fiona Hill and Clifford Gaddy attempt to establish the cost—technical, financial, and human—of developing the Siberian regions that are unfavorable to modern human settlement by creating a “temperature per capita”

system.<sup>40</sup> While the vast territories of Canada and Australia have concentrated areas of population and industry, the Soviet Union conceived its development as extensive and not intensive. Territorial control was reflected in the dispersion of human settlement and of the drivers of economic development. The Soviet regime therefore relied largely on the work of Gulag prisoners for achieving its goals of industrialization, and it subsidized unprofitable industries, while the population based in Siberia and the Arctic had low productivity compared to the other regions of the country. This financial and human burden played a major role in the Soviet collapse, marked by the misallocation of resources.

Today the Russian state must manage the heritage of its Soviet past while simultaneously breaking free from old patterns. The question remains of whether a sparsely populated territory is necessarily a risk for national security and border stability. Since Australia is an island, and because Canada has a unique relationship with the United States and no other neighbors, these countries do not view their low-population zones as problematic. However, this is not the case for Russia. Still, the Russian Federation of today is not the Soviet Union of yesterday. Freedom of movement is spontaneously pushing the Russian population toward the western and southern areas of the country, leaving the eastern and northern regions deserted. But Moscow continues to believe in the imperative of a permanent settlement in the Siberian, Far East, Arctic and Sub-Arctic zones, and thinks that the population is “too few” compared to the size of the country even if it is “too many” in terms of the level of productivity.<sup>41</sup> Thus, Moscow’s new development program for the Far East is based on Soviet mechanisms: heavy industrialization projects and new incentives for the population to stay and even migrate there.<sup>42</sup> However, as formulated this policy has little chance of success. Siberia in general and the Arctic in particular are border resources and must be considered separate from the rest of the Russian mainland, with specific economic development patterns and human presence.

The famous “modernization challenge” evoked by Dmitry Medvedev<sup>43</sup> is therefore at play here. Rethinking the role of the Arctic in twenty-first century Russia presumes that the ruling elites open a public debate on the notion of connectedness, and that the emphasis on economic development is focused on technology, communications, and transportation as opposed to size and location.<sup>44</sup> As such, the Arctic could see the emergence of a new Russia, or a resurgence of the old. The second challenge to address is the population issue. Stuck in an unprecedented demographic crisis, which has a decisive impact on Russia’s workforce, particularly the educated workforce, Russia cannot envision an Arctic future without a major migratory policy based on an American or Canadian model. But this presumes that the Kremlin keeps the lid on the Pandora’s box of Russian nationalism and takes up the fight against rising xenophobia. Through the Arctic issue, Russia sees some fundamental features of its history called into question. The mental geography of the country is supposed to be modified in a decisive manner, and the idea that size and location gave international stature to Russia must be reformulated, placing the emphasis on efficiency, productivity, and the well-being of the population. The Arctic therefore illustrates Russia’s current crossroads of demography or geography as a destiny, and space as a blessing or a burden.

In all likelihood, no other country in the course of recent human history has experienced the level of change that Russia went through in 1991. But Russia still faces challenging evolutions ahead: changes in the perception of its place in the world, likely to be more modest; changes in the

increasing connection with Western interests; changes in ways of life and cross-border movement that bring Russians closer to the rest of Europe; changes in strategic challenges that will be more non-traditional than conventional; changes in the strategic balance with China that will give Russia a status of Beijing's "junior partner"; changes in growing insecurity coming from the southern regions, Central Asia, Afghanistan, and the Caucasus; but also changes in society in terms of population, migration, culture, and relation to politics.<sup>45</sup>

At the beginning of the twentieth century, the Norwegian polar explorer Fridtjof Nansen (1861-1930) called the Russian Siberian north "the land of the future."<sup>46</sup> A century later, Russia stands on the cusp of multiple potential Arctic futures, but its traditional ideology of space (the appropriation of new territories, or *osvoenie*) must be fundamentally re-examined. Some of Russia's potential futures depend on drivers outside of Moscow's control—such as climate change, the global price of energy and minerals, the growing role of Asian countries, and the evolution of technology—but Russia as a state and as a society has control over a large part of its destiny for the twenty-first century.

### **Key Findings and Pathways to the Future**

The Arctic is not the new geopolitical pivot-point of the twenty-first century, but it will be one of the *balance shifters* in the global equilibrium of power.

The Arctic will set the tone for evolving relations between twenty-first century actors: states, private actors, NGOs, populations, and supranational organizations.

Expected climate change constitutes an important element of the global picture, but the future of the Arctic is not limited to it. Certain strategic factors and economic components could develop without climate change.

A global geo-strategic uncertainty in the Arctic pushes certain states like Russia not toward conflict but toward proactive policy in order to diminish this uncertainty.

Heightened potential for accidents (collisions of ships or oil spills), for small-scale tensions (over mineral or fish stock resources) that could suddenly degenerate, or for misinterpretations of attitudes of the other players creates security risks in the Arctic.

Perceptions of threats and projections of power constitute major elements in the Arctic security debate.

The Arctic does not face a real *risk of conflict* but is a legitimate *security concern*.

The growing role of non-Arctic powers, mainly Asian ones, can be an element of stability but also a component of strategic escalation. Their role in the Arctic balance needs to be carefully monitored, especially because China, Korea, and Japan could partly transfer their mutual tensions to this region. The Russia-China axis of convenience, already complex, will be influenced by the relation in the Arctic.

Moscow views the world through its fear of being confined to the periphery of international decision-making. The focus on the Arctic suddenly opens new options, albeit ones that are ambitious and largely disconnected from its actual capacities. Russia hopes to gain a dynamic, innovative place on the international scene, and to be seen as more than a merely symbolic player in the world balance.

Russia's global geopolitical fundamentals are moving. The Arctic Ocean was an aspect of geopolitical containment for Russia's competitors and a secure major transport route for Moscow. Today, this balance has shifted. Russia could suddenly present itself as a maritime state, break its encirclement in a direction until now unused, but at the same time find itself with a new border to protect.

The spatial projection of Russia in general and of landlocked northern Eurasia in particular would emerge drastically changed.

Russian strategic thinking on the Arctic is formulated on a long-term perspective. For Moscow, the Arctic is not its back door, but its potential twenty-first century front door.

The Kremlin thinks that maintaining the status quo in terms of strategic equilibrium has almost always been unfavorable to Russia for the past two decades. For this reason, although Russian foreign policy is fundamentally reactive, Moscow's approach to the Arctic is pro-active.

Russia hopes to find in the Arctic a solution to its economic dead-end. The central problem that the Kremlin must face is that of rising costs and diminishing capabilities.

The Russian regime is fixated on three pillars: financial autonomy, energy security, and domestic stability. However, these pillars do not always seem to have compatible priorities, and they have divergent timeframes over the short, medium, and long term.

Russia faces an unprecedented demographic crisis and lack of workforce, particularly the educated workforce. But Russia also believes that the size and location of its territory can ensure the survival of the country. The Arctic therefore illustrates Russia's current crossroad of whether demography or geography will be its destiny.

## **2. EXPECTED CLIMATE CHANGE AND ITS IMPACT ON RUSSIA**

There is substantial evidence to indicate that global warming of some significance will occur during the twenty-first century. Russia's vast territory will be particularly affected, as the northern zones of the globe have proven especially fragile faced with climate evolution. The national scale is a complex matter, however, as regional and local scales are particularly difficult to model. The fourth Intergovernmental Panel on Climate Change (IPCC AR4) does not include predictions specifically focused on Russia, but integrates it into the overall northern Asia area. Warming in this region is expected to be well above the global mean. It is also expected that Russia will be one of the countries that stands to benefit the most from these climate changes, with positive aspects for its economy, especially in the sectors of agriculture and hydroelectricity. But it will also have to endure negative effects, ranging from permafrost thaw to massive droughts. The Russian state's stance on the issue of climate change is contradictory in many instances, but has been evolving over the last few years. Skeptical on the whole, Moscow is above all looking to protect its economic interests, ready only to engage in limited processes of adaptation, but not of mitigation.

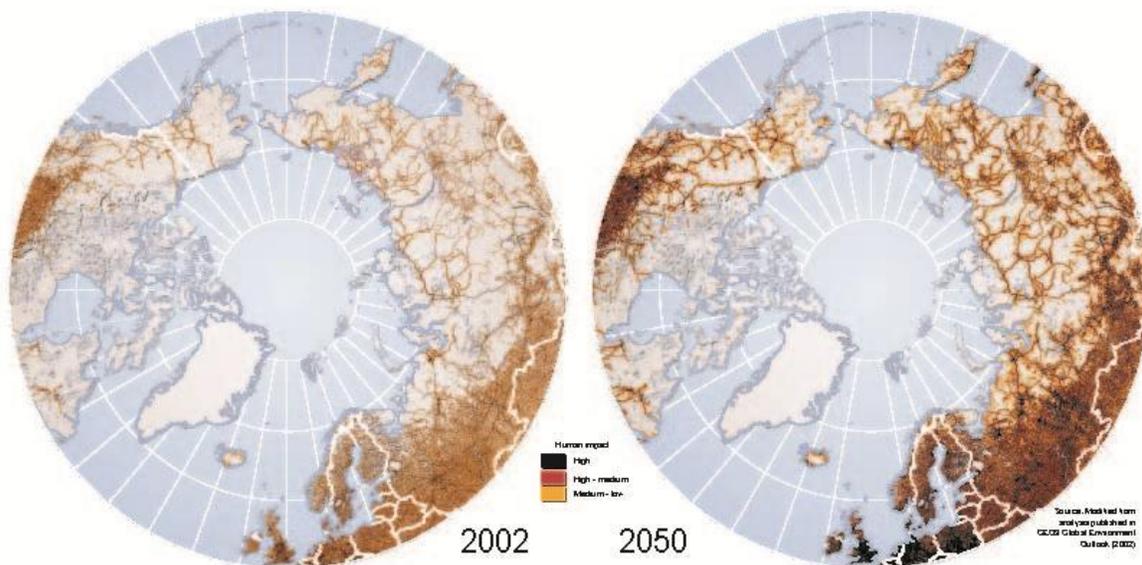
### **2.1. Climate Change in the Arctic**

The debates around climate change probably constitute one of the most intense scientific polemics known to humanity. This is the case for three reasons: the first is globalization, since the exchange of information throughout the world makes it possible to discuss from one end of the planet to the other, such that Indian and Chinese researchers are just as involved in it as their Western colleagues; second is the fact that the consequences of a prospective drastic climate change will affect the entirety of the planet, confronting everyone from the richest to the poorest countries; lastly, the debates involve taking decisions concerning the global evolution of humanity.

Let us go from the most consensual to the most contested points. All researchers in the world recognize that the climate is evolving: the planet is a living being, and its climate continues to change as it previously had throughout the millennia. A majority of them agree that there was an increase in the overall temperature of the earth of 0.7°C during the twentieth century, mainly because the concentration of carbon dioxide and other greenhouse gases in the atmosphere has increased since the start of the industrial era, added to which is the related question of stratospheric ozone depletion. There is far from total unanimity on this issue, but those who reject the idea that there is a tendency toward warming constituted a minority in the 2000s. The question of the role of human activity in these evolutions, by contrast, is the subject of far more bitter debates, since fundamental strategies of economic development are at stake. While majority opinion thinks that this change is mainly, but not solely man-made, others maintain that it has more to do with natural evolutions (solar activities, major volcanic eruptions, and natural climatic cycles) over which we have no control.<sup>1</sup>

The difficulty involved in taking a stance can be explained by the multiplicity of analytic criteria, their highly technical nature, as well as the possible diversity of interpretations. Added to this are specific ideological and economic bases, which means that some lobbies have every interest in promoting a catastrophist reading of this question or, on the contrary, in playing down its

importance, or indeed denying it altogether. The alarmists denounce the role of the industrial lobbies, in particular those linked to the extraction of fossil fuels and automobile production, which do not want to see their mode of production, or the profits they gain from it, undermined.<sup>2</sup> The skeptics, however, are concerned about the possible emergence of a “green” political newspeak, shaped by movements such as Greenpeace, and more still of an ideology of “de-growth” that goes as far as to reject even the idea of sustainable development.<sup>3</sup> Two logics of reaction to climate change also come head to head: that which appeals to procedures of mitigation that would make it possible to slow down the release of greenhouse gas emissions into the atmosphere by modifying patterns of economic development; and that which insists on adaptation, claiming that climate change cannot be stopped and so the resiliency of human societies must be developed. This debate is fundamental, as it implies differing economic commitments, as well as contradictory strategies of development.<sup>4</sup>



### **Human Impact Development Scenario in 2050**

Prospective works on climate change base themselves on long-term data, which make it possible to have an overview of the climate several decades from now, essentially in the second half of the twenty-first century. The polemic surrounding the ability to draw up these models—according to which mathematical combinations and in line with which information—is numerous and exceeds the limits of the present work.<sup>5</sup> However, all are in agreement in recognizing that medium-term modeling (20-30 years) of the process of climate change is particularly difficult; the interpretation is more complicated for small temporal scales. It is therefore a very complex

matter to prove the causal relation between any particular climatic event, such as, for example, the immense bush fires that occurred in Russia in the summer of 2010, and climate change as such. The link between perceptions of climate change, situated at the level of a human life, often bear no major connection with the functioning of the planet, which takes place on a temporal scale ciphered in millions of years.<sup>6</sup>

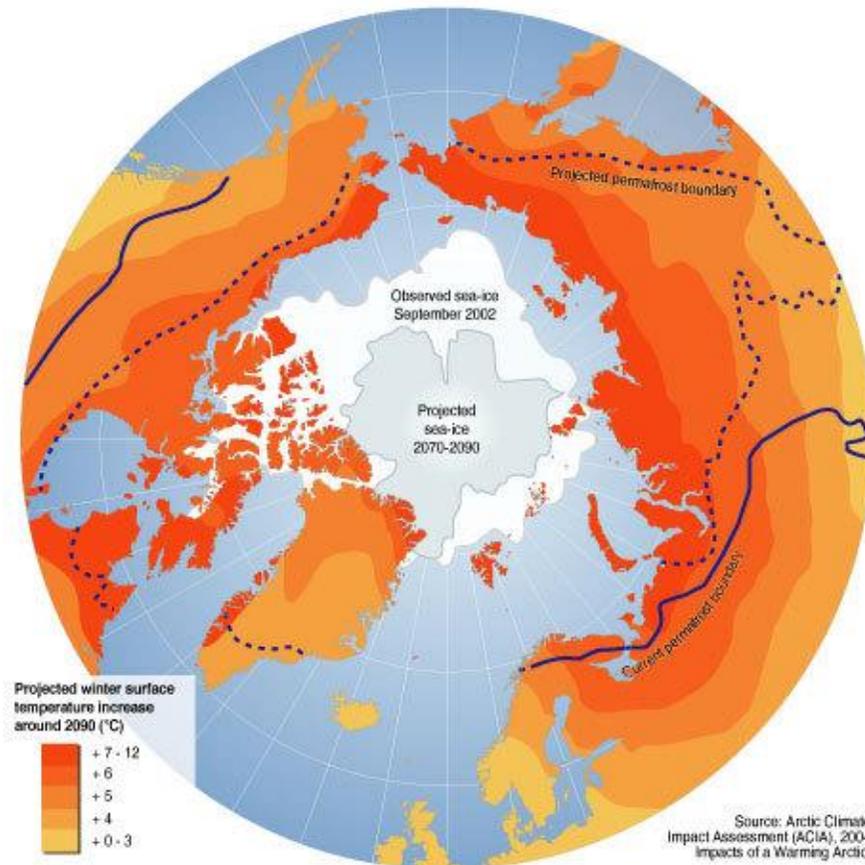
However, while the future is not known, the past certainly is, as is the present at least in general terms. The climate change prognostics carried out in the 1980s and at the beginning of the 1990s were nearly all caught by surprise by contemporary evolutions. The changes visible today are much greater and have occurred much more rapidly than forecasts had predicted twenty years ago. It is therefore possible to work not simply with forecasts but with patterns that are occurring in real time.

Both polar caps comprise particularly fragile regions in environmental terms, and are deemed to be the most susceptible to changes in climate. The Arctic is even more fragile than the Antarctic: the former is an ocean covered over with ice, the latter an ice-covered continent. In 2004, the Arctic Climate Impact Assessment (ACIA), a body of the Arctic Council, published a detailed report on the consequences of climate change in the Arctic region. The work involved the collaboration of more than 300 researchers. It formed the first comprehensively researched and independently reviewed evaluation of Arctic climate change and its impacts on the region and the world. It was followed up by a National Oceanic and Atmospheric Administration report done in 2006, which supplied supplementary data and is updated every year. These reports are complemented by others, such as *Arctic Climate Impact Science—An Update Since ACIA*, which was carried out by the World Wildlife Fund in 2008. The fourth Intergovernmental Panel on Climate Change (IPCC AR4) also quickly became one of the most quoted reference texts, as much for its state of the art modeling in physical science as for its forecasts on impacts, adaptation, and vulnerability, and directions given concerning mitigation.<sup>7</sup>

Today the Arctic is considered the region to have been the most affected by climate change. Air temperatures have risen at almost twice the rate of the global average over the past few decades. The interaction between the different components of nature is tighter here, creating a sort of cumulative effect with feedback processes called “Arctic amplification.”<sup>8</sup> The symptoms of climate change are multiple, including a noted rise in summertime temperatures, a shorter and warmer winter season, and an increase in precipitation in the spring. In Alaska and western Canada, wintertime temperatures have risen from 3 to 4°C over a period of fifty years.<sup>9</sup> During the record year of 2007, some surface water ice-free areas were as much as 5°C higher than the long-term average.<sup>10</sup>

Temperatures in the Arctic have already warmed globally as much as 4°C over the last decades, and the area covered with perennial ice has receded significantly in 2010, falling to nearly half the area observed in 2005. The ice cover is the most affected. It has involved a reduction of at least 10 percent of Arctic snow cover since the 1980s; a sharp decrease of the Arctic Sea ice extent in all seasons, with summer sea ice declining most dramatically; and a reduction of the thickness of sea ice, as well as thawing permafrost, diminishing lake and river ice, and rising river flows.<sup>11</sup> The Greenland Ice Sheet has been especially affected. The melting of mountain glaciers has also accelerated. Those in Alaska, where melting began long ago, have more

recently been joined by the glaciers of Scandinavia and on Svalbard. Some scientists therefore suggest that the forecast scenario predicting an almost ice-free Arctic by 2040 is outdated and that the Arctic Ocean could be ice-free during the summer by 2015.<sup>12</sup>



### Projected Changes in the Arctic Climate

Climate change has a cascading effect on bio-systems. Arctic vegetation zones are likely to shift; wetland can disappear in one area, and appear in others; the tree line will move further north; new agricultures will be made possible, as will disturbances from insect outbreaks and forest fires in the zones of the taiga; and the diversity of fauna and flora will further decline, with threats to the natural habitats of polar species.<sup>13</sup> Nor will human habitats be spared. Storms and floods will increase in number; soil erosion will quicken; thawing permafrost will endanger human and industrial settlements; and indigenous communities will have to confront drastic changes.<sup>14</sup>

These evolutions are not limited to the Arctic region alone; their impact will be global and occur on three levels. First, the reflexivity of solar energy will change, as ice caps absorb more solar radiation than water, which is darker. As they shrink, ice caps will absorb less and less solar energy. Second, melting glaciers will lead to rising sea levels and, due to temperatures and

salinity, to a change in the directions of major ocean currents. Warmer water will enter the Arctic Ocean from the Pacific and Atlantic Oceans, and fresh water flowing from the Arctic ice will enter the world mainstreams.<sup>15</sup> Last, melting glaciers will induce changes in the amounts of greenhouse gases emitted into the atmosphere and could therefore lead to a shift on atmospheric climate patterns, with an increase ultraviolet radiation reaching the earth's surface. The Arctic Ocean is a globally important net sink for carbon dioxide, which it absorbs from the atmosphere; and a large amount of methane is frozen in the methane hydrates found in ocean sediments and permafrost. Altering patterns of frozen soils could therefore increase methane release into the atmosphere.<sup>16</sup>

The global transformation of the Arctic is now occurring at a pace not anticipated even a few years ago. For the year 2010, the NOAA report confirmed a general tendency to more rapid than predicted change in the Arctic.<sup>17</sup> Greenland's climate in 2010 was marked by record-setting high air temperatures, ice loss by melting, and marine-terminating glacier area loss. The year also saw record warm air temperatures across the Canadian Arctic, record snow cover decreases, and the loss of thick multi-year ice in the Beaufort Sea during summer. The combination of warm spring air temperatures and low winter snow accumulation led to a new record minimum in springtime snow cover duration over the Arctic. The first half of 2010 shows a near record pace in temperatures with monthly anomalies of over 4°C in northern Canada. On September 19, 2010, sea ice extent reached a minimum of 4.6 million square kilometers. The 2010 minimum is the third-lowest recorded since 1979, surpassed only by 2008 and the record low in 2007. The active layer of Arctic permafrost is becoming steadily deeper, and in 2011 Greenland's Ice Sheet has been melting more rapidly than previously thought.

These evolutions are not uniform, however, and several Arctic sub-regions are taking shape: one from eastern Greenland to western Russia, the Siberian shelf, one from Chukotka to the Western Canadian Arctic, and one from the Central Canadian Arctic to West Greenland.<sup>18</sup> Russia thus straddles two or three climactic sub-regions of the Arctic. It will also have to contend with the climate changes expected in other regions of its immense territory.

## **2.2. Russia facing Climate Change and New Economic Patterns**

Studies on the impact of climate change in Russia are relatively unknown given its immense size and location in high northern latitudes. This underrepresentation is explained by a lack of information exchange. Russian teams working on climate modeling find it difficult to get their results recognized abroad and international teams have little access to information in Russian. However, two of the major Russian climate modeling centers, the Institute for Numerical Mathematics and the Oboukhov Institute of Atmospheric Physics in the Russian Academy of Sciences, have submitted simulation data as part of the IPCC fourth assessment process. A third center, the St. Petersburg V.A. Fock Institute of Physics, has also developed its own research instruments. Roshydromet, the Federal Service for Hydrometeorology and Environmental Monitoring, and its 1,600 meteorological stations, is the leading scientific institute for meteorology in Russia. It works mainly with the Atmosphere–Ocean General Circulation Models (AOGCMs), which it considers “the main and the most promising tool for prediction of future climate changes due to internal interactions between different components of the climate system and external forcings of natural and anthropogenic origin.”<sup>19</sup>

In terms of temperatures, studies by Roshydromet show that warming in Russia is greater than global warming in total. Russia had a rise 1.29°C in temperatures over the last hundred years (1907–2006), whereas global warming for the same period was only 0.74°C. Furthermore, mean warming in the country was 1.33°C over the last thirty years (1976–2006).<sup>20</sup> Winter temperatures in Siberia have increased by 2 to 3°C over the last century, with recent strong springtime warming in the Urals and West Siberia. Surface air temperature increased by 0.4°C during the 1990s and 2000s alone. In the Russian Arctic, surface air temperatures have warmed 0.2°C per decade over the past thirty years, precipitation has increased, and summers are warmer. Russia accounts for the greater part of the so-called “poles of temperature increase,” located in the Altai, the Chita and Irkutsk regions, and the south of Siberia.

Forecasts emphasize the acceleration of these evolutions. For the whole country, projections suggest that average winter temperatures will have increased by an additional 1°C by 2015. According to Roshydromet, by 2020 temperature growth in Russia will exceed the multi-model spread (standard deviation), which is  $1.1 \pm 0.5^\circ\text{C}$ . By the middle of the century, the temperature rise will be even larger ( $2.6 \pm 0.7^\circ\text{C}$ ), particularly in winter ( $3.4 \pm 0.8^\circ\text{C}$ ).<sup>21</sup> Maximum temperature changes are expected to occur in the winter in the Arctic, with significant precipitation in Eastern Siberia. The temperature increases will be smaller during the summer time, except in southern regions, where it could reach 2–3°C by the middle of the twenty-first century. According to the World Wildlife Fund assessment, a 30 percent increase in winter precipitation totals is expected on the Taymyr Peninsula by 2050 and a 15-20 percent increase in Chukotka and the Barents Sea region.<sup>22</sup> Total precipitation will more than double current levels in the eastern Russian Arctic.

From 1978 to 1996 the Siberian Arctic experienced sea-ice reductions of 17.6 percent per decade in summer for the Barents and Kara seas, and a 3.7 percent per decade for the Chukchi, East Siberian, and Laptev seas. Observations also indicate that the area of winter fast ice in the Russian Arctic decreased by 11.3 percent from 1975 to 1993 and that the influx of multi-year ice from the Central Arctic Ocean decreased by 14 percent from 1978 to 1998.<sup>23</sup> Many studies focus on land-based changes in the Arctic: in the last two decades of the twentieth century, the boundary of multi-year ice in the eastern sector of the Arctic shifted southward by 300 kilometers on average relative to the previous two decades.<sup>24</sup> Russian and international researchers have also noted changes in vegetation patterns (shifting of the borders of the tundra and of different types of taiga<sup>25</sup>), in sea level rise, in the recession of mountain glaciers in Novaya Zemlya and the Caucasus, and in soil erosion. On this latter point, however, the most recent information relating to erosion processes in Russia comes mainly from the mid-1980s.<sup>26</sup> It is also difficult to dissociate direct human activity from the global impact of climate change on this erosion. The excessive agriculture, deforestation, and mining organized on a large scale by the Soviet economic system have seriously damaged the soils and accelerated wind erosion. More is known about changes in river water levels. The average annual discharge of fresh water from the six largest Eurasian rivers (Yenisei, Lena, Ob, Kolyma, Pechora, and Severnaia Dvina) into the Arctic Ocean increased by 7 percent between 1936 and 1999. Rivers' ice cover duration is expected to reduce by 15-27 days and their ice cover to be 20-40 percent thinner,<sup>27</sup> which will increase the discharge of fresh water, and affect sea ice distribution and the circulation of Arctic waters.

Covering 60 percent of the country, permafrost is an issue of special importance to Russia. The annual ground temperature has increased by 1.0°C on many parts of the permafrost zone of western Siberia and by 0.8–1.0°C in the northwestern regions.<sup>28</sup> Studies reveal that, since the 1970s, there has been a tendency toward temperature increase in the top layers of frozen ground of between 0.22 and 1.56°C. A 30-40 percent increase in active layer thickness for most of the permafrost area is projected. Seasonal thaw depths are predicted to increase by more than 50 percent in the northernmost permafrost regions, and 30-50 percent elsewhere, by around 2050.<sup>29</sup> By 2100, it is predicted that almost 60 percent of current permafrost regions will thaw and freeze on a seasonal basis, and that near-surface permafrost will decline. Melting of permafrost will lead to increases in landslides, mudflows, and other abrupt changes in the landscape. It will also imply a relatively large increase of carbon dioxide and methane emission along the Arctic coast, as well as in central Siberia and Yakutia, with the expected feedback effect.<sup>30</sup> Indeed methane hydrates contained in this permafrost are 26 times more potent than carbon dioxide molecules in terms of their greenhouse warming effect.<sup>31</sup>

Climate change will have a serious impact on the entirety of the Russian territory in terms of agriculture and access to water. Some of these changes will be positive, since the growing season will be longer, conditions for growing winter crops will improve, new agricultural lands further to the north will be exploitable, and new crops, such as cotton, grapes, tea, and citrus, will be able to be cultivated in the North Caucasus and southern Volga regions.<sup>32</sup> Conditions for growing corn in the Stavropol region have already improved. From 1970 to 2000, the growing season lengthened by an average of 5-10 days over much of the agricultural regions in European Russia. In the Central Black Earth and Volga regions, the frequency of very cold winters decreased by an average of 18-22 percent in the period up to 1990.<sup>33</sup> However, this evolution also implies that Russian agriculture will become more and more reliant on irrigation.<sup>34</sup>

Other changes will present more complex problems. The northward migration of plant species will modify biodiversity patterns; an increase in the number of wildfires may accelerate the disappearance of Russian forest space, the largest in the world after the Amazon; and an expansion of insect outbreaks, such as locusts and mosquitoes, and ticks may become a public health threat. The middle, or Black Earth, regions of the country, which are known for their role as “bread basket” areas and enjoy a temperate climate, will be beset as well by more drastic climate processes: precipitation, droughts, reduced springtime river runoff, and more water shortages. The southern regions of the country, those of the North Caucasus federal district, will experience extensive periods of drought. Already recorded droughts have reduced crop cover by an area of more than two million hectares.<sup>35</sup> These regions will experience reductions in yields of about 20 percent by 2020.<sup>36</sup> This drop in production will be compensated, but somewhat insufficiently, by the development of grain yields in more northern regions. Periods of drought in key agricultural regions are expected to be 50-100 percent more frequent by 2015.<sup>37</sup>

The question of water is also central. The annual river runoff in the western regions of Russia increased by 15-40 percent for the period 1978–2005 relative to that of 1946–1977.<sup>38</sup> Most of Russian territory, in particular Siberia and northwest Russia, will experience increased water flows due to glacial melt and growing precipitation, which implies more river ice jams and flooding. By 2015, there is likely to be more flooding in river basins in the Arkhangelsk region,

the Komi Republic, the Ural area, and of the Yenisei and Lena.<sup>39</sup> At the same time, other regions of Russia will experience water shortages, especially in the Black Earth lands, which are already under chronic water stress. The situation will be worse in the southern regions (Kalmykia, Krasnodar, Stavropol, and Rostov), which will likely have to contend with water supply reductions on the order of 5-15 percent.<sup>40</sup> The drinking water supply for the major Russian cities, and in particular the Moscow metropolis, will become a significant issue. By 2015, it is expected that “zones of environmental discomfort” will have shifted northwards by about 60 kilometers in northwestern Russia (Komi Republic and Arkhangelsk region), by about 150 kilometers in the Khanty-Mansi and Evenki autonomous areas, and by about 250 kilometers in the Republic of Sakha-Yakutia and in the north of the Irkutsk region and the Khabarovsk territory.<sup>41</sup>

Rising sea levels are also problematic. Projections show sea level rise will occur mainly in the Baltic Sea, the Gulf of Finland, and the White Sea, which will increase the dangers of serious flooding for Kaliningrad and St. Petersburg, as well as the risks of storms and tsunamis. It is considered that there is a high risk of flooding in St. Petersburg before 2030.<sup>42</sup> The level of the Black Sea has been rising significantly since the 1980s, and if this trend continues it will affect Novorossiisk, Russia’s main warm water port, where dry cargoes, crude oil, and refined petroleum products are exported. It would also impact Sevastopol, Russia’s main Black Sea military base, situated in the Ukraine.<sup>43</sup> For the Pacific coast, the forecasts of sea level rise are moderate, but the probabilities of tsunamis occurring will be much greater, with potential dangers for Vladivostok. Lastly, for the Arctic coastline, the key question will be that of coastal erosion, although Murmansk may also be subject to risks of flooding.

Expected climate change will have a major impact on the function of the Russian economy. The idea that a rise in average temperature will lead to a drop in energy consumption for heating remains contested. The Russian Federation’s Fourth National Communication under the UN Framework Convention on Climate Change predicted that a reduction in heating requirements would result in a net fuel savings of 5-10 percent nationwide by 2025,<sup>44</sup> but the information put forward is contradictory. Even if the heating season becomes shorter, the consumption of other categories of energy, for instance electricity, will increase, even if only for air conditioning during the summer months.

Among the positive aspects of climate change on the Russian economy, the majority of researchers seem to agree that, in addition to agriculture, the hydroelectric sector will develop thanks to an 8-10 percent increase in water volume by 2015.<sup>45</sup> The growing availability of water in the main Russian rivers will therefore be able to be used to produce energy. According to Roshydromet, the Volga-Kamsk Cascade will experience a net increase of 10-20 percent in water flows, and the Siberian power dams along the Angarsk-Yenisei, Viliu, Kolyma, and Zeya of 15 percent.<sup>46</sup> Even if the contrary situation is likely to be the case in the south of the country—since extreme downpours will be difficult to manage and there will be a drop in production owing to reduced river flows—Russia should come out of this process ahead. However, the Russian electricity system will have to contend with complex situations linked to increased risks of flooding and growing winds, which will be about 20 percent stronger in Arctic regions and the North Caucasus.<sup>47</sup>

Last but not least, the progressive thawing of the permafrost will present major challenges to Russia's economic system, since it will result in the creation of thermokarst and unstable soil conditions.<sup>48</sup> The Russian railway system, in particular the Baikal-Amur Mainline (BAM), will be undermined in Siberia, since the possibility of a change in the permafrost was not taken into account during its construction. Similarly, electric transmission lines were not built to withstand changes in soil structures, or conditions of upper-soil layer thaw and re-freeze. The Russian road network, already very inefficient and the least developed of the G8 countries, will have better snow cover conditions, but will have to contend with an increase in weather variability, which will result in downpours, mudslides, soil erosion, floods, etc. In Siberia and the Far East, the traditional use of seasonal ice roads will become more problematic due to the shorter cold season, which will put further limits on already reduced trips from one town to another, with the exception of air travel. The well developed river transport system will be positively affected, though the challenges of weather instability will have to be taken into account, as will the drop in water levels in the Don River Basin.<sup>49</sup>

The stability of existing urban and industrial infrastructure will be very seriously put into question. The impact of climate change is already visible. In the 1990s-2000s the rate of reported damage to buildings due to soil instability increased by about 42 percent in Norilsk, 61 percent in Yakutsk, and 90 percent in Amderma. About 21 percent of reported damages to western Siberian pipelines occur by the melting of underlying permafrost.<sup>50</sup> More than 7,000 accidents related to the melting of permafrost and soil degradation in western Siberia were reported in 2007. While the United States and Canada preferred to use components made of wood and aluminum in the polar zone, Soviet construction continued to use reinforced concrete and poor quality steel, both of which are ill-suited to very low temperatures. This damage did not only occur in low population areas. About 60 percent of all industrial infrastructure of the Usa Basin, a very populated area by northern Russian standards, is located in a high-risk permafrost zone.<sup>51</sup> In addition, about thirty so-called "impact zones," with high level of atmospheric pollution, degradation of vegetation and soil, and incidence of disease among the local population, have been identified in the Russian Arctic region. There is also a potential danger of radioactive contamination in several places. Each year the mining company Apatit stores approximately 30 million tons of waste on the Kola Peninsula. Many radioactive waste storage sites are located in permafrost areas, for instance on Novaya Zemlya, and ageing spent nuclear fuel storage facilities are no longer secured.<sup>52</sup>

# Permafrost distribution in the Arctic



## Vital Arctic Graphics

People and global heritage on our last wild shores

The energy sector, which forms the spinal column of the Russian economy, will be the first to encounter the higher costs of expected climate change; 93 percent of natural gas and 75 percent of oil production occurs in permafrost zones. In addition to the ageing of extraction infrastructure, constructed mainly in the 1970s, the transport system is not adapted to deal with changes in soil stability. The above-ground pipelines are not secured to cope with the seasonal thawing of the permafrost, and cannot accommodate any increased water flow. The question of hydrocarbon transport to export and consumption centers will have to be rethought, as well. Despite the possible emergence of a Northern Sea Route, transport will become more difficult.

The zones to be crossed in passing from the key extractions sites in western Siberia and the Volga region to Europe will be further subject to drastic changes in soil stability. Accessing the main gas deposits of the future will also be made more challenging. There are, for instance, growing concerns that the entire low-lying Yamal Peninsula could disappear due to subsidence from permafrost melting.<sup>53</sup> The construction of extraction sites will require supplying material via land transit, although the soil will be unstable. It will thus be necessary to build new and much more costly pipelines with deeper foundations to avoid structural damage from subsidence. The gas sites of the Far East and eastern Siberia will also be challenged by melting permafrost, swollen rivers, and more frequent storms.

### **2.3. Russian Stances and Debates about Climate Change**

Soviet thinking on climatology focused mainly on the question of climate evolution, which it defined by long, natural cycles of cooling and heating. It developed no discourse about the impact of human activity, since that would have stood in contradiction with the conviction of the regime on society's ability to master nature.<sup>54</sup> In the 1990s, the high level of state disorganization and the lack of public funding drove hundreds of thousands of specialists to emigrate to the West, change professions, or retire early. The financial situation by and large turned around in the 2000s, but the damage had been done. Large gaps persist in the intergenerational transmission of knowledge, material dating from the Soviet era has aged, and Russian teams, which are very competent, still remain poorly integrated into international consortiums.

The present Russian school of climatology can be schematically divided into three major currents: those who maintain that there is no global warming due to human activity and that such warming boils down to natural processes; those who think that global warming exists but that it will bring net positive benefits for Russia; and those who are convinced of the dangers of these changes. The first two viewpoints largely dominate in the Russian institutions that are responsible for examining this question. Yuri Izrael, director of the Institute of Global Climate and Ecology, and Vladimir Melnikov, director of the Russian Institute on the Earth's Cryosphere, are the main voices on climate change; they either deny its human impact or deem that the change will be positive for Russia. A similar viewpoint has long been put forward by institutions such as Roshydromet, the All-Russia Research Institute of Agricultural Meteorology, the Voeikov Main Geophysical Observatory, the Hydrometeorological Center of the Russian Federation, the Research Center for Space Meteorology, and by other institutions linked with Arctic exploration, such as the Arctic and Antarctic Research Institute and the Institute for Cultural Heritage.

Nevertheless, opinion began to change in the second half of the 2000s. Russian scientific institutions acknowledged that warming seemed to be occurring, and that this was in part due to anthropogenic factors.<sup>55</sup> In 2006, for example, Roshydromet published a *Strategic Prediction of Climate Change Expected in Russia for the Period 2010-2015 and its Impact upon Sectors of the Russian National Economy*. The report puts special emphasis on the severe rise in extreme weather events and environmental hazards in agriculture, and on the need to begin preparing for them.<sup>56</sup> This point of view was backed up by a new document published in 2008 titled the *Assessment Report on Climate Change and its Consequences in the Russian Federation*. The document states that “a comparison of simulated and observed variations of surface air temperature provides convincing evidence supporting the anthropogenic nature of observed climate warming.”<sup>57</sup> However in December 2009, just before the UN Climate Change Conference COP-15, the director of the Ministry of Energy’s research institute claimed that global warming could be attributed to the slowing of the Earth’s rotation, and the Institute of Oceanography issued a report that stated that human activity is not a major factor in climate change.<sup>58</sup> Some Russian think tanks have decided to directly attack European discourse on climate change. Thus, the Institute of Economic Analysis claimed the British Meteorological Office used statistics from weather stations in Russia that fitted the office’s theory of global warming, but ignored the data of the three-quarters of them that did not.<sup>59</sup>

The official position of the Russian state has followed the scientists’ changes in positions. In 2003, during the World Climate Change Conference in Moscow, Russia took a distinctly skeptical position. Russian politicians have been very vocal on the climate issue, viewing it as a Western fantasy or an object of anti-Russian propaganda. Vladimir Putin, who was president at the time, stated for instance that warming of 2-3°C would be a good thing for Russia, joking that it would no longer be necessary to wear fur coats and that agricultural production would get a boost.<sup>60</sup> In 2010, after the immense fires that ravaged one quarter of the cereal crops, visiting a meteorological station on Lena, he implied that human activity probably played no great role in global warming.<sup>61</sup> As Sergei Mironov, the speaker of the Federation Council, explained in 2007, the impact of greenhouse gas emissions on the climate had not been studied sufficiently to push for a change of economic strategies.<sup>62</sup> In 2010, he reiterated his skepticism by providing ideological reading of the debates, implying that Western countries were trying to limit the Russian economy by exerting pressure on it in the name of ecology.<sup>63</sup>

Although it continues to be dominated by the idea that Russia stands to gain from it, or at least that it has less to lose than other developed countries, Russian political discourse about climate change has become less skeptical. In 2009, in preparation for the Copenhagen Climate Conference, Minister of Natural Resources and Ecology Yuri Trutnev unveiled a *Russia’s Climate Doctrine for 2030-2050* that outlines the country’s response to climate change. The tone is drastically altered and henceforth seems more in tune with that of the international community. Rather than putting the usual emphasis on the benefits of climate change, the doctrine warns of serious climate-induced challenges, even at the level of human life. It calls for the creation of an institution to supervise climate change, for environmental regulations and legislation to be updated in order to bring Russia in line with international norms on climate change; for the stimulation of responsible resource use and efficiency; and for increased resilience in key economic sectors such as agriculture, transport, and energy. The minister himself recognized that climate change could cause up to a 5 percent reduction of Russia’s GDP.<sup>64</sup>

The doctrine marks the first attempt at institutionalizing a climate change policy in Russia; however, its text provides no precise strategy and remains purely declarative. It is thus difficult to say whether it was drafted specifically for Copenhagen, or whether it constitutes a veritable change in the perceptions of the ruling elites.<sup>65</sup> Some of Dmitry Medvedev's statements lean in favor of this latter position. In February 2010, the Russian president delivered a highly unusual speech on climate change, in which he insisted on its negative impact and the dangers for humanity. He issued a wake-up call to heads of state and social organizations, and requested the creation of economic incentives to address climate change, pointing out that Russia is still quite a long way behind most developed countries in monitoring and forecasting climate change. He repeated these ideas in a speech to the Security Council and issued a presidential instruction to the government to approve a package of measures for implementing the doctrine by the end of 2010. For the first time, climate change was discussed as a threat to national security.<sup>66</sup> It remains to be seen whether this issue is henceforth being taken seriously, or if there is a Putin/Medvedev dichotomy on climate change, interpreted either as a real disagreement or a sharing of tasks in respect of public opinion and the international community.

Environmental questions, and especially those concerning climate change, are rarely brought up in Russian public opinion. To date, the Russian media has done very little to investigate such topics, which compared with other publicly discussed issues, have by and large been relegated to the background. In 2009, a world survey revealed that Russians—in this way similar to Americans and in contrast to Europeans—felt much less concerned by climate change and a majority of them felt they were not affected by it.<sup>67</sup> About 85 percent of the people surveyed declared they were aware of climate change but only 39 percent perceived it as a serious personal threat.<sup>68</sup> This situation, however, changed with the forest fires in 2010. Even if there exists no direct relation between these events and the modeling projections, public opinion saw in them the proof that climate change could turn out to be a destructive force. However, the debate remains dominated by a few stakeholders; the private sector is not fully involved beyond pushing for Joint Implementation project approvals, and it is unlikely that Russian “civil society” will be able to pressure public opinion and the government into becoming more engaged in its understanding of climate change. The NGOs are generally gagged, especially those working on ecological questions, but public opinion remains focused on other short and medium term issues.

The Russian Federation's position within the international scene of climate change therefore remains ambiguous. After the collapse of the Soviet Union, Moscow repeated incessantly that it could not slow down its economic revival in the name of environmental issues. Russia did, however, play a key role in the implementation of the Kyoto Protocol to the UNFCCC, initially adopted in 1997, but which only entered into effect when Moscow's ratification was gained in 2005. Following U.S. refusal, the collected signatures were insufficient to reach the minimum threshold of 55 percent of global carbon emissions. As the third-largest emitter of global carbon emissions, Russia's participation was thus decisive, transforming Kyoto into a legally binding commitment for developed countries and some transition economies. But Moscow accepted the protocol as it stood to lose nothing from it. The text is based on 1990-level global carbon emissions which, following the post-Soviet industrial collapse, guarantees that Russia will not attain its maximal threshold until 2020. In December 2009, Russia was still 40 percent below the baseline and was therefore able to sell part of its carbon credit. It signed the protocol in the

anticipation of gains.<sup>69</sup> In addition, Russia's ratification of the protocol served as a "currency exchange" in its negotiations with the European Union concerning its bilateral World Trade Organization (WTO) accession protocol, and it worked to enhance Russia's international image, in particular relative to the United States.<sup>70</sup>

Despite its ratification of the Kyoto Protocol, Moscow believes it does not have to accept any binding agreement that would be damaging to its economy, especially as the United States refuses to submit to it. Russia remains a passive actor in the construction of the international climate regime, yet the tone continues to be contradictory. In 2009, during preparatory negotiations for the post-Kyoto era in 2012, Medvedev declared that Russia is ready to become more active, and proposed a 20 to 25 percent drop in further greenhouse gas emissions from the 1990 baseline (eventually Russia committed to a 15 to 25 percent reduction). Russia did not demand to transfer the quota surplus (equal to over 3 billion tons of CO<sub>2</sub>) it had accumulated under Kyoto, but that its forest sinks being taken into account in calculations of its overall emissions.<sup>71</sup> Russia could also potentially try to reclassify itself as an emerging economy, entailing less binding agreements.<sup>72</sup> In addition, the data for different industrial and forest sectors remain incomplete and make it difficult to measure Russia's implementation of and compliance with Kyoto protocols, which appears limited, but is not non-existent.<sup>73</sup> Only some big companies have started to address carbon issues and have given detailed information about their greenhouse gas emissions.<sup>74</sup>

Moscow's environmental policy remains very limited. Russia holds the largest portfolio of carbon credits, but will not manage to sell them well before their expiration in 2012. It also has more than 50 percent of the world's Joint Implementation projects market, with a total greenhouse gas reduction potential over 150 MtC (million tons of carbon). It holds the largest national terrestrial carbon pool associated with the boreal forest of Northern Eurasia.<sup>75</sup> However, Russia is now the fourth largest emitter of carbon dioxide (CO<sub>2</sub>) behind the United States, China, and India, although it is only the world's eighth largest economic power. It is one of the highest energy consumers among industrial powers, as it has an incredible lack of energy efficiency that includes everything from households to large companies. Russia consumes six times as much as the United States for each dollar of GDP in purchasing power parities,<sup>76</sup> and its growing per capita emissions are to approach U.S. levels by 2030. This can be partly explained by its cold climate, but above all reveals a large amount of energy waste in industrial process. Russia is the country of the greatest waste. Its depreciation of capital stocks is over 46 percent in the natural resource extractions sector, 53 percent in transport, 70 percent in the thermal power sector, and 80 percent in hydropower.<sup>77</sup> The World Bank and the Russian Center for Energy Efficiency found that Russia could save 45 percent of its total primary energy consumption if it were to implement reform. The impact of the 2008 economic crisis therefore contributed to raising awareness among Russian ruling elites about the huge possible energy savings to be gained through greater efficiency.

The Russian strategy is therefore relatively consistent. Climate policy remains subordinated to economic imperatives, which are themselves centered on fossil fuels; strategies of mitigation are considered irrelevant and useless, impossible to implement, or too costly. Moscow advocates adaptation, but not mitigation, a stance that emerges very clearly from the 2009 doctrine, which does not seek to address the root causes of climate change. Even though the opinion of the ruling

elites on climate change happens to be changing, Russia is likely to keep maintaining that the world is dealing with a *fait accompli* that cannot be fought against, that it is necessary to continue to rely on fossil fuel production, and that all climate policy ought to be limited to alleviating effects and adapting the economy and society to the new challenges climate change presents.

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In accordance with the seemingly limited international decisions taken concerning mitigation, the fourth Intergovernmental Panel on Climate Change has drawn up several scenarios in case that climate changes are confirmed. In all scenarios, the northern situation of the Russian territory entails that it will be more greatly affected than the more temperate parts of the globe, and especially the Arctic regions. Russia nonetheless has a theoretically higher capacity for resilience than other developed countries, and also stands to gain economic benefits from this change, mainly in the agriculture and hydroelectricity sectors. It will nevertheless likely have to bear an elevated cost for its lack of preparation for the impact of climate change, calculated in terms of urban development, human health, and migration. This cost will be added to other evolutions that Russia will also have to manage in the decades to come, in terms of demography, knowledge and competence-building, and the reorientation of its overall economic structure.

### **Key Findings and Pathways to the Future**

Though a general consensus on global climate change exists, the role of anthropogenic factors is still largely debated, as are strategies of mitigation. Such strategies have an enormous cost on the economy for an effect that has yet to be demonstrated or will possibly only be minimal.

The historical tradition of the Soviet school of thinking on climate does not compel Russian scientists to give an alarmist reading of changes in climate. They criticize the current “politically correct” mood on this issue in Europe, and uphold a viewpoint that is more qualified and contradictory, with similarities to that found in the United States.

To safeguard its economic interests, Russia tends to emphasize the unknowns by favoring a minimal, and rather skeptical, reading of climate change, and by promoting strategies of adaptation and not of mitigation.

Russia will not commit itself to binding agreements if it considers that it will come out of them worse off relative to the American, Chinese, or Indian economies.

Russia is the only developed country that is expected to derive economic advantages from climate change. It is thus hedging its bets on the future: on becoming self-sufficient in food thanks to climate change, as well as on building a unique system of hydroelectric power that could potentially be used as leverage over its Asian and European neighbors.

However, 1) the negative aspects of climate change, especially its economic costs, are often passed over in silence and not taken into account in Russian calculations; and 2) the hopes of

benefitting from climate change thwart the capacity of the Russian state to implement efficient strategies of adaptation.

The cost of expected climate change in Russia has to be calculated not only for itself, but above all in its interaction with the other challenges that the country will have to contend with in the decades to come, including its loss of human capital and its lack of competitiveness.

### 3. ARCTIC AS A NARRATIVE COMPONENT OF THE NATIONHOOD

Geography is a key, and long-term, element of state identity. It shapes geopolitical strategies and perception of the world; it is used as a symbol of the nation, of its cartographical representation; and more concretely, it has a major influence on the economic capacities of a country. In Russia, the reference to space has always been part of identity narratives. Ever since the Church Chronicles were written in the Middle Ages, the geographical position of Muscovy, situated at the junction between Europe and Asia and to the north of Byzantium, has been presented as a driver of its history. In the eighteenth century, the major historians of the Russian empire, such as Nikolai Karamzin (1766-1826), insisted on the unique dimension of the Russian territory. Such comments have been taken up and reformulated in the nineteenth century, in endless variations, by the Slavophiles and their descendents, for whom the psychological traits of the Russian people and the imperial nature of Russia owe much to geography. In Soviet times, the accent was put on Russia's feats in exploiting the soil and on its territorial diversity, which made it possible to present the homeland of socialism as humanity in miniature, including almost all the various climate-types and landscapes of the earth.<sup>1</sup>

The Soviet Union's collapse accentuated the intrinsic relation between nationhood and territory. Although Russia remains the largest country in the world, with close to one-sixth of the globe's land under its control, the feeling of territorial hypotrophy dominates current self-representations. The splitting up of the Soviet Union deprived the Russians of rich southern lands, mainly those in Ukraine and Kazakhstan, of access to ports in temperate seas like the Caspian and Black seas, and has pushed back the western borders of the country to the east, while at the same time, the population is abandoning parts of Siberia and the Far East to return to the country's European regions.<sup>2</sup> In such a context, a focus on the Arctic had suddenly reopened a national mental atlas of forgotten or marginalized spaces. Whereas Russia was withdrawing into itself territorially for the first time in a millennium, the Arctic seems to revive an expansive, and no longer retractive, vision of the country; a potential new space is opening up to it. The dream of transforming the territorial immensities of North Asia, the main Siberian landmass, into an economic, political, and cultural asset is a driver of Russian interest in the Arctic.

Vladimir Putin has not concealed the direct link he sees between the revival of Russian great power and geography: "When we say great, a great country, a great state — certainly, size matters. (...) When there is no size, there is no influence, no meaning."<sup>3</sup> The link between *size* and *meaning* is revealing of the messianic paradigms still present in the political rhetoric of contemporary Russia. However, much more pragmatic dynamics are also at work, such as the reflection vis-à-vis other Arctic powers, nation-branding, and evolving social mobilization patterns inside of Russia.

#### 3.1. An Old Anchored Pattern: The Stalinist "Red Arctic"

The Arctic is fully part of Russian history, but was only conceived as a specific zone requiring systematic exploration relatively recently. From the medieval republic of Novgorod, Russian merchants went deep into Karelia, toward the White Sea, and the Urals on the search for fur to sell to Hanseatic traders. Since the taking of Kazan and Astrakhan by Ivan the Terrible, respectively in 1552 and 1556, Moscow has sought to "reunify" Russian lands through its

endeavor to conquer the ancient territory of the Golden Horde. The Urals were crossed in 1581, Yenissei in 1628, the Pacific Ocean was reached in 1680, and Alaska fell under Russian authority in 1741.<sup>4</sup> The Arctic territories under Russian control are therefore integrated, in the Russian imagination, in the epic of Siberian conquest. This multidirectional advance, to the north, the east, and the south, was not actually driven by the Russian state itself, but by groups of influence: the Arkhangelsk region was conquered by merchants who were after fur; Siberia by the Cossacks and the great merchant families; and Alaska was run by the Russian-American Company.

However in the eighteenth century, Peter the Great, impassioned by the great discoveries that European navigation enable, financed maritime expeditions to the Kamchatka Peninsula. In 1749, at the end of the Great Northern Expedition, Danish Captain Vitus Bering (1681-1741) confirmed to the descendents of Peter that it is indeed possible to reach the American continent via the Arctic seas along the Siberian coast.<sup>5</sup> St. Petersburg's interest in the Arctic, however, went up and down, and often disappeared in the face of more pressing stakes in the European and Central Asian regions of the empire. In the second half of the nineteenth century, as Europe was exulting the discovery of the two poles, north and south, Russia was not part of this great race of scientific and popular culture. It was interesting to local groups of amateurs, but the Russian state did not attempt to integrate its own Arctic territory into this pan-European phenomenon.<sup>6</sup>

All this changed in the Soviet period. From the start of the 1920s, the Bolshevik elites developed an interest in the High North, endowed the indigenous populations with cultural and linguistic rights, tried to cement their threatened sovereignty in the Far East, and sought to develop the Northern Sea Route. The first expeditions took place thanks to the Committee of the Northern Sea Route, the *Komseveroput*. However the first five-year plan, which was launched in 1928 and signaled the entry of Stalin's Soviet Union into a period of forced and massive collectivization, indicated a change of interest of the Russian state for the Arctic.

The idea that the Arctic is a specific region, to be run by a sole organ gathering together all powers in order to exploit it in conformity with Stalinist standards, gave rise to *Glavsevmorput*, which John McCannon has very rightly presented as "one of the Soviet Union's greatest experiments in hypercentralization".<sup>7</sup> The *Glavsevmorput*, a sort of state within the state, controlled a territory of two million square kilometers, employed as many as 100,000 persons,<sup>8</sup> and was responsible for Arctic research, shipping, mineral production, shipyards, aviation, agricultural development, and population management, Russian as well as indigenous. The experiment, however, did not last long. In 1938, *Glavsevmorput* was dismantled and some of its assignments were transferred to the *Dalstroï*, the Main Administration for the Construction in the Far North, which was responsible for the penitentiary industry of the Gulag. After de-Stalinization, the management of the High North was decentralized, each ministry given a share of the portfolios, and the Northern Sea Route was more modestly turned into a section of the Ministry of the Marine Fleet.

The years of High Stalinism did not only play a key role in the exploitation of Russian Arctic regions. They gave rise to a central myth of Soviet popular culture, that of the Red Arctic, itself made possible by the systematic character of 1930s scientific exploration. Thus, in 1932, the international polar year, the Soviet icebreaker *Sibiriakov* became the first vessel to cross the

Northern Sea Route in a single summer, transforming its captain, Otto Schmidt, into a Soviet hero. He was subsequently put in charge of all the major Arctic exploration projects. A Soviet flag was planted on Victoria Island for the occasion. In 1934 Soviet polar aviators rescued passengers from the *Cheliuskin* as it sank in the Chukchi Sea. Between 1934 and 1937, Soviet Arctic flights multiplied and became part of the legend of world aviation. In 1937, Soviet planes captured the world record for long-distance aviation by crossing the North Pole from Moscow to the United States. In the same year, the Soviet Union became the first nation to land aircraft at the North Pole through the Papanin expedition, and therefore the first to establish a scientific outpost there.

Exulted through newspapers, novels, films, and radio broadcasts, this epic of the Red Arctic deeply marked Russian culture, both the elites and broader society. The Arctic came to be presented as the forepost of Soviet civilization, an authentic *tabula rasa* on which to build socialism. It made it possible to celebrate the Stalinist values of patriotism, heroism, human, and technological prowess, and to underscore the extraordinary industrial capacities of socialism, as it conquered some of the most extreme natural elements.<sup>9</sup> The myth then fell into discreet oblivion—neither rejected, nor exalted—and was only revived on specific occasions, such as the construction of the Baikal-Amur Magistral (BAM) railway in the 1970s.

### **3.2. A Flagship for the new Russian Statehood**

As the Putin regime sought to establish itself at the beginning of the 2000s, it found in the memory of the Red Arctic elements that appeal to some sections of Russian society and that fit well with the rehabilitation of a specific Soviet vision. During Vladimir Putin's two mandates (2000-2008), the Kremlin institutionalized patriotism as the new ideological matrix of the presidential party, United Russia.<sup>10</sup> State patriotic education programs and the return of large historical commemorations have worked to cultivate a sense of national pride, and the idea of the revival of the Russian *derzhava* (great power) has been presented as a unifying political program.

In an address to the Federal Assembly in April 2005, Putin made his own vision of the past particularly clear by recognizing that “the collapse of the Soviet Union was the greatest geopolitical catastrophe of the century.”<sup>11</sup> The making official of this widely held view, of which more than three-quarters of Russians approve and that was long regarded as politically incorrect during Yeltsin's decade in power, closed a cycle of reintroducing former Czarist and Soviet symbols. While the desire to regain the geopolitical power lost in 1991 is obvious, Soviet symbols have not been restored for their ideological value—communism itself has not been rehabilitated—but because they are part of a cultural background common to a large part of the population and are seen as an indication of normalcy. The Soviet Union indeed enjoys a positive image in Russian public opinion.<sup>12</sup> This nostalgia for the Soviet Union goes hand-in-hand with the Kremlin's will to make dynamic key sectors of former Soviet industry: the military complex, and the aviation and maritime industries—all symbols *par excellence* of great power status—revived the industrial myths of the preceding regime.

While Putin likes to be photographed as a sportsman and a military man, rather subtly associating patriotism with virility and masculinity, Dmitry Medvedev, for his part, plays the card of economic “modernization”, underscoring the importance of information technologies,

innovation, nanotechnologies, etc.<sup>13</sup> The two competing paradigms—that of triumphant military industries and that of new technologies—both accord very well with the Arctic theme. The conquest of the Arctic means that atomic icebreakers, submarines, and strategic bombers, as well as new technologies (satellites in polar exploration) can be promoted, as can the idea that science is not opposed to nature, but can be put in its service. Both the Putin and Medvedev narratives each get their share in terms of symbols. The Arctic functions as a *tabula rasa* for the projections of various visions.

Transforming the Arctic into a flagship for nationhood crystallized as a Kremlin strategy in the second half of the 2000s, in harmony with the growing international debates surrounding this issue. The choice at the time was made to favor a bellicose discourse in which the Arctic was presented as the future site of a new cold war. This strategy was, and is still, embodied in the president's special representative for cooperation in the Arctic and Antarctic, the famous polar explorer, Arthur Shilingarov, a member of United Russia and close associate of Putin. During the Polar Year in 2007, he led the highly publicized Russian expedition to the North Pole. The nuclear icebreaker *Rossiia*, and research ship *Akademik Fedorov* reached the North Pole, where two deep-water submersibles, *Mir-1* and *Mir-2*, were launched to plant a Russian flag on the seabed of the Arctic, at a depth of about 4,300 meters.

Shilingarov does not have a reputation for being subtle, and already attracted attention to himself in early 2007 for his helicopter flight to the South Pole and the Amundsen-Scott station in the company of Nikolai Patrushev, director of the FSB. During the Russian expedition to the North Pole, Shilingarov stated that “we have exercised the maritime right of the first night,”<sup>14</sup> while in 2009, he again said, bluntly, that “we will not give the Arctic to anyone.”<sup>15</sup> Although his remarks do not correspond with the position of the Russian state, whose claims strictly respect the norms of international law, they have never been rejected by the Kremlin. The latter delights in playing hot and cold on the question, and prefers to keep this hard-line stance on-hand, in particular in the domestic arena.

Presenting the Arctic as a new race among great powers makes it possible to portray Russia as a besieged fortress, caught in a vise-like grip by the advance of NATO, which therefore facilitates the revival of clichés dating from the Cold War. The comments of Russian officials on the Arctic are stamped by old patterns of resentment: in 2009 the FSB director Nikolai Patrushev stated that “The United States, Norway, Denmark, and Canada are conducting a united and coordinated policy of barring Russia from the riches of the shelf. It is quite obvious that much of this doesn't coincide with economic, geopolitical, and defense interests of Russia, and constitutes a systemic threat to its national security. (...) Further into the future it will be simply too late, they will drive us away from here.”<sup>16</sup> The idea that there is an “united and coordinated” alliance of Arctic coastal states against Russia is part of a conspiracy narrative that is widespread in Russia.<sup>17</sup> In 2010, Dmitry Medvedev himself mentioned, without qualifying what he had in mind, that “Regrettably, we have seen attempts to limit Russia's access to the exploration and development of the Arctic mineral resources. (...) That is absolutely inadmissible from the legal viewpoint and unfair given our nation's geographical location and history”.<sup>18</sup>

The dominant opinion among Russian specialists of the Arctic, in particular among legal experts, is that Russia lost or ceded much more territory than it had to. About 3.2 million square

kilometers of land surface in North America was sold for almost nothing in the nineteenth century; immense territorial waters in the Bering Sea were given too easily to the United States in 1990; as were territories in the Barents Sea to Norway in 2010. According to Alexander Oreshenkov, “the sphere of Russia’s jurisdiction over the continental shelf within the limits of its polar sector could be expanded by about 1.5 million square kilometers even without any request if it used the norms of international law and national legislation more expediently.”<sup>19</sup> Other researchers, such as G.K. Voitlovsky, a member of Scientific Advisory Council of the Maritime Board under the Government, have asked that Russia withdraw its 2001 claims to the CLSL and refuse any territorial restriction as long as the United States does not play by the same rules and the coastal states have not settled their border disputes, so that an international Arctic zone does not appear that would encroach on potential Russian territory.<sup>20</sup>

The will to turn the Arctic into a component of the patriotic narrative of the Russian state was reinforced in 2009 by the political decision to revive the Russian Society of Geography, itself born in 1845 as part of the imperial drive for geographical expansion and exploration of the country’s natural resources, and to turn it into one of the Kremlin’s flagships. The minister of emergency situations and a loyal follower of Putin, Sergei Shoigu, was appointed its president, while Putin assigned himself to the post of Council of Trustees chairman. The prime minister has not concealed his desire to have the activities of the Society of Geography focused on the great projects of the Russian state: “The society can offer practical support to our plans to develop Eastern Siberia and the Far East, Yamal and the north of Krasnoyarsk region, to participate actively in further research projects in the Arctic and Antarctica, as well as environmental support of the Olympic Games in Sochi.”<sup>21</sup> As it is directly connected to the Kremlin, the Society of Geography benefits from privileged grants, even though it has few qualified researchers. Its mission is not so much to engage in basic research as it is to perform applied research on projects that have been decided upon by the political authorities. It also has become a media platform aimed at Russian and international public opinion to promote knowledge of nature, a kind of Russian version of the U.S. National Geographic Society.<sup>22</sup>

Despite this institutional enhancement via the Society of Geography, the Arctic remains a theme that is little discussed in Russia. Between the Kremlin’s media hype on the “Arctic race” and the articles of specialists published for confidential circulation in specialized academic journals, cultivated public opinion does not have much to read. General yet serious articles are far and few between, and the journal *Russia in Global Affairs* run by Fedor Lukyanov is practically the only one that regularly discusses the issue’s importance for Russia.<sup>23</sup> The formation of public opinion that is correctly informed and able to decide if it wants to engage in a financial, technological, and human commitment to Arctic conquest has not yet taken shape. The Arctic continues essentially to be a concern of the state and the ruling elites, and much less one of Russian society. However, there are some niches in which Arctic focuses and narratives have indeed taken form.

### **3.3. Nationalist Fiction and Projection on the Arctic**

Within many Russian nationalist movements, the Arctic has long been a structuring theme. Some see it above all as a key element in the revival of Russia’s great power status and are therefore focused on geopolitical competition with the West, and in particular the United States. There are

a lot of press and internet articles on the “new cold war/war of cold.” Popularizations such as that by Artur Indzhiev, *The Arctic Battle: Will the North be Russian?*, which was published in one of the major Moscow nationalist collections, announce sort of third world war in which a weakened Russia will have to prove its heroism in order to safeguard its rights in the Arctic against aggressive Western powers.<sup>24</sup> Others put forward a more spiritual view of the role of the High North in the construction of Russian identity and the pursuit of its traditional messianism. In both cases, the Arctic is presented as Russia’s “last chance,” and as a possible “revenge on history.” The notion that Russian expansion into the Arctic could attenuate the consequences of territorial losses in Europe has become a recurrent theme: the Arctic is presented as rightful compensation for the hegemony lost with the collapse of the Soviet Union.

Among the most visible essayists of the Russian scene, the geopolitician Alexander Dugin has been one of the most virulent in his defense of a Russian Arctic. His explosive formula, according to which “[t]he purpose of our being lies in the expansion of our space. The shelf belongs to us. Polar bears live there, Russian polar bears. And penguins live there, Russian penguins,”<sup>25</sup> was cited by *Der Spiegel*, and became famous in the West both for its radical nature as well as for its blunder (there are no penguins in the Arctic). Alexander Dugin defines Russia as the main Eurasian power, as having an autarkic destiny, and as a point of linkage between East and West, whose mission is to develop the meaning a new political and spiritual continent, namely the Arctic, which he called *Arctogeia*. But he does not stop at promoting geopolitical theories on the High North, and also provides a specific ethnic and religious reading of it. For this, he bases himself on Aryan references inspired by the European New Right, on Nazi theories of the hyperborean continent as the birthplace of the Aryans of whom the Russians are the purest descendents, and on the esoteric theories of René Guénon, some elements of which are devoted to the *Arctogeia*.<sup>26</sup>



### **Eurasian Youth Economic Forum, 2011**

The Eurasianist youth movements that lay claim to Dugin’s thinking have organized several demonstrations in support of Russian territorial claims in the Arctic, calling for the Arctic continental shelf to be integrated within the borders of the Russian state and to be transformed into a new federal district.<sup>27</sup> The movement’s leader, Alexander Bobdunov, has claimed that “the north is not only a base of economic resources, our future in the material sense, but also a

territory of the spirit, of heroism, and of surpassing, a symbolic resource of central importance for the future of our country.”<sup>28</sup>

The Arctic theme has not left the communist movements indifferent either, and notably not their main theoretician, Alexander Prokhanov, the chief editor of the weekly newspaper *Zavtra*. One of the pillars of Russian nationalism of Soviet sensibility since the early 1990s, he has access to some military circles, and to Gennadi Ziuganov’s Communist Party. In his texts on the Arctic, Prokhanov combines pragmatic arguments with revivalist theories on the Russian nation. He thus correctly remarks that “for more than fifteen years immense spaces have been excised from Russia to the south. The Russian people have become more and more northern. The Ukrainian black lands have been taken away, as has access to the seas of the south, and Belorussia”.<sup>29</sup> But Prokhanov also sees in what he calls “the Russian march toward the north”<sup>30</sup> a renewal of Russian messianism. Not without humor, he mentions Gazprom as “the corporation of all the Russias” (on the model of the “Church of all the Russias”) and notes that the Arctic is likely to become the source of Russian power, since “the Arctic civilization requires an incredible concentration of force in all domains. It will become, then, a sanctified ‘common good’, in which the peoples of Russia will rediscover their unity, conceived by God as those to whom he destines great missions.”<sup>31</sup>

The High North has also become a fashionable topic among nationalist-oriented public opinion through a revival of interest in the history of Alaska. Since the 1990s, historical and fictional publications around the Russian conquest of Alaska and its sale to the United States in 1867 have multiplied. The idea of a former Russian Empire stretching from Finland to California fuels nationalist resentment, focused as it is on the importance of geography in the assertion of great Russian power. This makes it possible to cultivate conspiracy theories on the supposed will of the West to break Russia up. In this way, many works lament the corruption of those Russian elites who decided to sell California and then Alaska for financial gain, and place these historical events in parallel with Russo-American negotiations for Chukchi and Bering Seas in 1990.<sup>32</sup> These texts elevate the natural character of the Russian advance in Alaska as the logical follow-on of that into Siberia, the spiritual understanding between Russians and the indigenous peoples, and the key role of Orthodoxy in Alaska. These arguments are presented in counterpoint to American history, which is stamped by the destruction of indigenous peoples.<sup>33</sup> Regrets concerning the sale of Alaska are not only expressed by so-called nationalist authors, but can also be found among high ranking officials with links to Arctic questions.<sup>34</sup>

Lastly, the broad dissemination of Aryan and neo-Pagan themes in contemporary Russia is helping to familiarize public opinion with a specific idea of the Arctic as a cradle. The Russian version of the Aryan myth stems back to the nineteenth century,<sup>35</sup> but was strengthened in its neo-Pagan aspect during the interwar emigration through the debates on that false manuscript *The book of Vles (Vlesova kniga)*, presented by Russian and Ukrainian nationalists as an undisputable historical source evidencing Slavic pre-Christian antiquity, but also as a book of prayers and hymns to ancient gods to be put in practice. In the Soviet Union itself, the rebirth of Russian nationalism, supported by Stalin from the second half of the 1930s onwards, has made possible the consolidation of the neo-pagan narrative via research carried out on Slavic antiquity. During the second half of the 1960s, a discreet attempt to rehabilitate the anti-Semitic organization of the Black Hundreds was carried out by the organs of the state and the party. The

Central Committee of the Komsomol, the USSR Union of Writers, and the Russian Society of Defense of the Monuments all took part in this fusion of Soviet ideology and Russian ethno-nationalism. Vladimir Chivilikhin (1928-1984), the author of the famous novel *Memory (Pamiat')*, who won the USSR State Prize for it in 1982, explicitly proclaimed that Russians “are the ones, and not the Germans, who should be considered as Aryans.”<sup>36</sup>

Since the 1990s, so-called New Age-inspired “new religious movements” have been developing in Russia. Among these the *Rodnoverie*, or ethnic faith movements, seek to restore the pre-Christian and Aryan religion of the Slavs. The societal and political views espoused by their adherents are extremely broad, ranging from extreme pacifism to militarism, from complete depoliticization or semi-anarchism to far right groups defining themselves as National-Socialists.<sup>37</sup> This Aryan pattern does not simply occupy a part of the religious spectrum, but also a sizeable place in contemporary Russian publishing. Since the end of the Soviet Union, numerous meta-historical publications have flooded the shelves of the bookshops. Such texts are far from being marginal, as hundreds of thousands copies are published and thus represent the basis for a certain kind of popular knowledge in ancient history. Because of the interest of the general public in Slavic prehistory, Aryan doctrinarians have been able to penetrate historiography, books for children, and textbooks. According to them, the Aryan homeland would have been in ancient Atlantis, a bygone Nordic country whose descendents allegedly managed to migrate to Russia. The Hyberborea, so sought-after by German Aryanists, is thus supposedly located in the Russian north.<sup>38</sup>

### 3.4. A growing “White Nationalism” in Russia

Another more prospective, but determining element also has to be taken into account: the dramatic shifting perception of how Russians see their place in the world, their focus on new threats, and the reorganization of identity criteria for their inclusion in the Western/European world.<sup>39</sup>

In the context of massive historical changes, social traumas are liable to provoke a crisis of political identity, which here manifests itself, among other aspects, in the rise of xenophobia.<sup>40</sup> The majority of sociological studies conducted in Russia agree on the fact that about one quarter of the population sees no danger in the country’s multinational character or the arrival of new migrants, whereas two-thirds are opposed to it.<sup>41</sup> Since the beginning of the 1990s, anti-Chechen sentiment was the prevailing factor of this xenophobia, but shortly thereafter it developed into a “Caucasophobia,” and then began to affect all “Muslims.” Xenophobia is therefore directed not only at foreigners, in the legal sense of the term, but also at some of the country’s national minorities, especially North Caucasians.<sup>42</sup> Since the second half of the 2000s, Central Asian migrants (Uzbek, Tajik, and Kyrgyz) have topped the polls in terms of xenophobia, and the term “Tajik” has come to define the migrant as such, without further national distinction. The slogan “Russia for Russians” (*Rossiia dlia russkikh*), once used only by skinheads and the most radical parties, has become widespread throughout society. In 2009, 18 percent of respondents thought it was time to implement this idea “fully,” and 36 percent hoped it would be practiced “in reasonable proportions.”<sup>43</sup>

Fear of “Southern” peoples has been exacerbated by the two wars in Chechnya, the destabilization of the whole North Caucasus, the spread of terrorism in Russia, migratory flows coming from Central Asia and the Caucasus, and the widespread cliché about the Chinese “yellow peril” in Siberia and the Far East. To bolster this xenophobic logic and justify ethnic violence, radical nationalist groups use the most persistent clichés. They claim that migrants take advantage of the goodness of the Russian people, that they are responsible for the arrival in Russia of the mafia, terrorism, and drug and arms trafficking, and also for the resurgence of crime and rape, the decrease in purchasing power of citizens, the low quality of products, adulterated vodka, etc. The vocabulary used by racist groups like skinheads leaves no room for doubt as to how they interpret the migration phenomenon; the most salient terms are hordes, flood, invasion, and occupation, and reference is made to the alleged “silent war” being waged against the Russian people.<sup>44</sup> In Siberia and the Far East, the theme of invasion by numbers from China is the most common argument used by radical groups, in tune with a part of the population.<sup>45</sup> Even the actions of United Russia’s youth movement, the Youth Guard, as well as those of other pro-presidential youth associations against illegal immigrants betrays the Kremlin’s attempt at instrumentalizing the issue and the influence that xenophobic topics are having on some of the elite’s children.<sup>46</sup>

The “southern threat” has hastened the identification of Russian public opinion with Europe or the West. Upon the intellectual decline of Marxism, socioeconomic explanations lost their legitimacy. Instead there is now a prevailing idea that the world can only be explained by national identity, culture, and religion. The success of Samuel Huntington’s *Clash of Civilizations* in Russia consolidated the forceful post-Soviet return to a kind of cultural geopolitics.<sup>47</sup> In it religion creates the foundation of civilizations and contributes to their immutable nature over time: not individuals or social groups, but civilizations are the true actors of history.<sup>48</sup> These civilizationist statements have now become the template for mainstream ideology in Russia. Politicians increasingly discuss the existence of a “Russian civilization” (*Russkaia* or *rossiiskaia tsivilizatsiia*, depending on the author) or an “Orthodox civilization” (*pravoslavnaia tsivilizatsiia*). The Orthodox Church plays a central role in the formulation of this idea. The work of the Church’s main ideologue, Patriarch Kirill, is testament to his subscription to Samuel Huntington’s analysis, that is, to a world that is divided into civilizations and defined by religion.<sup>49</sup>

Within this realm of civilizationist thought, Russia is identified with the white world (*belyi mir*). This term is increasingly used in the media during debates on migrants, identified as “people of color.” The French social riots of 2005, interpreted in Russia as a war waged by the “Arabs” against the “French,” triggered many polemics about the loss of Europe’s white identity.<sup>50</sup> Doctrinal founders of a “white world theory” joined together and today work to promote their *Welstanschauung* in the Russian public space and to revive what they call raciology.<sup>51</sup> Under one umbrella they group together different theories of a Northern/European/white race in order to advance the idea that Russia was founded by Aryans and that the imperial structure of the country constitutes the apogee of “white” political thought. These racialists lead a small but influential group, White World (*belyi mir*), host websites for white and Slavic audiences, and participate in neo-Slavophile literary circles, particularly the International Fund for Slavic Writing and Culture.<sup>52</sup>

Fears of immigration and of a clash of civilizations therefore enable Russia's confrontation with the West to be put in a different light. As a struggle that is internal to the "white world" only, it is necessary to bracket it whenever a greater danger threatens from the outside. Even if resentment toward the West continues to be a driving force of identity narrative in Russia, the sentiment of belonging to an endangered white world, which includes Western Europe and the United States, paints the picture of a white/European Russia allied with the West in a huge "war of civilizations." The likely continuation of xenophobia in Russia and the growing place granted to migration questions in public debates will contribute to reinforcing a spatial representation of Russia in which the "south" is the region from where all threats come, while the "north" where the Russian people will be able to preserve itself. The Arctic can thus help to compensate for the North Caucasus. This identity background is still only vaguely defined but is distinctly beginning to take form and may well play a determining role in the way in which Russian public opinion apprehends the cost of Arctic "conquest."

### **3.5. A Communication Tool: Structuring an Arctic Brand for Russia**

Identity is not a given, but a situational construct. In Russia, the elites have always been very sensitive to the image that their country has abroad. This pattern was already quite present in the thinking of the Slavophiles in the 1830s. It was marked by resentment towards Europe, with which they identified, but that seemed to hold them in contempt. The Soviet period provoked as much enthusiasm as criticism from the European elites, depending upon their reading of communism. During the years of perestroika, the idea that "moving back into the European house" was the natural destiny of Russia dominated among those West-oriented parts of the Russian elite. However as early as 1992-1993, broad popular support for a twofold Westernization—the introduction of the market economy and the establishment of a parliamentary system—fell sharply away. Social difficulties and a huge feeling of humiliation contributed to shattering the pro-Western consensus. During Putin's two mandates, Russian leaders have openly made known their disillusionment and frustration with their European and American partners, and wanted Russia to be counted as a great power, with no obligation to limit its own interests in the name of any solidarity with the West.

Since 2007, the question of nation-branding has grown in scale in Russia. The generalized feeling that formerly the Soviet Union, and now Russia, has systematically lost the information war and has been unable to succeed in its "conquest for hearts and minds" has led to the consideration of new mechanisms of influence and soft power, which the country has not mastered since the great era of Soviet propaganda. The idea that the West's appeal is in decline throughout the world, and that the global competition between world powers has acquired a "civilizational dimension," as it is expressed in the Foreign Policy Concept of 2008,<sup>53</sup> have structured logics of promoting Russia abroad. This can be seen with *Russia Today*, the English-language TV channel, the Paris and New York based Institute for Democracy and Cooperation, and the *Russkii Mir* foundation headed by Kremlin-connected Viacheslav Nikonov, which promotes Russian language and culture beyond Russia's borders and tries to associate the Russian-speaking diaspora with the "revival" of the state.<sup>54</sup> This idea of Russia as a brand that can be capitalized on abroad among countries and peoples that are critical of "American domination" is particularly present among the pro-presidential youth movements. One of Nashi's affiliates, *Stal'* (Steel), has for instance made its main objective to "develop pro-Russian

networks abroad, with the goal of creating a positive image of Russia, and this will give us a strategic superiority. We will change the world, turning ignorance and incomprehension of Russia into respect and even into a fashion for it”<sup>55</sup>.

In this context, the Arctic presents itself as an opportunity not to be passed up. The media focus is considerable and the visibility international, involving countries from the West as well as rising powers, first and foremost China and India, but also Latin America, the Middle East, and Africa. The Arctic also makes it possible to modify Russia’s image as a polluting industrial power for which ecological issues are unimportant, and that has no definite public stance on climate change. The Arctic offers unique possibilities to turn its competition with the United States to its advantage, particularly given the latter’s non-ratification of the Kyoto Protocol. A polluting Russia is cast as a thing of the past, something that was part of the Soviet heritage, whereas new Russia, the Russia of the future, wants to project itself as a clean power.

Thus, since 2008-2009, the Russian official narrative on the Arctic, once rather bellicose, has evolved toward a celebration of the region as a space of international cooperation. Putin, Medvedev, and the Minister of Foreign Affairs, Sergei Lavrov, have continuously strived to cultivate a discourse pointing up a “dialogue of cultures” in the Arctic. This can be explained by the evolution of the international context (the Obama administration’s “reset policy” or Medvedev’s softer discourse as compared to Putin’s), but also because the Kremlin has understood the potential of the Arctic topic as a strategic communication tool. The international forum “The Arctic: Territory of Dialogue,” held in Moscow in September 2010, was an occasion to play this card with success, in particular thanks to the esteemed international presence (Prince Albert de Monaco and President of Iceland Ólafur Ragnar Grímsson).<sup>56</sup> This media operation will henceforth be repeated every year in the hope of promoting not an *Arctic Race* between great powers, but a *Polar Saga* of humanity placed, among others, under Russian leadership. Putin thus announced the creation of a “Russian Arctic” national park to develop ecological tourism in the High North.<sup>57</sup>

While the exultation of Russia’s supposed specific destiny in the Arctic continues to be very present in domestic public space, on the international front the emphasis is put on cooperation. As such, Moscow is very invested in the Arctic Council and the Barents Euro-Arctic Council, even though traditionally it has been disdainful of multilateral instances with uniquely consultative functions.<sup>58</sup> Russia plays a particularly constructive role in the discussions on joint research and sea rescue systems. In the framework of international debates related to the delimitation of the continental shelf, Russian scientists have shared the charts, maps, and data used in their 2001 submission to the UN Commission on the Limits of the Continental Shelf and have declassified some materials collected by the Armed Forces. Despite state competition, Russian and Canadian scientists are exchanging information on the Lomonosov Ridge. In 2007, Canadian, Danish, and Russian officials, all of them representatives of their respective ministries or departments of natural resources, discussed the possibility of collaboration in the Arctic.<sup>59</sup>

Russia adopts a stance on the Arctic in accordance with the image that is sent back to it of itself by other countries. The gamut of positions is therefore very wide, ranging from reciprocally bellicose exchanges with Canada, to competition/collaboration with the United States for the title

of Arctic knowledge power and to the multitude of pragmatic local forms of cooperation that it has put into place with European countries.

The Canada-Russia relationship has become focused on the Arctic question over recent years. In the 1990s and early 2000s, Ottawa took upon itself to integrate Russia more firmly into the concert of Arctic nations that work on environmental issues and the participation of indigenous people. In 2007, however, Canadian politicians took literally the planting of the Russian flag on the Arctic seabed and the provocative declarations of Artur Shilingarov. Canadian Foreign Affairs Minister Peter MacKay stated that humanity was no longer living in the Middle Ages and that it was not sufficient to plant a flag to lay claim to the possession of a territory, while Prime Minister Stephen Harper declared in Nunavut that “Canada's new government understands that the first principle of Arctic sovereignty is: use it or lose it.”<sup>60</sup> In the press, the discourses on Russia’s warmongering have multiplied, in particular during flights of Russian bomber planes above the Arctic, regardless of the fact that they do not violate Canadian airspace. The legal debates concerning the belonging of the Lomonosov and Mendeleev Ridges to the North American or the Eurasian continent have sharpened this conflictual reading of things, and the Nanook military exercises in the Canadian High North have been revived at a steady rate.

The Arctic has therefore suddenly become a flagship of the nationhood of Canada, leading to a radicalization around the question of the Northwest Passage. In 2009, the decision—approved almost unanimously by the House of Commons in spite of protests from Inuit communities—to change the name of the Northwest Passage to the “Canadian Northwest Passage” confirmed state susceptibility in respect of territorial sovereignty in the Arctic.<sup>61</sup> The narrative on the Arctic as the last frontier for Canada has not gone unnoticed in Russia, most of whose self-assertive discourses target Ottawa, whether by name or not.<sup>62</sup> This deterioration of relations in the name of nation-making symbols is especially harmful as the two countries have never had strong geopolitical antagonisms, as Canada is seeking to assert itself on the international scene independently of the United States,<sup>63</sup> and as both Russia and Canada have a shared reading of the question of the Northwest and Northeast Passages.

Russia’s relationship with the United States is just as complex. The old antagonisms of the Cold War have not yet left the collective mind, and other key conflicting elements can be added to this. The non-resolution, on the Russian side, of the question of the Chukchi and Bering Seas keeps alive the idea of tensions with Washington and fuels the memory of the humiliation of perestroika. The non-ratification of UNCLOS by the world’s foremost maritime power confirms in Russians their idea of the United States as a unilateral power that refuses to apply any binding agreements to itself, but is bent on applying them to the rest of the world.<sup>64</sup> Moreover, the Russian elites consider that the refusal of Western capitals and of NATO to discuss openly questions of Arctic security, soft and hard, opens the door to a strategic uncertainty that obliges Moscow to react in a defensive way. The very few bilateral activities, such as Russia-U.S. cultural exchanges in Alaska and Far East, also weakens the idea of cooperating with Washington on the Arctic issue, despite common projects such as the Joint Russian-American Long-term Census of the Arctic (RUSALCA).<sup>65</sup> However, the United States cultivates its image as a knowledge power on the Arctic, a title that Russia also seeks. More than a competition, the fields of cooperation in this domain are multiple, as Moscow is waiting for the United States’ recognition of its academic and applied knowledge on the High North.

With Europe, and more precisely with the Nordic countries, Russia has managed to construct a privileged, pragmatic relationship. The North Sea-Baltic Sea zone was an area of considerable tension during the Cold War, since the two blocks here came up alongside one another. Since the 1990s, the Scandinavian countries have not manifested themselves as the most pro-Russian countries of European space for historical,<sup>66</sup> political (criticisms of the authoritarian regime of Vladimir Putin), and geopolitical reasons (debate around the Nord Stream in Sweden, etc.). Despite this liability, Norway, Finland, and Sweden have all succeeded in developing multiple bilateral and multilateral cooperation projects with Russia, as much at the state level as between border regions. This is so despite some clashes of perceptions.<sup>67</sup> The cross-border flows with Norway and Finland have rapidly grown and have altered the daily relations between individuals. The projects of cultural exchange, the Arctic universities that host students from the entire area, and regional collaborations in the environmental, shipping, and fishing domains have become legion.

For Russia, the Nordic dimension constitutes an increasingly important element of its relationship with Europe, since the Scandinavian countries have become familiar and predictable neighbors. For the EU, the stakes are crucial, since Brussels needs to find room for cooperation with Moscow in order to resolve the still numerous areas of tension and to promote pragmatic cooperation between European states and Russia. Numerous changes are therefore currently in the process of reshaping Europe-Russia relations in line with a more Arctic/Baltic focus, which will require reformulating the transatlantic commitment.

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In only a few years, the Arctic has become a component both of Kremlin-led patriotic rhetoric aimed at domestic public opinion and of Russia's international brand. The Arctic indeed enables both an updating of old "Red Arctic" aggressive and industrializing clichés, and a way to embody the new Russian soft power. On the domestic scene, the topic of the Arctic is at the same time very present, insofar as it is wielded by the authorities and their subservient media and defended by the nationalist milieus, from the Eurasianists to the neo-Pagans, as the last great battle of the Russian people for their very survival. But it is largely absent from public debates and everyday preoccupations. On the international scene, Moscow can present itself in conformity with Western public opinion by showing its interest for polar expeditions and environmental issues, its promotion of indigenous rights, and its support to multilateralism, and sustainability.

The international position of Russia in the Arctic is therefore multiform, in accordance with the image that each country reflects: Russian bellicism against Canadian self-assertiveness, hesitations toward the American ally/rival, and constructive neighborhood partnerships with European countries. This multiplicity confirms that the Russian elites do not have any precise agenda to defend in the Arctic, barring that of being recognized as a key participant in the debate. If the symbols of its non-marginalization are respected, then Russia privileges a cooperative, rather than a competitive, framework with the other Arctic states, as it is less costly and Moscow stands to gain some advantage from it. The Arctic therefore occupies a complex position in Russian nationhood/statehood, both overestimated and under-discussed. It is a way of

affirming, paradoxically, both the idea of Russia in its unique specificity, and its desire to have itself viewed as a “normal” country by the international community. This is therefore a recurrence of Russia’s ancient ideological ambition to be the *other* Europe,<sup>68</sup> however, its identity evolution also involves a xenophobic pattern that anchors Russia increasingly *in* Europe/the West.

### **Key Findings and Pathways to the Future**

The Kremlin-led nationalist rhetoric on the Arctic is mainly for domestic audiences. It is part of the symbolic arsenal used by the Putin regime to legitimate itself: references chosen from the Stalinist myth of the Arctic—people’s heroism and industrial prowess in hostile environments—are still well-received among some parts of the Russian population. The Arctic is a virgin land on which it is easy to project, albeit difficult to realize, dreams of great power.

On the international stage, Russia negotiates its viewpoint in accordance with the other actors. It is rather threatening toward NATO, but distinctly more reconciling in the Arctic Council and the Barents Euro-Arctic Council. It mirrors back the image that the others send of it: it is bellicose with Canada, in competition with the United States, but celebrates cooperation and pragmatism with Nordic European countries. It is thus necessary to strike a symbolic chord in order to integrate Russia better into international debates on the Arctic, and in particular to bring into the foreground its scientific competences.

The rise of Russian nationalism, specifically xenophobia directed at migrants, North-Caucasians, and, in a general way, “Muslims,” constitutes a long-term driver that will shape the future of the stance taken in Russian public opinion on the Arctic. The theme of a White Russia, or of Russia as a Nordic power, is bound to take on a greater magnitude in the decades to come. Russian nationalism must therefore be a part of the strategic planning, as it may lead the decision-making process to run counter to rational logic, especially if it is motivated by questions of pride and symbols of nation-making.

#### 4. THE RUSSIAN STANCE ON TERRITORIAL CONFLICTS IN THE ARCTIC

The Polar regions have often been considered as specific with regard to international law, and multiple sets of regulations are applied to them, with important historical evolutions taking place in conjunction with the gradual discoveries of the oceanic depths and their reserves.<sup>1</sup> Expected climate change has led the littoral states to focus on the stakes of delimitation and of sovereignty, especially as the continental shelf occupies a much higher proportion of the Arctic Ocean than of any other ocean. UNCLOS recognizes that each state has the right to 12 nautical miles of territorial sea, 24 nautical miles of contiguous zone, and 200 nautical miles of exclusive economic zone (EEZ). On territorial seas, sovereignty is exercised over the airspace, water column, seabed, and the subsoil. Within the 200 nautical miles of EEZ, each state has sovereign rights over all living and non-living resources in the water column, seabed, and subsoil, and the passage of foreign ships must be guaranteed. Beyond these 200 nautical miles, state jurisdiction can no longer be applied to the water columns, which are defined as high seas subject to free circulation. It can, however, be applied to a continental shelf if a state has UNCLOS recognize a territorial contiguity of up to 350 nautical miles or 100 nautical miles beyond the 2,500-meter isobath. Beyond this, the deep seabed is regarded as the heritage of humanity and is managed by the International Seabed Authority.<sup>2</sup>

As regards the Arctic, there are three categories of dispute: a first category involves disputes about bilateral EEZs and continental shelves, a second the delimitation of continental shelves, and a third deals with the straits. There have been eight disputes over bilateral EEZs and the continental shelf in the region: one between the United States and Canada on the Beaufort Sea (problem of the delimitation of hydrocarbons-rich waters lying between the Yukon and Alaska); another between Canada and Denmark/Greenland about the Davis Strait (issue settled in 1973 despite continuing disagreement over Hans Island); a third disagreement existed between Denmark/Greenland and Iceland over the Fram Strait (settled in 1997); and another between Denmark/Greenland and Norway over Svalbard (settled in 2006). A fifth disagreement existed between Iceland and Norway over Jan Mayen (settled in 1993-1995); and one between Denmark/Greenland and Norway about Jan Mayen (settled in 1981). The Soviet Union/Russia was involved in two disputes: one with the United States over the Bering Sea; and another with Norway over the Barents Sea and Svalbard. The disputes over the straits bear on the Northwest Passage and the Northeast Passage. Canada and Russia consider them territorial waters, and therefore claim the right to regulate vessels' traffic, while the other states, especially the United States, consider them international waters.<sup>3</sup>

Although the growing economic interests of the Arctic encourage the littoral states to stake out claims for sovereignty, all appeal to the unequivocal support for international law in the resolution of remaining jurisdictional disputes. Given the length of its Arctic coastlines, Russia is very active in both theoretical and practical debates on the status of the Arctic and the issue of territorial delimitation. It is involved in all three categories of existing legal disputes concerning bilateral exclusive economic zone and continental shelf disputes, the delimitation of the continental shelf, and on vessel transit in the straits. On these issues, Moscow pursues proactive policies, which is a sign of the importance that it assigns to the question, as Russian international policies are traditionally quite reactive.

#### 4.1. The Soviet Historical Referent: the 1926 Decree

The Russian legal tradition is characterized by the notion of sectoral line, that is, the line of longitude that starts from the terminus of land boundary and intersects with the North Pole. The division of the Arctic into national sectors began at the start of the twentieth century, when Canada first, in 1909, proclaimed its sovereignty over the lands stretching between its territorial border and the North Pole. Czarist Russia took up the Canadian criteria of sectoral division, a decision that Soviet Russia pursued after the Revolution of 1917. On April 15, 1926, the Central Executive Committee of the Soviet Union issued a Decree, *On the Proclamation of Lands and Islands Located in the Northern Arctic Ocean as Territory of the USSR*. The decree stated that “all lands and islands, both discovered and which may be discovered in the future, which do not comprise at the time of publication of the present decree the territory of any foreign state recognized by the Government of the Soviet Union, located in the northern Arctic Ocean, north of the shores of the Union of Soviet Socialist Republics up to the North Pole between the meridian 32°04'35" E. long. from Greenwich, running along the eastern side of Vaida Bay through the triangular marker on Cape Kekurskii, and the meridian 168°49' 30" W. long. from Greenwich, bisecting the strait separating the Ratmanov and Kruzenstern Islands, of the Diomedes group in the Bering Sea, are proclaimed to be territory of the Soviet Union.”<sup>4</sup>

The territory defined in the decree is based on the internationally validated limits of the time: to the east, those between the United States and Russia defined in the 1867 Convention on Alaska; and to the west, the border between the Soviet Union and Finland. Moscow lays claim to sovereignty over all the territories between these two points along the meridian up to the North Pole. At a time when Russia regarded itself as surrounded by capitalist enemies, a main characteristic of which was their “imperialism,” the objective of this decree was to prevent other states from proclaiming their sovereign will over unknown territories. The law thus has a prospective intention, namely to preserve the future of Soviet Arctic discoveries. Later, some Soviet researchers extended the scope of the decree, for example, V.L. Lakhtin, who published a monograph titled *Prava na severnye polyarnye prostranstva* (Rights on Northern Polar Spaces) as early as 1928. In it, he advanced two new arguments: first, that all lands and islands, regardless of who effectively occupied them, had to be under the sovereignty of the owner of a sector in accordance not with the contiguity theory but with the principle of “region of attraction” (*raion tiagoteniia*); second, that fast ice should be equated to land territory, that is, be included in the sovereign part of a sectoral state, as well as the air space above it.<sup>5</sup>

The 1926 decree was designed to regulate the questions of sovereignty on the Arctic Ocean and was not supposed to serve as a general principle for the demarcation of maritime borders. However, it was seen within Soviet legal practice as a historical precedent and therefore led Moscow to propose a sectoral division of all maritime borders.<sup>6</sup> The Soviet Union stuck to this principle throughout its existence. Some Soviet geographical maps showed state borders going along straight longitudinal lines from the Kola Peninsula and the Bering Strait towards the pole, so that one-third of the Arctic Ocean was designated as territorial waters. Soviet works remained divided in their interpretation of the decree’s scope. Those that had a restricted reading of it considered that only the islands of the sectoral zone make up part of the contiguity territorial of the state, not the waters between the islands and the continent. Those that had a broader interpretation of it claimed that the islands, the waters, and the air space must also fall under

national jurisdiction.<sup>7</sup> In practice, Moscow did not uphold this broader interpretation of the 1926 decree and never perceived the border of the Arctic sector as its territorial border. During the decades of the Cold War, these juridical ambiguities enhanced tensions with the United States, which decided it could circulate freely on the oceans. U.S. submarines succeeded in reaching the North Pole (in 1958, the *Nautilus* was the first watercraft to reach the geographic North Pole), in passing through Soviet-controlled Arctic waters and northern straits (the so-called *USS Blackfin*), and even in entering Russian territorial waters (the *USS Gudgeon* in 1957 close to Vladivostok).<sup>8</sup>

Since the collapse of the Soviet Union, the Russian legal position has softened. During its border conflicts with Kazakhstan and Azerbaijan over the Caspian Sea, Moscow yielded without demanding sectoral demarcation for the Caspian Sea, in large part because demarcation using the principle of the median line provided it with zones that are rich in hydrocarbons. Russia also realized that by referring to the sectoral line it was losing in terms of territories in the Bering Sea. Moreover, this method of division has met with little international success. Denmark, Norway, and the United States have all rejected it publicly, and the UNCLOS posits the median line as the basic principle of division of marine territories.

#### **4.2. Russian Claims on the Arctic Continental Shelf**

Under the UNCLOS, a coastal state has exclusive sovereign rights to explore and exploit the natural resources of its continental shelf up to 200 nautical miles from its shores. Beyond this limit, it has to provide scientific evidence to establish the extent of the legally defined continental shelf in order to exercise the same rights. These rights apply to the exploitation of living and non-living resources of that state's share of the shelf's seabed and subsoil, but do not extend to resources in the water column such as fish stocks, which are covered by a separate regime. Thanks to the marine research that has been carried out systematically in the Arctic from the 1960s, in 2001 Russia became the first country to refer to the UN Commission on the Limits of the Continental Shelf (CLCS), a review body of scientists created under the UNCLOS. In so doing, it created a legal precedent, which other states hastened to follow.

After ratifying UNCLOS, each state has ten years to submit an application for the recognition of its continental shelf, and then can hand in as many claims as it wishes once the first application has been made. The Commission is made up of 21 members chosen for their expertise in geology, geophysics, and hydrography, but they are also elected with due regard for geographic representation, so having a member of one's nation elected can be a positive element for a state that is submitting a claim. The commission's decisions require a two-thirds majority but rulings cannot be given that disadvantage other states, even if the state in question has not submitted a claim but deems it is potentially disadvantaged.<sup>9</sup> This measure is designed to protect the weakest countries that do not have the financial and technological means to submit a request. This rule, called Rule 5, can be used to prevent the commission from giving a verdict that would be binding. The commission is also unable to settle border disputes between states except if the governments concerned ask for the arbitration of the commission. The legal wranglings are therefore complex and nearly infinite.<sup>10</sup>

In addition, the definition of the continental shelf such as it is found in article 76 of UNCLOS is made up of many technical and geological elements that scientists often judge incomplete or contradictory. It leaves open some definitions that are likely to evolve in accord with technological progress, even if a scientific and technical guideline is supposed to help interpret the terms used. UNCLOS states that “[t]he continental shelf of a coastal state comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the *natural prolongation* of its land territory to the outer edge of the continental margin.”<sup>11</sup> Several criteria are thus to be taken into account: the thickness of sedimentary cover, a distance of 60 nautical miles from the foot of the continental slope, a distance of 350 nautical miles from the country’s baseline, and/or 100 nautical miles from its 2,500-meter isobath. In addition, claims must first show that the prolongation requested does not concern an oceanic ridge, since this term has a complex definition apt to be interpreted in multiple ways, but the differences between oceanic ridges and natural components of the continental shelf are unclear.<sup>12</sup>



### **Maritime Boundaries and Claims in the Arctic**

In its claim, Russia argues that the Lomonosov Ridge and the Alpha-Mendeleev Ridge are both geological extensions of its continental Siberian shelf and thus that parts of the Central Arctic Ocean, as well as parts of the Barents Sea, the Bering Sea, and the Sea of Okhotsk, fall under its jurisdiction. Most of this area, amounting to about 1.2 million square kilometers of Arctic waters, is situated in a triangle-shaped zone, “the top of which is the North Pole, the eastern side is approximately the meridian 170° W, the western side is an irregular line running southward from the North Pole to the cross point with the EEZ outer limit (81° N, 120° E), and the base is the outer limit of the Russian EEZ.”<sup>13</sup> The Lomonosov Ridge is a 60,000 kilometer-wide submerge

elevation joining the continental Eurasian and American platforms, while the Mendeleev Ridge is a 1,500 kilometer-long elevation between Wrangel Island and the Canadian Arctic archipelago. In 2002, the CLCS gave a recommendation about the additional data and information it requested from Russia by 2009. With this in view, Moscow organized the much-publicized 2007 Arctic expedition, during which the Russian flag was planted on the Arctic seabed, an act devoid of any legal significance but that incited the anger of other states. Still the information gathered for a renewed submission was not adequately detailed in its bathymetrical analysis. Russia has therefore delayed its next submission to 2013, at least so that it can order new scientific expeditions and collect the requested information.

A technical analysis of the Russian claims lies outside the scope of this chapter and can in any case only be conducted obliquely, since all claims are subject to confidentiality. Only the executive summaries have been made public, as have the appeals submitted by the other states, which thus make it possible, through the responses they provide, to surmise the exact nature of the claims and the arguments put forward.<sup>14</sup> Since Moscow's initial submission, Canada, Denmark, Japan, Norway, and the United States have filed their responses to the executive summary of the Russian claims. Norway has issued official documents indicating that the Russian request infringes upon its own claims. As the commission cannot give rulings that disadvantage another state, it cannot give a verdict inasmuch as the claims of the other states remained unexamined. Thus, after Norway deposited a request for recognition of its continental shelf in 2006, including an express reservation of the right to claim additional territory, it came to light that both Moscow and Oslo claimed the two zones, the Loop Hole and the Western Nansen Basin. In the absence of any territorial delimitation treaty between both states until spring 2010, the commission was unable to give rulings in favor of either one or the other and both states invoked the Rule 5 protection against any prejudicial decisions. In 2008, the commission endorsed Norway's description of the seabed outside of its established border, thus allowing the country to widen its economic zone in the Arctic by 235,000 square kilometers, but without giving a ruling on the two zones under dispute.<sup>15</sup>

Canada and Denmark stressed that the oceanographic data contained in the Russian executive summary was insufficient to determine their stance on Moscow's position. Nonetheless, the Canadian and Danish governments have been working together since 2005 to submit their claims.<sup>16</sup> In 2006, both countries, considering that the stakes were of such importance, put their dispute over Hans Island aside, and undertook a dual scientific expedition known as the Continental Shelf Project to collect the bathymetric, seismic, and gravity data of the Lomonosov Ridge and to establish claims to territorial expansion.<sup>17</sup> They are collecting data on the seabed north of Greenland and Ellesmere Island, and are organizing the Lomonosov Ridge Test of Appurtenance (LORITA) Project in order to prove that the ridge, which passes through Greenland to Canada's Ellesmere Island, is a natural extension of the North American continent.<sup>18</sup> Canada and Denmark have until 2013 and 2014 respectively to submit their claims.

The United States, although it has not ratified UNCLOS, has also submitted a document contesting Russian claims on a scientific level, with detailed references to the technical aspects of the Russian submission. The U.S. document claims that the Russian text does not propose objective data sources concerning the location of the 2,500-meter isobath and the foot of the continental slope. The main scientific argument put forward by Washington seems to be that the

Alpha-Mendeleev Ridge System is a geologic feature formed by volcanism (a submerged “hot spot”), and therefore cannot be considered a natural prolongation of the continental shelf or continental margin.<sup>19</sup> Regarding the Lomonosov Ridge, Russia seems to have more leeway with its potential claim for continental shelf expansion but needs to give sufficient arguments to prove the relationship between the ridge and the Russian continental shelf, otherwise the commission will define the ridge as an oceanic one. However, in 2002, State Department representatives mentioned that the U.S. view of Arctic geology is evolving and in hindsight, their notification reflected an inadequate appreciation of the scientific complexities involved.<sup>20</sup> It is therefore likely that legal disputes around Russian claims will continue to last for several more years.

#### **4.3. The Russian-U.S. Agreement on the Bering and Chukchi Seas**

In the 1970s, the United States proposed to the Soviet Union to begin negotiations about the length of their common maritime border, the longest in the world, in order to settle their points of disagreement: the EEZs of both countries intersected in the Bering Sea as well as in the Chukchi Sea; part of the continental plateau as claimed by both superpowers; and part of the open sea was yet to be delimited. A provisional application for a forthcoming agreement entered into force in 1977 so that daily issues could be regulated, in particular around fishing. The negotiations resumed during perestroika. Long a zone of tensions during the Cold War, the Bering Sea was indeed one of the first winners of Gorbachev’s Murmansk Speech in October 1987. Both parties signed a final agreement on July 1, 1990, resulting in the so-called Baker-Shevardnadze line, which is a compromise between a median line and a sectoral line along the boundary of more than 2,500 kilometers.<sup>21</sup> The United States ratified the treaty in 1991 but, twenty years later, Russia still has not done so.

Since the beginning of the 1990s the Duma has refused to ratify the treaty, arguing that it harmed the interests of the Russian state in terms of fishing and potentially of oil reserves. Russian politicians and lawyers are putting forward multiple arguments. In 1990, with the Soviet Union right in the middle of perestroika, the decision-making system was complex. Nikolai Ryzhkov, who at the time occupied the post of president of the Council of Ministers, declared that neither the Politburo, nor the Council of Ministers were able to examine the text of the agreement before its signature—but Foreign Affairs Minister Sergei Lavrov has stated the contrary and it seems that the internal validation procedure in the Central Committee was well respected.<sup>22</sup> Many have also accused Eduard Shevardnadze of having ceded too easily to U.S. demands in order to obtain Washington’s support.<sup>23</sup> Moscow hoped to sign a whole package of agreements with the United States, including the withdrawal of missiles from Europe, and did not want to slow down the process by bringing the case before the UN International Court of Justice in The Hague, which, in addition, was still decried as a tool of capitalism. Moscow had also been in negotiations with Norway and had hoped to tip the balance on the sectoral line in its favor provided only that it came to an agreement with Washington.

In 1996, the Duma held new parliamentary readings on this subject, through it refrained from making a decision. In 2002, the Russian Audit Chamber provided a detailed opinion on the state of Russian fishing and concluded that because of this agreement, Moscow had lost between 1.6 and 1.9 million tons of fish in the 1990s.<sup>24</sup> The reports the Duma requested conclude that, of its own free will, the Soviet Union lost three areas of water from its EEZ, which it ceded to the

United States: one in the Bering Sea (23,000 square kilometers), one in the Chukchi Sea (7,700 square kilometers), and another in the Pacific Ocean (46,000 square kilometers). The Soviet fleet caught as much as 150,000 tons of fish per year.<sup>25</sup> In exchange, the Soviet Union was to have guaranteed fish quotas for its fishermen (the invasion of Afghanistan and U.S. sanctions put an end to them), a small part of the American EEZ in the western sector, and sovereignty over the islands of Chukchi Sea, including Wrangel.<sup>26</sup> In 2007, the director of the North American Department within the Ministry of Foreign Affairs declared that the text of the agreement did not harm the territorial interests of the Russian state, except in terms of fishing, and that negotiations were taking place with the United States in order to compensate for Russian losses,<sup>27</sup> but a solution is yet to be found. In addition, it is likely that the zones ceded are rich in hydrocarbons, especially the Navarinsk and Aleut fields, even if the absence of offshore wells and the lack of seismic data mean that the hypotheses are unverifiable for the time being. According to data gathered in 2006, the estimated total recoverable resources of the East Siberian and of the Chukchi Seas is more than eight billion tons of oil equivalent.<sup>28</sup>

On the legal level, the Soviet-Russian position has been weakened by its inconsistency. As a point of departure of the negotiations, the United States proposed to Moscow to take the same line of demarcation as that mentioned in the 1867 Convention of cession of Alaska, which determines a geographical line west of which all the territories are American, and to the east of which all are Russian. This line was mentioned in the 1926 decree delimiting the Soviet Arctic territories and corresponded more or less to the idea of a sectoral line as defended by Soviet jurisprudence. However, the 1867 Agreement actually only applied to emerged territories, and not to seas, and was not intended for the delimitation of the EEZ or continental shelf. The Soviet Union could base itself on a legal precedent, since a decision made by a court of arbitration confirmed that the convention of cession of Alaska did not concern seas. However, Moscow did not object to the U.S. request.

As stated by the Soviet jurist Alexander Vylegzhanin, the line of division chosen therefore brought under American jurisdiction about 70 percent of the disputed areas of the Bering Sea in comparison with the most favorable differentiation along the line of equal distance.<sup>29</sup> The application of the median line principle could have provided the Soviet Union with an additional area of 25,000 square kilometers Sea.<sup>30</sup> Moreover, according to the U.S. statement on the Russian claim to UN Commission on the Limits of the Continental Shelf, it appears that in its submission, Russia refers to the 1990 agreement on the Bering Sea, which in this case means that the country is now bound to the treaty even without having ratified it.<sup>31</sup>

Legally, Russia cannot undermine the 1990 agreement in a way that is in accordance with international and national law, even if ratification is necessary for it to enter into force. It can at best hope to negotiate some compensation to offset the losses incurred in fishing, to create new bilateral mechanisms to open American fishing zones up to it, or even to promote a more open status such as that of a natural park for the protection of biodiversity, and thus to settle the problem in a friendly way. It seems that the resolution of the question is intrinsically linked to the state of Russian-American relations in general. Washington, for its part, has to contend with criticisms from the Alaskan state, which is a lot stricter in its negotiations with Moscow and would like to block any decisions that are taken without its participation.

#### 4.4. The Barents Sea issue and its 2010 solution

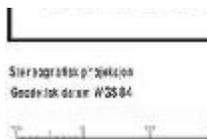
The territorial conflict over the Barents Sea was probably the most complex to settle. It was part of a geopolitical context stamped by the Cold War (for many decades, Norway was the only member of NATO, along with Turkey, to have common borders with the Soviet Union), involved important economic questions (which, since the 1970s, have mainly related to fisheries and now increasingly concern the exploitation of hydrocarbons), and has a symbolic weight in terms of national sovereignty and nation-building for Norway and Russia.<sup>32</sup>

The sea border between Norway and the Soviet Union in the Varangerfjord area was agreed on in a treaty signed in 1957, which was completed by a new one ratified in 2007 specifying the delimitation line for the territorial sea, the EEZ zone, and the continental shelf between Norway and Russia further north outside the mouth of the Varangerfjord. Negotiations concerning the delimitation of the other main maritime borders between the two countries began in 1974. In 1976-1977, both protagonists proclaimed their border in a unilateral manner. Norway based itself on the principle of a median line between Svalbard, on the one hand, and Novaya Zemliya and the Franz Josef Land Archipelago, on the other. The Soviet Union, although a signatory to the UNCLOS, refused this principle on the basis of the “special circumstances” clause provided by Law of the Sea. According to Moscow, the 1926 decree amounts to a historic precedent that makes provisions for a sectoral zone that starts out from Russian territory and proceeds in a straight line as far as the North Pole. As a result, about 155,000 square kilometers came under dispute, including the overlapping EEZs within this area. Added to this are the 20,000 square kilometers of overlapping claims further north in the Arctic Ocean.<sup>33</sup> Since 1980, when the Soviet Union tried to undertake oil extraction, both Moscow and Oslo agreed on a moratorium prohibiting oil and gas exploration, and geological prospecting in the disputed area, which meant that fishing took center stage in the underlying economic debates on border division.<sup>34</sup>

Despite the impossibility of reaching a legal agreement, both countries quickly decided to cooperate in terms of fishing. As early as 1978, an agreement concerning the so-called Grey Zone was signed. The 65,000 square kilometers of Grey Zone includes the Loop Hole, a high seas triangle bound by Russia’s EEZ, the disputed waters between both countries, and the Svalbard Fisheries Zone Protection, but also 23,000 square kilometers of Norway’s EEZ and 3,000 square kilometers belonging to Russia. The Grey Zone agreement, extended on a yearly basis, is a classic mechanism of enforcement and control in the management and conservation of fish stocks in international or disputed waters.<sup>35</sup> Through the 1990s and 2000s, regular tensions between the two countries arose over the inspection and boarding of Russian fishing boats by the Norwegian Navy. For ecological reasons, Oslo has implemented strict rules to regulate the fishing industry and has fixed quotas of how many fish are permitted to be caught depending on the species, which it considers to be its duty to apply in its EEZ. The question of nuclear waste from Soviet nuclear plants on the Kola Peninsula and industrial pollutions, mainly from nickel, in the Barents Sea is also a cause of disagreement. Oslo criticizes regularly the lack of sustainable management of Moscow’s maritime resources.

Despite elements of significant tension and a complex geopolitical context, Russian-Norwegian cooperation has been a success in terms of its everyday management of maritime relations.<sup>36</sup> This pragmatic cooperation has made it possible to overcome legal conflicts and to reach a

definitive agreement, concluded in April 2010 during Dmitry Medvedev's visit to Norway and solemnly signed on September 15, 2010 (though it has still to be ratified by both parliaments before it enters into force).<sup>37</sup> Norway has withdrawn some of its territorial claims and Russia has consented to a shift of the 1926 demarcation line to share the 175,000 square kilometers in two almost equal parts defined by eight points.<sup>38</sup> The endpoint is still undefined because of the undefined edge of each parties' continental shelves in the Arctic Ocean. Russia was granted EEZ rights in the area to the east of the boundary that lies within 200 nautical miles of the Norwegian mainland but more than 200 from Russian territory. The treaty is also accompanied by agreements on cooperation on fisheries and petroleum activities in cases where oil or gas deposits extend across the delimitation line.<sup>39</sup> The Norwegian-Russian Joint Fisheries Commission will continue its activities but the agreement effectively terminates the Grey Zone fishing arrangement of 1978. On the Russian side, this decision is eminently political. It was taken against the advice of the jurists in charge of the dossier at the Ministry of Foreign Affairs, who criticized Moscow for making excessive compromises.<sup>40</sup>



## The 2010 Barents Sea Delimitation Treaty

#### **4.5. The dispute around the Svalbard/Spitzenberg archipelago**

The 2010 Russian-Norwegian agreement leaves unresolved another point of contention, namely that of Svalbard/Spitzenberg. This archipelago, covering 61,000 square kilometers in the Barents Sea, is the object of a complex legal debate concerning the limits of Norwegian sovereignty since the independence of the country in 1905. Despite the many conferences organized around this question in Oslo between 1910 and 1914, no solution was found and it was necessary to wait until the Paris Peace Conference in 1920 to attain the signing of a treaty that was favorable to Norway. The Svalbard Treaty, ratified by more than forty states in the absence of Soviet Russia, which had no international legal recognition at the time, confirmed Norwegian sovereignty over the Svalbard archipelago but under specific limits and conditions.

In 1924, lacking international recognition, the Soviet Union finally accepted Norwegian sovereignty over Svalbard in exchange for the establishment of diplomatic relations with Oslo. In 1935, Moscow ratified the Svalbard Treaty, but continued to ask for joint jurisdiction over Svalbard itself and for the inclusion of Bear Island under Soviet domain. For this, it has requested that legal delimitation be decided according to the principle of equity, which supposes that factors of economic importance (Russian fishing) and of historical precedence are to be taken into account.<sup>41</sup> The archipelago has allegedly been inhabited by Pomorian Russians since the seventieth and eightieth centuries, but the Russian villages were destroyed during the Crimean War, leaving only the Russian and Ukrainian population of the small mining town of Barentsburg. Lastly, Moscow also wanted to establish its sovereignty over a territory stretching to the Norwegian Tana River so as to rectify provisions of the 1826 convention establishing the Norwegian-Russian border, which the Soviet Union found cumbersome.

The legal disputes around Svalbard/Spitzenberg are very complex. The Paris Treaty is sometimes unclear and international maritime law underwent drastic changes in the second half of the twentieth century. At the time of the Paris Treaty, the international law of the sea did not recognize sovereign states' rights beyond a three-mile territorial sea, and defined a rectangle of land and sea, which has since taken the name of the "Svalbard box".<sup>42</sup> Norway therefore decided to take advantage of the evolution of international maritime law. In 1977, Oslo established a non-discriminatory Svalbard Fisheries Protection Zone of 200 nautical miles around the Svalbard Islands, kept distinct from the main Norwegian EEZ. In 1985, the Petroleum Activities Act included the seabed and subsoil surrounding the Svalbard as part of Norwegian continental shelf, and the government announced that it was opening part of it for exploration by its oil companies (but no licenses have been granted). In 2003, Oslo decided to extend the breadth of its territorial waters to 12 miles around Svalbard, resulting in an increase of approximately 35 percent in the surrounding Norwegian territorial sea.<sup>43</sup> These changes, which are in line with evolutions in the international law of the sea, were decided in a unilateral way by Norway, without obtaining the consent of the signatory countries of the Paris agreement (only Canada and Finland recognize them). According to those states most opposed to Norway's claims, such as Great Britain, the treaty does not authorize the establishment of maritime zones or enable coastal state jurisdiction beyond the territorial sea without the agreement of the signatory parties. Other states have staked out a middle ground. They recognize Norway's right to establish a fisheries zone and to exercise coastal state jurisdiction, but maintain the rights for signatories contained in the treaty.<sup>44</sup>

The treaty contains complex clauses stipulating that ships and citizens of contracting parties are permitted to undertake fishing and hunting on an equal basis on the lands and in the territorial waters of the archipelago, and that all signatory states have equal access to conduct economic activities there. The Svalbard mining code has to be favorable to foreign investors, so that the taxes paid promote the archipelago, but not the budget of the Norwegian state.<sup>45</sup> Russian protests thus take the form of several arguments. They claim that Norwegian lawmakers have no legislative grounds for invoking “territorial sea” as a classical institution of contemporary international maritime treaty law for marking off the EEZ around the archipelago or on its shelf.<sup>46</sup> Norwegian sovereignty is thus allegedly limited to the land, not the sea. They also criticize the fact that Oslo applies Norwegian internal law to the archipelago, which restricts the exploitation rights. Thus, the fisheries regime used by Oslo for Svalbard is more restricted in terms of permitted catch than in the EEZ. In addition, Norway has unilaterally set in place a mining code to apply to the islands’ geological shelf that contradicts the Paris Treaty. The Svalbard Environmental Protection Act could put into question the activities of the Russian state-owned mining company Trust Arktikugol, which exploits the promising coal reserves of the Coles Bay area. Moscow defends the economic interests of the mining town of Barentsburg and sees in Oslo’s environmental discourses a roundabout way to obstruct Russian activities on the archipelago.<sup>47</sup>

The 2010 Russian-Norwegian Treaty on the Barents Sea does not settle the question of the Svalbard, which presents specific legal problems. One of them is the huge difference in taxation levels between Norway and the archipelago. Russian companies accessing the Svalbard continental shelf should enjoy the same right as the Norwegian companies, which would translate to taxes of less than 1 percent of the cost of the hydrocarbons produced. But as Russian jurist Alexander Oreshenkov explained, “If a deposit beginning within the limits of the archipelago’s territory extends beyond its territorial waters, the Russian companies will be expected to observe the norms of Norway’s continental mainland petroleum legislation, which means that 78 percent of their earnings from the hydrocarbons produced outside Norway’s territorial waters will go away in tax payments to the Norwegian treasury.”<sup>48</sup> These financial stakes are bound to be at the core of future negotiations.

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Despite the media depictions of a forthcoming “Ice Cold War,” none of the five Arctic coastal states are involved in violent confrontation or unlawful occupation of disputed territories. State behavior is guided by the agreed rules of international law, and territorial disputes have been characterized as much by symbolic competition as by pragmatic cooperation. In 2009, Canadian and Russian diplomats raised the possibility of making a joint submission to the CLCS, possibly in cooperation with Denmark. Using the effective legal framework of the Arctic, all coastal states have been proposing innovative ideas in order to map out future areas of cooperation.

However, several potential elements of tension are foreseeable in the years to come. For starters, the growing demand of non-Arctic states to participate in the legal debate, which is the case for China for instance. The Ilulissat declaration of May 2008 stipulates that the five Arctic coastal states deal with the potential and challenges of the Arctic Ocean by virtue of their sovereignty, sovereign rights, and jurisdiction in large areas of the ocean.<sup>49</sup> This principle could be challenged

by emerging powers such as China, which does not intend to remain outside the potential Arctic race. In addition, in case of the UN Commission's refusal to validate the claims made on the continental shelf, some states could be tempted to find loopholes in the law. Thus if Lomonosov and Mendeleev Ridges are not recognized as part of the Russian continental shelf, Moscow, which has invested millions of dollars to gather the necessary scientific information, could change its stance, become less favorable to respecting international law, and might ask for more binding structures for dispute settlement.<sup>50</sup> On the contrary, if Russia receives a positive report from the UN Commission, on all or part of it, the territorial advantage gained on the Arctic continental shelf will, in all legality, the other Arctic states will not be able to call the decision into question. It will modify the global geostrategic balance, as well as the prospects of economic exploitation in Russia's favor.

### **Key Findings and Pathways to the Future**

Russia has succeeded in settling its territorial disputes with Norway but still has to manage two problems, the Svalbard/Spitzenberg archipelago and the ratification of the U.S.-Russian treaty on the Chukchi and Bering Seas. The first dossier will probably be settled in the framework of Russian-Norwegian relations and is above all a financial matter (payment of taxes to the Norwegian state). The second might find a favorable outcome if the Kremlin decides to ratify the agreement. But it is refusing to do so at the moment so that it has a way of pressuring Washington in their negotiations over the fishing industry.

Russia respects all the international procedures for delimiting the continental shelf. Following the pending decision of the UN Commission on the Limits of the Continental Shelf (UNCLOS), Moscow could acquire vast Arctic territories, amounting to as much as 1.2 million square kilometers, which would enable it to move radically closer to the Canadian and American coasts. Legally acquiring this advantage means that Russia would not be able to be undermined by the other Arctic states. It would, however, modify the overall geostrategic balance, as well as the prospects of economic exploitation in Russia's favor.

It is entirely possible that the UNCLOS will refuse to validate these Russian claims, or only meet a small part of them, or even refuse to give a ruling by considering the scientific information provided insufficient to make a decision. Russia has invested considerable sums in scientific research in order to legitimate its claims, and has projected grand nation-building rhetoric onto it. In case of failure, Moscow's reaction will be unpredictable, but it would probably mean growing resentment against UNCLOS.

Will Russia continue to respect international legislation if it deems the legal decision unjust or unfavorable to it? The issue is worth discussing by way of preparation for Moscow's potential attempts to circumvent a legal framework in the decades to come.

## **5. RUSSIAN MILITARY STRATEGY: PROJECTION OF POWER AND CAPACITIES OF ACTION**

The possible return to a strategic confrontation between Russia and NATO in the High North is probably one of the most debated subjects in Russia in relation to the Arctic, just as it is in Western countries. The Russian press has been quick to put forward the image of a new “Ice Cold War.” Indeed, all the major powers near one another in the Arctic, which makes the zone fragile. However, putting self-assertive rhetorical declarations aside, the main trend in the Arctic is that of desecuritization, since the opening up of the area to economic interests necessitates shifting from traditional hard security to soft security issues, which are more amenable to international cooperation. Compared to the nuclear tensions of the Cold War, the contemporary situation has undergone a clear de-escalation. This does not mean, however, that the militarization of the Arctic is not part of the state projection of power, or that the subject ought not to be discussed. On the contrary, the best strategy is to raise the subject openly and realize that the risks are low, rather than to avoid the question on the pretext that it could revive tensions.

The High North occupies a very specific place in Russian defense strategy. Since the 1950s, this region has been host to key industries and infrastructure related to the Russian nuclear deterrent, in particular the installations on the Kola Peninsula, which have to be secured. The Arctic is indeed a very convenient location for launching ballistic missiles, for missile defense systems, missile early warning systems, and other elements of strategic deterrence systems. The High North also guarantees access to the Atlantic Ocean and is therefore vital to the Russian Navy, which needs it for its international missions, especially as Russia lost several ports in the Baltic Sea and the Black Sea (Paldiski in Estonia and the question of Sevastopol in the Ukraine) following the breakup of the Soviet Union. For the Russian Navy, its aims in this region of the world have suddenly increased: modernizing the ballistic-missile submarine fleet; monitoring the movement of warships between the Atlantic and Pacific; but also shielding trade routes and protecting against pollution from hydrocarbon extraction; defending the maritime borders of the Federation, its ships, and port infrastructures; and fighting against smuggling.

The Russian military strategy in the Arctic as defined in official documents is ambitious, but it is nonetheless important to bear in mind the traditional gap between rhetoric and reality, and between power projection and actual capabilities. The Russian Armed Forces have to face multiple challenges at the same time: the changes to the international security environment, which require adaptation to non-conventional threats; the country’s demographic evolution, which calls for a transition towards a professional army; the lack of financial resources available to modernize the army corps and the military-industrial complex; the increasing amount of civil-military cooperation and of foreign participation in modernizing trends; and the likely privatization of part of the sector. All these elements will have an impact on the outcomes of Moscow strategies in the Arctic region.

### **5.1. Russia’s Renewed Strategic Activism in the Arctic**

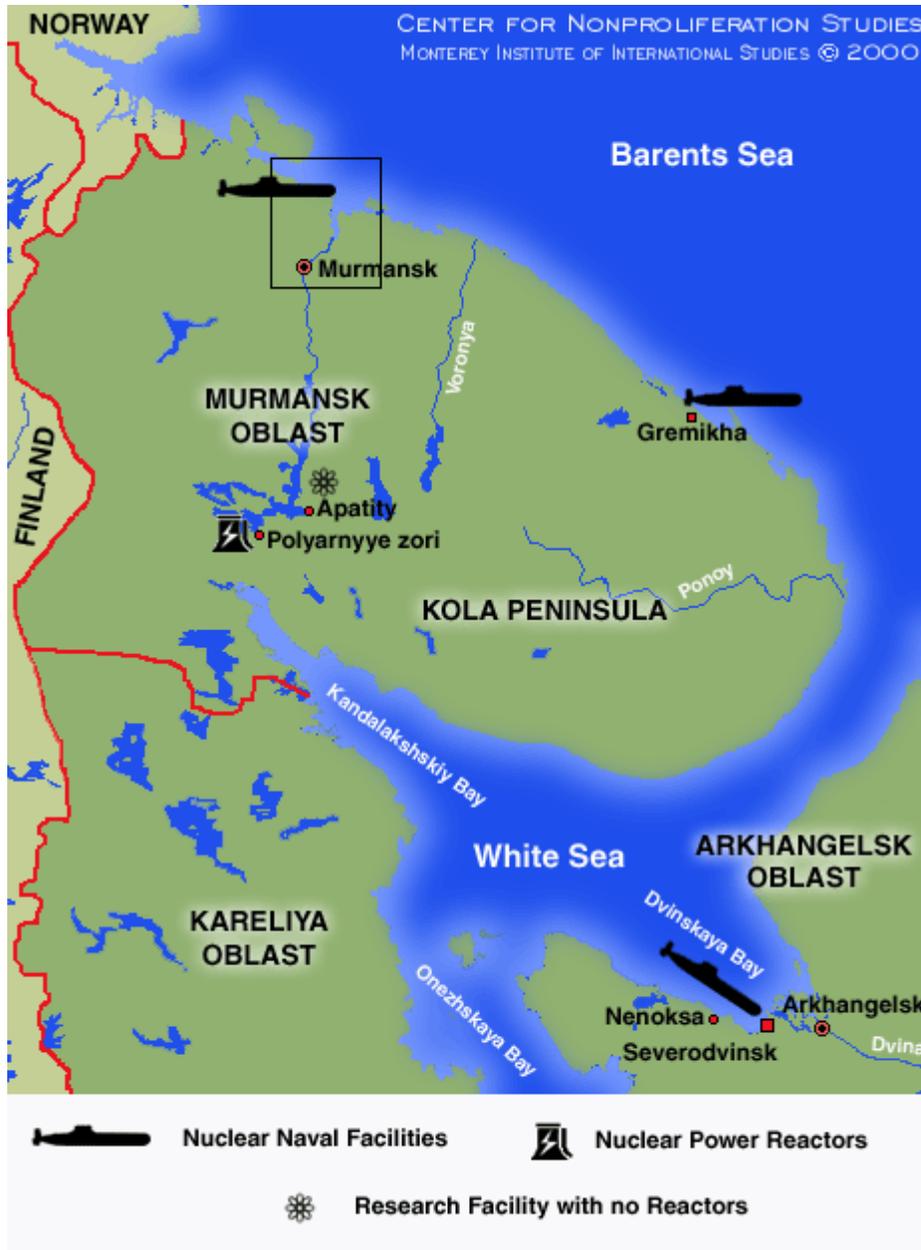
In the second half of the 2000s, the symbolic rivalry between NATO and Russia in the Arctic revived and the risk of militarizing the region was evoked. In 2008, NATO expressed the view

that the alliance needs to expand its military presence in the Arctic and also to discuss the issue of securitizing this quickly evolving area. The 2008 U.S. Northern Edge exercise, led by the Alaska Command, was obviously widely discussed in Russia as a symbol of the resumption of the United States' "aggressive activities" in the Arctic. Also in summer 2008, Russian military exercises were organized close to Svalbard involving the cruisers *Marshall Ustinov* and the *Severomorsk*, and the plan is now to hold these exercises at regular intervals. In 2009 Russia organized military exercises at the Pemboj test range in the Komi Republic, while NATO had "Cold Response" training in Northern Norway, its biggest exercise for the year involving more than 7,000 soldiers from 13 countries.<sup>1</sup> Russia also continues to conduct large-scale military exercises in the Western part of its Arctic, such as in Ladoga in 2009, with scenarios involving the protection of oil and gas installations in northwest Russia.<sup>2</sup> The same year, the U.S. Navy released a new roadmap for its activities relating to the Arctic for the next five years.<sup>3</sup>

Russia confirmed that it was expanding its current level of operations in the Arctic in 2008. The Russian Navy resumed its warship presence in the Arctic Ocean and ever since military ships have been patrolling near Norwegian and Danish defense zones. The navy also increased the operational radius of the Northern Fleet's submarines and under-ice training for submariners has become a priority task.<sup>4</sup> For Moscow, the stakes are fundamental, since the Russian fleet cannot enter the Atlantic except by passing through Arctic choke points, one being the junction of Greenland, Iceland, and Norway, the other that of Greenland, Iceland, and the United Kingdom.<sup>5</sup> The fear of being denied access to the open sea and the will to recreate a "blue-water" navy remain important drivers of Russian strategic activities near the Norwegian border: the choke point between Svalbard Island, Bear Island, and mainland Norway is considered very sensitive by the Russian Navy. In 2008 and 2009, Russia revived erstwhile Soviet traditions by organizing several long-range cruises—the longest since the fall of the Soviet Union—in different parts of the world. This was epitomized by the patrols undertaken by the nuclear-powered guided-missile cruiser *Peter the Great* through the Mediterranean and Caribbean seas, and the South Atlantic and Indian oceans.<sup>6</sup>

Moscow has also paid particular attention to the situation in the Svalbard archipelago, which it interprets as indicative of global tensions with NATO. Indeed, Norway and Russia have divergent ways of understanding the post-Cold war situation. Oslo wants to normalize the provincial border of Finmark, which was previously heavily militarized as it formed the junction between NATO and the Soviet Union. It opened it up to public and collective military activities in the North Atlantic framework, but this evolution reinforced Russian concerns about the militarization of the zone. According to the Svalbard Treaty, Norway cannot establish military bases on the archipelago for warlike purposes. However, Oslo considers that neither the Globus II radar in Vardø, on the Norwegian mainland, nor the space-related activities on the archipelago (the European Incoherent Scatter Scientific Association's radar, the Svalbard Satellite station, and the Ny-A°lesund rocket range) can be considered military. As analyzed by Kristian Åtland and Torbjørn Pedersen, Norway's decisions have accentuated Russian interpretations of a still possible threat, and the fear of Western conspiracy continues to prevail in Russian readings of the Svalbard issue.<sup>7</sup> The Russian Navy is also focused on increasing the protection of the Russian mining settlement at Barentsburg and on providing more effective protection for Russian fishermen. Director of National Fisheries (*Goskomrybolovstvo*) Andrei Krainin has asked the

armed force to give “psychological support” to the Russian trawlers navigating close to Norwegian waters.<sup>8</sup>



Naval activism in the Arctic is accompanied by Russia’s new dynamics in aviation. In 2007, strategic bombers flew over the Arctic for the first time since the end of the Cold War.<sup>9</sup> They aimed at the usual Soviet-era destinations: Scandinavia towards the United Kingdom and Iceland, and on to the North Atlantic, or via the Arctic towards Alaska and Canada.<sup>10</sup> The British Royal Air Force conducted 21 intercepts of Russian bombers between July 2007 and April 2008.<sup>11</sup> In 2007, there were eighteen interceptions of Russian bombers in proximity of American

or Canadian airspace, twelve in 2008, and seventeen in 2009, as compared with eleven for the entire period stretching between 1999 and 2006.<sup>12</sup> Two Tu-95MS, based in Saratov on the Engels aviation base with mid-flight refueling capability, now regularly patrol the Arctic.<sup>13</sup> These overflights drew criticism from Canada, which has accused them of coming too close to Canadian territory. They are also closely monitored by Oslo. In 2010, Russian strategic bombers managed ten missions in the vicinity of Norwegian airspace, compared with twelve such missions in both 2009 and 2008.<sup>14</sup> In June 2010, a pair of Tu-160 bombers covered 18,000 kilometers along the route from the Arctic to the Bering Strait, the Alaskan coast, the Japanese Islands, Russia's southern borders and Engels. For the first time in twenty years, the air force also organized supply missions for the Russian polar base Barneo, sponsored by the Russian Society of Geography.

Russian Arctic aviation is essentially made up of old turboprop Tu-95MS but also has sixteen modern, long-range Tu-160 *Blackjacks* bombers at its disposal. Many air bases of the High North have been reactivated, such as Anadyr, Monchegorsk, Olenia, Tiski, and Vorkuta, but with limited capacities. The Russian air fleet is aged and its commission period will be pushed to its maximum given the lack of finances. The shortage of mid-air refueling tankers remains the most serious problem affecting the operational capabilities of Russian strategic aviation.<sup>15</sup> For the adjacent countries, the main risk of Russia's new air activism is not so much military conflict, since Moscow has not presented these long-range flights as aggressive, as technical failures (possible crash of one of its planes, absence of rescue system) or errors of interpretation.

In 2008 Lieutenant General Vladimir Shamanov, then director of the Central Direction of Military Training and Troop Services (GUBD) at the Ministry of Defense, announced plans to establish an Arctic special forces unit (*spetsnaz*) to support Russia's Arctic policy. To justify his decision, he made reference to the North Region-2008 exercise undertaken by the United States in Alaska, which involved more than 5,000 military personnel.<sup>16</sup> He stated that the current administrative apportionment within the Ministry of Defense would be reviewed so that specialized sections could be created to cover the High North. The new troops would be particularly mobile, be allocated an icebreaker, and be operational by 2016.<sup>17</sup> Provisions will likely also be made to strengthen FSB control over the region in order to deal with the new threats that have arisen from the exploitation of the continental shelf and the proliferation of maritime traffic: border control systems, the introduction of special visa regulations to certain regions, and the implementation of technological controls over fluvial zones and sites along the Northern Sea Route.<sup>18</sup>

As General Shamanov is known for his provocative declarations, these statements are difficult to interpret because they took place within a framework of ideological escalation. The Russian army's usual difficulties of putting into practice these calls for change suggest that the birth of Arctic brigades will probably be a long and chaotic administrative process. However, the direction has been set and these embryos of Arctic brigades are in the process of being realized. A specific Arctic border guards section was created in 1994, the aim of which was to monitor the circulation of ships and poaching at sea, prior to being reorganized in 2004-2005. In 2009, it announced that new Arctic formations were established in border guard units in Arkhangelsk and Murmansk and were patrolling along the Northern Sea Route for the first time since the beginning of the 1990s.<sup>19</sup> In 2011, Russian Defense Minister Anatoli Serdiukov declared that a

special Arctic brigade, equipped for military warfare in High North's conditions, would be installed at Pechenga close to the Norwegian border town of Kirkenes.<sup>20</sup>

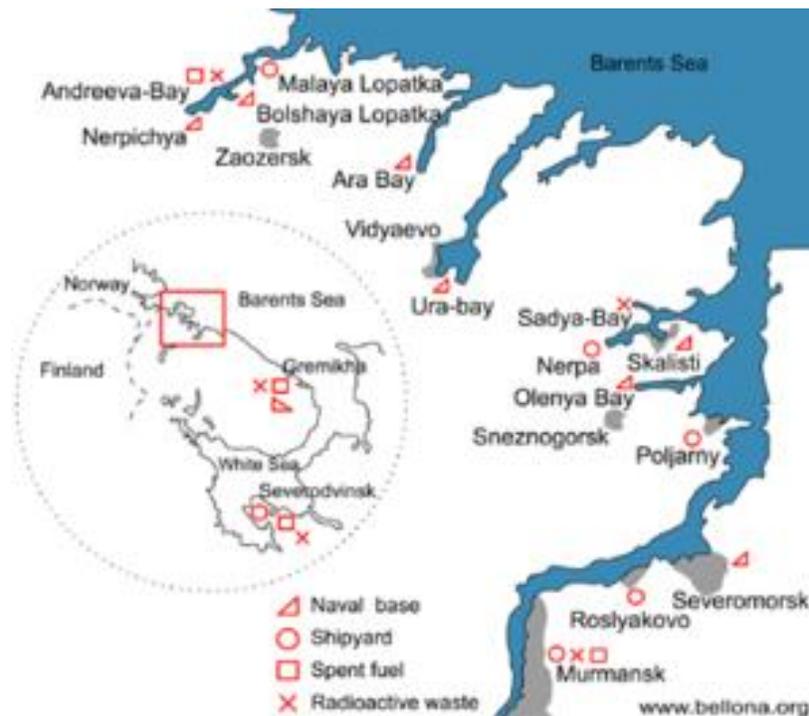
## 5.2. Upgrading the Northern Fleet and the Nuclear Deterrence

The greatest part of the Russian Armed Forces stationed in the Arctic is based at Murmansk (two motorized brigades). The Arkhangelsk region gathers together the firing range of Novaya Zemlya, where Russian nuclear weapons are tested, as well as the cosmodrome of Plesetsk, from where Soyuz, Cosmos-3M, and Tsyklon rockets are launched. The strategic missile forces are distributed between the Nenets autonomous district (Ural federal district), Taimyr (Krasnoyarsk region), and several points in the Yakutia-Sakha Republic and up to Chukotka (Far East federal district).<sup>21</sup> Alexandra Land, in the Franz Joseph archipelago, is home to Nagurskaya, Russia's northern most military base. However, the main structure of Russian defense in the Arctic is the Northern Fleet. Based close to Murmansk in the north of the Kola Peninsula at Severomorsk, where about two-thirds of the Russian Navy's nuclear force is stationed, it remains the most powerful of the four Russian fleets (Pacific, Baltic, Black Sea, and Caspian), with the largest number of icebreakers and nuclear submarines. It is in charge of all operations undertaken in the Atlantic and is thus able to venture as far as the Caribbean or to conduct anti-pirate operations close to the Gulf of Aden.

The Northern Fleet was hit hard by the collapse of the Soviet Union. In 1986, it comprised some 180 nuclear-powered submarines of different classes, while in 2010 it had been reduced by three-quarters to just 42.<sup>22</sup> Its recent history has been marked by several failures. A total of four submarines have sunk, including the Kursk in 2000, and its ballistic missile launches regularly fail. The navy also faces numerous problems related to its aging fleet (the average age is twenty years), the naval nuclear fuel cycle, the disposal of radioactive waste, and contamination issues. The naval nuclear reactors concentrated in this region are dangerous, many of the nuclear submarines waiting to be decommissioned are poorly securitized, and large amounts of nuclear waste remains stored on vessels specially designed for dumping at sea.<sup>23</sup> The modernization efforts to be undertaken are therefore immense and multifaceted. Among the armed forces, the navy was the biggest loser from the drastic reduction of military budgets in the 1990s. It saw its share of the defense budget drop from 23 percent to 9 percent. In addition, the modernization objectives mentioned in the two state programs (1996-2005 and 2001-2010) were never achieved. The third State Program for the Armed Forces (2007-2015) finally signaled the return of the navy and its symbolic and financial reassessment. For the first time in several decades, it has been placed on an equal footing with other corps and one-quarter of the budget is dedicated to building new ships, even if the amount is in fact largely insufficient.<sup>24</sup>

The Northern Fleet has close to eighty operational ships of different categories, while thirty-odd ones are being repaired or on stand-by.<sup>25</sup> The fleet's nuclear-powered submarines are divided into eleven ballistic missile submarines (SSBNs), four cruise missile submarines (SSGNs), and about twenty multi-purpose attack submarines (SSNs). It also manages six missile cruisers, which Russia sees as key elements in the restoration of the strategic bastion concept in the Arctic. The Northern Fleet has two flagships at its disposal, the largest nuclear icebreaker in the world, *Fifty Years of Victory*, and the main nuclear-powered guided-missile cruiser, *Peter the Great*. After the latter's successful trip around the world, the Ministry of Defense announced that

it would upgrade three others heavy nuclear-powered missile cruisers, the *Admiral Lazarev*, the *Admiral Nakhimov*, and the *Admiral Ushakov*, which are or will be undergoing modernization in terms of equipment and armaments.<sup>26</sup> Currently, the *Admiral Kuznetsov* and the *Admiral Nakhimov* operate with the Northern Fleet, each of which hosts twenty planes on board and ten anti-submarine helicopters.<sup>27</sup> Another anti-missile cruiser, the *Vice-Admiral Kulakov*, recently repaired, was integrated into the Northern Fleet in January 2011.<sup>28</sup> Naval aviation includes 200 combat planes and fifty helicopters. As with the other fleets, the Northern is severely lacking in coastal ships and frigates able to conduct rapid intervention operations. Several are currently under construction, but the waiting times are problematic insofar as they reduce the fleet's protection capabilities.<sup>29</sup>



### The Northern Fleet

The future of the Northern Fleet is closely linked to the question of nuclear deterrence.<sup>30</sup> The older sea-based nuclear deterrent is in the process of being modernized. As of 2010, the Russian Navy had six operational Delta III and six Delta IV strategic submarines that form the sea-based arm of its strategic nuclear deterrent. There are no plans to renovate the older Delta III class submarines, which were built during the 1980s, and they will be decommissioned in the years to come. The Delta IV are being modernized. They will be equipped with a new sonar system and the new intercontinental ballistic missile (ICBM) Sineva, a third-generation liquid-propelled ICBM that entered service in 2007.<sup>31</sup> In 2010, the Northern Fleet acquired the *Karelia*, which has been modernized to augment its tactical and technical capabilities and equipped with Sineva.<sup>32</sup> On October 11, 2008, during Northern Fleet military exercises, a Sineva rocket was fired from the nuclear submarine *Tula* reaching its longest distance yet, more than 11,500 kilometers.<sup>33</sup> Russia is planning to equip its Delta IV class submarines with at least 100 Sineva missiles, able

to carry either four or ten nuclear warheads. This system, which is to stay on alert status until 2030, enables missiles to be launched from under the ice while remaining invisible to hostile observation satellites until the last moment.<sup>34</sup>

Many typhoon-class strategic submarines—the world’s largest, built in the 1980s—will also be rearmed to carry long-range cruise missiles. For the moment, only one, the *Dmitri Donskoy*, has been modernized and placed with the Northern Fleet. It serves to conduct test firing for the Bulava system, a new generation solid-fuel SLBM, built to avoid possible future U.S. ballistic missile defense (BMD) weapons, and which can cover more than 8,000 kilometers. In the future, the typhoons will be replaced with the new Borey-class nuclear-powered strategic submarines (Project 955). The first Borey-class submarine, the *Yuri Dolgoruky*, built in 1996, was placed with the Northern Fleet, while two others, the *Alexander Nevsky* and the *Vladimir Monomakh*, are being constructed at the Severodvinsk shipyard.<sup>35</sup> In total, the building of eight fourth-generation Borey-class submarines is set for completion in 2015-2020. This new generation is almost undetectable in at deep ocean depths and can be used for multi-purpose attacks. Thanks to its weaponry, including several types of cruise missiles and torpedoes, it will be able to carry out diverse missions, chase enemy aircraft carriers, and deliver massive missile strikes on coastal targets.<sup>36</sup>

Along with Topol-M land-based ballistic missiles, the new Bulava system is set to become the core of Russia’s nuclear triad and will be the only Russian sea-based ICBM after 2020-2025. However, the Russian army has had to face unforeseen technological difficulties. In 2006-2009 a long string of unsuccessful test launches (six out of eleven have failed) seemed to call into question the future of Bulava, but since 2010 a new wave of launching has been successful.<sup>37</sup> The second stage of Bulava tests will start at the end of May 2011.<sup>38</sup> Successful or not, the costs for developing the Bulava and the Borey submarines take up a large part of the military budget, especially in times of economic crisis. By focusing on nuclear armaments and parity with the United States, the Russian Army has avoided getting involved in any real doctrinal or strategic reform. Moscow’s grand plans for the Arctic should therefore be analyzed in the context of the modernization troubles experienced by the armed forces.

### **5.3. Waiting for the new-century Russian Army**

The Russian Army was one of the major forgotten institutions of the economic liberalization of the 1990s, the Russian state spending almost nothing on it for almost a decade. Upon his arrival in power, Putin took things back in hand: new military doctrines in 2002 and 2007, the reintroduction of Soviet military ranks, the maintaining of conscription and the rejection of alternative forms of service, and the remilitarization of society through the resumption of training sessions for reserve officers and general mobilization exercises. Between 2000 and 2008, the Russian military budget increased by 500 per cent, especially in strategic sectors such as weaponry, the navy, and missiles. And the Russian space program has also been relaunched.<sup>39</sup> In 2010, the Russian military budget stood at 61 billion dollars, or 2.6 percent of the national budget, which is a level of expenditure equivalent to that of medium powers such as France or Great Britain, and incomparable with the American or Chinese budgets. Even if expenditure is in fact higher, insofar as certain sections do not figure in the public calculations and spending is eroded by corruption, in particular in weapons acquisition.<sup>40</sup>

Despite its growing purchases of material, the state of Russian military material remains well below contemporary technological norms. With the exception of specific leading-edge sectors, the material is largely outdated, obsolete, or not functioning. Moreover, the money that was pumped into the military sector during Vladimir Putin's two terms as president does not in itself constitute reform. On the contrary, there was a partial return to the logics of the Soviet army.<sup>41</sup> The military elite has had difficulties in understanding the stakes of recruiting conscripts in a country in full demographic crisis and of accepting the idea of alternative forms of service and professional recruitment. Hazing (*dedovshchina*<sup>42</sup>) goes largely unpunished, corruption among officers is massive, professionalism and discipline are in decline, and the quality of military techniques in difficult terrain has not improved between Afghanistan and the two wars in Chechnya. The war against Georgia was won only through the power differential between the two countries, not thanks to the tactical superiority of the Russian Army. Russian deficiencies in terms of weaponry and the manifest unpreparedness of its air forces to conduct operations of neutralization of adversary air defense systems have indeed only worked to confirm the Russian Army's immense difficulties to come to terms with new war patterns.<sup>43</sup>

The reform plan announced at the end of 2008 by Defense Minister Anatoli Serdiukov anticipates a large, as yet unattained, transformation of the Russian Armed Forces, to make it an army with fewer men, but more mobile, better trained, and better equipped. For this, army personnel will have to be reduced to one million by 2016, and by 2012 between 150,000 and 200,000 men of the officer corps will be transferred to the reserve army.<sup>44</sup> However, this modernization has been slower than expected, and upper ranks of the Ministry of Defense have continued to resist the political will. In addition, even if the decision to dismantle extensive infrastructure for mass mobilization in preparation of a large-scale conventional war in order to focus on operations and efficiency is the right one, the question of combat readiness and the disorganization of the chain of command remain problematic.<sup>45</sup> Lastly, there are insufficient funds to create domestic human and technological capital.

Moreover, for two decades now, Russian military doctrines have been rather vague about how to define potential enemies, which hampers the reshaping of doctrines and practices.<sup>46</sup> Strategic issues are probably among those that are bound to undergo more drastic evolutions in Russia in the decades to come. The Russian view of security already evolved throughout the 2000s. The start of the decade was dominated by a classical schema, founded on hard military security. The New Conception of National Security for 2020, which was adopted in May 2009 to replace that of 1997 and then modified in 2000, advances more nuanced and subtle arguments, reflecting changes within the international security environment.<sup>47</sup> The concept defines security much more broadly, and includes energy security, soft security challenges, the environment, health, education, technologies, living standards, and so on. A large part of the concept is devoted to the domestic dimension of security, to energy security, to the growing competition for resources in the Middle East, the Caspian Sea, and Central Asia, as well as in the Arctic region.

The definition of enemies and dangers has also changed.<sup>48</sup> Even if some prisms inherited from the Cold War still shape Russian perceptions,<sup>49</sup> today Moscow takes into account two categories of danger: non-traditional threats and strategic uncertainties. Within this prism, "the West" is no longer a real danger, even if U.S. unilateralism continues to be classified as a threat. No real

military conflict is envisaged with Washington or Europe. Indeed the focus is almost exclusively on the nuclear equation and the—at least apparent—balance of conventional forces. Although official Russian sources refuse to admit it publicly, China is seen as a forthcoming danger in terms of strategic uncertainty and growing imbalance of power.<sup>50</sup> The “South,” which includes the North Caucasus, Transcaucasia, Central Asia, Afghanistan, and Iran, combines both non-traditional threats and strategic uncertainty. These trends are likely to bear out in the decades to come.<sup>51</sup>

Russia is caught between its ambitions for global power and its capacities for regional power. A pessimistic reading of the international environment speaks in favor of massive investments in military terms, while the size of the country and zones to be securitized calls for a withdrawal into local and regional issues. Mindful of its brand-image within the international community, Russia wishes to become a more engaged actor in international peace and humanitarian operations, but this is a costly strategy and the army is reluctant to expose to its Western homologues its disciplinary and organizational problems, as well as its difficulties in terms of technology and capacity.<sup>52</sup> Russia’s global ambitions are in any case bound to become more moderate. The Minister of Defense has already said several times that the four bases outside its borders (in Kyrgyzstan, Tajikistan, South Ossetia, and Abkhazia) are costly and that the operations in the Atlantic, such as in the Gulf of Aden, ought to be limited. The land forces will find it difficult to go too far from Russian borders. The deficits in terms of communications technologies are especially striking and for the moment prevent any sizeable project in which conventional forces would have to go abroad, unless this is to the Near Abroad. The Maritime Doctrine of the Russian Federation for the Year 2020 outlined a regional rather than a global role for the navy. The aim is no longer to withstand a large-scale conventional attack but to manage smaller, regional conflicts in East Asia and the Near Abroad, to develop counter-piracy strategies, and to secure energy resources.<sup>53</sup>

On the human level, the army will have to be drastically reformed as its resources become scarce. The generation gap is immense: the majority of highly ranked officers and qualified personnel of the industrial-military complex are 55 years old or more, and the younger generations have been poorly primed for the changeover. The principle of universal military service will be put into question by the demographic drop of the Russian population. In 2015-2016, the draft pool will comprise only half the conscripts to which the army is used to receiving; it will go from more than a million draftees, and therefore prospective recruits, to about 600,000.<sup>54</sup> Attempts to make the service more appealing, to force students to do it by reducing the possibilities of evasion and by extending the age of conscription, and to fight against the massive corruption which enables to avoid enrollment are destined to remain unsuccessful.<sup>55</sup> Moreover, the ethnic composition of draftees is going to change rather severely, with more and more youth coming from the North Caucasus. Moscow will therefore have to envisage a radical change in its military recruitment practices. It will need to give priority to a relatively small professional army, create a professional non-commissioned officers corps, and promote the employment of contract employees for durations of a few years.

The financial stakes are also immense, as they are intrinsically linked to the question of Russia’s global technical and technological modernization. Moscow intends to increase procurement expenditure significantly over the coming decade: the budget of the Defense Ministry should

receive about US\$613 billion for new arms up to 2020.<sup>56</sup> While the sum seems considerable, it remains modest with regard to fundamental needs and would only cover those of the strategic nuclear forces, air defense, and the air force. This enormous investment plan includes eight nuclear submarines, 600 warplanes, 1,000 helicopters and 100 naval vessels. To meet the additional requirements for re-arming ground troops, the navy, and space forces, Russia would need to triple the assigned amount from now until 2020, supposing that it would actually be allocated in its entirety.<sup>57</sup> In March 2010 Dmitry Medvedev stated that he wished to see an annual equipment-renewal rate across the armed forces of 9 to 11 percent, compared with the current 2 percent, in order to modernize two-thirds of military equipment by 2020.<sup>58</sup> These projections seem too ambitious and will, in practice, turn out to be much less effective than forecast.

Other, more positive evolutions are underway. Civil-military cooperation, which extended in scope in the 2000s, is for instance becoming one of the main trends of future decades. The army's weakness in comparison to economic groups has altered power relations, and despite the revival of the Russian military sector, for the Ministry of Defense there can be no question of setting aside the interests of companies like Gazprom, Rosneft, Lukoil, or Norilsk Nickel, which have powerful backing within the state administration and can counterbalance the military voice. These companies, whether public or private, and the army have come to the pragmatic conclusion that they are dependent on one another. The civil-military relationship is therefore in the process of changing profoundly, motivated not by reasons of principle concerning the control of civil society over the military, but by pragmatic economic interests that the army accepts or tries to turn to its own advantage.<sup>59</sup>

Moreover, Russia has lost much technological knowledge and today can no longer modernize its army in an autarkic manner, thanks only to its domestic market. It will therefore be led to change itself profoundly on this issue and have to accept receiving massive amounts of supplies from foreign companies in order to get the latest in military technology. The purchase of French Mistral in 2010 confirmed that the Russian industry lacks the technical expertise and capacity to build such complex ships.<sup>60</sup> Even if some of the components will be manufactured in Russia, the military-industrial complex is going to have difficulties in bridging the technological gap with Western countries. Between 2000 and 2010, it launched only a few frigates and corvettes. The contract signed with India to transform the *Admiral Gorshkov* took more years than expected to complete and has been more costly, so considerable has been the scale of the conversion. Foreign participation, mainly from Europe, Israel, and the United States, thus seems likely in future modernization efforts. This implies that the military-industrial complex will have to emerge, at least partially, from its secretive culture. As for the Kremlin, it will have to learn to manage the rather classical contradiction between the imperatives of competitiveness, which imply more openness to industrial partnerships with foreign companies, and considerations of sovereignty.

Another trend that is taking shape, a corollary of the preceding one, is the privatization of some of the Russian industrial complex, including some companies with ties to military affairs. In 2010, the government stated its intention to sell its shares in ten large companies so as to raise 30 billion dollars. Amongst the ten large companies to be sold are Rosneft, RusHydro, Sberbank, and Sovcomflot. In the Arctic region, this privatization project concerns the port of Murmansk, one of the jewels of the Russian fishing fleet, the Arkhangelsk Trawler Fleet, and the mining

company Apatit, near Kirovsk, a cornerstone enterprise on the Kola Peninsula.<sup>61</sup> The presence of private and/or foreign players is therefore going to develop further, and will impact on the security sector as a series of arguments will come into play which are less subject to security decisions.

#### **5.4. Projecting Future Military Power in the Arctic**

All the trends mentioned are bound to have an impact on the way in which Moscow formulates its strategic goals in the Arctic and tries to concretize its power in the decades to come. The Arctic region will become more subject to non-traditional threats than to classic, military-centered conflicts. Security will have to be assured at least partly in a collegial manner, with international cooperation; it will necessitate cutting-edge technology that Russia can only obtain from abroad, or via the private sector; and the virtual opening of a new border façade will force a shift in threat perception to the north.

The Russian projections of power in the Arctic progressed rather distinctly throughout the 2000s.<sup>62</sup> The first Arctic Policy of 2001 outlined traditional military tensions in the region, projected as a new zone of conflicts of interest and of rivalry for spheres of influence between great powers. In 2008, the second Arctic Policy did not continue with the belligerent rhetoric of its predecessor and notably also mentions the multitude of non-traditional risks and the need for international cooperation between coastal countries, in particular in terms of search and rescue systems.<sup>63</sup> Under the auspices of the project launched by Medvedev for a revised European security architecture, the Arctic is presented as a region requiring cooperation between Europe and Russia.<sup>64</sup> Thus, potential tensions with NATO are relegated to the background, and only materialize in terms of the nuclear deterrent, and to a lesser extent naval capabilities. The unpublished “Foundations of the state’s policy in the area of nuclear deterrence to 2020,” which accompanies the military doctrine of 2009, re-asserts that Russia’s strategic deterrence forces will still act as the country’s main guarantor against any large-scale aggression either from the East, West, or South.<sup>65</sup> The projection of Russian power in the Arctic thus emphasizes the need to maintain the nuclear deterrent *as well as* foster international cooperation in terms of soft security.

As such, the defining of missions for the Armed Forces and for the *siloviki* has evolved. The combat capability required for securing the border is briefly mentioned. Here the enemy is no longer another state, but the terrorist threat along the Northern Sea Route, as well as dangers of smuggling, illegal immigration, and even risks for aquatic biological resources. The Arctic Policy also mentions potential small-scale conflicts around energy deposits or transporters, without envisaging the possibility that they could degenerate into an inter-state conflict.<sup>66</sup> Such as they are defined, the Arctic dangers therefore concern the Security Federal Services (FSB), its border guards section, and the troops of the Ministry of Emergency Situations, more than they do the Ministry of Defense properly speaking. The Northern Sea Route is currently controlled from the air by FSB aircrafts, and on the land and sea by the North-Eastern Border Guard Agency, but the Russian border guard service plans to establish a global monitoring network from Murmansk to the Wrangel Island.<sup>67</sup>

In this very broadly defined security architecture, two traditional forces appear to stay relevant: air and naval. The air force that regained favor in the 2000s is perceived by Moscow as a central element in its demonstration of power and its international legitimacy. The Russian aviation industry still comprises niches of excellence such as the strategic fleet and nuclear air power, tactical and strategic transport, ground-to-ground and ground-to-air missiles, but the remainder of the stock is ageing and obsolete, and very precise missile guidance weaponry is largely absent.<sup>68</sup> The Maritime Doctrine of the Russian Federation for the Year 2020 ambitiously plans to transform the Russian Navy to the second most powerful in the world, after the U.S. Navy, in twenty to thirty years. However, it puts great emphasis on issues such as the Arctic, territorial disputes, and undersea resources, and leaves aside the traditional security risks (a military attack from another state).<sup>69</sup> The Russian Navy thus seems destined to play a key role in securing borders and regional issues, but will have a very limited capacity of intervention in remote theaters.

The navy is likely to have the priority in terms of military procurement expenditure until 2020, including the purchase of more than 30 submarines and 40 surface combatants. This would represent a substantial turnover in Russia's fleet. The new vessels will include eight ballistic-missile submarines, 22 attack submarines, 12 frigates, 20 corvettes, and 10 landing ships. No carrier, cruiser, or destroyer is currently being built, confirming the lack of attention being given to large-scale conflict with any of the main world powers.<sup>70</sup> A new ice-reinforced typhoon will be designated specifically for the Arctic water. The French Mistral will be assigned as a matter of priority to the Northern Fleet, and to the Pacific Fleet, whose needs are even greater. In the decades to come, the Northern Fleet is bound to abandon single-function vessels in favor of multi-purpose and more mobile ones, coastal vessels, especially corvettes, which guarantee the safety of Russian coast.<sup>71</sup>

The future missions of the Northern Fleet will be directly linked with protecting the growing economic interests of the Russian state in the Arctic. Strengthened cooperation with energy firms has enabled the fleet to garner material advantages. For example, it currently benefits from cheaply priced fuel, offered to it by extraction companies, and gets some of its port infrastructure renovated at the latter's expense without having to use up its own budget. The energy companies, for their part, foster the support of the Northern Fleet in implementing anti-terrorism protection systems, obtaining the authorization to extract or to circulate in the sea, and accessing existing port infrastructures, fuel storage sites, and the large naval construction sites in the country's north. Gazprom, Lukoil, and Norilsk Nickel have to contend not only with the lack of ice-free civil ports, but also with the absence of ports in deep water that are able to host 300,000 ton tankers. They would also like to take advantage of the military ships used for hydrographic and hydrometeorological research, and coordinate a sea rescue system of extreme logistical complexity.

Many examples attest to this civil-military rapprochement of interest. In 2005, the Russian navy and Gazprom signed an agreement about the latter's use of auxiliary ships, ports, and naval military sites, including setting up a security and rescue system and maritime routes navigable by tankers, as well as establishing cooperation in terms of LNG.<sup>72</sup> This enabled Gazprom to construct an LNG processing plant for the Shtokman field in the closed town of Vidyaevo, and a submarine base and garrison on the north shore of the Kola Peninsula. Further, in 2006, the

Ministry of Defense agreed to provide Russian industry with previously classified geological and topological maps. Since the 1990s, the army has allowed Lukoil Arctic Tankers to use a military fuel storage facility at Mokhnatkina Pakhta, near Murmansk, but denied the oil company the right to build a refinery, judging its location too close to military installations. One can therefore note how, despite projection of power, Russian realities are much more pragmatic. The importance accorded to the energy sector means issues of the market and profitability tend to take priority over security decisions.<sup>73</sup>

The increasing exploitation of Arctic resources, however, raises tactical and technical problems for which the Northern Fleet will have to find solutions. The proliferation of platforms at sea, not to mention rigs, pipelines, and terminals on the coastlines, as well as the growth in maritime traffic represents a new challenge for the army. Most oil facilities are not mobile, and this will force the Ministry of Defense to put in place instruments to assure their protection in case of interstate conflict. Even if the Russian military considers these risks minimal, the potential for localized conflict must be taken into account. The securing of the platforms, pipelines, and ships against possible terrorist attacks accentuates the role of the special services in non-traditional threats. It entails that defense be reoriented around mobile units able to react rapidly and equipped with high-technology hardware. The presence of foreign companies in resource extraction also implies that non-Russian interests can be involved, which will alter the strategic givens and the diplomatic leeway available in cases of conflict. In addition, the presence of a large number of tankers crossing sensitive zones can impede the circulation of military ships as well as submarines, which require space to maneuver, and increase the risks of collision. Finally, the sonar emissions given off by the platforms and the oil industry interfere with military radar systems.<sup>74</sup>

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Although Russian military presence in the Arctic has increased since 2008, this activism has to be compared not to the 1990s and the start of the 2000s, when Russia was absent from the Arctic theater, but to the Soviet period. By looking at things in this way, it appears clearly that the current Russian military presence in the Arctic remains minimal as compared to the Soviet period. Norway itself has stated that Russian activities are rather “a return to a more normal level of activity for a major power with legitimate interests in the region.”<sup>75</sup> Russia, having already reached the limit of its capabilities, has restored only a small fraction of the capability once possessed by the Soviet Air Force. Moreover, Moscow has been acting in a pre-emptive manner. Geopolitical uncertainty in the Arctic is pushing it to get more distinctly involved, while hoping that desecuritization actually comes about. Power projections are therefore far removed from actual capacity to act. Behind the nationalist-tinged discourse, which is sometimes fairly aggressive towards the West, Russia’s goals are more pragmatic and include: attempts to reform the army, to upgrade the navy, to modernize the Northern Fleet, to increase civil-military cooperation, and to create mechanisms of cooperation with foreign and private firms.

It seems rather self-evident that modernization plans for the Russian army will be impossible to realize in the indicated timeframe: the old, Soviet-style functioning of the military domain, the economic slow-downs linked to the crisis of 2008 and to its long-term consequences, as well as the usual administrative delays, overspendings, technical challenges, and drop in human capacity

will have an impact on the modernization program. However, the direction has been set and Moscow seems intent on investing considerable sums to confront particularly varied strategic challenges. However, as Dmitry Trenin reminds us, in this program, “tactics prevail, medium-term thinking is just emerging, and no national interest worth the name has surfaced.”<sup>76</sup> In the decades to come, Moscow will experience a fundamental alteration in its threat perception. Conventional dangers, in particular in East Asia, will necessitate the maintenance of a classical army; nuclear deterrence will continue to be perceived as confirming Russia’s status in the international arena, and a means by which to negotiate geostrategic balance with NATO and the United States, but at the same time priority will be given to non-traditional threats.

Such dangers will present a challenge for Russia. The territory that it has to protect is immense, the southern border difficult to control and the Arctic likely to become a new open frontier, this time to the north. Responsibility for soft security currently falls to the special forces (troops of the FSB, the Interior Ministry, and the Emergency Situations Ministry), but the future will also see in-depth transformations take place within the Russian Army, so that it too can take part in soft security. This implies the transition to a professional army with a rapid reaction capability, one which is trained in cutting-edge technologies, has technologies from the private sector (telecommunications), or at least dual ones, and is used to engaging in cooperation with foreign players. Projected strategic power in the Arctic thus contains all the elements of the dilemma that the Russian Army has faced since the fall of the Soviet Union. Its success or its failure will embody the more global fate of the in-depth transformations awaiting the Russian Armed Forces and strategic thinking in the years to come.

### **Key findings and Pathways to the Future**

The traditional gap between rhetoric and the real capacities of the Russian army is still more clear-cut on Arctic-related questions, which are challenging for all actors.

Russia will find the idea of a nuclear-free zone in the Arctic difficult to accept, as its nuclear deterrence is intrinsically linked to its northern territories. Nuclear deterrence is the only hard security element that Moscow intends to maintain in the Arctic as a symbol of its power balance with the West. The other security stakes are linked to non-traditional threats.

The future of Russian defense in the Arctic will be concentrated on potential small-scale conflicts around energy deposits or transit, smuggling, illegal immigration, terrorism risks, and environmental issues. It is legitimate that Russia wants to strengthen the security of its Arctic coastline, and this serves NATO’s interests; the risks of smuggling nuclear or biological arms cannot be dismissed.

Russia is more likely to be amenable to international cooperation in soft, rather than hard, security issues, hence the duality of its discourse. The military narrative is still focused on NATO as its main strategic concern, while the Ministry of Emergency Situations promotes international cooperation, for instance on a research and rescue system.

Military reform will be a challenging process. The country's demographic evolution encourages the birth of a professional army, and its lack of financial resources requires the modernization of the entire army corps and military-industrial complex. The Russian Armed Forces will be forced to increase civil-military cooperation and foreign participation, and probably to privatize part of the military-industrial sector.

Although the aviation and navy sectors are the two priorities in the modernization of the Russian Armed Forces, they nonetheless also have other more difficult challenges to contend with: Russia's accumulated deficit in matters of communication, radars and satellites; and the loss of human capital in the army. To this must be added the lack of cooperation, and even rivalry, between the Ministry of Defense and the *siloviki*, which may hamper efficiency in securitizing the Russian Arctic.

The revival of Russian military activities, mainly naval and in aviation, in the Arctic is not a sign of re-escalation with the West. Moscow is behaving preemptively. Strategic uncertainty is pushing it to flex its muscles. Russia knows that it cannot expose itself to real tensions with NATO other than in small, post-Soviet states and non-NATO members like Georgia.

The trend towards desecuritization of the Arctic has to be openly discussed between NATO and Russia. In each country, strategic planning needs to articulate more clearly the growing shift from hard to soft security and the possibility of uncontrolled escalating tensions

## 6. ARCTIC WEALTH. RESOURCE NATIONALISM OR COOPERATIVE PATTERNS?

For Russia, the economic stakes related to the Arctic region are particularly significant, in large part due to its geographic localization. As much as 20 percent of Russia's GDP and 22 percent of total Russian exports are generated north of the Arctic Circle.<sup>1</sup> In terms of resources, Russia produces about 95 percent of its gas, 75 percent oil, and large volumes of nickel, tin, platinum and gold in Arctic regions. To this must be added the wealth—often estimated, rarely proven—of the continental shelf and seabed, not to mention water volume. This economic focus on the Arctic is clearly the engine of Russian interest in the region and guides the choices made in terms of security and regional development. Russia dreams of itself becoming a new energy superpower thanks to the rising demand coming from Chinese and Indian economic growth. The “Energy Strategy for Russia up to 2020,” ratified in 2003, defines the Barents Sea, Kara Sea, and the Yamal Peninsula as strategic for the country's future. Yet the energy sector, which drives the entire Russian economy, faces severe reductions in production and low rates of regeneration, and must turn quickly to the Arctic riches. But this changing geography of oil and gas also has a high price.

Russia is also banking on the mineral industries, which had always been important in the Soviet economic structure. They started picking up after the crisis of the 1990s and are booming thanks to rising global prices for major metals. They are preparing for a race for rare earths metals, which should ensure substantial revenues for the Russian state budget in decades to come. Finally, Russian coastline is the world's second longest after Indonesia and the country's EEZ covers 7.6 million square kilometers, including access to twelve seas and three oceans, and over two million rivers. With Asian markets in full demand, the fishing industry cannot be discounted; it also carries symbolic weight for Russia, as the Soviet Union has always thought of itself as a fishing power. However, Moscow's plan to transform the Arctic into “Russian Federation's leading strategic resource base”<sup>2</sup> by 2020 is still something of a declaration of intent. The transition from idea to reality is always more complex, longer, and more costly than expected.

### 6.1. The Force of Statistics? The “Arctic Bonanza”

Peak Oil theory states that the annual production of oil and gas is soon set to start decreasing rapidly due to depleting world reserves. However, thanks to new discoveries and technologies, the known number of reserves is continuing to rise, and has even doubled since the 1980s.<sup>3</sup> In 2000, the U.S. Geological Survey (USGS) estimated that 25 percent of the world's remaining undiscovered oil and gas resources were in the Arctic. These figures have long been debated, for example by the consulting firm Wood Mackenzie in *The Future of the Arctic: A New Dawn for Exploration*, which gave a more cautious assessment of 29 percent of undiscovered gas and 10 percent of oil.<sup>4</sup> More regionally focused analysis made the 2008 U.S. Geological Survey more precise: only 13 percent of the world's remaining undiscovered oil reserves are in the Arctic, but up to 30 percent for the gas. It would mean that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain to be found, of which approximately 84 percent is in offshore areas. More than 70 percent of undiscovered natural gas is estimated to occur in three provinces, the West Siberian Basin, the East Barents Basin, and Arctic Alaska.<sup>5</sup>

Caution is needed with these numbers, and the USGS has been criticized for over-estimation. The report did not include unconventional sources, such as coal bed methane, gas hydrate, oil shale, and tar sands, and did not take into account economic considerations linked to the costs of exploration and development. Resources are not necessarily reserves, as they may not be extractable. Estimated reserves are not necessarily proven reserves. Finally, proven reserves may not always be commercially recoverable. Whatever the actual figures, the proportions confirm that Russia will largely dominate the production of Arctic hydrocarbons with between 60 and 70 percent of reserves: the gas reserves are almost all in the Russian part of the Arctic, while oil is better distributed, with numerous reserves in the North American section, as well. Russian reserves are mainly situated on the continental shelf, and only a very small percentage of them are onshore.

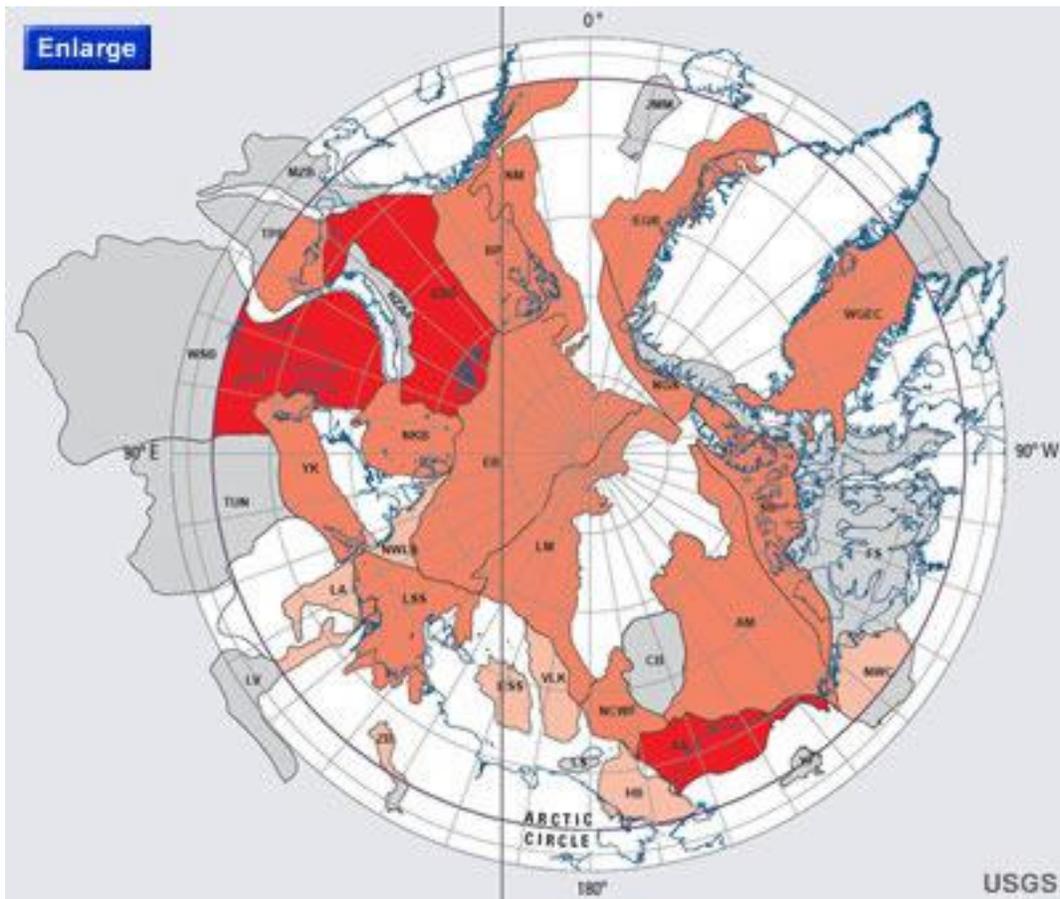
***The 2008 U.S. Geological Survey for Russian Regions***

Provinces	Oil (MMBO)	Total Gas (BCFG)	NGL (MMBNGL)	BOE (MMBOE)
West Siberian Basin	3,659	651,498	20,328	132,571
East Barents Basin	7,406	317,557	1,422	61,755
Yenisei-Khatanga Basin	5,583	99,964	2,675	24,919
Laptev Sea Shelf	3,115	32,562	867	9,409
Barents Platform	2,055	26,218	278	6,704
Eurasia Basin	1,342	19,475	520	5,108
North Kara Basins and Platforms	1,807	14,973	390	4,693
Timan-Pechora Basin	1,667	9,062	202	3,380
Lomonosov-Makarov	1,106	7,156	191	2,491
Lena-Anabar Basin	1,912	2,106	56	2,320
North Chukchi-Wrangel Foreland Basin	85	6,065	106	1,203
Vikitskii Basin	98	5,741	101	1,156
Northwest Laptev Sea Shelf		4,488	119	1,039
Lena-Vilyui Basin	376	1,335	35	635
Zyryanka Basin	47	1,505	40	338
East Siberian Sea Basin	19	618	10	133
Total for Russia	30 277	1,200,223	27,340	257,854

For Russia, its future as an energy power is in the Arctic. Over 80 percent of its gas and 70 percent of its oil reserves are in the Arctic regions, and respectively 30 percent and 12 are on the

continental shelf.<sup>6</sup> Two-third of these resources is located in Russia's western Arctic, in the Barents and Kara Seas, and in the Timan-Pechora basin, with about 8.2 billion tons of hydrocarbons. Major possible fields also exist in the Okhotsk Sea, on the Kamchatka Peninsula, and in the Laptev Sea.<sup>7</sup> Minor oil and gas deposits have been discovered in the onshore territories near the Bering Sea. Finally, the deep-water plateau between the Lomonosov and Mendeleev Ridges, at the core of Russia's territorial claims to the UN Commission on the Limits of the Continental Shelf, is a promising area for the more distant future.

Russia's Ministry of Natural Resources states that the country's Arctic contains around 80 billion tons of hydrocarbon deposits or 586 billion barrel oil equivalent (boe). The Ministry for Industry and Energy calculates that Russia could be extracting upwards of 110 million tons of oil and 160 billion cubic meters (bcm) of gas from the Arctic shelf by 2030. Russia's strategy of developing offshore operations is almost entirely based on the Arctic region, to which the Sakhalin project must be added. It now produces only 0.5 percent of oil production offshore, but hopes to increase the share to 20 percent by 2020. Onshore, the Yamal peninsula alone could account for as much as 200 bcm of gas production per year by 2020, and 360 bcm per year by 2030.<sup>8</sup>



**USGS undiscovered gas**



half of the 2000s is over, but that the resource base for further greenfield development is in “critical condition.”<sup>11</sup> From now until 2030, Russian forecasts estimate an increase in production of only 40 million tons, while the IEA predicts a decrease of 40 million tons.<sup>12</sup>

The picture for gas is more complex. Russia is the second largest natural gas producer after the United States (19.3 trillion cubic feet or 546 billion cubic meters in 2009), the world’s largest exporter of gas (7.3 tcf in 2009 or about 206 bcm<sup>13</sup>), and the foremost in terms of reserves with a little less than 24 percent of proven world reserves (1,567 tcf or 44 tcm).<sup>14</sup> However, Russian production stagnated throughout the 2000s: the state corporation Gazprom, which has a monopoly on export, sells less than 550 bcm per year, but its own production is in sharp decline, and projected to be only 344 bcm in 2020. Only private companies like Novatek and Lukoil have contributed to increasing volumes in recent years.<sup>15</sup> In 2009, Russia’s production reached the lowest level since 1992, falling by more than 4 tcf or 17 percent year over year. Despite the currently negative situation, Russian ambitions are substantial. With the Arctic deposits, the Energy Strategy forecasts reaching 900 bcm of production by 2030. This goal was upwardly adjusted to 1 trillion cubic meters, which is almost a doubling of production compared to 2010, and includes investments of more than US\$400 billion.<sup>16</sup>

The largest fields were discovered in the 1960s and put into operation in the 1970s in the Yamalo-Nenets autonomous region, the world’s largest natural gas producing area, which accounts for approximately 90 percent of Russia’s current natural gas production, 45 percent of its total reserves, and 20 percent of the world’s gas production. Since this date, the Russian gas industry has centered on the super-giant fields in the Nadym Pur Taz region. The Urengoy, Yamburg, and Medvezhye fields are responsible for over half of the Russian gas production. They are linked to European Russia and Europe via about 50,000 kilometers of oil pipelines and 150,000 kilometers of gas pipelines. Since the 1990s, these three fields have faced a dramatic decline of production, which the entry into operation of the Zapolyarnoe field, in the same region, will partially offset. The exploitation of the large Arctic fields in Shtokman and the Yamal Peninsula is very costly; Gazprom has systematically delayed these projects, preferring to compensate for lack of production to meet European demand by investing in largely captive markets in Central Asia.<sup>17</sup>

With the depletion of its Nadym Pur Taz fields, Russia will see its onshore hydrocarbon interests move further north. The Medvezhye field, operated at mid-latitudes during the Soviet period, has seen its exploitation move up to the Kara Sea. In the eastern part of the Barents Sea, some oil is extracted from the Kolguev Island fields.<sup>18</sup> But Gazprom has pinned all of its hopes to the Yamal Peninsula and its adjacent offshore areas, which contain eleven gas and fifteen oil, gas, and condensate fields, with approximately 16 trillion cubic meters (tcm) of explored and preliminary estimated gas reserves and nearly 22 tcm of in-place and forecast gas reserves.<sup>19</sup> The Yamal reserves are therefore comparable to the volume of Gazprom’s current gas supplies to the domestic market.

In 2008, the Russian company launched the Yamal megaproject, which is supposed to enter into initial operation in 2011-2012 with the Bovanenskoe deposit, which has estimated gas reserves of 5 tcm. The main challenge of this project is the total absence of infrastructures on the peninsula, but the deposits may be linked to the nearby Nadym Pur Taz network. Gazprom plans

to build more than 12,000 kilometers of pipelines and 27 compressor stations, as well as the Yamal-Europe gas pipeline, with a capacity of 33 bcm, going more than 4,000 kilometers to Germany.<sup>20</sup> If Arctic shipping develops, delivering LNG by tankers could ease pressure on Russia's ageing overland pipeline system and mitigate the risks of building new pipelines on melting permafrost.<sup>21</sup> The adjacent offshore reserves will become a point of focus once the onshore fields have peaked, probably in 2030.

With a Siberian Arctic shelf that stretches to 1,200 kilometers in width, Russia has a continental shelf of 6.2 million square kilometers,<sup>22</sup> without counting claims before the UN Commission on the Limits of the Continental Shelf. The main fields that will be operated are therefore offshore.

The first among them will be the Prirazlomnoe oil field in the Pechora Sea, the southeastern part of the Barents Sea. Located south of Novaya Zemlya, and about 60 kilometers from the shore of the Varandey terminal, it has oil reserves of 610 million barrels. It could start production in 2011, more than a decade behind schedule due to major technical problems and multiple changes of ownership. Oil will be exported via tanker, with storage and shipment structures in Murmansk, Arkhangelsk, while the shipyard Sevmash will take care of repairs and testing of equipment.<sup>23</sup> Other licenses were awarded in the Pechora Sea, for example the Medynsko-Varandey section with 163 million tons of oil recoverable reserves, and Kolokolmor and Pomor, with 300 million tons.

Prirazlomnoe will likely be followed by the Shtokman gas field in the Barents Sea, one of the world's largest natural gas fields, situated about 600 kilometers north of the Kola Peninsula. Its reserves are estimated at 3.8 trillion cubic meters of natural gas and more than 37 million tons of gas condensate, and it has a projected annual production of around 90 bcm of gas. It could meet total European demand for seven years and is scheduled to produce for fifty. The site has four platforms and about 150 production wells, among them forty completed subsea wells.<sup>24</sup> The Kremlin considers Shtokman to be one of its top priorities in coming years. If all technical difficulties are overcome and world oil prices remain sufficiently high, Shtokman should enter into production in the second half of the 2010s, in several phases, followed by the Ledov, Ludlovsk, Fersmanov, Murmansk, Severo-Kildin, and Demidov satellite fields. The delays can be explained by the global gas market conditions, but also by technological and logistical challenges.

The "Grey Zone" once in dispute between Norway and Russia is also very rich in hydrocarbons, and the bilateral treaty on the delimitation of the Barents Sea, signed in 2010, lifted the moratorium on exploration on the continental shelf that had been in place since the 1980s. It is estimated that about 30 percent of all undiscovered Norwegian resources lie in the Barents Sea,<sup>25</sup> especially in the Fedynsky High, in the southern part of the Barents Sea, which is believed to contain the most promising resources (between 10 and 12 billion tons of oil).<sup>26</sup>

In the second half of the 2010s, the other fields of the Pechora Sera like Dolgin and Medin should come online. The large fields in Ob-Tazov Bay (Sever-Kamennomys, Kamennomyskoe More, Chugoryakhin, and Ob deposits), situated 40 kilometers from the coast, constitute a specific case because of the extreme shallow water and its complex composition (half salt, half fresh water).<sup>27</sup> Some of these fields will be brought into production between 2015 and 2017 by

Gazflot, the Gazprom subsidiary for offshore extraction. The large fields of the Kara Sea, with potential reserves of 4 tcm—especially the massive Rusanov and Leningrad gas and condensate fields, which may contain more hydrocarbons than the giant Shtokman—will not commence production before 2030. Other deposits have been found on the Priyamal shelf: Nyarmey, Skuratov, and Severo-Karasaev.

The reserves of the South Kara Sea, the EPNZ-1, EPNZ-2 and EPNZ-3 fields, are supposed to be as rich as those in the North Sea. Rosneft chief executive Eduard Khudainatov stated that they contained five billion tons of oil and 3,000 bcm of gas,<sup>28</sup> but the very low exploration maturity means these figures are incomplete and unconfirmed. The 2000 U.S. World Geological Survey projected that the South Kara Sea had about seventy gas fields with a minimum size of 120 billion cubic feet gas (BCFG), and about twenty oil fields with a minimum size of 20 million barrels of oil (MMBO).<sup>29</sup> For these deposits, the possibility of Arctic shipping will play a central role in the profitability of operation. In the future, the development of hydrocarbon deposits on the Magadan shelf area and on the western Kamchatka sector of the Pacific Ocean is envisaged.<sup>30</sup> For the East Siberia and Laptev Seas fields, no operating structure has been put into place yet.

## **6.2. The Costs and Risks of Arctic-Based Energy**

In the global concert on this great “Arctic bonanza,” a few dissenting voices can be heard.<sup>31</sup> The unreliability of information on Arctic hydrocarbons is too often ignored and many experts tend to take U.S. Geological Survey estimates as conclusive, even though they are clearly labeled as unconfirmed.<sup>32</sup> Very little exploratory drilling has been conducted in the majority of potential Arctic fields (and none in high latitudes), while seismic and acoustic tests and geologic modeling cannot provide a basis for reliable estimates. The geological data for most offshore Russian reserves are insufficient. Only the western part of the Arctic is well known, and according to Bellona, even there only 9 to 12 percent of the Barents Sea reserves have been explored.<sup>33</sup> Even the figures advanced by Russian sources are contradictory: The 2007 Arctic scientific expedition put forward figures five times smaller than what is usually estimated for the Barents and Kara Seas (up to 48.8 billion barrels of oil).<sup>34</sup>

In any case, the exploitation of all of these Arctic fields will prove extremely technically challenging. In 2006, Russia launched a “Strategy for Exploring and Developing the Oil and Gas Potential of the Continental Shelf of the Russian Federation until 2020.”<sup>35</sup> By this date, Russia plans to build sixty new oilrigs and a larger number of submarine installations, but still needs access to the know-how. For example, Shtokman demands the construction of ice-capable production platforms in more than 300 meters of water. The site is still beyond the range of helicopters, which poses significant problems for search and rescue systems, and is vulnerable to seasonal pack ice and storms. The Prirazlomnoe platform is located in an area that is ice-free for just 110 days a year, meaning the stationary platform must be ice-resistant.<sup>36</sup> Numerous technical issues have delayed the project for almost a decade. Both the Prirazlomnoe and Shtokman structures necessitate taking into account icebergs and extreme wave heights. Nonetheless the Barents Sea and Pechora Sea remain “civilized” compared to the extreme climates that would face other operations further east. For the time being Russia is far from possessing the necessary know-how to imagine platforms in high latitudes.

Drilling under extreme conditions requires specific equipment and knowledge. For the Prirazlomnoe field, Sevmorneftegaz is working on a rig that will be capable of operating in temperatures as low as minus 50 degrees Celsius and able to withstand the impact of ice packs.<sup>37</sup> Despite this achievement, the Russian oil and gas industry still needs to catch up with its Western competitors in terms of technology and expertise, particularly offshore, which is a totally new domain for it. The large international majors are the most advanced: ExxonMobil is building a new Arctic-class drilling rig, as well as ice-capable drill ships; while Shell plans to build LNG plants that can operate in remote and environmentally sensitive areas, such as the Arctic. Norwegian companies are also well specialized in Arctic drilling; Aker Drilling has completed the construction of two semi-submersible drilling rigs capable of ultra-deep water operation in harsh environments.<sup>38</sup>

The question of financing naturally follows. Russia already faces huge replacement costs for its Soviet infrastructure. There has long been a lack of investment to upgrade its aging delivery systems, in particular pipes, energy-inefficient processing plants, and old methods of extraction. The cost of modernizing the entire energy infrastructure as it exists is therefore high. The International Energy Agency calculated that Russia's energy industry would need to raise an estimated 900 billion dollars over the next twenty-five years just to maintain current oil and gas production levels.<sup>39</sup> To this sum, Moscow must add the costs associated with Arctic exploration and exploitation. Rosneft president Sergei Bogdanchikov calculated that developing Russia's continental shelf would require 61 trillion rubles of investment through 2050.<sup>40</sup> Part of these investments needs to be made in the coming decade, but the returns will not be immediate. Some fields will be operable around 2030, but those in high latitudes or very remote regions might not be until 2050-2060. World oil and gas prices will also need to remain sufficiently high in order to make these investments profitable: the costs of remoteness are high. Below 120 dollars a barrel, the majority of Arctic deposits are not commercially recoverable, not even Shtokman. The IEA calculates that the cost of exploiting Arctic resources is between 40 and 100 dollars per barrel, while for Middle-Eastern reserves it is between 10 and 40.<sup>41</sup> Further, Russian companies typically utilize only 30-35 percent of the resources in each field and leave the rest, which is of course extremely counter-productive.<sup>42</sup>

In addition, Russia's strategy assumes that hydrocarbons will continue to be in high demand in the decades to come. In 2009, Russia exported 7 mbd of oil (including roughly 4 mbd of crude). Of these, 80 percent were destined for European markets, particularly Germany and the Netherlands, 12 percent for Asia, and 5 percent for the United States.<sup>43</sup> The export infrastructure that the Soviet Union built in the 1970s passes through Ukraine, Belarus, and Poland: the Druzhba pipeline transported 55 million tons of oil in 2010, while the Black Sea pipeline transported 46 million tons. Post-Soviet Russia has built two new oil pipelines. In Europe, the Baltic Pipeline System (BPS), which transports oil from the Timan-Pechora region, West Siberia and Urals-Volga regions to the Gulf of Finland, carried about 70 million tons in 2009. In order to gain additional capacity, a second pipeline is planned with a capacity of 50 million tons per year, the BPS-2. In Asia, the Eastern Siberia-Pacific Ocean (ESPO) oil pipeline, more than 4,800 kilometers long, stretches from the Irkutsk region to the Pacific at Kozmino. It is designed to be able to transport as much as 80 million tons per year. New oil loading terminals in the ports of Nakhodka and De-Kastri, as well as coal terminals in the ports of Vanino and Vostochniy,

opened in 2009.<sup>44</sup> The Taishet-Kazachinskoe-Skovorodino-Kozmino route has been completed by an extension to Daqing, China, inaugurated in 2010.



### The Barents Sea Reserves

The state firm Transneft controls all Russian pipelines with the exception of the Caspian Pipeline Consortium running from Tengiz to Novorossiisk, which has some private stakeholders. Russia therefore has clearly more capacity than means and in the years to come some of its oil pipelines will not be functioning at full capacity, unless they are filled with Kazakh oil. But the new pipelines built have a strategic value: they bypass transit countries and therefore give Moscow a new leverage over European demands.

Russia exported more than 7 tcf of natural gas in 2009, two-thirds of which went to Eastern and Western Europe, and one-third to CIS countries.<sup>45</sup> At the beginning of the 2000s, Moscow wanted to supply the United States and Asia with LNG, but its strategies failed. Russian hopes of a gas agreement with China have dragged for years and Moscow failed in its Chinese gas strategy by trying to play the card of Japanese competition and refusing to fix a sale price, which pushed Beijing to turn toward Central Asia. Concerning the United States, the “shale gas revolution” served to reduce that country’s demand for LNG. American shale reserves, about 60 trillion cubic meters, are equivalent to about a century’s worth of gas at current usage rates.<sup>46</sup> Offshore projects like Shtokman, originally directed toward the United States, have therefore been reoriented toward Europe, with new strategies intended to eliminate transit countries. Three new gas pipelines, Nord Stream (55 bcm), South Stream (63 bcm) and Blue Stream (16 bcm), were supposed to be fully operational by the end of the 2010s but some of them will be delayed, or even put into question.<sup>47</sup> In addition, the Central Asian gas on which Gazprom relies for export has become increasingly expensive, especially as countries like Turkmenistan develop export routes (mainly to China and Iran) that compete with Russia’s former monopoly.<sup>48</sup>

Moreover, Europe’s potential transition from fossil fuel to alternative sources of energy, the growing LNG market, and the European will to reduce its dependency upon Moscow could jeopardize Russia’s prospects in the gas sector. Energy demand in China and India will mitigate the decline of the European market and turn Russia increasingly toward Asia, even if the energy partnership with Beijing is complex.<sup>49</sup> But this geo-economic change will also come at a high price, as Russia’s gas fields and infrastructure are massively oriented toward Europe. Once again, the reorientation toward Asia will entail massive investments and thus rising costs. New production from the Yamal Peninsula and Shtokman is therefore crucial to satisfy both domestic requirements and export consumers in coming years, but Gazprom risks being penalized for delaying the necessary investments.<sup>50</sup> Gazprom must therefore reflect on its long-term strategies: pipelines to Europe come with a high capacity for political leverage, but the flows cannot be redirected to new customers when the market declines. Hence Gazprom’s interests have moved in part to tanker-shipped LNG, which allows more flexibility, as is the case to some extent for Sakhalin-2 and Shtokman.

Despite projected Asian demand, Russia has to prepare for a contingency involving a reduction in overall world demand for oil and must diversify its portfolio to include more natural gas and electricity.

### **6.3. Oil and Gas Companies: Patterns of Competition or Cooperation?**

The potential that lies below ground in Russia whets the appetites of Russian state and private companies, as well as foreign ones. To transform this potential into reality, the Kremlin will need to successfully handle two contradictory patterns, one of cooperation and the other of exclusion. It seeks to maintain control over its strategic wealth for purposes of sovereignty, but cannot exploit these riches without massive foreign participation.

Russia must first of all improve its investment climate, which currently penalizes campaigns to increase investments in the hydrocarbon sector. After the collapse of the Soviet Union in 1991, the Russian government ceased state funding of geological expeditions and domestic exploration

capacity has been very limited since. The level of knowledge of new fields is therefore low. In the 2000s the partly privatized exploration service Arktikshelfneftegaz returned under the control of the federal agency for state property, and the budget for exploration is planned to grow from 25 million dollars in 2005 to 100 million in 2020.<sup>51</sup> Very few exploration licenses have been granted. Gazprom obtained one for the Dolgin oil field, in the Pechora Sea; Severneftegaz, which Gazprom Neft and Novatek control, has three geological exploration licenses for the Kola coast.<sup>52</sup>

In light of the costs of exploratory drilling in remote regions with practically no infrastructure, Russian societies need foreign investments: an exploration well in a new region may cost 10-12 million dollars, as opposed to 3-4 million in a mature region.<sup>53</sup> In the second half of the 2000s, the Kremlin realized that the Russian fiscal regime was unattractive for foreign investments, and that the exploration phase—a high-risk investment—needed to have more appealing terms. At the end of 2007, Moscow decided to create incentives for foreign companies: longer exploration license periods (from seven to ten years), a two-year exemption on some customs duties and taxes, and a possible issuance of combined exploration and production licenses. The exploration phase can indeed be of interest to foreign companies if they have a prospect of obtaining a license in the case of positive results.<sup>54</sup>

However, an opposing pattern is also present. Since the beginning of the 2000s, Russia has undergone a process that recentralized its oil and gas companies. Sibneft and Yukos returned to state ownership, alongside well-known scandals. Russia reaffirmed its sovereignty over reserves, forcing BP and Shell to renegotiate the terms for Sakhalin-2 and accept state-owned partners. In Russia, the overall output of state companies rose from 4.8 percent in 2003 to 39.7 percent in 2008, while the share of private companies lowered from 72.6 to 43.9 percent.<sup>55</sup> This process is not a specific or unique one. National companies currently control about 80 percent of global reserves, pushing international companies to compete or be marginalized from new deposits. The world trend of increased state control over natural resources is becoming ascendant.<sup>56</sup>

In 2008, new legislation on “foreign investment in strategic sectors” classified forty industries as strategic to Russia’s security.<sup>57</sup> Ranging from arms, hydrocarbons, and precious metals to agriculture, fishing, and seafood, it requires foreign companies to gain explicit permission from governmental authorities in order to invest in more than a certain level of shares. In the energy sector, resources classified “of federal significance” (oil reserves of more than 70 million tons and gas deposits of more than 50 bcm) cannot have foreign holdings of more than 50 percent.<sup>58</sup> At almost the same time, the minister of natural resources announced that the exploitation of the Arctic continental shelf would be reserved for state companies, namely Rosneft and Gazprom. They will be able to enter into partnerships with foreign companies, but the latter will have their holdings in an operating company, not the deposit itself. Russia has therefore separated access from ownership through a so-called special purpose vehicle.<sup>59</sup>

Foreign companies, meanwhile, continue to actually calculate the assets acquired in Russia as their deposits, although legally they do not own them. In theory, this makes it easier for them to lose their access to these resources if the Russian government decides to conduct retroactive operations. This measure also makes more complex the position of Russian private companies such as Lukoil, TNK-BP, Surgutneftegas, and Novatek, which do not wish to finance geological

studies and drilling appraisal wells without having state guarantees of an exploration license. They are therefore pushed to specialize in new technologies like LNG instead of in the raw exploitation of the deposits.

However, despite this restrictive legislation, patterns of cooperation seem to be growing, if only because, pragmatically, Russian companies cannot function without the know-how of their foreign counterparts. The more Moscow favors LNG, the more it will need a technology-intensive industry which can only become possible through international collaboration. The Russian authorities have understood the negative impact that their new legislation is having on foreign direct investment, and the global economic crisis of 2008 impeded their ambitions of sovereignty and revived the need for foreign collaboration.<sup>60</sup> Lastly, rising awareness about the need to better control domestic consumption to free up a greater margin for export has also led to a search for foreign partners to promote technology transfers.

Statoil and Norsk Hydro, which merged into Statoil in 2007, have exceptional knowledge of deep-water oil drilling in Arctic regions due to their experiences with the Snøhvit and Ormen Lange fields. ExxonMobil has its own experience in Alaska and Northern Canada. Shell is a major player in the Athabasca oil sands project in northern Alberta.<sup>61</sup> As for BP, it is a prominent player in Alaska and has multiple agreements with Rosneft.<sup>62</sup> The main Russian fields in the “Arctic race” therefore have been shared among these players. Only Prirazlomnoe, Russia’s first offshore oil field in the Arctic, and the property of Gazprom Neft Shelf, has no foreign participation. Western companies have declined to take part, finding the project too risky or not commercially attractive. For the Yamal megaproject, Gazprom is the only owner of the site, but is increasingly cooperating with Novatek, Russia’s largest private gas producer, which holds 51 percent of the Yamal LNG plant. In 2011, Novatek signed a partnership agreement with Total, Europe’s third-largest oil company, under which Total will buy 12 percent of Novatek. This comes out to control of 20 percent of the Yamal LNG project, or about one billion barrels of proven and probable reserves. The LNG will be produced in 2016 and transported by tanker.<sup>63</sup>

The three major sites under development—Shtokman, South Kara Sea, and Sakhalin—all have foreign participation. In 2007, Statoil and Total signed an operation agreement with Gazprom and its wholly owned subsidiary Sevmorneftegaz, Shtokman’s owner. Total controls 25 percent and Statoil, 24 percent of the Shtokman Development AG company. The majority of natural gas produced there will be sold to Europe. A portion will flow via the Nord Stream pipeline, going from the field to the Murmansk region, and further via the Kola Peninsula to Volkhov in the Leningrad region, while the other part will be liquefied in an LNG plant to be constructed at Teriberka on the Kola Peninsula.<sup>64</sup> The gas production for the pipeline might start in 2016 and LNG production in 2017; however the state of international markets, technical difficulties, and cost overages have rendered the project vulnerable.<sup>65</sup> However, the elements that move in favor of its exploitation are not limited to commercial profitability but are also geopolitical. Shtokman is a major element of Russian-Norwegian partnership. Gazprom urgently needs to address the drop in production from the Nadym Pur Taz fields, while Norway needs to diversify away from the increasingly depleted hydrocarbon resources of the North Sea.<sup>66</sup>

Already well established in Russia, since 2011 BP has become a key partner of the state oil company Rosneft. A new Arctic Cooperation Agreement has reinforced the alliance between the

two companies that already managed TNK-BP, which exploits deposits in West Siberia, the Volga-Urals, and East Siberia.<sup>67</sup> The two companies collaborate on oil and gas exploration in Sakhalin, especially in the Kaigansky-Vasukansky block. The presence of BP in Russia has diversified into other sectors, including aviation fuels, lubricants, and special fluids, as well as their supply to the international shipping industry through the Baltic Petroleum joint venture with Lukoil. The 2011 agreement for the South Kara Sea exploitation can be added to a long list of partnerships that includes the project to make Rosneft a future partner in Ruhr Oel GmbH (ROG), which owns four German refining and petrochemical complexes. A wider Arctic Protocol also exists between the two companies for deposit exploration in the East Siberia and Chukotka fields.<sup>68</sup>

On the continental shelf of the Sea of Okhotsk, joint operation between Russian and foreign companies became the source of much attention after Moscow used allegations of environmental violations to force the international consortium to sell 50 percent of shares plus one to Gazprom. Despite this major incident, cooperation is progressing. ExxonMobil, ONGC (Indian Oil and Natural Gas Corporation), and Rosneft affiliates operate Sakhalin-1 (Chayvo, Odoptu, and Arkutun-Dagi fields); while Shell, Mitsui, a Mitsubishi subsidiary, and Gazprom work on Sakhalin-2 (Piltun-Astokhscoe oil field and the Lunscoe natural gas field). The Sakhalin-1 project involves the construction of a 220-kilometer pipeline across the Tatar Strait to the De-Kastri oil terminal, while Sakhalin-2 includes the first LNG plant in Russia; both are crucial for Moscow's capacities to reach East Asian markets.<sup>69</sup> Since 2010, the Indian state owned ONGC, which controls about 20 percent of shares of Sakhalin-1, is in negotiation with Bashneft to participate in the operation of the Trebs and Titov fields. These sites are among the most promising in the Timan-Pechora province with reserves estimated at 78.9 million tons (578 million barrels) and 63.4 million tons (465 million barrels) of oil respectively.<sup>70</sup> Finally in 2011, Wintershall will be able to access some of the Urengoy fields, in exchange for which Gazprom will participate in North Sea projects with its German counterpart.<sup>71</sup>

Balance must also be struck between Russian companies. The failed merger between the two major ones, Gazprom and Rosneft, in 2005 created tensions within the ruling elite with personal interests in each, and the two companies have had to learn to share the market. Their official domains of competence, Gazprom for gas and Rosneft for oil, tend to overlap increasingly with the offshore fields. Rosneft will for instance extract the gas from Sakhalin, while Gazprom has a monopoly on its export. Geographical distributions—Gazprom in the Barents Sea and Rosneft in the Far East—are also becoming less relevant. Both have deposits to exploit in the Kara Sea and seek new ones in the Okhotsk Sea. In the Barents Sea, Rosneft is currently upgrading the oil terminal in Arkhangelsk.<sup>72</sup> Their relationship is an important element of the internal balance in Russia, with direct implications on the political consensus among elites. Some private companies such as Lukoil, TNK-BP, Novatek, Gunvor, and Surgutneftegas also play a not insignificant role in the distribution of dividends from oil and gas among elites. They are becoming increasingly aggressive in the conquest of new markets through more innovative policies and greater openness to international cooperation.

Growing operations at fields in fragile ecological areas, onshore or off, comes with environmental worries. The Arctic Monitoring and Assessment Program, established to implement components of the Arctic Environmental Protection Strategy, studied multiple links

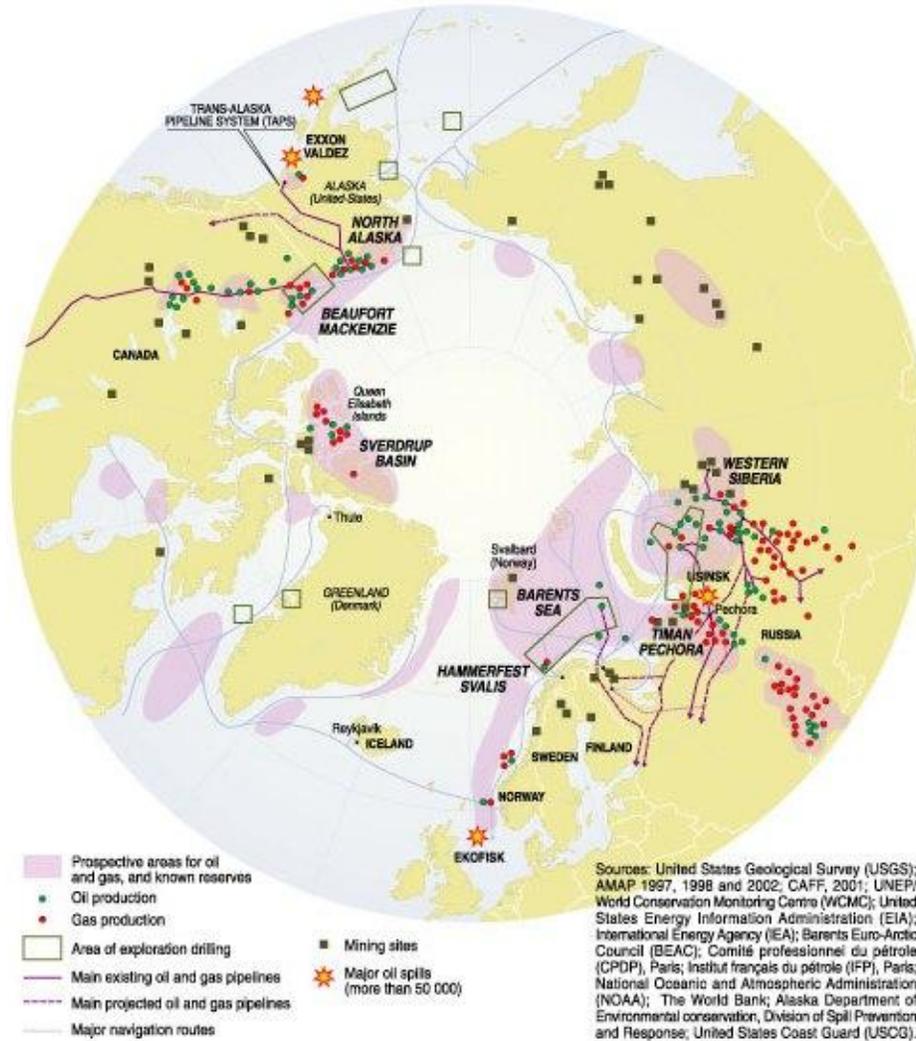
between hydrocarbons exploitation and environmental risks, ranging from oil spills to changes in the migration of marine mammals.<sup>73</sup> Aging Soviet-era infrastructure also poses increased risks, as the big oil spill of 1994 in the Komi Republic demonstrated. International legislation such as UNCLOS, the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), and the Convention for the Protection of the Marine Environment in the North-East Atlantic (OSPAR), regulates offshore drilling platforms (for instance, they cannot interfere with navigational freedom in recognized sea lanes), obliges companies to partly remove structures once fields are exhausted, and minimize the accidental discharge of harmful substances and marine pollution.<sup>74</sup> However the risks remain very significant; and the World Wildlife Fund has called for a moratorium on new offshore oil development in the Arctic until the gap in oil spill response is filled.<sup>75</sup>

#### **6.4. The Arctic as a Mineral Eldorado?**

The subsoil and continental shelf of Arctic regions are also rich in non-ferrous and precious minerals: zinc, copper, tin, nickel, diamonds, gold, and silver, among others. As with hydrocarbons, estimates are difficult to extrapolate into confirmed figures, but some suppose that 90 percent of the world's reserves of nickel and cobalt, 60 percent of copper, and 96 percent of platinum is in the Arctic, mainly in Russia and Northern Canada, and partly in Alaska.<sup>76</sup> In Russia, gold and silver can be found near the Taimyr Peninsula and in the northern part of Yakutia; apatites in the Kola Peninsula, Taimyr Peninsula, Yakutia, and Chukotka; nickel and copper around Norilsk and the Kola Peninsula; tungsten in northern Yakutia and Chukotka; manganese in Novaya Zemlya; and tin, chromium, and titanium in Yakutia. Coal deposits in the Arctic are not likely to be exploited as coal is among the most widely found minerals in the world, and one of the cheapest.<sup>77</sup>

Sakha-Yakutia is already well known for its diamond mines: 90 percent of all Russian diamonds and 24 percent of gold is mined in Yakutia. The state company Alrosa is the largest diamond producer in the world and Russia is second in sales after South Africa. The Kola Peninsula is particularly rich in its endowment due to geological reasons dating from the second ice age. There are large quantities of metals, from apatites to aluminum, while its subsurface has titanium, rare metals, ceramic raw materials, mica, and precious stones. The northern part of the peninsula has huge deposits of nickel and also contains large reserves of precious stones like amazonite and amethyst.<sup>78</sup>

This subsoil wealth has a huge potential value, but figures are difficult to calculate because the price of extraction is partly unknown and, like hydrocarbons, profitability depends on world prices. The Soviet Union explored the Arctic subsoil since the 1930s. From the second half of that decade, Gulag mines in Vorkuta and Norilsk allowed the country to benefit from minerals necessary for its massive industrialization. Today, more than 25 mines are still operating in the Russian Arctic.<sup>79</sup> The main one, the Norilsk-Talnakh, is the largest nickel-copper-palladium deposit in the world. The current resource known for these mineralised intrusion exceeds 1.8 billion tons. The adjacent town of Norilsk is classified as one of the world's ten most polluted cities.



## Industrial Activities in the Arctic

Privatized at the beginning of the 1990s, Norilsk Nickel later merged with Severonickel and Pechenganickel from the Kola Peninsula to create one of the world's largest mining societies. It is now the largest world producer of nickel and palladium and a leading producer of platinum and copper. It also produces various by-products, such as cobalt, chromium, rhodium, silver, gold, iridium, ruthenium, selenium, tellurium, and sulfur.<sup>80</sup> Norilsk Nickel plays a major role in Russian agriculture: three-quarters of the phosphate fertilizer in the country is manufactured from apatite concentrate from the Khibiny deposit on the Kola Peninsula. Nepheline is used in the manufacture of soda and potash for the chemical industry. Enormous quantities of soda are required to produce alumina from bauxite and for making glass.<sup>81</sup>

In coming decades, deep seabed mining, which is very technically challenging, will likely be considered. A major unknown is the future role of Russia in rare earth metals. There are seventeen such metals (tantalum, niobium, lanthanum, cerium, dysprosium, terbium, lutetium, etc.), used in technological applications, especially green energy products. A whole generation of

technological progress depends on their supply. The main accessible concentrations of the rare earth metals are found in China, where more than 95 percent of production currently takes place. Aware of its leverage, Beijing has drastically reduced the amount of rare earths available for export since 2010. But with the second largest explored rare earth reserves in the world, maybe the first in terms of potential reserves, Russia could challenge this monopoly.<sup>82</sup>

Moscow did not plan to develop rare earth mines until 2030, but international pressure, especially from Japanese firms, has become more urgent. Russia has two main deposits. The Lovozersk mine, in the northern Murmansk region, has an estimated 80 million tons of ore reserves that can be surface-mined. It could produce a wide range of rare earths, especially the very uncommon eudyalite, but for now focuses on magnesium production. The Tomtor deposit in Yakutia has an exceptional level of rare earth content in its ore, 12 percent. Its proven reserves amount to 150 million tons and the possible reserves come close to exceeding all the rest of the world's reserves combined. The apatite ore of the Kola Peninsula, today used to produce phosphorus fertilizers, could also contain rare earth metals.<sup>83</sup>

Hydrocarbons are therefore far from being the only source of the Arctic subsoil wealth. Moscow could be enriched not only from oil and gas, but also from ores, especially rare earth metals, the future of which may be more stable in terms of price and use than oil. The Arctic is additionally home to living resources like vast marine fauna.

## **6.5. The Revival of the Fishing Industry**

Among the major resources traded all over the world, fish is often a forgotten figure in statistics, even while it occupies a growing place in commerce. Between 1976 and 2006, the global trade volume in tons of fish quadrupled, from 7.9 to 31 million tons.<sup>84</sup> Increasing world population, improving diet, changes in Western eating patterns, emerging middle classes in China, Japanese passion for seafood, and improved freezing techniques have helped to internationalize a once regional market and account for this growth. But this success does not come without risk: 75 percent of straddling and high seas fish stocks are overexploited or even depleted.<sup>85</sup> Some common species like tuna and cod are endangered in many habitats.

But fishing is also a crucial geopolitical issue. The prices that Asian gourmets are willing to pay for some rare fish, as with Bering crab in the West, promote illegal, unregulated, and unreported (IUU) fishing, and aggressive behavior between vessels. Furthermore, fishing is not only profitable, but an industry that provides jobs. This is essential for countries like Norway or Japan, where the protection of jobs is a crucial component of public policies. Several conflicts between fishing vessels, which appear harmless, have degenerated into open diplomatic conflict, even within the European Union or in nearby countries such as Norway and Iceland. The risks of conflict are even more numerous in Asia, where Japanese, Chinese, and South Korean ships are willing to take huge risks to bring back large catches.<sup>86</sup> Issues of international governance are key. International law and the numerous existing fisheries agreements must take both soft and hard security issues into account, combine the interests of coastal states with those of new outsiders, and make decisions using information on fish stocks that is sometimes incomplete or disputed.<sup>87</sup>

Finally, climate change alters the situation and reveals new uncertainties. Fish stocks can *a priori* adapt to climate change as well as some pollution, but the transformation of marine ecosystems means that they will move further north with warmer waters, into new areas where bilateral regulations no longer apply. In addition, melting ice could open new areas to unregulated fishing. At present, the Arctic's share in global fisheries has been stable at 4 percent between 1975 and 2006, equaling 3.5 million tons per year.<sup>88</sup> But these figures may increase. Cod in the Barents Sea and pollock in the Russian Far East represent roughly 25 percent of the global catch of whitefish. Moreover, polar invertebrates represent a valuable resource for the chemical and pharmaceutical sectors, which is growing worldwide, especially in Asia.

Due to the importance of its exclusive economic zone, the Soviet Union has always been a major player in the world fishing industry. Since the 1950s, the USSR sought to develop industrial fishing to compensate for the insufficiencies of its animal breeding. The catch reached a total of 10.3 million tons in 1975, putting Russian in second place overall behind Japan. In the 1990s, however, the Russian fisheries collapsed; the fleets were divided up and partially privatized. It took until 2010 for 1991 levels to be reached; with 4.1 million tons of fish caught, contemporary Russia places sixth in world catch rankings.<sup>89</sup> This amounts to only 4-5 percent of total world catch, but does not include fish caught illegally. The Russian Federal Fisheries Agency (*Rosrybolovstvo*) hopes to reach 4.7 million tons in 2014.<sup>90</sup> Three-quarters of fish caught is in territorial, internal, and EEZ waters of Russia, while the reported catches in the EEZs of foreign states represent only 15 percent and high seas catches 10 percent.<sup>91</sup> In contrast to the Soviet period, during which the trawlers were used to sailing throughout the world, in particular as far as Africa and Latin America, Russian industrial fishing is today limited to its national waters, as the trawlers are too old and fuel-inefficient to sail the high seas. Pressures on stocks in the Russian EEZ have therefore increased dangerously.<sup>92</sup>

According to existing definitions, the marine Russian zone in the Arctic includes several ecosystems, but overall consists of two eco-regions, the Bering and Barents seas. The geographical distribution of catches breaks down to about 40 percent in the northeast Atlantic Ocean, mainly in the Barents Sea, and 56 percent in the northwest Pacific Ocean, mostly in the Bering and Okhotsk Seas. The most important unloading ports in the Pacific are Vladivostok and Nakhodka, followed by Nevelsk, Korsakov, Magadan, and Petropavlovsk-Kamchatskii; in the Atlantic region they include Murmansk, Arkhangelsk, and Belomorsk.<sup>93</sup>

In the Barents Sea, Russian fishing is regulated by the Russian-Norwegian Fisheries Commission, which was created for this area to replace the Northeast Atlantic Fisheries Convention, and by the Grey Zone Agreement, which disappeared with the 2010 bilateral treaty. Russian-Norwegian cooperation is considered successful in terms of the reasonable management of stocks of Atlantic cod and the Norwegian spring-spawning herring. Quotas are equally split between the two countries and both exchange extensive scientific information, make their stocks public, and even give some access to Barents Sea fisheries to some non-coastal states.<sup>94</sup> Moscow and Oslo follow annual quotas as recommended by the International Council for the Exploration of the Sea.<sup>95</sup> Thanks to that, their cod stocks are considered among the healthiest on the planet, although illegal fishing is also practiced, especially on the Russian side.<sup>96</sup>

This cooperation has also been successful in resolving tensions between the two countries that were once regular. In 1998, 2001, 2005, and 2007, the Norwegian Coast Guard seized Russian trawlers fishing illegally in the Fisheries Protection Zone off the Svalbard archipelago. All of these incidents were resolved peaceably, although in 2001, Moscow responded to the seizure in contested waters of the trawler *Chernigov* by deploying the *Severomorsk* warship. In 2005, the Russian trawler *Elektron* refused to be subjected to arrest when caught by the Norwegian coast guard and “kidnapped” the coast guards by coming back with them to Russian waters.<sup>97</sup>

These local tensions, however, have never degenerated into conflict. Some problems are probably still unresolved, as the territorial treaty that Moscow and Oslo signed in 2010 has alarmed Russian fishermen. The two main associations, the Association of Seafood Industries, Entrepreneurs, and Exporters and the Council of Fishing Industry Workers, protested. They argued that the treaty undermines rights under the Russian-Norwegian Fisheries Commission and forbid them from fishing in waters that were once common but now Norwegian (the western part of the former Loophole).<sup>98</sup> But this view is not unanimous: the Russian Federal Fisheries Agency stated, on the contrary, that the bilateral agreement and the continuation of the joint Fisheries Commission bore out support for Russia’s fishing interests.<sup>99</sup> It is likely that tensions between Russian and Norwegian fishing vessels will not disappear in coming years, but the mechanisms of peaceful resolution are operational and cooperation prevails on both sides.

In the Bering Sea, the tensions are more numerous and could degenerate more rapidly, as there are fewer mechanisms of peaceful resolution. Despite the absence of a definitive legal resolution, fishing is not a cause of major tensions between Russia and the United States. The two countries encompass 92 percent of the Bering Sea within their territorial waters and EEZs. The section between, the Central Bering Sea, is known as “the Donut Hole,” and is considered international waters,<sup>100</sup> much like the “Peanut Hole” in the Sea of Okhotsk. An agreement signed in 1992 concerning the regulation of fisheries in high seas beyond each EEZ enables both countries to take advantage of the sea’s fish stocks.

However, the Bering Sea, one the most dangerous places in the world to fish, is extremely profitable. On the U.S. side, commercial fisheries catch approximately one billion dollars worth of seafood annually, while Russian Bering Sea fisheries are worth approximately US\$600 million each year.<sup>101</sup> In terms of the geopolitics of fishing, the area is significant. Over half of the seafood consumed in the United States comes from the Bering Sea and American fishermen are sometimes tempted to leave U.S. waters to monitor the crab stocks in Russian waters;<sup>102</sup> while for Russian fishermen, command over Asian markets is very enticing. A veritable black market of Alaskan pollock and Bering crab, among others, exists between the Russian Far East, Japan, South Korea, and China. It is estimated that illegal fishing and poaching accounts for over half of the fish caught on the Russian side of the Bering Sea.<sup>103</sup>

For Russia, many issues are related to fisheries, from food self-sufficiency to industrial revival and export possibilities. Like Europeans, Russians consume more fish, but it remains mostly imported. The populations of the Pacific façade have access to some local catch from the Russian trawlers, but the European zones of the country mainly eat deep-frozen exported products. Thus support for the revitalization of national fisheries could help to improve food self-sufficiency. The Asian market is also promising since it is growing exponentially and could bring

considerable revenues for Russian fishermen. For now, Moscow is selling raw materials to Chinese processing plants, which then sell the finished product in Korea or Japan. The development prospects of domestic agribusiness are therefore important, especially in the Far East. Finally, the fishing industry directly employs over 100,000 people and likely around one million indirectly, a blessing that the Kremlin wants to preserve, especially since fishing lobbies are powerful in the Far East and Kamchatka Peninsula.<sup>104</sup>

But this assumes that the fleet is nearly entirely renewed. In the 1990s, state investment in the fisheries collapsed, exacting a heavy toll. The Russian fleet plummeted by half: today it includes only 2,500 fishing vessels, fifty floating plants, and nearly four hundred transport ships.<sup>105</sup> Two-thirds of fishing vessels still in operation no longer conform to safety standards and have exceeded their legal life span. They lack the capacity to fish off the coast in high seas and modern catching and freezing equipment. The privatized fishing companies, which buy their vessels abroad, do not have enough finances to renew their trawler fleets, whereas the state-run fleets are used to getting everything from through state subsidies. According to the director of Russian Federal Fisheries Agency, four hundred Russian vessels can take as many fish as sixty-two Norwegian vessels.<sup>106</sup> For Moscow, the modernization of an aging fleet is no longer on the agenda; the goal is to renew it entirely. But here again, the necessary investments are slow to arrive. The first steps were taken in 2010, with official orders to the shipyards to build vessels equipped with modern technology, but currently only a few units have been commissioned.<sup>107</sup>

Major legislative activity is also ongoing. The State Committee for Fisheries, allegedly very corrupt, has been through several administrative reorganizations, but with little success. In 2003, the Duma ratified a concept for the development of the fishing industry of the Russian Federation until 2020. In 2004, the fisheries administration was recentralized. In 2007, the State Committee for Fisheries was restored as a specific institution and placed under the control of the government, rather than the Ministry of Agriculture.<sup>108</sup> In 2008, fish and seafood were placed on the list of “strategic resources.” Laws were also amended in 2010; hitherto, Russian ships were asked to complete custom clearance for fish caught in the Russian EEZ, which had the effect of forcing the trawlers to unload at sea or in ports in Europe.<sup>109</sup> The Russian trawlers, however, continue to try to sell their catch abroad, for higher prices. Overfishing in the Russian EEZ also has to be combated. Beginning in 2011, there has been open discussion of creating a state fishing corporation to centrally manage the need to modernize the fleet and processing plants.<sup>110</sup> A bill to promote aquaculture is also being studied.<sup>111</sup> There are thus many possibilities, but they demand clear political and financial choices.

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As in other sectors of its economy, the prospects in the Russian Arctic are paradoxical. They presuppose a favorable combination of elements over which Moscow does not have leverage—world prices for hydrocarbons and minerals, the development of energy competition, laws protecting endangered fish stocks, and the state of demand in Europe and Asia—and domestic capabilities that were largely destroyed or rolled back in the 1990s. For the oil and gas industries as well as minerals extraction and fishing, existing infrastructure must be upgraded and new operations developed *ad hoc*. The cost is therefore double: maintaining Soviet infrastructures while creating new logistics for the twenty-first century.

As in the strategic domain, Russia's position on the economic opportunities that the Arctic provides has two faces. Cooperation with foreign countries is in its interests, but the fear of losing sovereignty sometimes offsets it. However, the prospect of profitability in economic pursuits tips the scale in favor of international cooperation. No Russian offshore oil and gas fields can be developed by Gazprom and Rosneft alone. Although onshore fields are less open, technological needs, for instance in LNG, require the entry of foreign players, as seen on the Yamal Peninsula. For fisheries, the modernization of the fleet cannot be achieved without the purchase of technology from abroad. Despite regular tensions between trawlers, Moscow maintains constructive joint-fishery relations with Norway and the United States. At present, only the area of mineral extraction is immune from massive foreign presence. But as it is based on exports, this sector also pushes Russia to open.

Moscow sees the Arctic as a large part of its economic future. Compared with rising powers like China and India, and in light of its delay in terms of technological knowledge, its great power status depends on its increased ability to exploit the riches of the Arctic with foreign partners. Widespread among ruling elites, the impression that the Arctic is a "no other choice" policy for Russia's future only renders the stakes more critical and sensitive. The strategic choice between resource nationalism and foreign cooperation will have large-scale consequences on the political, institutional, and economic future of the country.

#### **Key Findings and Pathways to the Future**

Russia benefits from uncommon subsoil wealth. While Russian predominance in oil resources is not assured, as North America is also well endowed, it is a clear leader in terms of gas reserves and rare minerals, especially rare earth metals.

Russia has the potential to transform its reserves into actual output, which would give it a significant geopolitical advantage: the ability to maintain great power status in energy and minerals, and the capacity to delay its economic transformation from an energy-based economy toward a knowledge-based and service one.

However, the factors that will determine whether this potential becomes reality are partly outside of Moscow's control, including the world price of hydrocarbons and minerals, growth of energy competition, alternative energies, and the state of demand in Europe and Asia.

It is therefore necessary to consider that the Arctic fields might not be profitable to operate in coming decades, which would cause Moscow to lose significant revenue, limit its geopolitical ambitions, and weaken Russia's public finances, especially if large-scale investments were undertaken.

In any case, Russia will continue to combine patterns of exclusion and cooperation, but seems to give priority to the latter because the potential for energy sector profits is at stake.

The current focus on oil and gas tends to obscure sectors that could be more powerful over the long term: minerals, rare earth metals, uranium, and hydroelectricity production.

Even if it is partial, the increasing use of Arctic regions multiplies security risks. The most serious are small-scale conflicts over fields in the western part of the Arctic, the collision of hydrocarbons extraction structures and the military vessels of one or more countries, clashes between Russian, American, and Asian fishing vessels, and the growing smuggling to fish stocks to Asian markets.

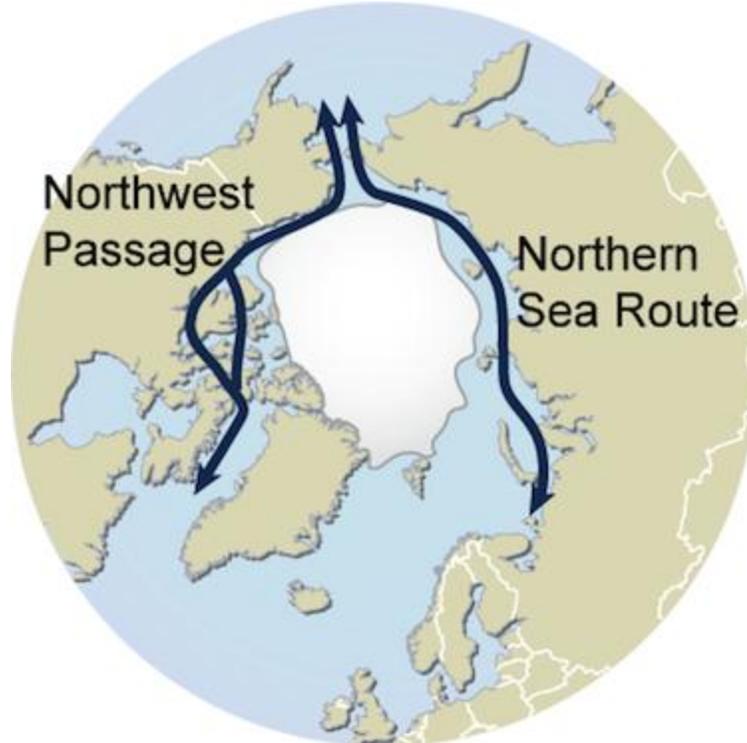
A powerful Russia based on “Arctic-resource” nationalism must be included among the scenarios put forward in strategic planning; however, there is little chance that it will come to pass. Either Moscow will be unable to meet the enormous investments required and expected profitability will not come about, or it will have to change its patterns of threat perception and open itself more widely to international cooperation.

## **7. THE NORTHERN SEA ROUTE. INTERNATIONAL AND DOMESTIC SHIPPING ISSUES**

The question of sea lines of communication, that is, maritime routes between ports used for either for trade, logistics, or military forces, constitutes an important element of state security and of the global geopolitical (im)balance. American supremacy on the seas, for example, is considered a central component of U.S. global security. Control of the main straits of Hormuz, Malacca, Gibraltar, and the Bosphorus, of the choke points between the Atlantic, Pacific, and Arctic Oceans, and of the Suez and Panama canals makes it possible to exert pressure on certain states and to privilege others. Given that three-quarters of world trade is done via sea and given the new factors of instability, such as piracy, the oceans have once again become an important element of geopolitics after having been somewhat forgotten at the end of the Cold War. The prospect of new sea lines of communication in the Arctic thus takes on special significance.

The Northwest Passage runs from the Bering Strait through the Alaskan and Canadian coasts, coming out at the Atlantic between Labrador and Greenland. It therefore makes it possible to pass from the Atlantic Ocean to the Pacific Ocean without going through the Panama Canal or having to go around Cape Horn. The Northeast Passage links both oceans along the Russian coast without a detour through the Suez Canal or the Cape of Good Hope. A third potential sea line, a high-latitude one, crosses though the middle of the Arctic Ocean, connecting Eurasia to North America. The melting of the icecap, however, is more limited on the Canadian side than it is on the Russian one. Russia will therefore be the first country to be concerned by the prospect of an ice-free Arctic. Since 2007, its navigation season during which the presence of an icebreaker is no longer necessary has extended to two whole months, at least in theory. In August 2008, both the Northeast and Northwest passages were open for the first time in recorded history.

Depending upon the calculation methods and upon still unknown climate evolutions, forecasts fluctuate considerably concerning the prospect of navigating in ice-free waters. It is possible that the Arctic Ocean will be ice-free in summer as early as 2015. Up to four months of navigation without an icebreaker would become foreseeable in the decades to come. An eventual disappearance of the summer ice will mean that the hard, multi-year ice will disappear, and that parts of the Arctic will have conditions more similar to those in the Baltic Sea today.<sup>1</sup> More modestly, the Arctic Monitoring and Assessment Programme (AMAP) foresees a summer shipping season along Russia's coasts extending from the current 30 days to an estimated 90 to 100 days by 2080. In any case, it will probably still take around twenty to thirty years until conditions become suitable for regular transits. Large-scale, year-round transit operations will barely be possible until the ice cover disappears for most of the year, and this does not seem realistic until at least forty to sixty years from now.<sup>2</sup> However, private shipping companies and many states, coastal or otherwise, are following closely the still-potential race for the new Arctic sea lane. For Russia, the stakes are multiplied, as the Northeast Passage is not only a communication line open to foreign trade but a strategic domestic issue, a key component of the development of Siberia and of the Arctic regions.



### 7.1. Sovereignty Issues in the Russian Arctic Straits

The legal status of the straits is extremely complex, and depends on the classification of the waters, the status of the archipelagos crossed, the access points to other seas, the question of whether, historically, these waters were internal ones or were used for international navigation, etc. To the International Maritime Organization's legislation, the 1982 Law of the Sea Convention adds that the regulations for straits used for international navigation are subordinate to those of ice-covered areas.<sup>3</sup> Coastal states can impose limitations when the ice increases the risks of accident or of pollution. Of the three Arctic sea lines of communication, only the third, the so-called Arctic bridge, situated at a high latitude, presents no important legal problems, as it crosses mainly international waters not subject to any state sovereignty. The other two are problematic since the viewpoints of the sovereign states concerned, Canada and Russia, both of which claim that these straits are historically national ones. They are opposed to the rest of the international community, in particular the United States, which argues that they are international waters. In both cases, the passages would be open to foreign commercial traffic, but state prerogatives are more significant if they are recognized as national straits. The state has the right to apply "special conditions" in accordance with ice coverage and particularly in cases of severe climate conditions. Ships must give advanced notification, apply for guidance, and comply with national laws. In the second case, that of international waters, all ships have a right of transit passage without having to ask for the authorization of any specific instance, and the state concerned by their passage can only enforce fishing and environmental regulations, fiscal and smuggling laws, as well as laws intended for the safety of shipping.<sup>4</sup>

The Canadian debate with its American neighbor over the Northwest Passage has shaped Canadian public opinion since the 1960s, but the polemic has intensified recently with the media focus on the Arctic. U.S. vessels and nuclear submarines are used to traveling unannounced through Canadian Arctic waters, but the trip of the U.S. icebreaker *Polar Sea* in 1985 resulted in a diplomatic incident. Ottawa regularly makes unilateral declarations of sovereignty over the Northwest Passage, but they do not have any legal value in themselves. The issue seems above all a symbolic one: relations between the United States and Canada are good, and both are committed to North American continental security and defense in the NATO framework. Moreover, Canadian military presence in the High Arctic waters was possible only thanks to U.S. icebreakers (the last Canadian icebreaker, the *Labrador*, was decommissioned in 1987, but a new one is under construction). Both countries have signed the 1988 Agreement on Arctic Cooperation, which resolves the practical issues but provides no solutions for sovereignty questions. However, the importance of the Northwest Passage for Canadian nation-building and U.S. arguments for free circulation in world seas reduce the possibilities of compromise.<sup>5</sup>

Russia also has to confront international protests concerning its perception of the Northeast Passage as an internal water strait. In contrast with the Canadian situation, this route, called the Northern Sea Route in Russian (NSR, or *Sevmorput*'), has been chiefly used by Russia only. The route was travelled from one end to the other for the first time in 1878-1879 by the Swede Otto Nordenskjöld, and then again in 1893 by the Norwegian Fridtjof Nansen. At the start of the twentieth century, the use of icebreakers opened up new possibilities, such as the hydrographic expedition of the Glacial Arctic Ocean in 1905. The *Sevmorput*' reached its peak in the Soviet period. Commercial navigation became regular along it in the second half of the 1930s, thanks to Stalinist voluntarism in developing the High North, in large part by the Gulag penitentiary workforce. The route was used during the Second World War to reinforce Soviet convoy escorts to the North Atlantic, and was more intensely developed during the Cold War decades with the multiplication of surveillance stations, missile launching bases, and polar military aerodromes.

Moscow defines the Northern Sea Route as "a historically existing national unified transport route of the Russian Federation in the Arctic,"<sup>6</sup> and therefore considers it to be under its exclusive jurisdiction. Although Russia's Arctic coastlines stretch over more than 14,000 kilometers across the Barents, White, Kara, Laptev, and East Siberian seas, the *Sevmorput*' is *stricto sensu* localized between the ports of Kara, at the western entry of the Novaya Zemlya straits, and Providentia Bay, at the southern opening of the Bering Strait, which is a total of 5,600 kilometers. The Barents Sea is therefore not a constitutive part of the *Sevmorput*' legal regime. This latter includes the passage of close to 60 straits, the main ones being the Vilkitski, Shokalski, Dmitri Laptev, and Sannikov Straits, running through three archipelagos, Novaya Zemlya, Severnaya Zemlya, and the New Siberian Islands.<sup>7</sup> Moreover, the legal definition is made more complex as there is not a single shipping channel, but multiple lanes, and the NSR crosses through waters of different status: internal, territorial, and adjacent waters, exclusive economic zone, and the open sea. Indeed the course of the route depends upon whether the ship crosses close to the coastlines or further out, or chooses or not to bypass Severnaya Zemlya. In 1978, a Soviet cargo ship escorted by an icebreaker passed north of New Siberian Islands, in high Arctic seas, confirming that the straits can be avoided in suitable ice conditions. As a result of accumulated pack ice in the straits, the Route may include sea lanes that are situated beyond

Russia's 200-nautical mile EEZ, but which Moscow continues to regard as under its jurisdiction.<sup>8</sup>

Moscow also tried to play on the legal difference between internal and territorial waters.<sup>9</sup> In 1985, the Soviet Union drew straight baselines along its Arctic coastline, totaling more than 400,<sup>10</sup> the majority being situated within the 12 miles of territorial waters from the archipelagos. Waters enclosed by baselines are conventionally assimilated to internal waters without any right of innocent passage for foreign ships, but the 1958 convention on the territorial sea, to which the Soviet Union is a signatory member, stipulates that the right of innocent passage continues to apply to internal waters that were once territorial waters or part of the high seas.<sup>11</sup> This process of territorialization of the Soviet Arctic waters also led Moscow to decree the White Sea, the Kara Sea, and part of the Barents Sea as Soviet internal waters, which it already did for the Laptev and East Siberian seas. However, the international community did not accept this decision. No legal text had set a precedent for this definition, and Soviet practice did not enforce sovereignty by requiring ships or planes to request permission to enter this part of the sea or the air space above it.<sup>12</sup>

The first offer to open the Northern Sea Route to international shipping was made by Moscow early in 1967, without ever becoming a reality. The offer was repeated in 1987 by Mikhail Gorbachev in his Murmansk speech, and the route formally opened to foreign users in 1991, just a few months before the collapse of the Soviet Union. The norms for using the route were laid down in the Regulations for Navigation on the Seaways of the NSR (1991), the Guide for Navigation through the NSR, and the Regulations for the Design, Equipment and Supply of Vessels Navigation in the NSR (1995). Today, Russia has every interest in transforming the *Sevmorput* into a sea line of communication that is open to foreign trade. The maintenance of its own Arctic fleet, in particular of the icebreakers, is extremely costly, and additional revenues are therefore welcome. The more that international navigation grows, the lower the costs for intra-Russian trade will be.

Despite the debates surrounding the legal status of the waters crossed, Russian territorial waters are subject to the right of innocent passage. Moscow only has the right to establish non-discriminatory regulations governing passage of vessels in ice-covered areas, especially in accordance with environmental protection and safety laws (civil liability regulations for damage arising from vessel-source oil pollution). Russia is legally unable to ask for fees since the Law of the Sea Convention requires that treatment of foreign vessels be non-discriminatory. However, it has imposed strict binding rules that have been validated by major international insurance companies, but this measure is refused by the United States, which deems that it would mean recognizing Russia's sovereignty beyond its territorial waters. It is by means of such obligations that Moscow hopes to collect transit revenues. These services, which are provided by the Marine Operation Headquarters and the Northern Sea Route Administration, are indeed costly. It seems that only foreign ships pay for them, and that Russian ships are exempt, which in legal terms can be regarded as a discriminatory measure.<sup>13</sup> In addition, not all the Russian ports are opened to foreign ships, and the list of which ones are can change from year to year.

## 7.2. Myths and Realities of an International Trade Lane through the NSR

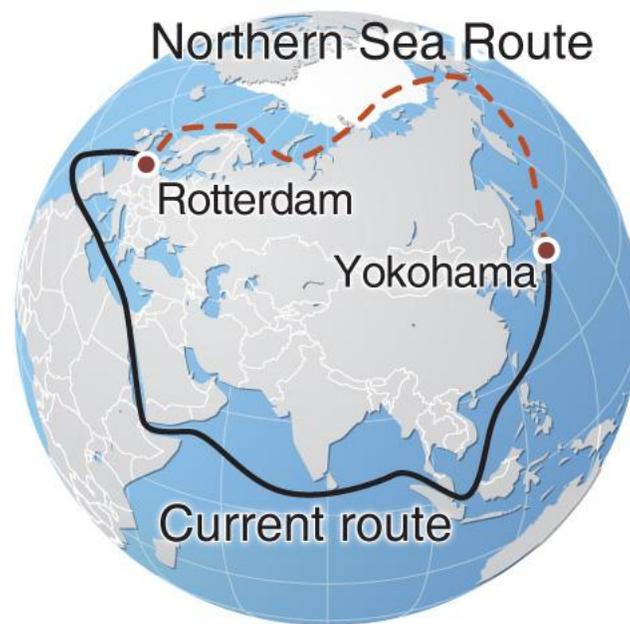
The question of opening Arctic trade routes and of their profitability has been studied by several programs, beginning with the International Northern Sea Route Programme (INSROP) in the 1990s,<sup>14</sup> and continuing with the Arctic Operational Platform (ARCOP) and the Japan Northern Sea Route-Geographic Information System (JANSROP-GIS). Numerous feasibility studies, some of which are published, and some internal, have also been conducted by the main shipping companies. Shipping along the Northern Sea Route can be either destinational (having an entry or arrival port along the NRS), which means regional or trans-Arctic shipping, or transitional, which means crossing the route from two points not in the NRS. This distinction is important as it does not include the same categories of ships (transitional shipping must involve very large tonnage tankers to be profitable) and invokes different commercial profitability strategies and new logistical problems.

The prospect of having a new commercial Europe-Asia trade route is one of the most discussed themes concerning the Arctic. An ice-free Arctic could make the transportation of commodities to international markets easier and significantly reduce transportation costs by cutting 20 to 40 percent off the distance from Western Europe to Japan or China. All the Asian cities to the north of Hong Kong could reach Europe more rapidly via the Arctic than via the Suez Canal. The potential benefits brought by opening the Northern Sea Route are therefore more interesting for Japan, Korea, and China than for India. The trip between Hamburg and Yokohama through the Suez Canal (18,350 kilometers) thus would be reduced to 11,100 kilometers by using the Northern Sea Route, which in theory amounts to a reduction from 22 to 15 days of navigation, equivalent to a 40 percent reduction. Between Rotterdam and Shanghai would go from 22,200 kilometers via the Cape of Good Hope to 14,000 via the NSR.<sup>15</sup> The volatile situation in the Middle East, especially since the “Arab spring” of 2011, the overload of the Suez Canal, its transits fees, and growing piracy at the Horn of Africa encourage the development of new alternatives. In addition, a reduced journey means cost savings in terms of fuel.

Transit from Russia to the North American continent would also be shorter by crossing the Arctic. Murmansk is only 9,600 kilometers from Vancouver via the Bering Strait, but is 16,000 kilometers via the Panama Canal. In 2007, Russia and Canada both evoked the concept of an “Arctic bridge” connecting the port of Churchill in Manitoba to Murmansk.<sup>16</sup> The project had already been raised some years before, since OmniTRAX, a major railroad operator that owns the Churchill port, had been in negotiations with the Murmansk Shipping Company on this very issue. In 2007 and 2008, first shipments of Russian fertilizer from Kaliningrad purchased by the Farmers of North America cooperative of Saskatoon arrived in Churchill from Murmansk.<sup>17</sup>

This possible new trade route has raised the interest of many shipping companies. In 1990, six trips took place, and on each occasion about 25 days were need to complete the entire route. In 1997, only two ships sailed the entire passage, with freight totaling a mere 30,000 tons. The cargoes consisted mainly of fertilizers, metal, and timber exported from Finland and Sweden to Japan, as well as of processed agricultural products transported to Europe from China and Thailand. In the second half of the 2000s, with the confirmation of icecap retreat, more and more shipping companies tested the viability of the route: 2009 was a test year for Europe-Asia transit, while 2010 saw the first foreign commercial ships emerge.<sup>18</sup>

Indeed in 2009, two ships from the Germany-based Beluga Shipping went from South Korea to Rotterdam and were the first foreign ships able to cross the NSR without using icebreakers.<sup>19</sup> In July 2010, two Russian ice-class tankers carrying 27,000 tons of diesel oil sailed from Murmansk to Pevek. In August of the same year, Sovcomflot sent its first shipment of gas condensate on the *Baltica* to Ningbo in China.<sup>20</sup> In September, the Norwegian ship *Nordic Barents*, freighted by Nordic Bulk Carriers and the Tschudi Shipping Company, was the third non-Russian flagged vessel and the first bulk carrier with a non-Russian flag to use the Northern Sea Route, transporting iron ore from Norway to China.<sup>21</sup> These journeys are bound to grow in number. In 2011, the NSR is set to be used to transport 150,000 tons of oil, 400,000 tons of gas condensate, and 600,000 tons of iron ore, mainly owing to Novatek's transit needs.<sup>22</sup> Beluga Shipping has plans to send heavy lift cargoes along the Northern Sea Route as regularly as possible.<sup>23</sup>



These trade and transit prospects are especially interesting for the Asian nations, in particular China. But they also appeal to Japan and South Korea, which are very dependent upon energy supplies coming through the straits of Asia, and whose trade is mainly directed toward the United States and Europe. Upon the collapse of the Soviet Union, a Japanese team set out to the Arctic and participated in the International Northern Sea Route Programme, a large Russian-Norwegian-Japanese research project conducted between 1993 and 1999.<sup>24</sup> At the time Tokyo was considering using the NSR to transport its nuclear fuel to reprocessing facilities in Europe, but those plans seem to have been abandoned. Today, growing numbers of Japanese research centers are active participants in international polar stations, and shipping companies are increasingly interested in the prospects opened up by the NSR. South Korea has a similar interest. While its Arctic scientific research is less developed than that of China or Japan, its naval construction sector is cutting-edge. In 2007, Samsung Heavy Industries delivered a shuttle

tanker weighing 70,000 tons able to navigate through Arctic sea and breaks ice at a speed of 2.8 knots, a feat that has been recognized as a technological development.<sup>25</sup>

However, the most advanced Asian country is undoubtedly China. Beijing has its own Arctic program, which maintains 26 research expeditions. The Chinese authorities openly lays claim to the right to use the high seas of the Arctic Ocean, to innocent passage within the territorial seas and EEZs of the Arctic states, and to transit passage in straits used for international navigation. In 2010, a Chinese scientific research vessel, the *Xue Long*, carried out a mission of close to three months in the Russian Arctic.<sup>26</sup>

But the viability of a new sea line of communication does not come down to its representation on a map or a globe. It also depends upon a set of complex practical, technical conditions, as well as factors of predictability, and still existing competing lines. Indeed, the difficulties are immense and reduce the NRS's prospects of profitability.

First of all, travelling along the NSR is complex at the technological level. The disappearance of ice-caps during the summer does not mean that the Arctic Ocean will become ice-free in the proper sense of the term. Ice can quickly form at very different locations; there will still be moving icebergs; and the danger of collision with ships will be considerable. Ice can take ships by surprise and reduce the predictability of the journey. The year to year variations of the presence of ice will continue severely to hamper the scheduling of the shipping season and its smooth running. Lastly, climate change is not likely to make the concrete situation of navigation easier: the polar night will not disappear, the temperatures will continue to be extremely cold, periods of rain and fog will increase, and visibility will be reduced. Wind- and wave-derived hazardous phenomena will intensify. There will be an increase in the frequency of ice storms and in the intensity of spray freezing, as well as a more intense erosion of coastlines made of loose permafrost rocks.<sup>27</sup> Lastly, depending upon the thickness of the ice, ship speed through the ice floe will vary between 2 and 5 knots, and travel times can become considerably longer, while for containers transit the "just-in-time" issue is overriding.

In addition, travelling in extreme conditions is expensive. Along the straits running between the Severnaya Zemlya archipelago and the New Siberian Islands, ice conditions are difficult to negotiate even for icebreakers. The straits tend to accumulate large ice masses that may block the progress of vessels. The ships have to travel in convoys, which lead to periods of waiting and immobility. The shallowness of the shelf areas also set limits on the draught of ships: less than 100 meters in the Kara Sea and about 50 meters in the Laptev and Eastern Siberian Seas. In the Sannikov Strait the minimum depth is a mere 13 meters and in the Laptev Strait is a mere eight.<sup>28</sup> This excludes passage by ships with conventional hulls larger than 20,000 deadweight tons (dwt), and in any case ships cannot be larger than the nuclear-powered icebreakers that open up a path for them. A large number of world's container ships are already too large for the Suez or Panama Canal, and the booming trade between China and the West has fuelled the development of even larger container ships.<sup>29</sup> As a result of these very specific conditions, shipping companies would have to charter ice-class vessels with double hulls and to train teams with experience in circumpolar milieus. Technological innovations are emerging. The Finnish shipbuilders Aker Arctic (formerly Kvaerner Masa-Yards) have designed a new type of double-acting vessel that

has the same open sea characteristics as other ships in its class, but is combined with the breaking capacity of a powerful icebreaker.<sup>30</sup>

On a strictly financial level, several barriers have to be taken into account and the administrative procedure of transiting the NSR is time-consuming. Russia demands that foreign ships pay fees for chartering icebreakers, for obtaining weather and ice reports, and that they hire two Russian pilots to guide them in the straits and pay the clean-up costs after accidents. The administrative procedure of transiting the NSR is time-consuming. The ice-breaking fee depends on ship size, ice class, the route, and the level of support required. The basis of the fee charged is determined by the size of the ship: the larger the ship, the lower per ton tariff. In the 2000s the rate was increased to an average of 23 dollars per ton of cargo in order to maintain and modernize the icebreakers.<sup>31</sup> These expenses are considered too high by the main shipping companies. But fees are set based on the current cargo flow, such that should the cargo flow increase to 40 million tons or more per year, the fees could decrease to around 1 dollar per ton.<sup>32</sup>

Next, the requisite insurance for an Arctic trip puts a strain on budgets. Such trips are among the most expensive in the world, as is also the case for navigation in Antarctica. Indeed, for the time being the NSR has no really operational rescue system, the number of ports able to host ships in need of repairs is insufficient, and the risks of collision are considerable, as the lanes of direction are not defined, not even in the Barents Sea, which is already quite busy.<sup>33</sup> Even though vessel fuel efficiency and reduced distances may, on paper, appear to be one of the drivers of the NSR development, the route has major disadvantages, such as its seasonality, its excessive costs at the technological level, and its unpredictability. This does not encourage shipping companies to develop their own Arctic fleets and to train personnel in circumpolar navigation unless it functions all year round. And combining a summer route via the NSR with a winter route via Suez Canal would create some planning challenges with respect to the development of the vessel fleet.<sup>34</sup>

At the ecological level, heavier maritime traffic in the Arctic region will increase the likelihood of accidents. In July 2010, two oil tankers belonging to Murmansk Shipping Company collided along the NSR, fortunately without causing too much damage.<sup>35</sup> But the pollution of sea waters and Arctic coasts could have an unprecedented impact on already weakened systems. Around 20 percent of marine pollution originates from ships, drilling platforms, and other maritime installations. Moreover, in 2010 the Russian parliament postponed the second reading of the new draft law “On Management of Radioactive Waste,” a controversial piece of legislation that may allow the storage of foreign radioactive waste on Russian territory.<sup>36</sup> Apart from these risks of accident, it is also necessary to take into account eventualities such as the possibility of invasive species entering the Arctic eco-system; the disturbance of mammal life; and a boost in the levels of low-lying ozone, as ship exhausts pump pollutants into the pristine environment. The Arctic’s growing economic activity thus multiplies the risks of oil spills (during exploration, exploitation, storage and/or shipping; accidental releases in oil harbors and terminals; accident on the major transportation routes); of hazardous material waste; of radioactivity releases associated with nuclear power plants and nuclear waste storage facilities; and of accidents in mining structures such as fires and explosions, as well as of accidental releases of tailings and oil, heavy metals, chlorine, propane, butane and oxides.<sup>37</sup>

In these conditions, questions concerning the securitization of navigation are crucial, especially in a region that will have to manage a multitude of types of navigation: icebreakers, tankers, bulk carriers, tug-barge combinations, fishing vessels, cruise ships, research vessels, etc. What is more, the Arctic tankers will essentially transport hydrocarbons and minerals, and not manufactured products, so the environmental risk in case of accident is higher. These issues are being discussed within the International Maritime Organization, as is the possibility of implementing voluntary Guidelines for Ships Operating in Arctic Ice-covered Waters, or even a binding Polar Code in later years.<sup>38</sup> In this way, the EU, some non-EU member states, and the International Association of Classification Societies (IACS) have developed non-mandatory Unified Requirements for their members that address ship construction standards for the Polar Classes, which are defined in the IMO Guidelines.<sup>39</sup>

The implementation of strategies of prevention and training for emergency situations in the Arctic is also a core activity of the Emergency Prevention, Preparedness and Response (EPPR) Group of the Arctic Council. Russia, represented by the Ministry of Emergency Situations (EMERCOM) is particularly active on questions of sea and rescue (SAR) systems. Sea and rescue capabilities are in place in Murmansk and Vladivostok. The system is most developed at the former. The Murmansk Basin Emergency Rescue Service (MBERS) and the company Ekospas-Murmansk are the two service agencies responsible for cleaning up after emergency situations involving oil and gas in the region. The international cooperation framework is well developed. The Barents Rescue Cooperation, for instance, improves the ability of rescue services agencies to coordinate emergency and rescue issues across national borders in the Barents Region.<sup>40</sup> MBERS has also been contracted by the Rosmorport Company to provide emergency rescue services in the White Sea. In the Bering Sea, regional SAR agreements between the U.S. Coast Guard and Russia's EMERCOM have improved response and coordination. The United States and Russia are leading cooperation on nuclear and radiological emergency management issues. There are over 12 million empty barrels and fuel containers still remaining in the Russian Arctic zone, 3 percent of which are potentially dangerous.<sup>41</sup>

However, there is a large SAR gap along the central section of the Northern Sea Route in East Siberia, where almost no infrastructure has been set up. In order to make up for this deficit, ten new rescue centers in Arkhangelsk, Salekhard, Dudinsk, Tiksi, Pevek and Anadyr, to be manned on permanent basis by 150 personnel, and equipped with rescue and fire-guard material, helicopters and small boats, are to be created by 2015.<sup>42</sup> Russia also plans to design the next generation icebreaker fleet with multi-function equipment, such as SAR helicopters and firefighting equipment for off-shore oil rig fires. These systems will be designed to supervise navigation in the NRS, but also to prepare for emergency situations stemming from air travel over the North Pole. Originally introduced in 2001, these routes have had a 30 percent increase in use each year and fly over extremely remote territories.

The question remains of how the 14,000 kilometers of Russian coasts will be monitored and patrolled. The existing navigation aids, radio stations, and hydro-meteorological services are largely insufficient. A large part of the central part of the Russian Arctic coastlines is reportedly not covered by radio, so that Moscow is obliged to buy the information from the United States and Canada.<sup>43</sup> Russia hopes to create a unified space of communication in the Arctic by 2015 with the installation of Polarnet, a new generation international telecommunications network that

runs a cable fiber optic system along a Great Britain—Norway—Russia route, with the following splitting for the United States, Japan and, China.<sup>44</sup> The air balisage system also has to be improved so that the polar aviation brigades can ensure the rescue operations. For that, Russia has to invest massively in satellites and improved observation techniques that will allow ship operators to monitor the conditions of ice and pack ice. Russia's satellite network has fourteen stations dedicated to the NSR, but this is viewed as the minimum requirement for route finding through the ice. Four low-orbit satellites and five geo-stationary satellites will be used for the COSPAS-SARSAT system, developed by the United States, Canada, France, and Russia for maritime SAR. EMERCOM will also improve its cooperation with the Russian state agency for space, Roskosmos. A new system, “Multipurpose Space Systems Arctica,” is set to be operational in 2015 to assist in emergency situations, hydro-meteorology predictions, communications over the poles, and SAR.<sup>45</sup>

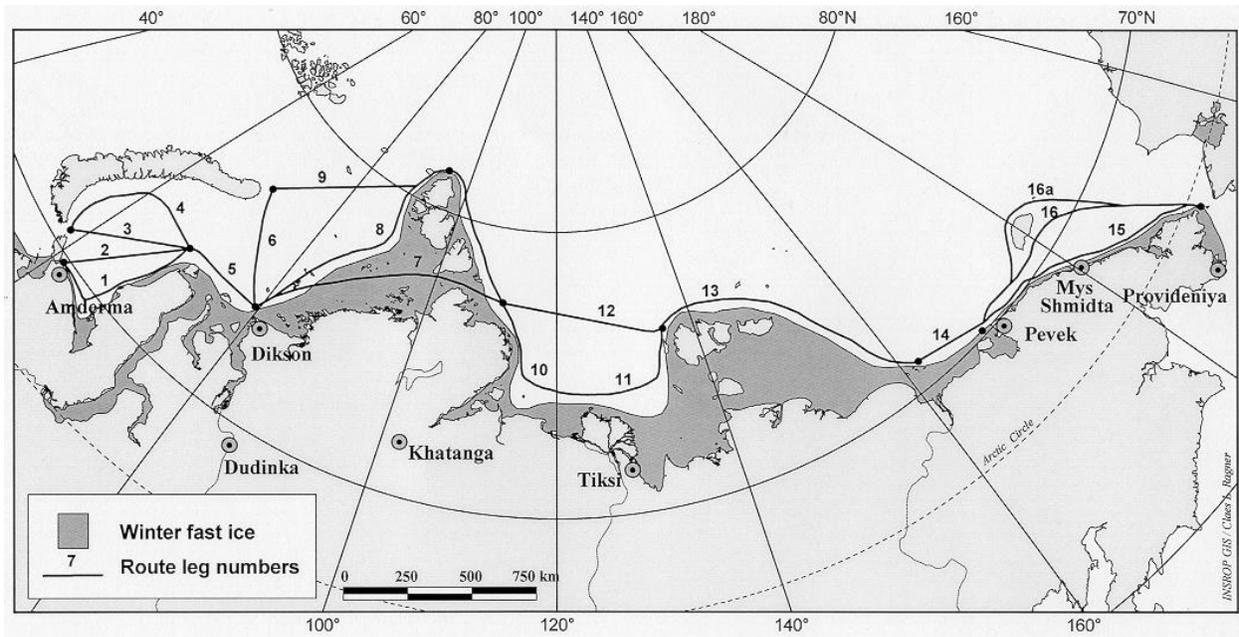
### **7.3. The NSR as a domestic/destination route**

The second function of the NSR is linked to destination shipping, which can include international shipping, mainly in the Barents Sea between Nordic countries and Russia (export of timber since the 1920s, supplies of oil and LNG to Europe today) or in the Bering Sea between Russia, Asia and the United States, but it chiefly involves domestic shipping within Russia. The NSR does constitute a strategic internal communication route for Russia. Although the Trans-Siberian delivers the majority of the freight circulating between the European regions, southern Siberia, and the Russian Far East, circulating in the regions to the north of the Trans-Siberian is extremely difficult. Here again, the figures seem to speak in favor of Arctic transit. The trip between Murmansk and the Bering Strait is 5,600 kilometers along the Arctic coasts, 4,600 via the north of Severnaya Zemlya, and the New Siberian and Wrangel Islands, and only 4,300 via the pole itself.<sup>46</sup> The distance from St. Petersburg to Vladivostok on the NSR is 14,800 kilometers, whereas through the Suez Canal it is 23,200, and around the Cape of Good Hope it is 29,400 kilometers.

Since Bolshevik times, the Soviet regime considered the NSR to be a key component of its strategies for economic development in the High North and remote Siberian regions. The opening of shipping routes during the summer season was always presented as a transport priority. Since 1978, the Russian icebreaker fleet has succeeded in keeping open all year round the stretch going from Murmansk to Dudinka, on the banks of the Yenisei River. Traffic from west to east was essentially devoted to fuel and coal, construction materials, and consumption goods (manufactured and food products) for the Arctic and Siberians populations, while returning ships were loaded with timber and minerals. In many Arctic ports, cargoes discharged directly onto the ice in winter and in the river estuaries in the summer. The link between the ocean and remote regions through rivers was conceived as a totally integrated system. Many 3,000-ton river-sea shallow-draught freighters and tankers were used between northern coastal ports and points deep in the interior, while towing large barges was not a developed practice in the Soviet Union.<sup>47</sup>

Though trans-Arctic shipping did take place in Soviet times, transport was mainly regionalized and confined to two main routes: between Murmansk or Arkhangelsk and the Taimyr Peninsula; and between Vladivostok and Chukotka. Between 1950 and 1980, more than 400 ice-

strengthened freighters were used in operations along the Route on an annual basis.<sup>48</sup> Up until 1987, the state subsidized the *Sevmorput* to the tune of about 400 million dollars per year, and during this decade, yearly traffic culminated at almost 7 million tons. In the 1990s, the NSR collapsed to about 2 million tons.<sup>49</sup> In 1993, with the Russian state in total bankruptcy, the management of the *Sevmorput* was handed over to the regions, themselves also impoverished, in the name of decentralization. The route was then seriously jeopardized, costly infrastructures were no longer maintained, and security ceased to be assured.



### The Northern Sea Route and its main Ports

In 2000, upon Putin’s arrival in power, NSR traffic dropped to a mere 1.6 million tons, or a quarter of its 1980s level; yet the minimal threshold to ensure the profitability of the icebreakers is 4 million tons.<sup>50</sup> The new president then decided to set up a new centralized service called the Administration of the Northern Sea Route, which comprises part of the Ministry of the Merchant Fleet. It manages the icebreaker services which accompany ships, and the use of nuclear energy in maritime transport. It is also in charge of the prevention and management of environmental accidents, as well as navigation aid systems, the monitoring of hydrographic conditions, and access to ports. The Russian administration has predicted the transit of 9 million tons for 2011, with six tons going from west to east, and three from east to west.<sup>51</sup> Russian calculations, which are based solely on domestic transport needs, predict a traffic increase to 15 million tons by 2015, mainly thanks to increasing oil-related activities. For the time being, Arctic shipping comes from the Timan-Pechora basin and Western Siberia. Once the deposits of the South Kara Sea are under exploitation, and the Yamal Peninsula is producing LNG, domestic freight could grow rapidly up to 50 million tons by 2020.<sup>52</sup> Russia also exports roundwood, lumber, pulp and paper. The Barents Sea will be the most dynamic region of the Russian Arctic. Even moderate forecasts predict that transportation of oil from Russian Barents ports will increase by 50 percent by 2020.<sup>53</sup> To revive the NSR, Russia has proposed an ambitious “Strategy for the development of port infrastructures by 2030,” which fits in the framework of the Maritime Doctrine of

Russian Federation by 2020,<sup>54</sup> and is being implemented by the state-run corporation Rosmorport. In 2010, six nuclear icebreakers, four of the heavy *Arktika* class and two of the shallow-draft *Taymyr* class, maintain the NSR.

Today the traffic is almost exclusively limited to the western section of the Russian Arctic coasts, between Murmansk and Dudinka. With the multiplication of gas exploitations and the increase of cooperation between Norway and Russia, the Barents Sea—which is not legally part of the NSR—is bound to become the most dynamic part of the Russian Arctic and the most congested with ships and vessels. The West Kara Sea is also experiencing an increase in oil traffic from the west Siberian fields to Northern Europe, and the exploitation of the South Kara Sea deposits by BP and Rosneft ought to speed up the process. Since 2000, small tankers have transported gradually increasing volumes of oil from the new Varandey terminal on the Pechora coast. Timber exports, ores, and processed metals are also shipped from the port of Igarka via the Kara Sea.<sup>55</sup>

The eastern part of the Russian Arctic, as for it, is only used for one-off occasions, such as in 2004, when several tens of thousands of tons of tubes destined for a Gazprom gas pipeline were transported by sea to Chukotka.<sup>56</sup> Along with the region of Krasnoyarsk, both the local administrations of Yakutia-Sakha and Chukotka use the NSR to receive deliveries on a regular basis. Each year, the so-called Northern Deliveries Campaigns sends supplies to the Northeast. Around 60 percent of the freight passing through the Igarka and Kolyma rivers comes directly by sea, while the rest comes along the Lena. The Pevek port is therefore busy during the navigation season. The exploitation of new deposits in East Siberia could revive some of the traffic as the sites will require construction materials that are so heavy that it is easier to transport them by sea. Moreover, Russian firms do not pay, or pay lower, service fees than foreign companies when they have recourse to the Marine Operation Headquarters and the Northern Sea Route Administration or use port infrastructures. This West-East division of the Russian Arctic is reflected in the fleet. The administration has authorized two private shipping companies to act as Marine Operations Headquarters: the Murmansk Shipping Company has its operations headquarters at Dikson for the western portion; while the Far East Shipping Companies (FESCO) has its own at Pevek for the eastern one.<sup>57</sup>

#### **7.4. Modernizing the Fleet and the Shipyard Sector**

At the start of the 1970s, the Soviet Union had 138 ice-class freighters in the Arctic Basin, whose deadweight reached close to 500,000 tons. At the end of the Soviet period, their number approached 350, added to which were sixteen icebreakers, eight of which were nuclear powered.<sup>58</sup> The first nuclear-powered icebreaker, the *Lenin*, entered service in 1960. The other nuclear icebreakers have been built at the Baltic factory in Leningrad since 1974. Their flagship, the *Arktika*, ensures year-round navigation between Murmansk and Dudinka and extends the shipping season in Arctic regions. Shallow-draught icebreakers were also introduced to work in rivers and their estuaries. The 1990s were terrible years for this sector, which was completely destructured and devoid of finances. From the time the atomic icebreaker *Yamal* joined the fleet in 1993, it took another fourteen years before the *Fifty years of Victory* was launched in 2007. Although Russia still has the world's largest and most powerful icebreaker fleet, it is ageing: of

the seven nuclear-powered icebreakers constructed in the 1970s and 1980s, all will have to be decommissioned by 2020, with the exception of the *Fifty years of Victory*.

Russian shipbuilders resumed work in the 2000s. Russia's maritime doctrine for 2020, adopted in 2001, forecasts the revival of maritime transportation, the development of coastal port infrastructure, the upgrade of maritime trade and the mixed (river-sea) shipping.<sup>59</sup> Icebreakers are the priority: in 2009, Putin gave the go ahead to construct three nuclear-powered icebreakers with a capacity of 60MW to be ready by 2020, a lead icebreaker with a capacity of 110MW, as well as seven diesel-electric and four port-supporting icebreakers.<sup>60</sup> However, given the time required for construction, the technological lags, and the financial difficulties, Russia risks finding itself with a period of a few years, around 2017-2020, in which it has only one or two icebreakers, a largely insufficient number to ensure the circulation of tankers. Moreover, because of the 2008 economic downturn, Russian projects are behind schedule. The budget to commission a new icebreaker for active service in 2016 was received from the Ministry of Transport only in 2011.<sup>61</sup> Moreover, to circulate throughout the year along the polar route, Moscow needs third generation icebreakers that are more powerful and meet the expectations of large energy companies. The Russian nuclear fleet is managed by Atomflot, which was transferred from the Ministry of Transport to the State Atomic Energy Corporation Rosatom, which is itself in charge of supplying the nuclear fuel needed for the fleet. The Iceberg Central Design Office is the leading designer of icebreakers and ice ships, including those propelled by nuclear power plants.<sup>62</sup> It is also necessary to renew the Russian fleet of hydrographic ships, three-quarters of which have been in operation for over twenty-five years.<sup>63</sup>

Despite the state orders, the main actors of today's market for Arctic ships are public and private companies.<sup>64</sup> These mainly include mining and metallurgic company Norilsk Nickel, the gas corporation Gazprom, the oil enterprises Rosneft, Lukoil, and Novatek, and two maritime companies, the Murmansk Shipping Company, and the Far Eastern Shipping Company. Since domestic shipbuilding capabilities drastically decreased in the 1990s, the Russian merchant fleet has been obliged to order 95 percent of its new ships from abroad and only five percent from Russian companies.<sup>65</sup> The market that has been lost by the Russian shipyards is thus immense (orders placed abroad amount to about 1 billion dollars), and with it the loss of knowledge; Russian yards need double the time and double the money of other countries to build similar ships. Their specialized engineers have gone to work abroad, as the shipyard market is largely international.<sup>66</sup>

The most promising domain is in ships needed to master the shelf. For the Arctic and the Caspian seas, Russian companies claim that by 2030 they will need 55 extraction platforms, floating or submarine edifices, 85 transport ships, and 140 auxiliary ships.<sup>67</sup> The main naval military sites, then, have every interest in diversifying their orders to meet the expectations of the civil fleet. Today they are largely run by market principles and not military-strategic considerations. As a sign of this evolution, these shipyards now fall under the Ministry of Commerce and Economic Development, and not the Ministry of Defense. The shipbuilding sector is set to double production by 2015, with civilian vessels accounting for at least 33 percent of total output.<sup>68</sup>

At the end of the 1990s, Lukoil availed itself of a new fleet of ten ice-class oil tankers of 15,000 to 20,000 tons for the transport of crude oil, tankers which belong to its subsidiary, Arctic

Tankers. Some of them were resold in the 2000s so that it could buy the Varandey multi-purpose icebreaker, built by Keppel Singmarine (Singapore).<sup>69</sup> Since 2009 it has been deployed near the stationary sea ice-strengthened shipping platform of the Varandey terminal, ensuring safe operations during the tanker loading. The oil terminal of Varandey, at the doors of the Kara Sea, has a capacity of 12 million tons.<sup>70</sup> Another terminal close to Murmansk will be able to accommodate tankers of 250,000 deadweight tonnages, onto which will be loaded the crude arriving in ice-class ships. Lukoil has also acquired majority control in the capital of the Northern Shipping Company based in Arkhangelsk, and 51 percent of the shares of the Murmansk Shipping Company. The Lukoil fleet is intended to ensure the continuous year-round export of the company's oil production from the Timan-Pechora district. Today it is the main operator of the Arctic Basin with around 200 various profiled vessels.<sup>71</sup>

Norilsk Nickel is itself on the verge of becoming a key actor of Arctic shipping. Since 2004 it has been building a fleet of ice-breaking cargo vessels, rendering it almost independent of icebreaker assistance. The firm concluded a contract with Finnish shipbuilder Aker Yards to develop the concept of icebreaking, 14,500-ton containers of up to 400 TEU (foot equivalent units), designed for year-round operations. The first one was delivered by Finland in 2006, and four more are being built by the German Aker dockyards. All are equipped with AZIPOD double-action propelling units: while sailing on its own each ship is capable of breaking 1.5-meter thick Arctic ice moving sternforemost at speeds of up to 3 knots.<sup>72</sup> Norilsk Nickel has therefore an operational fleet of five icebreaking carriers capable of operating independently through the winter season to serve Dudinka. In 2009, it received an exemption from Russian-state measures to ensure that carriers comply with Russian customs regulations, which include customs duty payments, customs support, and fixed transport routes.<sup>73</sup> It now transports about one million tons of goods, mainly metal products and nickel matte, and also gas condensate from the Petlyatkin field on the Taimyr Peninsula. Also in 2009, Norilsk Nickel opened a logistics office in Rotterdam to serve the company's cargo transport between Dudinka and Europe.<sup>74</sup>

The Murmansk Shipping Company, the world's only owner of nuclear-powered civil ships, has sold some of its ice-class ships and henceforth is supplied from abroad. For a longtime it was in charge of servicing Dudinka for Norilsk, at a time when the mining combine was without its own fleet. It also transports apatites from Kandalakcha, on the Kola Peninsula, and it services the oil terminals of Varandey, Kolgev, the Ob estuary, and Yakutia. At present it has about twenty ships able to transport up to 460,000 tons, and six tankers with a total capacity of 340,000 tons.<sup>75</sup> The Far Eastern Shipping Company, the country's largest private intermodal transportation group, also owns icebreakers, but only classically powered ones. Every year FESCO icebreakers patrol the Eastern Arctic and provide ice lead to over 600 vessels, which deliver about 2 million tons of cargos. It mainly serves the ports of Chukotka and Yakutia and has an active fleet of about 80 ships.<sup>76</sup> Both companies should be able to avail themselves of a new generation of nuclear-powered ships of 60,000 kW as of 2015.<sup>77</sup>

For its part, Gazprom needs more than 20 platforms, and more than 50 ships and floating storage facilities to master the Arctic shelf. It has launched plans for a large-scale construction program of 20 LNG tankers to move production from Shtokman.<sup>78</sup> As a state-run corporation, it has decided that the carriers should be built at Russians shipyards, although it could be done more inexpensively at foreign plants. However, most of the parts and materials for the vessels, from

pipes to paint, still have to be imported. In 2009 Gazprom agreed with Northern Shipyard on the production of LNG carriers. It has also signed an agreement with Sovcomflot. The Russian share in supplies to production of offshore vessels has recently increased from 40 to 50 percent.<sup>79</sup> A new generation Arctic class tanker, the *Mikhail Ulyanov*, is scheduled to start serving the Prirazlomnoe field. Gazflot, Gazprom's offshore exploration subsidiary, is also in need of drilling capacities and geological and geophysical ships. In 1995, it ordered an Arctic platform, which is set to play a key role in the development of Arctic offshore resources and is being built in Severodvinsk, and a platform for the Prirazlomnoe field, but both buildings have been delayed several times, incurred surplus costs, and will now be delivered only in 2011.<sup>80</sup>

The state-run company Sovcomflot, one of Russia's largest infrastructure companies, operates the fleet of 143 vessels with a total deadweight exceeding 10 million tons. It is the number one operator of Arctic shuttle tankers and ice class gas carriers, and already has a dozen ice class 1A tankers.<sup>81</sup> It has commissioned its third 70,000 dwt dual-acting tanker for use along the NSR. It is specialized in the transport of crude oil bound for Europe, the use of floating storage facilities, and renders procurement services for drilling rigs and production platforms using specialized procurement vessels. In 2011, Novatek, Russia's largest independent gas producer and second-largest natural gas producer, signed an agreement with Atomflot in order to secure reliable supply routes for the delivery of materials and the technological infrastructure necessary for constructing its surface facilities and LNG plant in the Yamal Peninsula.<sup>82</sup>

To meet these pressing needs, in 2007 Moscow launched a "Development Strategy for the naval industry for 2020," and in 2008, a "Federal Targeted Program in the Development of Civilian Marine Engineering."<sup>83</sup> The government has planned investments of more than 5.5 billion dollars for the development of shipyards between 2010 and 2015.<sup>84</sup> Nautical activities are indeed one of the three priority areas the Kremlin has identified in order to revive the domestic industry, along with aviation and space, but Russian ambitions are slow to become reality. The hope is to transform the shipyards into a competitive industry by 2016 and to be able to respond to a large share of domestic needs, as well as to export. If the scheduled year of 2016 seems very optimistic, a dynamic of revival is nonetheless well and truly underway in the main shipyards of Severodvinsk, Murmansk, Vyborg, and Petersburg, which control 70 percent of Russian shipbuilding. The reforms gave birth, in 2007, to the state-run Unified Shipbuilding Corporation (OSK). Under its umbrella work the Northern Centre for Shipbuilding and the Ship Repairs—that is Russia's two main shipyards, Sevmash and Zvezdochka, both based in Severodvinsk—as well as smaller yards and associated production companies; the Western Centre for Shipbuilding in Petersburg, which includes the Admiralty yards, several smaller yards, and part of the Northern yard (*Severnaya verf'*), 20 percent of whose shares are state owned; the Far Eastern shipbuilding, a design office called Rubin; and the firm Iceberg, 24 percent of whose shares are state owned and that is in charge of designing new Arctic vessels.<sup>85</sup>

Hence, three of the most important yards are still privately owned: the Vyborg Shipyard, and partly the Northern Yard and the Baltic Factory (*Baltiiskii zavod*) in Petersburg, although they are under pressure to follow policies that are in conformity with the OSK. Moreover, their owners are close associates of Putin's inner circle and the policies they pursue are thus in total agreement with the Kremlin's choices. The Vyborg shipbuilding company, which has very close ties to Gazprom, specializes in building small and medium tonnage vessels and offshore drilling

rigs. It has experience in semi-submersible floating drilling and production platforms, and soon it plans to build stationary production platforms and deep sea jack-ups.<sup>86</sup>

The Northern Yard and the Baltic Factory, both created in Czarist times, are owned by the private investment company United Industrial Corporation (OPK), which also has majority shares in Iceberg. Both are specialized in large nuclear vessels, such as the *Fifty Years of Victory*, and have recently built two diesel-electric icebreakers, including the *Moskva*, which has been commissioned by Rosmorport. They are also in charge of constructing four Orlan nuclear cruisers and are expecting orders for large tankers.<sup>87</sup> The OPK's aim is to set up a modern world-class compact shipyard, by merging existing facilities of the Northern Yard and the Baltic Factory. This will be done by revamping and re-equipping the existing facilities and building new ones, which will mean that OPK is able to make the entire line of ships of up to 300,000 tons in deadweight, something it would like to do in partnership with the South Korean companies Daewoo Shipbuilding and Marine Engineering (DSME).<sup>88</sup> Specializing in small coastal vessels, the new site could theoretically build 30 corvettes, 30 frigates, six escort squadrons, and 30 auxiliary vessels by 2020. The challenge of this new shipbuilding project is immense and there are conflicting interests between private and public actors, as competition between both yards have long been in the headlines.<sup>89</sup> Russia's first floating nuclear power plant, construction of which began at Sevmash but was transferred to the Baltic facility, was inaugurated at the end of 2009. It is the first of eight floating nuclear power plants to be built, and will be delivered to Viliuchinsk in Kamchatka.<sup>90</sup>

The Petersburg and Vyborg-based yards will play a central role in offshore projects, although the technological level of the Severodvinsk yards was higher in Soviet times, and Sevmash is still Russia's largest submarine yard. Today Sevmash and Zvezdochka are in charge of building Borey class submarines: the *Alexander Nevsky*, which was moved to floating dock at the end of 2010, and the forthcoming *Vladimir Monomakh*. Zvezdochka has also built a series of carrier vessels for the shallow waters of the Barents Sea, the White Sea, and the Sea of Azov. The border guards state agency has additionally commissioned a series of small patrol vessels for coastal surveillance.<sup>91</sup> Both yards also deal with repairs to atomic cruisers such as the *Admiral Rakhimov* and nuclear submarines such as *Pantera*. Several ships and submarines decommissioned from the Russian Army are used at Sevmash in cooperation programs with the United States and NATO.<sup>92</sup> To cope with the collapse of the domestic military command, since 1997 both yards have initiated cooperation with the Indian Ministry of Defense, which ordered the modernization and transformation of a cruiser aircraft carrier and of a few diesel-electric Soviet submarines. But it has had to deal with multiple delays, surplus costs, and technological non-completion. The Indian Navy recommissioned a diesel-electric submarine, the *Sindhavidjay*, in 2008,<sup>93</sup> but has to wait until 2012 to receive the cruiser aircraft carrier, the former *Admiral Gorshkov*, recently renamed the *Vikramaditya*.<sup>94</sup> In 2003, Zvezdochka won the right to independently conduct business operations abroad and since 2008, has been authorized to renovate the 956<sup>th</sup> escort squadron. Using its status, it sold over 30 million dollars worth of military spare parts to foreign companies in 2009, mainly in India and China.<sup>95</sup>

Since the 1990s, when military orders dropped by 95 percent, Sevmash and Zvezdochka were forced to convert to dual-use technologies. In 2005, 33 percent of Sevmash orders came from the Ministry of Defense, 30 percent from the oil industry, and 25 percent from foreign companies. In

terms of civilian seafaring, the building of trawlers, tug boats, and various types of passenger vessels makes up an increasingly important part of their portfolio. Nonetheless, several of their projects have been partly or totally unsuccessful: the Arctic Platform; the 85,000-ton ice-capable oil production platform intended for the Prirazlomnoe field; and the aborted contract with Norwegian Dan Odfjell for a series of twelve chemical tankers, Sevmash's largest civil contract.<sup>96</sup> Sevmash has renovated cruise ships such as the *Alushta*, transformed a submarine into a museum, and built a fish factory for the American company Sea Wing, as well as several piers for the Swedish company Promar, floating docks, barges, yachts, and frigates. The shipyard is also involved in the construction of several types of platforms planned for the Pechora Sea or the Shtokman site. Together with Norilsk Nickel, Sevmash has explored the possibility of reconstructing Typhoon submarines for the purpose of transporting nickel from Dudinka to Murmansk. It also collaborates with foreign companies such as Conoco, Total, and Halliburton, and is involved in extraction activities from the Ardalin and Khariagin deposits in the Nenets autonomous district. Finally, it provides pipelines to several national companies, such as Transneft, some Lukoil subsidiaries, Surgutneftegaz, and Yuganeftegaz.<sup>97</sup>

Zvezdochka is more advanced in its civil conversion and has even retrained its staff in activities totally unrelated to its primary expertise, such as work on precious stones. It has managed to penetrate the market of civilian seafaring. Since the early 1990s, it has won tenders from Dutch companies like Swets Shipping and Trading, has received orders for a series of tug-boats from Damen Shipyards, and now works closely with Finnish and Norwegian companies. It has built metal elements destined for Statoil, Kvaerner Oil and Gas, and Aker Solutions, and has expanded its partnership with Moss Maritime, a Norwegian leader in maritime technology. At home, Zvezdochka works with major Russian energy companies and is also part of the Union of Producers of Oil and Gas Equipment. The plant is known for its construction of 50010 trawlers, considered the best in their class in terms of vessels produced in Russia. Zvezdochka's strategy seems to be paying off, since orders for 2011 are 71 percent higher than the previous year, and it maintains nearly 300 vessels at the plant.<sup>98</sup>

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The prospect of regular shipping in Arctic waters is probably one of the domains in which the imagination, fuelled by novel-like readings of the great epics of navigation history, is most vivid. The future of the Northern Sea Route nonetheless remains very broadly dependent on expected climate changes. Without any global ice melt, the route will be too difficult to use and therefore not viable commercially. Even if the Arctic becomes an ice-free ocean, the technological difficulties, the financial cost, and unpredictability do not guarantee its transformation into a real trade line. Simply having a geographical localization between Europe, America, and the Asia-Pacific regions does not suffice to transform existing economic mechanisms; shipping companies prefer to have immense tankers circulate via the southern seas rather than to risk Arctic transit. Only an unprecedented destabilization of the Middle East, disturbing the traffic of the Suez Canal or the Hormuz Strait, an incredibly high level of piracy, or prevention from circulating on the Indian Ocean and through Malacca could suddenly force shipping companies to turn toward the Arctic in a massive and radical way. Without such conditions, it is likely that using the NSR will be of interest only to some sectors of world trade. The actors that will specialize in Arctic traffic will be chiefly Asian companies, as the Asian powers want to become less dependent

upon the southern straits, and so their concerns are more geopolitical than purely commercial, as well as the European—mainly German and Nordic—companies that travel to Russia. The transported goods will essentially consist of hydrocarbons and minerals, but not manufactured objects such as textiles or (less still) appliances of any kind.

For Russia, the stakes are of an entirely different nature. Climate change or not, Moscow wants to revive its Northern Sea Route, is ready to pay the price of the technological challenges, and will try to integrate the Arctic into its development strategies. Destination traffic is indeed bound to play a growing role in the energy-based revival of the Arctic regions. Russia would like also to recover its know-how in the shipyard industries, as well as its human capital: the Russian marines, which are well trained, have largely gone abroad chasing more attractive salaries, and the generation gap is immense. The role of private companies, all of whom are linked to the gas and oil sector, with the exception of Norilsk Nickel, will be central in the years to come. For them, Arctic shipping is something that will have to be addressed, irrespective of the cost. The Russian Arctic will therefore be used for ends that are more commercial than military, and will become one of the main venues of cooperation between the public and private sectors.

The future of the Russian Arctic will be fragmented regionally. Only the Barents and Kara Seas will have to contend with increasing shipping, since economic activity does not really go beyond the Yamal Peninsula. The eastern part of the Arctic coastline will probably remain largely deserted. The coastlines of Chukotka facing the Bering Strait will be able to benefit little from the development of trade in the Russian Far East via Kamchatka. But even without becoming a very busy trade lane, the NSR is destined to remain a preoccupation of the Russian state: the risks of accidents, combined with the weakness of the ecosystems, as well as the geopolitical and trade risks of more internationalized shipping will force Moscow to emphasize soft security issues along with growing international cooperation, mainly in terms of research and rescue systems.

### **Key findings**

Legally, Russia will continue to define the Northern Sea Route (NSR) as national waters in which foreign navigation is welcome but controlled. It could try to use the legislation in its favor to restrict foreign presence. The Northern Sea Route is therefore potential new leverage for Russia over the international community.

However, the revenues that Moscow could draw from this traffic are high, and they legitimate the building of a new fleet of icebreakers. They are vital for the survival of Russian domestic Arctic shipping. Russia thus has every interest in a growing foreign presence to finance its own development objectives.

Moscow will remain ahead of the United States and Canada in terms of its Arctic fleet, and will seek to strengthen its shipyard facilities. However, a large part of the trade fleet will continue to be purchased from abroad, whether in Asia, or in cooperation with the naval yards of northern Europe.

It will probably take around twenty to thirty years until Arctic conditions have become suitable for regular transits. Large-scale, year-round transit operations will hardly be possible before the ice cover has disappeared for most of the year, and this does not seem realistic in at least the next forty to sixty years.

The NSR as an international trade line has few chances of becoming economically profitable to the point of really competing with traditional sea routes. However, the volatile situations in the Middle East and Asia could suddenly alter the status quo. Were the Suez Canal to be closed, or crossing the Hormuz or Malacca Straits made impossible, the Arctic may become a necessary option and this would enable Moscow to impose higher fees than shipping companies would currently accept.

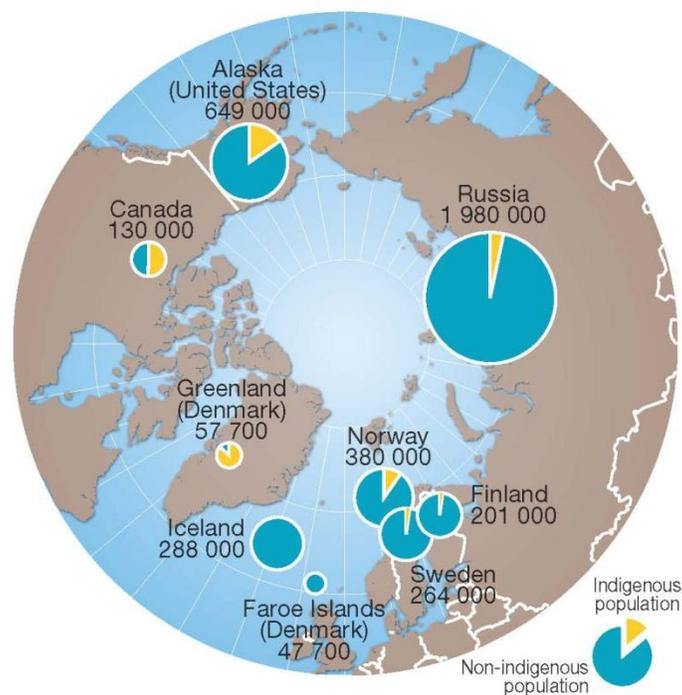
Destinational traffic in the Russian Arctic will be dominated by private actors, mainly energy firms, and patterns of commercial profitability, while strategic interests will drop back to second place. The growing role of Norilsk Nickel is worth following closely.

The division of the Russian Arctic into three regions—the Barents and Kara Seas, the eastern coastlines of the Arctic, and the Far East and Bering Straits—of rather separate economic systems will increase. Strategic planning therefore must not see the Russian Arctic as a unified area that faces similar issues, but must emphasize a micro-regional interpretation.

The role of Asian states in Arctic shipping is still little known, but it will probably be central. The Arctic could therefore become a crucial element of the (im)balance between Moscow and Beijing, and shape the future of their bilateral relations in a cooperative or defensive way.

## 8. RUSSIA'S CHALLENGE: SPACE AND POPULATION PATTERNS

Not all the coastal Arctic states share the same relationship to the Arctic part of their territories; for some it is marginal, while for others it is more central. For the United States and Denmark, their Arctic territories, Alaska and Greenland respectively, are geographically detached from the mainland. For Canada and Norway, their Arctic regions are territorially contiguous, but are granted administrative autonomy in the name of their indigenous populations. For Russia, however, the polar lands form an integral part of the national territory. They are fully part of the “mental atlas” of Russians, and are geographically associated with the immense Siberian continental mass and the country’s Pacific coast. Another specificity of the Russian Arctic, and not one of the least, is related to its population. Russia has about three-quarters of the overall Arctic population (2.9 million out of four),<sup>1</sup> but its indigenous population only makes up a very small percentage of its own total. Indigenous peoples represent 80 percent of Greenland’s population, 50 percent of Canada’s, 20 percent of Alaska’s, and 15 percent of Arctic Norway, but they make up less than 5 percent of that of Arctic Russia. The Russian Arctic is therefore a populated, urban, and European one.



### The Arctic Population

The immense Siberian hinterland on the eastern side of the Urals extends as far as the Pacific across more than 12 million square kilometers. Its population is around 30 million inhabitants, or about 20 percent of the country’s total population. The administrative divisions go from west to east: western Siberia, central Siberia, and the Far East opened onto the Pacific facade. They

reflect both a history of conquest and a Moscow-centered point of view, since the administrative criterion used is the degree of distance from the capital. Hence, there exists no administrative division for the Arctic as such, but rather coastal sub-regions associated with different Siberias—western, central, eastern, and the Far East. The population and economic divisions would be more apposite, however, if there were conceived in terms of north and south. Two cultural and economic worlds stand face to face. The first is that of relatively highly populated southern Siberia. It has some numerous indigenous ethnic groups as well as an ancient Russian rural settlement. These settlements follow the Trans-Siberian along the borders with Kazakhstan, Mongolia and China, and go as far as Vladivostok. They participate more or less distinctly in the economic dynamics emanating from Asia.<sup>2</sup> Indeed, due to the growing relation with China, the development projects fostered by the Russian state henceforth associate the Irkutsk region with the Far East.

The second region is that of Arctic and sub-Arctic Siberia with its dispersed human settlement. It is the least populated region in Russia, with a population density of less than one inhabitant per 100 square kilometers. Not only does it have indigenous populations with traditional ways of life, but also European populations living in urban milieus. The north of the Eurasian continent is an immense isolated geographic mass, which can be considered as an enclave, as its only opening is onto the Arctic Ocean. This continental mass appears to be north-oriented because the major Siberian Rivers flow into the Arctic: the Yenisei, Lena, Ob, Kolyma, Pechora, and Severnaia Dvina. This Arctic Siberia was essentially developed during the 1930s-1950s as a result of Soviet policy. In the regime's last decades, it began to be neglected. The last great pioneer fronts, such as the industrial center of Angara or the BAM railway, were all situated much further to the south.<sup>3</sup>

As it tries to shape the development of its Arctic regions, Moscow faces its own set of specific issues.<sup>4</sup> It is forced to articulate local issues in the High North with the larger trends affecting the country: the population crisis and drastic changes in territorial management. Russia is currently the only country in the world to be undergoing such a demographic crisis in peace time. It is the only developed country that is so lacking in educated cadres, although it is second in the world after the United States in terms of migration flows. Within the space of two decades Russia has become an archipelago. Some modern and wealthy islands are developing among immense territories that are emptied of their populations, are economically impoverished, include secessionist elements (the North Caucasus), or are potentially threatened (the Far East). This immense social, cultural, and geographical shake up impacts directly on the viability of Russian strategies in the Arctic. How is it possible to make subsoil exploitation a viable proposition when the Arctic regions are depopulating? Where is the labor force, required for everything from simple materials handling to graduate executives, going to come from? How does Moscow reshape the human geography of a country in the process of full economic and cultural fragmentation?

### **8.1. The Russian Demographic Puzzle**

The demographic crisis affecting Russia is not new. Throughout the twentieth century, the Russian population had to contend with political crises of such magnitude—years of civil war, Stalinist purges, the Second World War—that they strongly impacted on its demography in terms

of falling birth rates, increases in mortality, and massive emigration. All these events had a cumulative effect, since the smaller generations of the 1920s-1950s had statistically fewer children. However, only after the 1970s did a Russian specificity develop, namely a major demographic crisis in a period of peace. Since that era, Soviet statistics began to register a demographic slowdown among its Slavic and Baltic populations, as compared with the dynamism of the Central Asian and Caucasian peoples.<sup>5</sup>

This negative trend intensified in the 1990s, with the Russian population dropping from 148.5 million in 1992 to 141 million in 2009.<sup>6</sup> During the first fifteen years of its independence, the country lost about 770,000 persons per year. Since 2007, the figures have improved. In 2007 the drop was “only” 478,000 persons, while it was 362,000 in 2008,<sup>7</sup> 248,000 in 2009, and 241,000 in 2010.<sup>8</sup> Even if the losses of people gradually reduce, Russia’s overall demographic figures remain particularly low for a developed country. Between the 1960s and perestroika, life expectancy practically did not increase, and then it plummeted to a mere 60 years of age for men, and 73 for women, or a decade less for women and fifteen years less for men as compared to Western Europe. In 2006, average life expectancy was lower than it had been in 1959 during the Khrushchev years.<sup>9</sup> This demographic collapse is unprecedented. Russia is the only country to experience such depopulation in peacetime, an eventuality that aligns it with patterns akin to those not of Europe, but of countries in development.

There are several explanatory factors for this. First of all, the birth/death ratio has drastically changed. Between 1992 and 2007, there were only 22 million births in Russia, but close to 35 million deaths, which is a drop of one-third and an increase of 40 percent respectively as compared with the preceding Soviet period, and amounts to a total of more than 12 million losses.<sup>10</sup> Today, the birth rate per woman is around 1.3 to 1.4, which is much lower than the rate required for natural regeneration (2.1). And it is much lower than it was during the last decades of the Soviet regime, albeit on a par with those found in some European countries, such as Germany. Until the mid-2000s, there were many more abortions than births: an average of 121 abortions per 100 births, one of the highest figures in the world.<sup>11</sup> This ratio balanced out in 2006, and now there are about the same number of births and abortions, due to better knowledge about chemical contraception. However, the fatality rate of young women has not ceased to rise.

Although the weak Russian birth rate is not unique in Europe, the exceptionally elevated death rate is. The major explanation of this peacetime decline is indeed linked to the level of premature deaths for males through violent means and accidents (crimes, domestic accidents, accidents at work, road accidents). As for death by external causes, Russia’s levels appear to be as high as those of Burundi, Liberia, Sierra Leone, Angola, and Congo.<sup>12</sup> Other figures are also disquieting, in particular the health of the younger generations. Birth weight and height were lower for children born in the 1990s than during the Soviet period, but the increase in the standard of living in the 2000s has attenuated this phenomenon. Lastly, infectious and parasitic diseases have increased, as have the numbers of people infected with HIV/AIDS. Alcohol abuse, the high rates of smoking, poor diets, and the deterioration of the health care system also in part explain the low life expectancy.

This Russian demographic collapse, however, is not uniform and essentially affects the Slavic populations. Of the 20 regions of Russia that registered positive rates of population growth, 19

are republics or autonomous districts populated in part by non-Russian populations. In Ingushetia the natural increase has reached 1 percent, and in Chechnya 2 percent.<sup>13</sup> These districts are followed by Daghestan, the Yamalo-Nenets autonomous district, the Khanty-Mansy autonomous district, Tuva, Chita, Tyumen, Altai, and Kabardino-Balkaria, which is to say two categories of regions: those of the North Caucasus, which are of Muslim tradition, and those of southern and northern Siberia, many of them which are of Buddhist tradition. These figures must, however, be set in context. Although Chechnya has the highest birth rate in Russia, with 3.18 children per woman, the figure is nonetheless low for populations of Muslim tradition.<sup>14</sup>

Between the two censuses of 1989 and 2002, the so-called Muslim populations increased by 26 percent. This very high figure is due not only to their higher birth rates but to processes of ethnic re-identification that work to their advantage. The demographic balance is therefore unfavorable to “ethnic Russians.” Between the two censuses, their share of the country’s total population dropped from 81.5 percent to 79.8 percent, which is a net drop of 4 million persons. However, in reality the figure is probably twice as high, as during this period several million Russians of the Near Abroad immigrated to Russia and therefore somewhat offset the figures.<sup>15</sup> The populations of Muslim tradition are therefore about 14 million, or 10 percent of the population,<sup>16</sup> although some calculations announce close to 20 million persons, or about 15 percent of the population. Legal and illegal immigration must also be included in this figure.

The projections of the UNDP, the Census Bureau, and the Russian State Statistics (*Goskomstat*), despite their divergent methods of calculation, all agree that Russia’s population will continue to decline in the decades to come. The scenarios are more or less optimistic, forecasting that the country will have between 122 and 135 million inhabitants by 2030, a figure that could collapse to about 100 million by the mid-twenty-first century. Upon Putin’s arrival in power and even more so during his second term as president, the demographic question became one of the Kremlin’s subjects of predilection and was presented as a challenge to national security. The risk of “disappearance” of the ethnic Russian population receives a lot of media coverage.<sup>17</sup> This contributes to creating a deleterious atmosphere in the relationship with the minorities and migrants, which has worked to heighten xenophobia.<sup>18</sup> In the Concept of Demographic Policy for the Russian Federation by 2025, decreed in 2007, the authorities set themselves an ambitious objective: a stabilized population of 145 million persons with a life expectancy of 75 years of age.

However, the measures implemented to respond to this challenge seem rather ineffective. The focus has been placed on the birth rate, rather than on the mortality rate. A “baby bonus” of close to 10,000 dollars was implemented in 2006 to provide financial and home-related incentives for women to have a second child, and it seems to have led to a modest rise in the birth rate. In 2009, the authorities orchestrated a large self-congratulatory campaign, boasting of the first natural population increases. Nevertheless, this slowing of the falling birth rate cannot be structurally maintained. Even if Russian women of childbearing age do start having more children, the overall number of them will decline by 20 percent by around 2025, which can only lead, rather mechanically, to a fall in the birth rate. Russia no longer has enough youths to maintain the population level. In 2009, the 15-19 age group was only 4.5 million and both the 5-9 and 10-14 age groups taken together totaled 6.5 million persons.<sup>19</sup> In addition, the measures taken to fight against the real scourge that is male mortality are practically non-existent. With the exception of

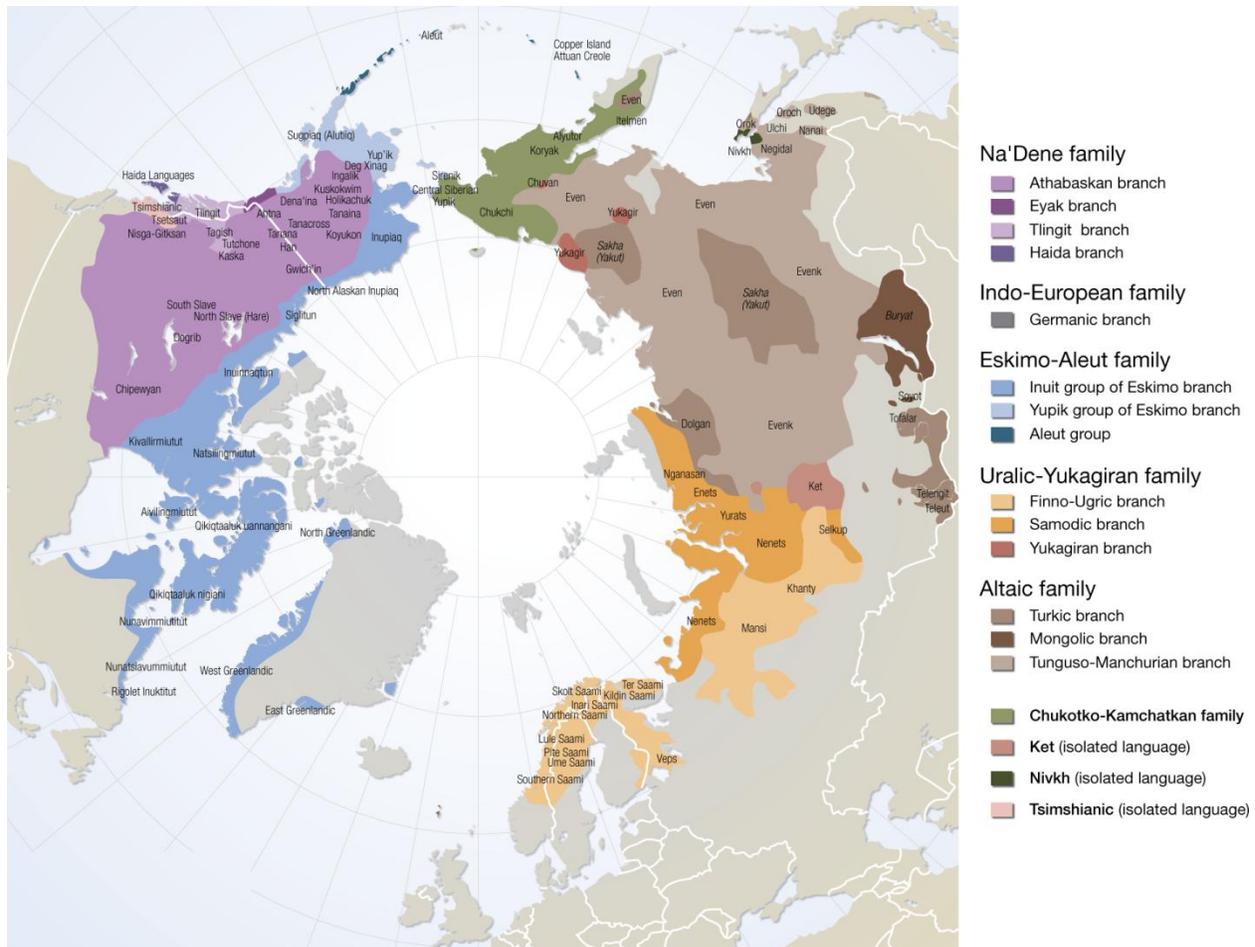
a campaign to fight against road accidents, the authorities do not seem concerned about losing such a considerable share of their working-age human capital to violent deaths. Reviving births through financial mechanisms is easier to do than is making significant modifications to the social patterns linked to violent masculine deaths, whose explanatory factors are much more complex.

## **8.2. Populating the Arctic: Indigenous Peoples and a Shrinking Russian Population**

The Russian state has no specifically constituted Arctic region. It defines as High North (*Dal'nii* or *Krainii Sever*) sixteen regions across an area comprising 53 percent of its territory but only five percent of its population, which enjoys special subsidies designed to offset the prices of basic consumer goods. Of these sixteen regions, eleven are the homelands of indigenous populations. The Russian Arctic coastal zone properly speaking comprised a bit more than 3 million square kilometers for 1.74 million inhabitants at the collapse of the Soviet Union, including 1.5 living in urban areas.<sup>20</sup> Indigenous peoples are few, ranging from a few hundred of thousands to a few thousand, or even hundred, individuals, for a total of about 250,000 persons, 750,000 if Yakuts are added. Khanty and Mansy are based in the Khanty-Mansy autonomous district; Nenets in the Yamalo-Nenets autonomous district; Dolgans, Nenets, Nganasan, Evenk, and Enets in the Taimyr autonomous district; Chukchi, Koriaks, Inuits, and Yugakirs in Chukotka and on the Kamchatka Peninsula. Only the Yakuts, in the Yakutia-Sakha autonomous republic, are greater in number, comprising close to half a million persons.

To be added to this is the European Arctic region, which goes from the Kola Peninsula to the Ural Mountains. It hosts Finno-Ugrian populations, each of which comprise several tens of thousands, or hundreds of thousands, of persons: Sami on the Kola Peninsula close to the Norwegian border, Carelians along the border with Finland, but also Mordves, Udmurts, and Mari around the Urals, and Komi in the autonomous republic of Komi. The populations of the Russian European Arctic are largely Russified linguistically, religiously, and culturally, and have ways of life closer to those of Russians than to those of the Siberian peoples, who still practice reindeer herding, fishing, and hunting.<sup>21</sup>

The idea of preserving indigenous settlements and traditional ways of life was understood in a paradoxical way by the Soviet regime. There were some massive phases of acculturation, and also phases when a larger autonomy was granted.<sup>22</sup> Today, these indigenous populations are essentially left to themselves. They resumed their traditional activities in the 1990s when the subsidies sent from Moscow abruptly ceased. Officially, those populations categorized as inhabiting in an Arctic zone—that is, in any of the territories that are inaccessible by land for at least half of the year—are entitled to federal subsidies, above all to fuel and food deliveries during winter months, but they are largely insufficient to compensate for the lower standard of living.<sup>23</sup> Their life expectancy is often around ten years less than the Russian average, and they have many more diseases, including psychological ones. Alcoholism is the major social scourge, unemployment is very high, and youth seek to escape to the large towns.<sup>24</sup>



## Ethnic and Linguistic Groups in the Arctic

In practice, indigenous populations have less autonomy than those of the Canadian or Norwegian Arctic. Administratively speaking, Russia is a federation comprising more than 80 administrative subjects, including 20 autonomous republics and ten autonomous districts bearing the name of a titular population, even if that population often forms only a minority.<sup>25</sup> These administrative entities are autonomous in theory, but in practice this autonomy is limited to the cultural and linguistic rights of the titular populations. As regards all political and economic decision-making, Russia is a centralized state that leaves little margin for maneuver to the regions. When some regions do manage to negotiate with the center and receive a certain degree of autonomy, they are mainly ones with no national qualification, primarily populated with ethnic Russians. Among the national territories, only Tatarstan and the North Caucasus have some real autonomy.<sup>26</sup> Russia has not ratified the 1969 ILO convention on indigenous rights, in particular because of the clause on property rights.<sup>27</sup> Legally, Russia distinguishes between the so-called “small-numbered peoples of the north” (*malochislennyye narody severa*), which can count no more than 50,000 persons (39 groups are thus categorized), and indigenous peoples (*korennyye narody Rossii*) in the large sense, which is to say all the non-Russian populations or “national minorities” that were integrated into the Russian Empire during its phrase of expansion.

Contrary to what its federal structure would have us believe, and in contrast to Canada, Denmark, and Norway, Russia does not grant its indigenous peoples any political autonomy, nor does it consult them about subsoil exploitation. On paper, Russia grants many rights to its indigenous populations, but these are not fully respected outside a framework of folkloric activities and linguistic rights. Traditional knowledge, patterns of land use for traditional means of subsistence like reindeer herding, and access to non-polluted rivers are not respected by major extraction companies, whether public or private. Decision-making in the energy and mineral sector is particularly centralized, resting in the hands of a few figures from Putin's inner circle. The regional administrations often obtain subsidies from large companies, whether for primary resources (low-priced gas and oil), or are transferred considerable taxes. Thus, Khanty-Mansiisk, the capital of the autonomous region of the same name, has a higher GDP per capita than Moscow of close to 40,000 dollars in 2007, which is on a par with that of the United States.<sup>28</sup> But those who stand to gain from it are the Russian urban populations, not the indigenous ones.

For two regions the indigenous problem is rather acute: the former Taimyr autonomous district, which was merged into the region of Krasnoyarsk and where the vast range land for reindeer surrounds the mining complex and city of Norilsk; and the Yamalo-Nenets autonomous district, where the indigenous are obliged to learn to herd their reindeer between the gas wells and pipelines. In both cases, Nenets have had regular confrontations with Gazprom and Norilsk Nickel, and organized protests thanks to which they have become among the most widely media-covered indigenous people in all of Russia.<sup>29</sup> Given Moscow's participation in the Arctic Council and international pressures around the question of indigenous peoples, the Kremlin has had to soften its position and encourage these two major companies, as well as Rosneft, to show a certain interest in the issue.

Shareholders of Sakhalin-2 have for instance committed to supporting the indigenous people, while Gazprom is apparently going to provide compensation to the Nenets for pasture degradation and land withdrawal. But the subsidies are mainly absorbed by the local government.<sup>30</sup> The main extraction companies also offer study grants, housing facilities, schooling of children, and helicopter transport. The Russian Association of Indigenous Peoples of the North (RAIPON), a permanent participant of the Arctic Council's Indigenous Peoples' Secretariat, unites 41 indigenous groups whose total population is around 250,000 people. It therefore has an international platform at its disposal and has a unique visibility to be able to apply pressure on Moscow, and express its concerns about environmental degradation and inefficient indigenous autonomy.<sup>31</sup>

However for Russia, the major Arctic-related population issue does not pertain to the indigenous populations, but instead to the Russian population, which also includes numerous Ukrainians and Belarusians. Even more than in the Soviet period, Siberia's and Arctic's population is characterized by its discontinuity, an absence of infrastructure, and transport-reliant small isolates. The collapse of Soviet centralization has had an immense impact on the Arctic settlements. Between 1987 and 2000 production fell by four-fifths in Yakutia and Chukotka; some mining centers and diverse industrial settlements were totally abandoned; and several military bases were closed. The suppression of federal salaries, which offered bonuses sometimes as high as 250 percent of the base salary for spending five years in the High North, accelerated the departures.<sup>32</sup> The absence of work prospects, of a future for the children, the

exorbitant prices of basic goods, the chronic shortage of heating, gas, and electricity, and the poor links with the rest of the country have pushed millions of Russians to withdraw to the European regions of the country since the fall of the Soviet Union.<sup>33</sup>

Between 1989 and 2006, one out of every six people emigrated from the Far North.<sup>34</sup> Between the censuses of 1989 and 2002, the regions of Magadan and Chukotka lost more than 50 percent of their populations, Taimyr 30 percent, Nenets 25 percent, and even the Murmansk region, despite being much better endowed, lost more than 20 percent. Yakutia has escaped with a depopulation of only 12 percent.<sup>35</sup> The port towns of Igarka and Tiksi lost about half of their inhabitants between 1987 and 2005, while Dikson lost four-fifths of its inhabitants. The Far East as a whole lost 17 percent of its population in two decades, going from 8 million inhabitants in 1990 to 6.4 million in 2010.<sup>36</sup> The case is similar for the Siberian federal district, albeit the figures are lower.<sup>37</sup> Arctic Siberia today is the least inhabited large space in the world after Antarctica and the Sahara Desert. Five major towns stand out: Murmansk (320,000 inhabitants), Arkhangelsk (350,000), Vorkuta (80,000), Norilsk (130,000), and Novyi Urengoi (113,000), the latter, being the last town of more than 100,000 inhabitants to have been built above the polar circle in the 1980s.

Examining things on the micro scale, however, makes it possible to trace more subtle schemas. All the towns linked to the hydrocarbons or minerals extraction had positive migration rates during the 2000s. As such, the Yamalo-Nenets autonomous district registered positive figures, with a population increase of 4 percent, largely due to the gas boom. Migrations between Arctic regions are also been considerable.<sup>38</sup> Small-size towns or rural settlements have been abandoned and the inhabitants have moved to larger towns, able to provide a larger range of services. Ghost towns have grown in number, creating poverty gaps in which the populations, which live mainly from barter trade, do not have enough revenues to migrate.<sup>39</sup> In cooperation with the World Bank, the Russian government organized resettlements to some more southern towns for Chukotka's non-working populations, however the logistical success has been limited and resettlers have experienced difficulties adapting.<sup>40</sup> Indeed place-specific social capital is not easy to rebuild and many people refused to leave the region where they have built their lives despite the deterioration in living conditions. In the second half of the 2000s, the migration figures steadied somewhat, even if the region remains one of Russia's most "in motion," with young generations on the search to study places or jobs and ready to migrate often.<sup>41</sup>

At the micro-level, it is therefore necessary to distinguish between two Arctics: regions in crisis that have a declining Russian population and in which Russians and indigenous populations live in difficult social conditions; and regions in full economic boom whose populations are more educated, younger, more prone to migrate, and with more foreign migrants. Migrations in these Arctic zones are therefore much more about labor market turnover than a one-way exodus.<sup>42</sup>

### **8.3. The Migration Future of Russian Workforce: on road to Polar Islam?**

The development prospects for the Arctic presume a labor force that, in view of the country's negative demographic dynamics, is lacking today. The average age in Russia will go from its 2005 figure of 40 years to 46 years by 2030, which is a mere 15 years less than male life expectancy and 10-15 years less than the legal age of retirement (55 years for women and 60 for

men). Today Russia has 2.5 persons of working age for every person over working age, but it will have less than two by 2025. The phenomenon of population ageing, also very pronounced in Western Europe and Japan, will take on a special characteristics in Russia given the statistical weakness of the young generations and the massive poverty of the retired population. The population of those between 15 and 34 years will fall to 35 percent by 2030. The 55-64 years age group is the only one that will increase, but it does not work anymore.<sup>43</sup>

This demographic situation impacts directly on the workforce. The U.S. Census Bureau, for instance, predicted a decrease of manpower availability in Russia of 16 percent for the period between 2009 and 2025.<sup>44</sup> A study conducted by the Russian Regional Policy Institute revealed that by 2020, the country is expected to create 7 million new jobs thanks to the industrial projects underway, but it will lose a million persons of working age per year. The rate of replacement of Soviet generations entering retirement is thus by no means guaranteed, and even less is the creation of new jobs. By 2020, the working-age population will go from close to 90 million to 77 million persons, and the accumulated shortage of educated cadres could hit the exorbitant figure of 14 million persons.<sup>45</sup> This figure will be enhanced by the brutal decrease of the student population. The overall number of high school students almost halved between 1998 and 2009, going from 20 million to 13 million. University student numbers are expected to drop from the current 7.5 million to 4 million in the 2012-2013 academic year.<sup>46</sup> According to the calculations of the UNDP, to make up for the declining population over the first half of the twenty-first century, Russia will need a cumulative net immigration of 25 million persons before 2050, and of 32 million if it is to maintain its working-age population.<sup>47</sup>

Although the figures on migration are complex to collect and interpret, all the experts are in agreement on the fact that Russia has become the second-largest receiving country of migrants in the world, after the United States.<sup>48</sup> According to Russian statistics, between 1992 and 2006 3.1 million persons emigrated from and 7.4 million immigrated to Russia, giving the country a surplus of 4.3 million inhabitants.<sup>49</sup> The figures of the UNDP and the Census Bureau are higher and, depending on the calculations used, Russian statistics show a migration surplus of about 6 million people in the first fifteen years after the Soviet Union's collapse. The majority of Russian emigrants left for Western Europe, Israel, Canada and the United States, while the majority of immigrants came from among the 25 million Russians of the Near Abroad who left their republics to settle in Russia.<sup>50</sup> However, the prevailing pattern of "repatriation" or "ethnic return" of Russians in the 1990s changed in the 2000s, during which time fewer Russians of the Near Abroad immigrated, while the number of post-Soviet citizens belonging to the titular nationalities increased. Requests for Russian citizenship today come mainly from Central Asian or Azeri populations, especially as Russian law has simplified the procedures for obtaining nationality for all former Soviet citizens, without distinction between ethnic Russians and non-Russians.<sup>51</sup> Thus in the census of 2002, the growth in the foreign born population from the southern areas of the former Soviet Union literally exploded reaching 70 percent for Uzbekistan, Kyrgyzstan, and Azerbaijan, and 150 percent for Tajikistan.<sup>52</sup>

The Russian media and politicians have systematically sought to inflate the number of migrants, and the topic has become one of the most debated in the public sphere, as it has in Western Europe. Estimates vary from 5 to 15 million persons, but a range of between 7 and 10 seems most likely.<sup>53</sup> The distinction between legal and illegal migrants is very complex in Russia, since

the country has a visa-free system with most CIS countries. It is therefore not illegal to cross the border, but it is illegal to stay for work locally without registering with the appropriate authorities. Lastly, Russian bureaucracy, because of its complexity and its corruption, plays a part in making migrants clandestine by complicating the registration procedures. As in Europe, companies also gain from employing illegal personnel and do all that they can to impede the processes of legalization. The majority of these migrants are from Central Asia (Tajikistan, Uzbekistan, and Kyrgyzstan) and the Caucasus (mainly Azeris), speak Russian more or less well, and organize their migration through family and regional networks. Other migrants require a visa to enter the country: the Chinese in particular (but also the Vietnamese), who reportedly number about half a million, and are for the most part situated in the Far East.<sup>54</sup>

As in the United States or Europe, migration has developed in accordance with economic patterns. The extractive industries, construction sites, the public service sector (waste disposal, and road, rail, and water works), and personal services (domestic staff, security personnel, cooks, and restaurant and cafe servers) are large users of migrant labor. Russian citizens tend to disregard these professional niches, deeming the salaries insufficient, working conditions too difficult, and the social prestige too low. The migrants are distributed geographically. Moscow and its region largely dominate and attract the largest number of migrants due to its quality of life and the prospects on offer for integration; followed by large cities such as St. Petersburg and Yekaterinburg; industrial sites in the Urals; the south of the country where increasingly many migrants are working in agriculture; and lastly the Far East, where they face competition from Chinese migrants.<sup>55</sup>

Today the Russian Arctic is experiencing a double pattern of massive net migration from foreign countries and of net out-migration to the rest of Russia.<sup>56</sup> The oil and gas regions of Tyumen and Khanty-Manty have become privileged destinations for Central Asian migrants, in particular the Tajiks and Uzbeks seeking employment on extraction and construction sites. Already at the start of the 2000s, half the workers on some construction sites in the Far East were foreigners, as were from 70 to 90 percent of salaried workers in the Tyumen region.<sup>57</sup> Russia's thirst for labor is only going to increase. Developing the Yamal megaproject, for instance, will require about 50,000 workers. There are reportedly already close to 20,000 foreigners working there on infrastructure construction sites.<sup>58</sup> The state nuclear agency Rosatom has been criticized for employing illegal migrants in its nuclear power plants, for not only do these migrants work in unsafe conditions for poor salaries, but they are untrained and so threaten the safety of the plants.<sup>59</sup> Lastly, the city of Norilsk reportedly has a population of 50,000 migrants, mainly from Azerbaijan, Daghestan, and Central Asia.<sup>60</sup> The Arctic's difficult working conditions, and in particular the increase of shift-work (short-term routes of duties on extraction sites from a base city), will necessitate finding undemanding populations that come for the financial incentives on offer and not for the quality of life—migrants.

Russia not only lacks cheap, but also qualified labor. The country combines two contradictory patterns: a high level of schooling, but a low level of human capital. It is the only country in the world where a population has so many graduates statistically speaking but the GDP per capita is so low, labor productivity is in decline, new patents so few, and so-called "social capital" (participating in voluntary associations, trust in society, subjective well-being, level of self-assessed degree of personal control over one's own life) so weak.<sup>61</sup> In 2009, a group of top

businessmen led by Severstal Group CEO Aleksey Mordashov launched an appeal to President Medvedev for skilled workers. According to their surveys, 54 percent of Russian CEOs view staff shortages as the biggest impediment to growth.<sup>62</sup> This tendency will only intensify when large deposits such as Shtokman and Yamal are under production, and it thwarts the development potential of the Arctic regions, which necessitate advanced technologies and highly specialized know-how.

The large Russian industrial projects of the years to come will require a qualified population. These people could come from the Ukraine, where there is high unemployment among graduates, especially in engineering sectors; from Azerbaijan, where the oil-related professions have been developed for a long time; or also from the “Far Abroad,” that is, Asia or the Middle East. The arrival of graduate engineers from Central Asia is unlikely, since there are few of them and when they emigrate, they target neighboring Kazakhstan because it is closer geographically and culturally. The competition between Moscow and Astana to harness Central Asian graduate labor will continue to grow in the coming decade.<sup>63</sup>

In 2010, Moscow made a decision to relax migration policy with respect to CIS countries, which are the main purveyors of migrants, but this alone will not be enough to fulfill the needs of the economy.<sup>64</sup> Large Russian companies, for their part, have begun to organize lobbying in favor of a pro-active migration intake policy, all the while remaining discrete on the topic given the xenophobic tendencies of Russian society. Communication on the migration issue is a sensitive question in terms of corporate brand.<sup>65</sup> In any case, a favorable migration policy for CIS countries will not be enough to compensate for the shortages of cadres, as such migration is mainly unskilled. In coming years the Russian economy will require a targeted policy, as in Canada and Australia, of inviting graduates from Asia, the Middle East, or maybe Central and Southern Europe, on the condition that it is able to offer attractive living conditions and salaries. The need to adopt a major policy to train engineers and management staff at Russian universities is also making itself felt in the effort to offset the departure of Soviet generations.

Within the country’s demographic trajectory, it remains difficult to ascertain the long-term role that not only the migratory populations will play, but also the permanent settlement of these migrants in Russia. If the Arctic projects of extraction and shipping become a reality, they will draw labor into previously sparsely populated areas. Voluntary migration in response to demand is less destabilizing than uncontrolled large-scale shifts in population, but it will drastically change the ethnic composition in urban areas. Although for the moment a large share of the migrants either wish to stay in Russia only for a few years, in order to build up capital that allows them to return home, or to adopt seasonal strategies (migration from March to November), the European and U.S. patterns show that a large share of the migrants eventually settle in the host country and build their lives in it.<sup>66</sup> These migrants are therefore destined to form a growing share of the Russian population, and indeed of its work force.

The symbol of these evolutions is probably the mosque of Norilsk, the Nurd Kamal Mosque, which is the northernmost mosque in the world and was inaugurated in 1998 for the town’s Muslim community. Between indigenous peoples and ethnic Russians, both suffering demographic shrinkage, the future of Arctic Russia is probably that of a “Polar Islam.” It can also be supposed that Chinese migrants already based in the Far East might be looking to settle

further to the north. Two migration spurts, one of Chinese and another of Central Asians, might thus enter into competition with one another. This is already the case in the large towns of the Far East, where the construction sites in Chinese hands have been retaken over in recent years by Central Asians.<sup>67</sup> The capacity of Russian society to reformulate its identity and to build a new citizenry is therefore going to be crucial. If Russia's Arctic future bears out on the economic level, it would mean a rapid increase in Russia's Muslim and Central Asian population, an identity dilemma that Moscow is currently unable to solve.



**The Norilsk Mosque**

#### **8.4. The Fragmentation of the Territory: Russia as Archipelago**

The “unity in diversity” pattern, which stamped Russian history for many centuries, was born of a traditional centralizing political voluntarism combined with incredible territorial expansion. With the implosion of the Soviet Union, the unity/diversity balance fractured, and now the country is in the process of undergoing an extreme fragmentation of its territory in terms of population, access to wealth, human development indicators, and economic strategies.<sup>68</sup> The European regions, including the Urals, host 78 percent of the Russian population on only 25 percent of the territory.<sup>69</sup> In addition to the special case of Moscow, which underwent exceptional population inflation of 28 percent between 1989 and 2008, only three regions have been receiving new inhabitants: the Moscow region, the Central federal district, and the Southern federal district, all three of which have had net migration flows of between 12 and 17 percent. The rest of Russia is depopulating. Wealth is also concentrated in the European regions: Moscow, with 7.4 percent of the population, concentrates 23 percent of GDP, and the Tyumen

region, with 2.4 percent of the population, alone provides 18 percent of the country's tax revenues, while the districts of Siberia and the Far East take up 66 percent of the territory but produce only 15 percent of GDP.<sup>70</sup>

Several Russias coexist within one country.<sup>71</sup> "Metropolitan Russia" is distinguished by its high level of revenues, of inhabitants with tertiary degrees, and its many opportunities of access to services and infrastructures in cities such as Moscow, St. Petersburg, Yekaterinburg, Novosibirsk, and although more modestly, Rostov on Don, Nizhnii-Novgorod, Samara, Kazan, and Omsk. The university and science towns can also be added to this, such as Tomsk and Krasnoyarsk, which have lower revenues but a high degree of access to the outside world. The "rent archipelago" includes provincial towns like Tyumen, Surgut, and Khanty-Mansiisk, which have the highest revenues per capita of the country, and offer their inhabitants very generous social policies and broad access to technologies. As for the "archipelago of the Black Earth," situated between Kursk, Tambov, Volgograd and Krasnodar, it is the only region to combine economic and demographic growth. The interconnection of population density and small sizes towns is close to that of Central Europe. While the living standard there is not as high as in metropolitan Russia, the quality of life has improved.

The rest of the territory can be defined as second-class Russia: abandoned industrial towns in full crisis, high unemployment rates, the pauperization of the former Soviet middle classes, an agricultural desert, very poor access to transport, acute demographic crisis, etc. The specific case of the North Caucasus must be added here. Though one of the poorest areas of the country, with a high unemployment rate and very low per capita GDP, it also has demographic dynamism, ethnic specificity, increasing political volatility, and considerable migration flows. Russia is therefore an archipelago of wealthy, urban, economically dynamic islands in an ocean of sparsely populated and undeveloped hinterland. The social inequalities are above all regional inequalities.<sup>72</sup> The country's extreme regional social, economic, and ethnic disparities are difficult to reconcile with the traditional strong tendencies toward centralization of authority in Moscow.

This territorial and social splitting is accompanied by security concerns. Even if some prisms inherited from the Cold War still shape Russian perceptions of the West, today Russia takes into account two categories of danger: non-traditional threats and strategic uncertainties. Notwithstanding its rhetoric concerning NATO, which is offset by a certain pragmatism, Russia no longer deems "the West" to be a real security concern, and the level of strategic uncertainty there is low. Relations with the United States and Europe can be tense for geopolitical reasons (NATO or EU eastward enlargement), or on account of divergent political viewpoints, but the risk of armed conflict has disappeared. This is not the case with the "East," mainly because of the growing imbalance in relations with China. With the exception of the "yellow peril" rhetoric, linked to the differential in demographic power, Russia's security concerns toward China are not connected to non-traditional threats, but to the geostrategic uncertainty that is a part of Beijing's rise as a global power. For Moscow, which is not prepared to become China's "junior partner," this involves economic securitization of the Far East and the transformation of the region into a "rampart" in case of tensions with China.

The third direction, the “South,” is the most complex zone for Russian security concerns. It is a very large entity with fuzzy borders, comprising the new federal district of the North Caucasus that was created in 2010, as well as the three states of Transcaucasia (Armenia, Azerbaijan and Georgia), the five states of Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, and Turkmenistan), and two southern neighbors, Iran and Afghanistan. The security threats coming from it are the most non-traditional (uncontrolled migrations, drug-trafficking, failing states, nuclear issues, and so on), and geostrategic relations the most uncertain. In addition domestic and foreign stakes overlap here more than anywhere else, as Russia’s southern border is uncertain. The North Caucasus is a secessionist part of the federation, and Russia’s strategic interest in Central Asia stretches as far as the border with Afghanistan.<sup>73</sup>

In this context of Russia’s fundamental reshaping of its human geography and security concerns, the Arctic is simultaneously present and forgotten. Forgotten because it is part of that second-class Russia in terms of population, wealth, connection to the rest of the country, a phenomenon which is heightened by the climatic difficulties with which its inhabitants have to contend. Some Russian experts have militated for many years to have the Arctic recognized as a new federal district, an administrative division which would allow for a better channeling of financial allocations.<sup>74</sup> Others would like the Duma to pass a special law to provide assistance to Arctic regions, but this project is blocked by the lobbying from the southern regions, whose livelihood also depends massively on the federal budget.<sup>75</sup> However, the Arctic is also present because it embodies Russia’s future: an accepted, chosen future, one of exploiting Arctic resources and the Northern Sea Route; but also a non-chosen future, viewed as an escape from the problems of the North Caucasus and the threat of a potential losing of the Far East. Some experts and high ranking officials do not hesitate, off the record, to wonder about the pertinence of the considerable financial support provided to the North Caucasus, insofar as the region seems to be lost to Moscow, and think that the country would do better to redeploy its grants and its human forces toward the north.<sup>76</sup> The conquest of the Arctic thus sets itself as a symbolic counterweight to the loss of the North Caucasus.

### **8.5. The many Arctics of Russia**

The Russian Arctic is anything but a unified region. Climatically, the 14,000 kilometers of coastlines belong to different ecosystems. Several geographical subdivisions of its maritime part are possible: the Barents, Kara, Laptev, and East Siberian seas do not have similar marine systems, or even climatic conditions. The Arctic mainland can itself also be divided, for example, into three major river basins—the Ob, the Yenisei, and the Lena—which, throughout the watershed, link the Arctic coasts to the Ural mountains, Kazakhstan, and Mongolia. These rivers basins intersect more or less with the administrative divisions of federal districts, namely, the Urals, the Siberia and Far East districts. In terms of settlements and economic development, unity is also minimal and several lines of division are possible. A schematic division could separate out the western Arctic from the eastern Arctic, with the Taimyr Peninsula serving as the line of demarcation. The former is more populated than the latter, and is bound to further develop thanks to its subsoil resources and shipping industry, whereas the prospects of the latter are far more limited. It is, however, necessary to increase the number of these divisions in order to get a better view of the Russian Arctic’s long-term prospects.

### ***8.5.1. The Murmansk-Arkhangelsk Arctic, a European Trans-border Region***

The western part of the Russian Arctic, which stretches from Murmansk to Arkhangelsk, is a specific region. Moscow has always considered it to be separate from the Siberian Arctic: administratively it does not belong to the Northern Sea Route; its ports are ice-free all year round; the Northern Fleet is stationed there to gain access to the Atlantic Ocean; and the region comprises several nuclear plants as well as Russia's main naval industries. In addition, it is relatively well-connected to the two capitals, Moscow and St. Petersburg, the large majority of its population is made up of Russians, and, in the geographical imagination, it is part of what the Russians call the "Russian North," (*russkii sever*) a region celebrated for its rich folklore. During the Soviet period, its proximity to Finland and Norway turned it into an outpost of the Cold War. Today, the dynamism of relations between Russia and Nordic countries has deeply transformed the region, as have its prospects for the exploitation of hydrocarbons. In terms of domestic geopolitics, the Murmansk-Arkhangelsk region, despite its specific geographical and climatic conditions, is likely to become part of Russia's "West," that is, of the set of regions whose economies are in interaction with the European neighbors.<sup>77</sup> Besides, it is part of the federal district of the north-west, which includes Moscow and Saint-Petersburg. This Arctic region, linked to the Baltic one, is bound to become a driving force of Russia's relationship with Europe.

This European Arctic can be divided into three sub-regions: Murmansk; the Republic of Karelia, which has access to the White Sea through the Baltic-White Sea Canal; and Arkhangelsk. The future of the Kola Peninsula is that of the trans-border European region, while Arkhangelsk, even if becomes integrated into the same trend, remains more remote and will have some time to wait before it can benefit from these crossborder activities. The ice-free ports of Murmansk, Severomorsk, and Kandalaksha are now renovated as part of the modernization of the Northern Fleet; the Murmansk port also hosts the Russian atomic icebreaker fleet. Murmansk and Kandalaksha are the main commercial ports of the Russian western Arctic; many trawlers unload their stock there; and the region is considered to be one of the richest in terms of fishing.<sup>78</sup> The extraction of minerals will continue to develop as the Kola Peninsula is particularly rich in rare minerals. The exploitation of Shtokman should make the entire region more dynamic. The small port of Teriberka/Vidyaevo will be the culminating point of a sea pipeline connecting gas fields to the continent along 570 kilometers of sea bed. A transport and technological complex has been planned for the port, hosting an unloading terminal, a factory for producing liquefied natural gas, and installations for preparing the gas for transport overland. The overland gas pipeline between Vidyaevo and Volkhov, of about 1,300 kilometers in length, will connect with Europe and should enable the industries of the region to switch to gas.<sup>79</sup>

The region's future is also influenced by its Finnish and Norwegian neighbors. Transborder cooperation has developed between Russia and the latter, the aim of which is to increase crossborder activity and to unify the transportation routes. The Barents Euro-Arctic Transport Area (BEATA) plans to improve the transport linkages by road, air, and rail between the Nordic countries and the northwest regions of Russia, and to develop joint security projects on the external maritime connections.<sup>80</sup> In 2007, Moscow and Oslo set up a Vessel Traffic Centre to facilitate the exchange of data between the Norwegian and Russian maritime transport authorities.<sup>81</sup> Many crossborder projects between Finland's and Russia's Karelia, between Finland's Lapland, Norway's Finmark, and the Murmansk region have taken shape. Not being

part of the EU, Norway has implemented a simplified system of multi-entry visas for persons living near the borders, called Pomor Visa, and this has led to a verifiable boom in transborder tourism.<sup>82</sup> A Pomor Zone for joint industry and commerce, with Kirkenes as the main center, has also been created.<sup>83</sup>

At Arkhangelsk, the transformations have been much slower to take shape. The region's economy is dominated by the naval industries of Sevmash and Zvezdochka at Severodvinsk, Russia's Nuclear Naval Construction Center, and the fishing industry. Administratively, the region also controls Novaya Zemlya and the Franz Joseph Islands, and could therefore also see military and commercial activities develop much further to the north.<sup>84</sup> The port of Arkhangelsk, Russia's first port, created in 1584, is today in competition with of the port of Murmansk. It would like to host the Northern Fleet if it is moved in order to free up Murmansk solely for commercial activities. The Arkhangelsk port is in the process of being renovated in order to cope with the revival of industrial fishing, but above all to handle the development of the hydrocarbons transport through the Arctic. It henceforth has an oil-loading terminal at its disposal as well as a Belokamenka floating storage unit for the oil production that arrives from the Timan-Pechora region. The region can also pride itself on the Plesetsk cosmodrome, which is likely going to play a central role in the development of satellite navigation in the Arctic, and as well as of a new federal Arctic university.<sup>85</sup>

#### ***8.5.2. A Hydrocarbons and Mineral Central Arctic***

Further to the east, a second Arctic includes the three autonomous districts of Nenets, Yamalo-Nenets, and Taimyr, to which can be added the Republic of Komi and its mines, and the autonomous district of Khanty-Manty, which partly belongs to the same hydrocarbons-related industrial base. The Nenets district is attached to the Arkhangelsk region and therefore comprises the furthestmost eastern part of the federal district of the northwest. The districts of Yamalo-Nenets and Khanty-Manty are under the administrative control of Tyumen, which is itself part of the Ural federal district. And the Taimyr district was established as part of the region of Krasnoyarsk, which is part of the Siberian federal district. This second Arctic, stretching from the Urals to the Taimyr Peninsula, therefore has no administrative unity, whereas it has an economic unity through its wealth of hydrocarbons and minerals.

This region and is set to be Russia's center of extraction in the twenty-first century, and to play a key role in destination shipping along the Arctic routes, as it will be a large consumer of transport. Its infrastructure is essentially directed toward the western, European regions, and not toward Asia. This choice of orientation, due to historical reasons, could be undermined in the decades to come, as the main future markets are bound to be Asian and not European ones. This region has numerous industrial towns, such as Norilsk and Vorkuta, which have specialized in mineral extraction since the 1930s, and includes others such as Khanty-Mansiisk, that embody the oil boom of the 2000s, and, albeit more modestly Naryan-Mar, Noyabrsk, and Novyi Urengoy. It is also the key Arctic/subarctic region in terms of indigenous populations, since the Nenets and other less numerous groups live there in situations that are sometimes conflictual, and in any case unequal, with the Russians.



more than 300 kilometers away. It has not carried passengers since the end of the 1990s, but still serves for the transport of minerals and has been modernized by Norilsk Nickel.

In terms of port infrastructure, only Dudinka, which was privatized by Norilsk Nickel, is really efficient, whereas the other ports are waiting for the boom of Arctic resources to take off. Simultaneously a sea and river port, Dudinka has the largest docking capacity of anywhere along the Northern Sea Route: nine posts along a quay of 1.7 kilometers in length, added to which are twenty others for river boats. The shipping between Dudinka and Murmansk, which takes place all year round, is mainly used to export minerals and timber. Compared to Dudinka, the other ports of the region are sorely lacking in sophisticated material. The port of Naryan-Mark in the Nenets district, situated at a hundred kilometers from the mouth of the Pechora River, will probably be turned into an oil port with the exploitation of the reserves of Timan-Pechora.<sup>87</sup> That of Amderma, which opens onto the South Kara Sea, only functions in a limited way, receiving construction materials and coal. Moscow has planned to revive its activities by building a railway from Vorkuta, and the exploitation of the South Kara Sea deposits could also redynamize it. The settlement of Indiga, situated further west, could well become a deep-water port for the transshipment of cargo and industrial exports from the Komi Republic.<sup>88</sup> The small capital of the Yamalo-Nenets district, Salekhard, has modest port activities, as do the Kharasavey and Yamburg/Novyi ports: all three are specialized in oil products, and have hedged their bets on the development of the Ob-Tazov deposits.<sup>89</sup> Activities at the Dikson port, meanwhile, have pretty much dried up, whereas that of Khatanga is primarily used only by Norilsk.<sup>90</sup>

### ***8.5.3. The Sakha Arctic: Looking both North and South***

The republic of Yakutia-Sakha, in the Lena basin, forms a third Arctic. Yakutia, today the self-named Sakha, is the largest autonomous Arctic republic, with more than 40 percent of its territory above the polar circle. It is presented as a symbol of the good terms existing between indigenous populations (mainly the Yakuts, who are the most numerous of the Russian Great North, but also some less populous groups) and Russians; each constituted about 45 percent at the 2002 census.<sup>91</sup> The republic has tried to develop its own Arctic brand by hosting numerous international conferences on the subject, and by pointing up its indigenous culture and its network of ecological protection zones, although the political establishment is distinctly dominated by Russians and the industrial riches are at the core of development strategies. The diamond, gold, and tin ore mining industries are the major focus of the economy.<sup>92</sup> Yakutia-Sakha advertises its geographical position as a way of campaigning for a revival of the Northern Sea Route, but also and above all to open itself up onto the Asia-Pacific. It seeks to develop its economic links with southern Siberia, in particular the Irkutsk region, and with the Primorie, which serves it as a path of access to China, and does not conceal its commercial ambitions in this direction.<sup>93</sup>

The Yakut administration traditionally presents the Northern Sea Route as its “Arctic road of life.”<sup>94</sup> It calls for the improvement of port infrastructure on its Arctic coastline between the mouth of the Anabar River and that of Kolyma. It hopes to revive its main port, Tiksi, which is situated on the Lena River and has fallen into partial degeneration, and that of Zelenyi Mys located on the Kolyma River, which has practically been shut down. Both ports are seasonal ones. In view of this, Yakutsk has proposed to host an Arctic rescue center with modern technology

and transport, in order to exploit its proximity to the Poliarnaya station, and the neighboring geophysical observatory, and to exploit the fleet of Roshydromet, part of which is based at Tiksi.<sup>95</sup> The prospect of cross-continental transit of Asian ships has created great hopes for the development of the republic's Arctic coastlines, which are the most isolated.<sup>96</sup> For the whole of Yakutia-Sakha, the Arctic Ocean-rivers connection is conceived as a means of unified transport.<sup>97</sup> Indeed, most freight is carried by waterways: the Lena Rivers and its tributaries Vilyui and Aldan, but also the Yana, Indigirka, and Kolyma Rivers.<sup>98</sup>

Other transport means are also being developed. In 2008, a federal highway "Kolyma" connecting Yakutsk to Magadan was opened for year-round use. A symbol of the particular link which connects Sakha to the south of Siberia, a railway line connecting the capital Yakutsk to the BAM (Baikal-Amur Magistral) over a distance of close to 800 kilometers, is in the process of being finished (the line is planned to be completely opened in 2013). This will make it possible to allow scattered populations to travel between regions, to export mineral productions from Sakha to Asia, and, in exchange, to obtain Chinese goods at the lowest possible price. It is likely that of the two Sakha strategies—that directed at the north and at the south—the latter will prove to be more commercially dynamic than the former.

#### ***8.5.4. The Bering Arctic: the American and Asian Neighborhood***

The final Russian Arctic is that of Chukotka and Kamchatka, which includes the Pacific facade of the country which open onto the Bering, Chukchi and Okhotsk Seas. This Arctic is probably the most marginalized in Russia. It has a particularly small population, has been in a full-on migration crisis since the 1990s, has high unemployment among Russians, and its indigenous peoples have been forced to take up their traditional activities again due to a lack of central allowances. Proximity to the United States turned it into one of the places of tension during the Cold War, but today Moscow dreams of a peaceful connection with Alaska, and even more with Asia. Asian dynamism appears to have imposed itself as the only opportunity for the economic revival of this region, supposing that transcontinental shipping via the Arctic really takes off, and that fishing can get off the ground again. The population of this fourth Arctic is essentially Russian and Ukrainian, while there are a statistically small number of indigenous peoples, and Chinese migrants are limited for the time being to the border regions of the Amur and the Primorie, but not further to the north.

The region's prospects of subsoil exploitation still remain too imprecise for any hopes to be placed in an economic revival due to hydrocarbons or minerals. But other elements of development have to be taken into account. For example, over-flights above the Primorie-Kamchatka-Magadan region (the Trans-Arctic Air Corridor) are booming for routes between North America and Asia. The Eyjafjallajökull Volcano eruption in 2010 suddenly brought to light the importance of a transit air corridor able to connect the Eurasian and American continents via the North Pole. This major global evolution therefore requires the development of rescue systems in the over-flight regions. The administration of Chukotka has thus proposed the creation of a Crisis Management Center and Rescue center, to be based in Anadyr under the control of the Ministry of Emergency Situations.<sup>99</sup> Growing Arctic tourism, coupled with the volcanic tourism of the Kamchatka Peninsula, also prompts better management of human

security in the region, which might potentially make it possible to revitalize the small settlements in the most isolated regions.

The main regional economic project remains the transformation of the port of Petropavlovsk-Kamchatskii in the bay of Avacha into a hub for North Pacific trade.<sup>100</sup> The port has kept up its industrial fishing activities, but with far less intensity than during the Soviet period.<sup>101</sup> Part of the Pacific Fleet is stationed there, as well as at Viliuchinsk, albeit under the command of Vladivostok. Prospects of a trade boom, however, seem limited: not even the ports furthest south such as Vladivostok and Nakhodka have rhythms of development able to rival the major Asian ports. In addition, Petropavlovsk-Kamchatskii is situated on the peninsula, and so it would be necessary to have the goods transported to the continent.<sup>102</sup> On the Arctic coast of Chukotka, Pevek, the world's northernmost port, was deserted by its population in the 1990s.<sup>103</sup> Projects to revive it will not be able to change things in any substantial way, however, since the port is exclusively seasonal, and its infrastructures are old. It still serves as an outlet for the gold extracted from the Kolyma basin, one of the only industries that remained active in Chukotka, but which only operates in summer. The Bilibino nuclear power plant, the northernmost in the world, has been in operation since the 1970s.<sup>104</sup>

Any kind of port development is based on the capacity to connect remotely situated territories deep into the country. Hitherto, wintertime ice roads have been the main transportation system between remote settlements in the Arctic, but climate change could have the effect of rendering these traditions obsolete. Railways projects are therefore likely to take shape, although the extreme climate conditions and ever increasing permafrost melt present considerable technological problems. The Amur-Yakutsk could thus be extended to Uelen in Chukotka, which is Russia's easternmost settlement. The possibility has also been raised of building a 5,000-kilometer railway line to connect the port of Petropavlovsk-Kamchatskii to the Siberian continent and to the Primorie region. This line would join the BAM and then the Trans-Siberian, but the project seems overweening in view of the freight opportunities, and will involve huge detours to bypass the Kamchatka Peninsula by the Magadan region. In addition, the Russian Transport Development Strategy for 2030 plans the construction of a railway line connecting Russia to Alaska via a tunnel beneath the Bering Strait (less than 100 kilometers wide). An investment promotion agency, InterBering, has been created to promote this utopian project: the agency calculates its cost at around 100 billion dollars, for a potential of 100 million tons of freight.<sup>105</sup> The hope of Vladimir Yakunin, the CEO of Russian Railways, to see a passenger railway line going between New York and London via Siberia, seems even more disconnected from reality.<sup>106</sup>

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Russia has to contend with multiple dilemmas. Some of them relate to its exit from the Soviet framework, as well as to social dynamics and the economic legacy bequeathed by the preceding regime; some others, probably the most challenging ones, are yet to come. One of these is the population issue. If the ageing of the population is not in itself a Russian specificity, the country nonetheless has many demographic particularities which can be explained by social and cultural arguments: an unacceptable rate of male mortality; a dearth of younger generations and women of childbearing age; a glaring lack of skilled people, and university bodies that are poor at

creating engineering and technological innovation. Added to this is the migration challenge: thus far, Russian public policies have had no success in better integrating the millions of migrants (schooling of their children, access to health care systems, protection against the violence committed against them, etc.) or in creating a new civic identity. The Russian social fabric is therefore majorly destructured and unbalanced.

The second challenge is related to territory management. Russia has always been a centralized state, in spite of some localized experiences of partial decentralization in the nineteenth century and the 1920s. The current territorial polarization weighs heavily on Russia's self-representation, but also on its political legitimacy, and the country's social unity. Russia is Europeanizing massively: its material wealth (GDP per capita), and social and cultural wealth (education, travel abroad, access to the media) is mostly concentrated in the country's European regions. The rest of the territory is either in a situation of economic and social crisis (Siberia, North, and Far East) or in a state of political crisis (North-Caucasus). The imbalance in population issues intersects with that of territory: in the European parts people are richer, younger, and healthier; in the Siberian regions people are poorer, older and not as well cared-for, with the exception of the North Caucasus, which is poorer but not older.

The conjunction of these two challenges—population and territorial management—is central to the future of the Russian Arctic: Moscow's grand ambitions for its Arctic regions will not become a reality unless a joint solution is found for both problems. But such would require the country to undergo deep identity, social, and political transformations. Space can be a blessing as much as a burden. Russia's spatial representation of itself is bound to change: the North Caucasus has become a foreign region, the demographic dynamism of the Buddhist populations of southern Siberia has strengthened their specificity; the feeling of a lack of control on the Far East is growing. Russian territorial identification has withdrawn into a space stretching from the borders of the EU to the Urals, from Saint-Petersburg to Stavropol. Will the Arctic form part of these areas where Russia's future identity will find itself "at home," or of those zones left abandoned? As applied to the Arctic, will the historical and ideological pattern of appropriation of new territories (*osvoenie*) foster the birth of a new Russian identity or an updated version of the old one? Which Arctic regions will be integrated, and which forgotten? The four "Arctic's" briefly described here will probably not all thrive in the much-expected revival to occur during the twenty-first century.

### **Key Findings and Pathways to the Future**

Even if in years to come the birth rate slowly rises—as already happens to be the case—and the male mortality from violent death decreases—which is not presently the case—the population deficit, in particular of youths and women of childbearing age, will continue and the Russian population will drastically decline in the decades to come.

Russia lacks skilled people. Soviet-trained generations are entering retirement, the country is enduring a steady brain-drain to the West, technical professions are lacking in motivation, and student numbers have collapsed. All of these factors will plunge the country into an unprecedented economic and social dilemma in the two decades to come.

Immigration is the only viable solution to Russia's economic development. However, this implies an in-depth alteration of the narrative concerning Russian national identity, not to mention the establishment of efficient public policies of migrant integration, which do not yet exist.

The major industries such as Gazprom and Norilsk Nickel are developing lobbying rationales to foster a policy of massive migration. However, the Kremlin has founded its political legitimacy on nationalist and xenophobic discourses. If the political authorities do not recognize the economic rationality of immigration, then they will have to revise their ambitions for development downwards due to a lack of labor power, but without being able to avoid already tense interethnic tensions.

If Russia can attract lots of migrants from Central Asia and the Caucasus, these latter will occupy positions at the bottom of the social ladder. This immigration will therefore not make up for the deficit in its skilled workforce, which will have to be made up of workers from other countries, probably other Asian ones.

If the great industrial sites of the Arctic do eventually concretize, the south-north migration flows will increase in magnitude, and the phenomenon of "polar Islam" will become one of the shaping components of Russia.

The fragmentation of the Russian territory will increase. The North-Caucasus is probably lost, the Far East risks being rocked by autonomist tensions, and the Russian population will continue to remain concentrated in the country's European regions. For Moscow, at issue is learning whether the population will "withdraw" only into the country's west, or if more propitious conditions will also be experienced in the north.

Russia's population/wealth/territory gap will create major problems for the state's political survival, a state that has always conceived of itself in centralized terms. The challenge to be met is therefore much more than an economic or demographic challenge. It requires an in-depth change of Russia's historical patterns of development. Space can be blessing, but also a burden for Russia.

The future of the Russian Arctic will be a divorced one. The successful development of the European part, between Murmansk and Arkhangelsk, is the most likely; that of the Central Arctic, founded on hydrocarbons and minerals, is potential but not guaranteed, while a revival in Sakha-Yakutia and East Siberia seems quite unrealistic.

## NOTES

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### Chapter 1

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## Chapter 4

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## Chapter 5

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## Chapter 6

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### 3. SUMMARIZING THE IMPORTANCE OF THE ISSUE FOR THE U.S. DEFENSE AND SECURITY PLANNING COMMUNITY

Even if the validity of data on global warming is still debated within the U.S. security community, this must not halt preparations for possible futures. As said in the *2010 Quadrennial Defense Review Report*, climate change acts as an “instability accelerant.” As with nuclear terrorism, deadly pandemics, or biological warfare, climate change must therefore be an integral part of strategic planning.

Climatic *uncertainty* calls for strategic *flexibility*. It is therefore necessary to highlight those procedures likely to increase *predictability* in the region.

A twenty-first century security architecture for the Arctic has to be built now, otherwise trends that are unfavorable to U.S. interests could influence global orientations to come.

The U.S. stance on the evolving strategic landscape in the Arctic needs:

1) To be more visible internationally

- The ratification of UNCLOS is a necessary element for international recognition of Washington’s legitimacy in jointly shaping the Arctic future. The UNCLOS maintains the freedom of navigation and offers a unique legal framework for U.S. claims on its continental shelf.
- The issue of creating legally-binding instruments in the framework of the Arctic Council needs to be discussed.
- The creation of an Arctic Command has to be discussed, and, if it not created, then the overlap of responsibilities – or rather the gap – between EUCOM, NORTHCOM and PACOM has to be solved.

2) To be better balanced in terms of regional priorities

- The U.S. view on the Arctic is too focused on internal North American issues, especially on relations with Canada.
- The entire north of Europe (Nordic countries and Germany) is rethinking its relations with its Russian neighbor. Russia’s resilience or otherwise to climate change and its strategies in the Arctic could be critical to protecting transatlantic security interests. The United States must put forward an Arctic framework to the EU as a part of its transatlantic commitment, and to avoid European countries having to face Russia alone.
- The United States also needs to valorize the U.S.-Russia “border” by developing activities between both Pacific coasts.

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### 3) To be more innovative

- Hard security is well defined, but soft security is not.

The U.S. Arctic Policy, ratified in January 2009, naturally focuses on the defense of national interests in the Arctic, in particular highlighting the strategic location of the region for deterrence systems and the freedom to travel at sea. On these two questions, the New START treaty with Russia guarantees the nuclear balance between Russia and the United States in the Arctic. As for the second question, that of free navigation in the sea, it will remain unresolved for the time being as the American viewpoint stands in contradiction to the stances of Russia and Canada concerning the Northwest and Northeast Passage, but entails no risk of conflict. It is mainly a symbolic and financial issue.

The focus of the U.S. Arctic Policy is on hard military issues. Soft issues are mentioned, but, as shown by the 2009 U.S. Navy Arctic Roadmap, the capabilities gap is huge. Looking forward, soft issues are the main problem, and soft can sometimes evolve into hard. It is therefore necessary to advance the discussion on the U.S. role in framing soft security procedures in the Arctic. This includes search and rescue systems, climatic emergency and pollution preparedness, satellite control, and the fight against smuggling. The question of tensions over fishing stocks between Russian, Asian, and U.S. trawlers needs to be properly addressed, as this kind of conflict can impact negatively on North Pacific security, mainly because of the tense relations between North and South Korea, China, and Japan.

- Time Management is an issue for the U.S. Navy

The Arctic does not appear to be a pressing and hot issue in comparison with the problems that the United States is facing in the Middle East, Afghanistan and Pakistan, and Asia. However, time management is key for the Arctic and Russia. On this point, Russia is clearly ahead. Even with its financial difficulties, bureaucratic inertia, and the disconnection of its great ambitions from reality, Moscow is the most forward looking of the Arctic powers (with Norway) and has an elaborated holistic vision of the objectives and outcomes it wants to achieve there.

The question of building a new icebreaker therefore needs a public debate on its costs and benefits. The United States will already be in a critical situation in the second half of the 2010s, with almost no means of travelling in an autonomous way in the Arctic. Given the necessary construction time, the issue needs to be put on the table as soon as possible. Geostrategic uncertainty in the Arctic cannot afford to be lacking in areas such as logistics. Should the Northwest and Northeast Passages become ice-free and traffic grow, the capabilities gap will increase and U.S. polar icebreaking capability will be at risk.

This also goes for the U.S. Navy in Asia. In the next several decades, the most challenging contingencies are likely to be maritime and in Asia. If nothing changes in U.S. shipbuilding strategy very soon, before 2030 the Chinese submarine fleet will outnumber that of the United States. China will also have at its disposal the space systems necessary for intercontinental power

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projection. Beijing could challenge the U.S. Navy's access to the western Pacific and the Arctic, and the time needed to close the gap will be too long to protect U.S. interests.

- Enhance both bilateral and multilateral activities to reduce the ambiguities of Russia's revival of military activities in the Arctic

The question remains of whether NATO can serve as the primary vehicle for ensuring Arctic security, and if so, then how. NATO's weakness in the Arctic is its focus on hard security, while the chief local security concerns will be soft ones. However, both NATO and Russia have already collaborated in search and rescue and disaster management, and have the experience of joint counter-piracy operations in the Horn of Africa. This framework can be transposed and developed in the Arctic.

On a bilateral level, the U.S.-Russia joint task force on search and rescue through the Arctic Council and the joint-traffic control systems operated through the NATO-Russia Council's Cooperative Airspace Initiative (CAI) can each serve as a departure point for expanded cooperation. The Global Maritime Partnership initiative can also be used as a global framework for joint activities in the Arctic.

Because of the importance of soft security issues in the Arctic, the most concerned body is the U.S. Coast Guard, more than even the Navy itself. Possible joint coordination of Arctic littoral coast guard activities should be explored. This would imply, however, that the U.S. Coast Guard is better equipped, in particular on the northern border in Alaska. It is not easy to cooperate with the Russian FSB; the Ministry of Emergency Situations (EMERCOM) is the most open to international cooperation and has to be prioritized.

3) To be more holistic and forward-looking

#### *Arctic is knowledge*

Just like the United States, so too Russia aims to have knowledge power status in the Arctic. This civil side can be easily developed with no risks of tensions and will respond to Moscow's need for symbolic recognition of its status in the Arctic. In twenty or thirty years, China will be able to challenge the United States in terms of knowledge, and to have knowledge is to have political power. This issue needs to be closely monitored.

#### *The main actors in the Arctic can be private ones*

The private sector is summoned to play a major role in developing Arctic infrastructure and capabilities. For this it has both the financial means and the technical knowledge, and the more it gets involved in the Arctic, the greater it will need a joint security strategy with the defense community. The U.S. strategic planning community should therefore discuss ways to engage the private sector. Seasonal U.S. coast guard activities on the Alaskan Arctic side could, for instance, be carried out using infrastructure built by the private sector. It is important to discuss dual use for some infrastructure and logistical means.

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*The future of the Arctic can be Asian*

The role of Asian countries in the Arctic has yet to be studied in detail. The U.S. security and defense communities need to get more information and draw up more scenarios, first on the role of China, and then on those of Japan and Korea. These countries could radically alter the shape of the Arctic landscape, both strategically and commercially. For Russia, the Asian countries can become both key partners and key competitors. The Russia-China axis of convenience will be influenced by relations in the Arctic. The place of India in the Arctic may also be discussed in a global framework dealing with the reshaping of the maritime world order.

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#### 4. RUSSIA'S ARCTIC IN 2040: THREE POSSIBLE FUTURES

Russia's Arctic faces multiple possible futures. What do these futures look like? What are the strengths and weaknesses of each of them? What kind of geopolitical axes with the main and regional powers will shape them? What is the pathway to each of these futures? The U.S. defense and security planning community needs to understand what these possible futures look like. Without this knowledge, it will not be able to participate in shaping the Arctic picture in a way that corresponds to its own interests, and not be able to prepare itself should the actual future be detrimental to its interests.

Scenarios are not designated to forecast the future, but to help us to cope with any of them, as the worst scenarios are the ones we have not thought about. Most of the possible futures will never become reality, but they still are part of the range of future possibilities. They are based on the proper identification of current drivers and trends that may shape the decades to come.

The three scenarios presented here do not all have the same degree of probability. The first is the least probable and the most provocative while at the same time certainly plausible in its main trends. The two others are more probable.

Each one brings together various elements – the global price of hydrocarbons, and the domestic and international situations in Europe, the U.S., Asia, or the Middle East. Then, specific drivers for Russia are added – the “modernization” issue, choices between different economic policies, political regime change, demography and migration, and management of the problematic North Caucasus and Far East regions.

All three scenarios use climate change as a starting point, but with different results according to each scenario – manageable by technology, uncontrolled and chaotic, or manageable but very costly.

All three scenarios predict that Russia's territory and population will decrease, but to varying degrees and with different geographic areas of focus – loss of the North Caucasus and/or the Far East, withdrawal to European regions and/or to the North.

All three scenarios forecast various forms of Russian nationalism and a complex relationship with migrants/indigenous populations.

Strategic planning often tends to outline heightened activity and heightened interest coming from major powers vis-à-vis the region(s) in question, but the scenarios presented here also take into account the often overlooked possibility of a decreased interest in Russia coming from the West or China. Sometimes indifference is worse than hatred.

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>
<b>Dominant Power in the Arctic</b>	Russia	The West	China
<b>Climate Change</b>	Manageable by Technology	Uncontrolled and Chaotic	Medium
<b>Market Price of Hydrocarbons and Level of Exploitation of Russian Arctic Fields</b>	High	Low	Medium
<b>Shipping on the Northern Sea Route</b>	High	Low	Medium
<b>Russian Political Regime</b>	Very Authoritarian and Nationalistic	Democratic populist	Unstable, divided between pro-European and pro-Chinese Lobbies
<b>Importance of Migration</b>	Low	Medium	High
<b>Population Living in the Arctic</b>	Russians	Indigenous Peoples	Chinese and Central Asians
<b>Far East</b>	Controlled	Controlled	Lost
<b>North Caucasus</b>	Lost	Lost	Controlled

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## SCENARIO 1

### A WHITE RUSSIA IN CONTROL OF THE “LAND OF TOMORROW”

In this scenario Russia has become an Arctic superpower. Due to extreme climate change that took place more quickly than anticipated and rampant demand for energy, Russia is bringing in major revenue from the exploitation of hydrocarbons and rare earth metals (REMs), not only from its Arctic territory but also from the continental shelf, which was attributed to Russia by the UN Commission. Russian companies control the sea lines of communication along Russia’s entire Arctic coast. The country has strengthened its hydroelectric and wind power generation, and manages the technologies adapted to climate change. Moscow was able to contain Chinese expansion by addressing Beijing’s mineral and energy needs in exchange for the respect of Russia’s far eastern borders and a controlled influx of migrants. Russia has also overtaken Europe – weakened by internal problems – and the U.S. – busy with the Middle East and confined by its relations to Beijing and Mexico. Due to a series of global economic and geopolitical circumstances, Russia has pursued a political regime that is authoritarian, nationalist, partly autarkic, and pro-birth. The regime provides increased salaries to its population, which has shifted to the North due to the loss of the southern part of the country. Ideological constraints are strict, natalism is strongly encouraged, and migration is tightly controlled as Kremlin-led propaganda glorifies Aryan ethno-nationalism. Moscow cultivates the image of a pure Nordic Russia, the final fortress of the “white world” in the face of the invasion of “peoples of color,” and endowed with a world mission in the Arctic lands.

High in his 34<sup>th</sup> floor office, Igor Vassilievich Petrunov, CEO of Norilsk Nickel, had been awakened early this morning when the building jolted and shook. He was used to it – the company building, inaugurated in 2031, had become the symbol of Russia’s status as a great power, even appearing on the new currency. Built with state-of-the-art systems using anti-seismic techniques, the building was mounted on stilts and able to stand firm on ground that was no longer stable, thanks to stakes hundreds of meters long penetrating through the layer of permafrost all the way to stable rock. The speed with which climate change occurred in the Arctic and sub-arctic regions took the expert community completely by surprise, and the Arctic climatic developments quickly made early twenty-first century predictions obsolete.

This unexpected free time gave the busy CEO some time for reading. Igor Vassilievich reread with pleasure Alexander Solzhenitsyn’s *One Day in the Life of Ivan Denisovich*, a symbol of the Soviet period that his parents often spoke to him about with nostalgia. Igor Vassilievich thought of himself as a symbolic character as well, the incarnation of his era. The morning’s *Pravda* referred to him again in the headlines as “The Prince of the North,” a nickname he had acquired at the beginning of the 2030s when he succeeded in making Norilsk Nickel into Russia’s number one company. Like Ivan Denisovich’s days, Igor Vassilievich’s were also well organized: morning meeting with his executive board for the week’s economic assessment, then video-conference with his three “partners in crime” – CEO of Gunvor Oil Company, CEO of Russian Unified Shipping Corporation, and CEO of State Electric Corporation. Afternoons were given over to managing internal, social, and ideological questions.

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During the executive board meeting Igor Vassilievich took stock of the company with his trusted colleagues. Norilsk Nickel had definitely changed over the course of a century. The company had celebrated its 100<sup>th</sup> anniversary in 2035 with numerous commemorations focused on the creation of the first Arctic metallurgical complex in 1935, in the years of massive industrialization under Stalin. However, it was in the 2010s that the future of the mining complex took on a new direction. Following the difficult years of privatization in the early 1990s, business began to pick up quickly, and the company created its first Arctic fleet in the late 2000s. Then, bit-by-bit, it bought up the other metallurgical complexes, making Norilsk the second largest company in Russia after Gazprom in the 2020s, which Norilsk then surpassed in the 2030s.

Igor Vassilievich's father, Dmitri Petrunov, CEO of the company in the years 2010-2020, had the foresight to play the climate change card to the maximum. In the 2000s Norilsk had built its wealth on nickel, palladium, platinum and copper. In the following decade Dmitri Petrunov concentrated on rare earth metals (REMs), which permitted Russia to gain wealth quickly on this booming market. The Siberian substratum was rich in these precious minerals, but Norilsk's real fortune came from the continental shelf. Indeed, in 2016 the UN Commission on the Limits of the Continental Shelf reached its decision and validated all Russian claims on the Lomonosov and Mendeleev Ridges. Suddenly finding itself with an additional 1.2 million square kilometers of continental shelf, Russia leapt to the forefront of the international scene as the number one global mineral power. Beijing and New Delhi, in growing competition for technology production, had to make binding agreements with Moscow so as to obtain REMs and be guaranteed export quotas that would keep their industries from being jeopardized.

With the extraordinary revenues brought in from the exploitation of these minerals, Norilsk was able to invest heavily in research and development related to climate change. However, Dmitri Petrunov was not promoting green industries in the name of the ecological ideology to which Europe had succumbed. On the contrary, his vision, fully supported by the Kremlin, was pragmatic, based on profits as opposed to principles. Norilsk's motto during those years – “no mitigation, only adaptation” – paid off. The company thereby granted itself a pollution permit thanks to the revenues from REMs exploitation, and invested in research on improving urban Arctic conditions of life. While Europe tried to focus on respect for nature, biodiversity, and the rights of indigenous populations, Moscow went for the industrial development of the Arctic.

Norilsk quickly positioned itself at the forefront of Arctic technologies. It engaged in preparing urban and industrial infrastructures for the rapid thawing of permafrost, which took on massive proportions in the 2020s; improving the urban lifestyle of a multi-million-inhabitant megalopolis (access to artificial light during the winter months, communal spaces protected from the climate change-related wind storms, etc.); and anticipating agricultural shifts due to temperature increases in northern Russia. Thanks to his father's intuition Igor Vassilievich had inherited a true economic and technological empire.

After a quick analysis of the state of the global market for precious minerals, the board meeting moved on to a review of Norilsk's principal research programs. Since 2032, the company had

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been selling its technology for infrastructures resistant to permafrost thaw to Canada and Iceland, and was working toward signing a major contract with the state of Alaska. The city of Norilsk, inextricably linked to the company with Igor Vassilievich as its vice mayor, had hosted numerous international delegations, primarily from Asia and the Middle East, interested in studying the urban success of Norilsk. With its 10 million inhabitants, the city had a futuristic allure that would surely have reminded Dmitri Petrunov in his time of the emirate city of Dubai.

Finally, Norilsk's subsidiary, Arctic Agriculture Ltd., was on its way to becoming the number one agribusiness industry in Russia. This company alone allowed the country to preserve its food self-sufficiency when the historically fertile southern regions succumbed to massive drought. Norilsk was, in fact, the first to produce fruits and vegetables above the Arctic Circle and to attempt exotic crops in greenhouses. Without Arctic Agriculture Ltd., the Kremlin would have probably faced social unrest in the southern regions during the major droughts of 2033. Popular uprisings highlighted the growing importance of Arctic agriculture for Russia's food self-sustainability. President Boris Plevnin ended up thanking Igor Vassilievich for having put Norilsk's accumulated competence in food production management in the service of the political authorities. As expected because of the close alliance between Norilsk and the Kremlin in the name of Russian food security, the Duma voted to award Norilsk an exclusive license for the exploitation of seabed minerals.

Igor Vassilievich then moved on to his daily videoconference with the three main Russian oligarchs. At the beginning of the 2010s, Gunvor was only a modest private oil company, in competition with Rosneft, but which had adopted a holistic strategy: it was seeking to control rail freight, oil terminals, port infrastructure, and tanker fleets in the Baltic Sea to shore up the most profitable markets, namely those with Europe. After 2018 Gunvor rose in power once the former president Vladimir Putin had negotiated his departure from the Kremlin in exchange for complete political and economic immunity, and he revealed (as had long been suspected) that he was Gunvor's principal owner. In the 2020s Gunvor managed to benefit from Rosneft's strategic errors, epitome of the fratricidal wars between *siloviki*, and then take possession of Rosneft's assets in an opaque legal battle that made Dmitri Petrunov comment, off the record, that it was a sad remake of the 2003 Yukos affair and that the predator had become the prey in the end. At the beginning of the 2030s, Gunvor had merged with Gazprom, this time in more peaceful manner, thereby creating the first oil and gas company in the world.

Due to its holistic approach Gunvor succeeded in becoming the principal trader of Russian oil and gas to Europe, and emerged as a symbol of Russia growing weight in Europe. Via the Nord Stream, Gunvor was able to access to Berlin, negotiate directly with the Scandinavian capitals, and had acquired shares in the biggest European energy companies. Gunvor also developed innovative ice and offshore technology. A new Finlandization of Europe by a powerful Arctic Russia had, in fact, come about. However, Gunvor would not have enjoyed such success had it not been for two major historical events that changed the future of fossil fuels: the Japanese nuclear disaster of 2011 and the European economic crisis of 2008.

In spite of Japan's nuclear disaster in March 2011, Tokyo continued to keep its nuclear sector alive. In 2011 an even more powerful tsunami put several reactors into nuclear meltdown and led

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to a disaster even more serious than Chernobyl. The Japanese accidents ended up triggering a huge global anti-nuclear movement such that nuclear energy was no longer considered an alternative to fossil fuels and instead as a sad legacy of the twentieth century. In 2022, the European Union experienced the biggest crisis in its history. It began as a financial crisis and then a global economic crisis similar to that of 2008, but this time Europe was unable to recover. Major popular uprisings brought down the Spanish, Portuguese, and French governments, and the Euro collapsed, weakening the legitimacy of the European Union as well. In an attempt to avoid a political domino effect, European leaders decided to put aside environmental recommendations. Even very green Germany acknowledged that it would not be able to finance the transition to alternative energy as it had anticipated, and the market for solar energy, wind energy, and biofuels came to a screeching halt.

Russia came out a winner from these events. With the explosion in oil and gas prices and the growing demand coming from China and India, Moscow was able to take advantage of high latitude deposits in the Lomonosov and Mendeleev Ridges despite their extreme cost, all while refilling the state treasury coffers and creating wealth for Gunvor and its partners. Granted, there was a difficult period in 2016-2020 due to a lack of new icebreakers and the exhaustion of the West Siberia deposits, but the revenue from the petroleum rent quickly allowed Russia to adapt a Chinese-style policy of massive technology purchases abroad and the acquisition of technological know-how. In the 2020s, before Gazprom and Rosneft were swallowed up by Gunvor, they took the lead on exploiting Arctic hydrocarbons in partnership with Western firms that had lost their exploration licenses at the time of the great retroactive law scandal of 2034 concerning foreign investments. The U.S. and the European Union had threatened sanctions, but being caught up in dealing with other domestic and global problems they let Moscow establish itself as the number one Arctic power in terms of the continental shelf, energy resources, and navigation.

Igor Vassilievich's next close "partner in crime" is none other than Mikhail Khudersky, the CEO of the all-powerful Russian Unified Shipping Corporation. While the world shipping companies were only getting started in the Arctic, this self-made man – born in Arkhangelsk and passionate about naval history – succeeded in the early 2020s in acquiring majority shares in the Murmansk Shipping Company and in the two Severodvinsk shipyards that had just been privatized thanks to political support from the White Russia presidential party. A visionary, he slowly but surely built a strategy of Northern Sea Route monopolization, with support from the leading politicians, who benefited from his financial generosity and political fidelity.

Khudersky became close with Gunvor and Norilsk by offering the two companies low priced shipping services for minerals, gas, and petroleum, and effectively shut out the Far East Shipping Company. In 2025, he obtained preferential partnerships with the main Nordic shipping companies (particularly the Norwegian ones) and the Arctic ports of Canada and Greenland (independent since 2018). Khudersky's business was flourishing, but the shipping volume remained limited to Russian LNG, petroleum, and minerals going to Europe and a few regular sea lines traveling the length of the Arctic bridge to the North American continent.

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The story changed suddenly, however, bringing about a reality beyond Khudersky's wildest dreams. In 2032 an explosion of generalized violence seized the Middle East – still mired in the Israel-Palestine issue, but above all due to the many Sunni-Shiite conflicts of the 2020s. In spite of a U.S. military intervention, the Suez Canal closed, and when it was officially reopened the Islamist extremists prevented regular use of the canal and the shipping companies eventually deserted it. This situation had a negative effect on the energy supply of the Asian powers, especially China. Moreover, since the 2020s Beijing and Tokyo were also dealing with the transformation of Indonesia into a base for the World Islamic Jihad, Al-Qaida's successor, who was making the Strait of Malacca virtually impassible.

China, Japan, and Korea, therefore, made a significant shift toward trans-Arctic shipping. Khudersky became "Mister Northern Sea Route" to Beijing, Tokyo, and Seoul, and Russia's Arctic began to challenge the privileged position of Singapore in east-west trade. Due to the quasi-closure of the Suez Canal and the instability of the Strait of Malacca, Russia gained several decades in its growing competition with China. From this point forward Asian energy supplies were at the mercy of Russian trans-Arctic shipping. Beijing had enough to manage with the implosion of its central and western provinces and its energy supply to not bother with the Kremlin. However, Khudersky did not hide his concern regarding the future. He knew that the Western and Asian shipping companies were preparing themselves for high latitude navigation, which would cause him to lose a large part of his Northern Sea Route revenues. Yet, the trade route through the middle of the Arctic would not come to be until at least 2060, so the optimistic Khudersky hoped to find other sources of revenues by then.

In the late morning Igor Vassilievich also conversed with the CEO of State Electric Corporation, Boris Medved, who had managed to take advantage of climate change and make Russia into the number one hydroelectric country starting in 2036. All the major Siberian rivers, in particular the Lena, Ob, and Yenisei, were accumulating dams and power stations. The electricity produced allowed Moscow to establish control over Kazakhstan, Mongolia, and Ukraine, and to export to Asia, while the growing deforestation of the taiga – timber had become a flagship product for carbon-friendly building material and fuel – was used as an opportunity to build large wind farms.

These four men – "Russia's national champions" – controlled 80 percent of the country's wealth, and their strategic domains were symbols of Moscow's rediscovered power: hydrocarbons, minerals, electricity, and the Arctic transit route. Igor Vassilievich and his three colleagues could build up and tear down governments, and the ear of the president was always at their disposal. Of course, the Western media insisted on parallels between Russia's Soviet twentieth century and its Arctic twenty-first century, but Igor Vassilievich was convinced that the mechanisms were very different. The interaction between the Kremlin and the four major companies was such that it was difficult to separate public and private interests. The companies' objectives aligned with those of the Russian state, and the profitability of their business served the Kremlin's goals of great power.

Despite the idyllic image of a powerful Russia as his father had imagined it, Igor was fully aware of the other side of the scene. Indeed, he would set aside his afternoons for dealing with this

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“other side.” Every day, he had to meet with the FSB section chiefs responsible for the security of Norilsk city as well as of the company. In addition to the FSB’s duties in controlling the country’s Arctic borders, the FSB was in close collaboration with the militia for controlling the population.

Norilsk was not just any city. With a population of 10 million, it was second only to Moscow. Its urban structure was extremely complex because it was surrounded by dozens of specialized industrial satellite cities from which groups of engineers went to work their onshore or offshore mineral extraction shifts in a huge territory spreading from the Yamal Peninsula to Yakutsk, and from Krasnoyarsk all the way to the Lomonosov and Mendeleev Ridges. To transform Russia into an Arctic power, the Kremlin had used carrots and sticks. The dependable money from petroleum, gas, and minerals made it possible to guarantee artificially inflated salaries to the citizens, which stirred up envy in all of Europe but also helped establish rigid social control.

The pro-birth government policy, which came into full force in 2025, mandated each woman to have two children and included significant penalties for married women who refused to get pregnant. As such, Igor would make weekly visits to Norilsk’s maternity wards to bring public attention to the heroic Russian mothers. Due to this policy the country had succeeded in maintaining a population of 120 million, but above all it enabled it to close its borders, thereby avoiding an influx of migrants from Central Asia and China. Of course, some did manage to get into Russia, particularly the Chinese attempting to arrive via the north as “Arctic boat people,” but laws were so unfavorable toward companies employing non-Russians that they dissuaded any massive immigration.

As for the Russian men, their access to alcohol was now regulated – but with limited success, because, as Igor’s father would say with resignation, “you can’t change nature” – and a significant portion of the male workforce was now working for Norilsk, Gunvor, the Russian Unified Shipping Corporation, or the State Electric Corporation. Attractive salaries and technological progress made northern cities like Norilsk more desirable, and even some European citizens wanted to come and work there. The reigning official ideology, which extolled a White Russia, accepted European migrant labor but not Central Asian or Chinese.

The white ideology was already starting to appear in the late 2000s, then gained momentum during the ethnic riots of 2014-2018, and was finally made official by the Kremlin in 2024 as part of its effort to reestablish popular legitimacy. The ideology was further emphasized when the North Caucasus region was definitively lost and Moscow acknowledged in 2027 that Russia’s border was now north of Dagestan. A portion of the population had left the southern regions – subject to climate change, separatism, and the risk of terrorism – and headed north. Millions of Russian refugees had had new lives for themselves in Russia’s sub-arctic regions. The loss of the Caucasus region was a painful moment in Russia’s recent history, but Igor Vassilievich had long since moved on. His parents’ nostalgic tales about the pleasures of the Caucasian spas in the Soviet time never really won him over, and he was always in favor of creating the strongest border possible between the unstable south and the rest of Russia. Compared to the terrorist threat, the loss of the Caucasus region seemed insignificant to him, and

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the successful conquest of the Arctic provided Moscow a great trade-off, both on a symbolic and territorial level.

The idea of a white Russia besieged by “peoples of color” in the south and the east was reinforced again in 2033 when the Russian population of the Far East revolted against Chinese migrants crossing the border, and Beijing had to take action so as not to jeopardize its access to the Arctic shipping lane and REMs. Since then, Russia viewed itself as the fortress of the white world, and it received support from parts of European and American society that saw in Moscow an ally they would not have anticipated a few decades earlier. While Europe faced growing ethnic riots between Muslims and “native Europeans,” and while the U.S. faced English-speakers protesting against Hispanic domination, Russia appeared relatively well protected and the strict social order imposed on the population was seen from the inside and the outside as a minor negative compared to the growing clash of civilizations.

As the day came to an end, Igor Vassilievich could not avoid the agitprop office meeting, during which he was usually extremely bored. The ideologues of the regime were riding high, as usual. Boris Tutnev, presented as the new Vladislav Surkov, who had himself been presented as the new Mikhail Suslov, had just launched a major media campaign on the glory of Russia’s Aryan identity. Tutnev passionately explained his theory on the superiority of the Russians – the last whites to have resisted the domination of the peoples of color, and spoke out against a Europe destroyed from the inside by Islam and a U.S. that now had a Hispanic majority. At his request, the Duma just launched a large research project on Hyperborea, and Tutnev was happy to inform Igor Vassilievich that the white human prototype might be found in the Yamal Peninsula or around Norilsk, as demonstrated by recent archeological searches conducted since the permafrost began thawing.

His colleagues’ enthusiasm for Tutnev’s propositions put Igor Vassilievich in a bad mood. He scoffed at the idea of controlling a substratum rich in Aryan prehistoric sites. Already yesterday he had had to receive representatives from the Aryan religious group – recognized since 2035 – who had demanded that his philanthropic foundation finance their religious buildings. They even tried to convince him that climate change should be interpreted as an expression of divine will. They believed God had blessed Russia with an exceptional future in the twenty-first century, had caused it to be reborn from its ashes following the Soviet failure, and had transformed areas with extreme climates into more temperate places – a sign of Russia’s divine mission.

This ideological baloney really did not interest Igor Vassilievich, and he sometimes even found it very poorly organized and hardly convincing, but still aware that Russia had to protect itself from the invasion of non-whites. A true son of his father, Igor was born pragmatic, skeptical, and also cynical. Like his fellow oligarchs, his number one focus was maintaining his economic empire, which would mean gaining a better grasp of the costs/benefits balance. Ideological propaganda and social and moral control over the population were therefore the unavoidable price to pay for Arctic exploitation by Russia in its role as the last remaining fortress of the white world.

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Although not fully convinced by the intricacies of Aryan propaganda, Igor Vassilievich shared a majority view with his fellow citizens: the planet is not infinite, and the geographic positioning of each state is a fundamental factor in the future of each nation. Rejecting belief in Russia's divine election, the pragmatic Igor Vassilievich believed in the power of spatial factors: size and location have been, are, and always will be the source of Russia's strength, and the Arctic had now confirmed this unique geographic destiny.

### **Pathways to the Future**

2014-2018: Major riots between ethnic Russians and migrants

2015: Japanese nuclear disaster that calls the use of nuclear energy into question on the global scene

2016: The UN Commission on the Limits of the Continental Shelf validates all Russian claims on the Lomonosov and Mendeleev Ridges

2018: Former president Vladimir Putin negotiates his departure from the Kremlin in exchange for complete political and economic immunity, and makes known that he is the principal owner of the petroleum company Gunvor

2020: Gunvor benefits from Rosneft's strategic errors and acquires the company

2020s: Norilsk purchases the other Russian metallurgical complexes and specializes in REMs, becoming the number two and then the number one company in Russia due to its investments in Arctic industrial research

2022: European economic crisis that de-legitimizes the EU and halts the transition to renewable energy sources, thereby bringing value to Russian energy resources

2024: Ideology of a "white" Russia becomes official

2025: Russian pro-birth policy comes strongly into force, European migrants are accepted, but Central Asian and Chinese migrants are refused

2025: The Russian Unified Shipping Company takes control of the Northern Sea Route and develops preferential partnerships with the main Nordic shipping companies

2027: Definitive loss of the North Caucasus region, millions of refugees make their way from the south to the north, beginning an overall shift northward of the Russian population

2030: Gunvor merges with Gazprom and becomes the number one gas and oil firm in the world

2031: A building resistant to permafrost thaw is inaugurated in Norilsk, a symbol of Russian mastery of Arctic technologies

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2032: An explosion of generalized violence seizes the Middle East, making the Suez Canal impassable, and the Asian powers rush to use Arctic transcontinental shipping

2033: Major droughts in southern Russia, followed by popular uprisings, highlighting the growing importance of Arctic agriculture for Russia's food self-sustainability

2033: Russians in the Far East revolt against Chinese migrants crossing the border, Beijing backs down so as to save its Arctic shipping

2034: Major scandal over retroactive laws concerning foreign investment; The U.S. had threatened sanctions, but is tied up in the Middle East and also has to manage its complex relations with Beijing and Mexico

2036: Climate changes make Russia the number one hydroelectric power in the world

2040: Igor Vassilievich, consecrated "Prince of the North" by the *Pravda*, contemplates his Arctic empire

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## SCENARIO 2

### **“NOT ONLY POLAR BEARS ARE PROTECTED”: ARCTIC ON ITS WAY TO AN ANTARCTIC STATUS**

In this scenario the Arctic has entered the globalized world much more slowly than anticipated. Following nuclear and oil-related disasters, the region obtained a specific legal status making it protected from economic exploitation, which has been partially suspended. Climate change more chaotic than anticipated has prevented the Northern Sea Route from becoming an effective trade line. Only the Barents Sea section is active, and Asian trade takes place on the Pacific front. After significant Russo-European tensions, the Arctic eventually became a space of international cooperation due to a legally binding Arctic Treaty Organization. Russia tried to pursue resource-based nationalism in the Arctic, but it did not work. In the end, Russia has only survived through closer relations with Unified Europe and increasing integration with the Nordic countries. The Russian political regime reflects the population’s general shift toward Europe, and it is similar to those in the rest of Europe – democratic with populist xenophobic tendencies. Most of the Arctic and subarctic regions are no longer inhabited, except by indigenous populations, while ethnic Russians have all moved to the country’s western and southern regions. The North Caucasus region was lost in the 2020s, but the Far East has not attracted China’s interest as had been expected. Russian activities in the Arctic are limited, focused on environmental protection and preparation for emergency climatic situations. Russia has not become an Arctic superpower, but a fragile, medium-sized, European-centered power.

Up in his modest office on the 6<sup>th</sup> floor of an old building from the 2010s, Igor Vassilievich Petrunov, CEO of Norilsk Nickel, had been awakened early this morning when his building – situated on the increasingly unstable permafrost – jolted and shook. He was eagerly looking forward to the planned move of company headquarters to the modern buildings built by the Canadian Arctic Building Company, which had successfully worked out a special stilt-mounted permafrost technique in Alberta and Alaska. Igor Vassilievich was convinced that the Putin-era buildings were no longer reliable, since Moscow had refused to enforce anti-melting standards until 2025 even though all Arctic land was subject to the seasonal thaw of underlying permafrost. And as Russian companies fell behind in technological advances, their Canadian, Norwegian, and Chinese competitors had managed to master anti-permafrost techniques.

The Norilsk Nickel CEO decided to take advantage of his early morning free time to familiarize himself with the new evacuation manual for High North industrial operations, which the Kremlin had made public a few days ago and which every top business executive was expected to know in case of an industrial or climatic accident in his/her area of responsibility. Like the Russian Arctic itself, Igor Vassilievich’s day was going to be somewhat chaotic. Today included the weekly visit from Rams Peterssen – Norwegian representative of Unified Europe and a sort of ambassador-at-large for the Russian Arctic – as well as checking in with a few Asian shipping companies coming through the port of Dudinka. His afternoon would be given over to questions of emergency preparedness and hosting the international delegation of the Arctic Treaty.

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Russia's closer relations with Europe and the increased cooperation between Igor Vassilievich and Rams Peterssen had taken time to find their "value base," but they seemed solid now, largely due to changes undergone by Russia. A succession of events had transformed the situation, and marked the Norilsk Nickel CEO's career.

Taking advantage of the 2014-2015 peak in oil prices, the Kremlin had embarked on massive exploitation of Arctic resources. Flush with seemingly exponential gas and oil revenues, Moscow had invested hundreds of billions of dollars toward speeding up the launch of exploitation sites in the Yamal Peninsula and the South Kara Sea, and then set its sights in an unrealistic way on gas discoveries in the Laptev Sea and the East Siberian Sea. The big Russian firms' international partners had quickly sounded the alarm concerning the imbalance between resources invested and the risk of global market collapse, but Moscow did not listen. Indeed, the bright moment had not lasted. In 2019 Saudi Arabia fell into the hands of the Islamists, thereby destabilizing much of the Gulf region and brutally increasing Sunni-Shiite tensions. As a large number of petroleum exploitation sites went to the Islamists – who entertained themselves by constantly changing the prices and authorized export quantities – Europe, the U.S., and Japan made an agreement to speed up their transition away from fossil fuels for primarily geo-strategic reasons. Having lost importance on the global scene, the Middle East made political gains. The partial disengagement of major powers helped to resolve some nearly century-old conflicts, in particular through the creation of a viable Palestinian state in 2024. The change in energy strategies gradually gave the Gulf-based Islamists less influence over the global hydrocarbon market, which, in any case, was already facing more competition from other energy sources.

For Russia, the blow was nearly fatal. The massive investments in Arctic resource exploitation suddenly seemed foolish, and the political regime began to falter. There were violent riots in Saratov between Russian nationalists and the forces of order in 2021 that brought the Great Russian Power Party to power led by Ivan Trozny, spitefully nicknamed by dissidents as Ivan Grozny (Ivan the Terrible). His aggressive nationalism accelerated the North-Caucasian crisis. The whole region sank into instability, controlled by increasingly radical Islamic groups, until Moscow officially granted independence to the small republics and established a new southern border in 2026. Since then, the war-torn region was placed under a UN mandate, which did not really improve the situation. Despite Moscow's muscle-flexing and Trozny's nationalist clamor, Russia had diminished revenue and growing debt, and was still in shock at the loss of both the North Caucasus region and a future with Arctic hydrocarbons. Russia had no choice but to gradually soften its international position and look to its partnership with Europe for reinforcement.

Thus, Russia's nationalism of the 2010s quickly gave way to an increased cooperation with Europe from the 2020s onward. Of course, the commercial tensions had not gone away, but Moscow was no longer in a position to impose its own rules of the game. Low oil prices prevented new major investments in Russian resources and infrastructures. Only the exploitation sites in Sakhalin and in the Caspian Sea remained profitable, with all others operating at a loss. In order to maintain the stability of its neighbor, Europe had agreed to maintain a minimum purchasing threshold of Moscow's oil and gas and participate in the upkeep of the major pipeline

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networks like the Nord Stream and the South Stream. In 2028 Statoil, ENI, Wintershall and Total acquired for modest sums shares in the Russian Arctic deposits and helped Novatek and Lukoil – Russia’s market leaders since the collapse of Gazprom and Rosneft in 2020 – to maintain the few remaining profitable pursuits, such as LNG and refined oil derivatives.

Europe itself had also changed. The great economic and financial crisis of 2024 had damaged the European Union structure, which was further accentuated by the European countries’ growing inability to manage xenophobic tensions and the influx of migrants. It was thus decided that Europe would shift to being a confederation with shared foreign policy and defense and a strict monetary policy that would make the Euro into a successful competitor with the dollar. The technocracy in Brussels had lost legitimacy as the Parliament of Strasbourg had gained power, and most Europeans were beginning to view Europe as their natural political identity. This evolution allowed the last unaffiliated countries like Norway, Iceland, and Switzerland to become part of the pan-European structure in 2027, already preceded by the independent Greenland and Faroe Islands in 2022 and the former Yugoslavian states in 2018.

Since the end of the 2020s, Norway had taken the lead in relations with Russia. Empowered by cooperation with Moscow that was already in place concerning strategic de-escalation, environmental issues, and the fishing and extracting industries, Oslo even persuaded the Kremlin to a shared military cooperation for the entire Barents Sea region. Working with Germany, whose historical role as a European outpost of Russian interests had continued to increase since the beginning of the twenty-first century, the Nordic countries succeeded in transforming their relationship to Russia into a masterpiece of overall Unified Europe-Russia relations. From then on Oslo and Berlin, with Moscow’s support, campaigned for a complete overhaul of NATO, which had lost legitimacy after its failure in Saudi Arabia, as well as the birth of a new pan-Western structure including Russia and Japan that they hoped to firm up at the Summit of Prague in October 2040.

The Russo-European pairing clearly could not have come to be without the transformation of Russian politics. Ivan Trozny, triumphantly elected by a people who were in shock from the energy collapse and pulled apart by xenophobic tensions, had ushered in a difficult nationalistic period. But European aid for reconstruction, the de-escalation of conflict in the Arctic, and Russia’s economic recovery thanks to a long-awaited transition to new technologies allowed a new generation – Igor Vassilievich’s age and strongly pro-European – to rise to power at the beginning of the 2030s. Of course, Norilsk Nickel’s CEO was fully aware of the fact that the new Russian democracy was far from perfect. It was still plagued by the evils of corruption and populism. However, it really was not very different from the situation in Unified Europe at that time, or from the situation in the U.S. where some White Power groups were trying to organize anti-Latino lobbies.

The Arctic as a symbol of international cooperation was abruptly accelerated at the beginning of the 2030s. In 2031, after 20 years of debates and reports, the UN Commission on the Limits of the Continental Shelf ended up rejecting all of Russia’s territorial claims on the Lomonosov and Mendeleev Ridges, attributing part of the continental shelf to Canada. This situation led to a serious political crisis in Russia. The Kremlin, still in the hands of Ivan Trozny and convinced of

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its rights, threatened to withdraw from UNCLOS and called for a takeover-by-force of the continental shelf. Igor Vassilievich still wondered, sniggering, with exactly what military and technological capabilities this would have been possible. The solution ended up coming from the small city of Nuuk, capital of independent Greenland. Nuuk proposed to make all Arctic exploitations bilateral or multilateral so that none of the coastal states would feel slighted – an idea that quickly won everyone’s support. Ivan Trozny fell out of favor after all of his nationalist gesticulations, and a “color revolution” orchestrated by Moscow’s elite brought Boris Petrovin to power – trained in Moscow’s mayoral offices by the pragmatic Sergey Sobianin in the 2010s. Petrovin immediately acknowledged that Russia did not possess the technological capacity to exploit its own Arctic regions, much less its continental shelf, and he restored Russia’s participation in UNCLOS in exchange for international assistance.

The following year, in 2032, the Arctic remained in the spotlight, but for sad reasons. Within a few months, the collision of a Chinese Arctic oil tanker and an American submarine resulted in a huge oil spill in the Bering Strait, and permafrost thaw caused a radioactive leak from the nuclear waste in Novaya Zemlya. Both events served to sound the international alarm. The Canadian and American coasts of the Beaufort Sea were affected by the oil spill, and radioactive clouds passed over the Nordic European countries. In an emergency meeting in Reykjavik, the Arctic states agreed to establish a legally binding Arctic Treaty that essentially brought all resource exploitation to a halt, because of pressure from public opinion that was increasingly concerned about environmental security. The regulatory conditions were so strict that only the REMs deposits remained profitable, making Norilsk Nickel one of the last industrial bastions in the Arctic.

In 2034 the Arctic Treaty Organization was created, which would manage military operations in the region. States could no longer organize exercises alone, but only in partnership with at least two other states. Also, each military exercise had to be related to the soft security issues prioritized in the organization’s charter – rescue systems, anti-smuggling efforts, ecosystem protection, and electronic monitoring of the Arctic via satellites, patrol aircraft, etc. Only scientific expeditions were still permitted to go out under the control of a single state. Berlin and Oslo were even hoping to merge the Arctic Treaty Organization with the post-NATO structure, a symbol of growing Atlantic-Arctic unity. Igor Vassilievich, who had supported Boris Petrovin’s democratic *coup d’etat* in 2031, did not hide his Europeanist convictions. Educated in London and Boston, having spent his holidays on the French and Italian coasts, with multilingual kids, Igor represented this generation now in power, focused on the Western lifestyle.

After having evaluated Russo-Norwegian cooperation in each of Norilsk Nickel’s various sectors, and having discussed the next post-NATO congress in which Rams Peterssen was hoping to present the idea of a U.S-Europe-Russia-Japan strategic union, Igor Vassilievich met with Kim Pan, the Pan-Asian Shipping Company representative. The port of Dudinka, under Norilsk since the early 2000s, was trying to benefit from the Arctic shipping timidly starting to come about, primarily from Asia. For nearly 30 years the opportunity for a new transcontinental sea-lane had not really made much progress. A few Scandinavian ships would make the trip during the summer months, but without much conviction because the wind, fog, waves, and complications coming from summer ice melts made it so the journey was still difficult.

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Moreover, the halt of Arctic exploitations did not encourage the shipping companies to invest much in this challenging transit.

Only the Asian companies were working to develop the Northern Sea Route at all costs, and they were ready to pay the steep fees needed to insure the shipping of oil, gas, and minerals, according to the strict safety regulations imposed by the Arctic Treaty in order to avoid pollution. The main Arctic shipping company was the Pan-Asian, which was created in 2036. It combined Chinese and Korean interests – the Chinese shipped the merchandise and the Koreans supplied the Arctic tankers – and it was operated nearly exclusively by Filipino staff, specialized in harsh climatic conditions. But their ships rarely conducted transcontinental shipping and were limited instead to going up and down the Russian coast between Kamchatka and Chukotka. In meeting with Kim Pan, Igor Vassilievich was reminded of the deep fear that China's rise in power had aroused in his father, Dmitri, but that fear had not become a reality, at least not in 2040. The Yunnan and Shaanxi revolts of 2025 and 2028, indicative of the Chinese peasants' discontent, as well as the Tibetan insurrection of 2032 had occupied the Chinese authorities for a decade. Beijing focused on its domestic problems, with encouragement from Washington, concerned with slowing down its confrontation with China, and to Moscow's great relief.

In addition, China found itself entangled in Central Asian conflicts. Beijing had opened a military base in Osh in 2023, at the time of Kyrgyzstan's collapse, and later came to regret the decision as a pseudo Islamic caliphate had been installed in the secessionist regions of the Ferghana Valley since 2036. Thus, with the Chinese authorities occupied domestically and on their northwest front, they backed down from the Far East. There were not more than a million Chinese migrants in the Russian Far East, managing crop farms and logging operations, and the fear of a China that would swallow part of Russia that had so influenced Igor's father's generation had disappeared. Pragmatically, though, Igor wondered if this might have been a missed opportunity for Russia – maybe it would have been better for the country to benefit from the Chinese workforce instead of fearing it. Indeed, China's lack of interest in the Far East revealed Russia's lack of relevance on the international scene now that it was no longer an energy or mineral powerhouse.

Igor Vassilievich spent his afternoon dealing with human and environmental issues. Though he would have wished it otherwise, many problems in the city of Norilsk were his as vice mayor of the city. Along with Murmansk and Arkhangelsk, Norilsk was one of the last Russian Arctic industrial cities that still had a permanent population. More than anything else, this was expensive, and Igor Vassilievich imagined himself as the last grand industrial and urban mandarin. Between the gradual halt of all Arctic exploitation and the new technologies that reduced the need for human beings and instead relied on machines controlled from central posts that were sometimes several hundred kilometers away, the city of Norilsk did not have much of a future. Its population had dropped to fewer than 150,000 inhabitants. The 2036 census showed the Russian population's retreat toward the west and confirmed the country's incapacity for demographic recovery. Out of 120 million people, only a few million remained in the Arctic, subarctic, and Far East regions of the country. The vast Siberian hinterlands had been left to indigenous peoples, while ethnic Russians all lived in the European and southern regions of the country.

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Igor Vassilievich had to lead environmental security exercises every month, and Norilsk's residents were used to them, just like the Japanese with respect to earthquakes. Russians were already familiar with a multitude of environmental emergencies. They had lived through the quasi nuclear accident of the Yakutsk power station in 2029; the floods that ravaged Saint-Petersburg in 2032 due to the first tsunami in the Gulf of Finland; and the progressive disappearance of the port of Arkhangelsk following coastal erosion that had been very visible since 2038. They knew how to quickly evacuate buildings and infrastructures weakened by permafrost thaw. Many Canadian and Icelandic delegations had come to Norilsk to participate in population evacuation trainings, and Igor himself had been trained in Fairbanks – a city facing similar issues and twinned with Norilsk in 2034.

Norilsk Nickel's CEO had therefore watched with concern as the major crises of the Yamal Peninsula and Ob-Tazov fields unfolded in 2037, the year of the warmest summer ever recorded since the onset of climate change. Yamal's exploitation infrastructures were basically swallowed up by the earth, and the Ob-Tazov fields, 40 kilometers from the coast, were ravaged by coastal erosion. The entire Norilsk region, all the way to the Yenisei delta, would probably be next on the list, somewhere in the second half of the century. Already, some transportation networks were impassable in the summer, and the only means of getting around was by airplane or helicopter. At the same time, infrastructures and buildings were weakening so quickly that the cost of maintaining them had skyrocketed.

Issues of food production and food security, however, were a more immediate preoccupation for Igor Vassilievich. Russia had broken its drought record for the century once again in 2039, and crop cover was continuing to diminish. The Arctic agriculture his father, Dmitri, had dreamed of in the years 2010-2020 had never come to be, due in large part to the new bacteria being transported by Arctic insects. Fortunately, water was not an issue in Norilsk as it had become in many major cities, including Moscow. The rivers had sufficient volume in the summer to allow for collecting and decontaminating reserve water supplies for the year, and Norilsk Hydro Tech Ltd had even been exporting its drinking water in the Stavropol region since 2037.

Finally, at the end of the day, Igor Vassilievich hosted the international delegation of the Arctic Treaty, as he often did. And, as seemed fitting for the vice mayor of one of the last Russian Arctic cities, he offered them a Nenets folklore concert. Since the Arctic Treaty, Russia essentially converted itself to ecological and folkloric tourism, strictly controlled, in the High North. But other issues were hidden behind the cultural facade, which Igor Vassilievich was well aware of due to his familiarity with the mayor, Yurkan Yaq, of Nenets origins. Yurkan Yaq had taken the lead of the Pan-Russian Indigenous Party, which brought together the Arctic populations as well as southern Siberian populations, the Buryats in particular. The Party put forth increasingly autonomist slogans, motivated by the Buryats' pan-Buddhist tendencies and by the increasing demands coming for indigenous people groups in various places. In Canada, they demanded that the "white states" give the Arctic territories back to their legitimate first inhabitants. In Russia, the debate had been complicated by the Pan-Russian Indigenous Party's alliance with the Volga-Ural Union, which brought together Russian Muslims.

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Listening to the Nenets music, Igor Vassilievich wondered about the future of the Arctic. In the past 30 years climate change had made the region partially unmanageable on a technical level, and recurring environmental accidents had essentially stopped human efforts at exploitation in the region. On the positive side, Norilsk Nickel's CEO congratulated himself for the international cooperation that had emerged, and for the absence of tensions between Western and Asian powers concerning the Arctic, each modestly managing its western or eastern side. On the negative side, perhaps, was Russia's loss of hope for an Arctic future – due to its energy failures, its lack of economic activity in Siberia, and the demographic and political pressure coming from the indigenous peoples and Russian Muslims. But the negatives were balanced out by the new political and strategic closeness with Europe. Although the Arctic had not re-established Russia as a great power, the country had at least become a medium-sized European-centered power. The hopes placed on the Arctic at the beginning of the twenty-first century had not come to fruition, and maybe this was actually good for Russia, having become a somewhat dull but “normal” country.

### **Pathways to the Future**

2014-2015: Peak in oil prices that pushes Moscow toward ill-advised investments in Arctic resources

2019: Saudi Arabia passes into the hands of Islamists, bringing a large portion of the Gulf region into instability along with it, and violently increasing Sunni-Shiite tensions. The Western powers decide to discontinue their dependence on fossil fuels

2020: Collapse of Gazprom and of Rosneft following the collapse of the Russian oil and gas market

2021: Saratov conflicts between Russian nationalists and forces of order, bringing to power the Great Russian Power Party of Ivan Trozny

2023: Opening of a Chinese military base in Osh, Beijing gets bogged down in Central Asia and forgets the Far East

2024: Great economic and financial crisis that damages the legitimacy of the European Union, which then decides to become a confederation

2025 and 2028: Yunnan and Shaanxi revolts, indications of the Chinese peasants' discontent, that keep Beijing occupied domestically

2026: The North Caucasus region becomes autonomous from the Russian Federation and passes under a UN mandate

2027: Norway, Iceland, and Switzerland join the pan-European structure

2028: Statoil, ENI, Wintershall, and Total acquire shares in the Russian Arctic resource deposits for a modest sum

2029: Yakutsk quasi-nuclear accident

2031: The UN Commission on the Limits of the Continental Shelf rejects all of Russia's territorial claims on the Lomonosov and Mendeleev Ridges. Boris Petrovin's democratic *coup d'état* against nationalist Ivan Trozny makes way for new political connections between Moscow and Europe.

2032: Collision between a Chinese arctic oil tanker and an American submarine resulting in an oil spill in the Beaufort Sea, followed by a radioactive leak from the nuclear waste in Novaya Zemlya. Arctic exploitation brought to a halt by the legally binding Arctic Treaty.

2032: Flooding that ravages Saint Petersburg, first tsunami in the Gulf of Finland

2034: Creation of the Arctic Treaty Organization, increased Russo-European military cooperation

2034: Twinning of Fairbanks and Norilsk

2036: Creation of the Pan-Asian shipping company (Sino-Korean)

2036: Pseudo Islamic caliphate in secessionist region in the Ferghana Valley

2037: Norilsk Hydro Tech Ltd exports drinking water to the Stavropol region

2037: Warmest summer on record since the beginning of climate change: Yamal exploitation infrastructures are swallowed up by the earth, the Ob-Tazov fields are ravaged by coastal erosion

2038: Progressive disappearance of the port of Arkhangelsk following coastal erosion

2039: Russia records its highest droughts of the century

2040: Oslo, Berlin, and Moscow campaign for a complete overhaul of NATO and the creation of a new pan-Western structure including Russia and Japan. Igor Vassilievich wonders if the failure of an Arctic future for Russia was actually good for the country, having become a more European-centered medium power.

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## SCENARIO 3

### **RUSSIA'S ARCTIC AS A MIRROR OF THE TWENTY-FIRST CENTURY: POLAR ISLAM AND CHINESE BUSINESS**

In this scenario the Arctic has become a globalized frontier, mirroring the evolutions of the twenty-first century as a whole. The region has become an integral component of the global economic system, but the exploitation of hydrocarbons and minerals and shipping along Northern Sea Route have been slowed down by climate change that was more complex than envisaged. The excessive price of exploitation in the Arctic compared to the Middle East, along with new technologies, were not attractive to Western companies, so they remained marginal actors in the sector. The big Russian companies were not successful in their reforms in the years 2010-2020 and thus could not undertake Arctic resource exploitation by themselves. These two conditions left the field open to the Asian powers. For China especially, but also for Korea, Japan, India, and Indonesia, the high prices of Arctic resources are not a problem because their energy security and geopolitical security are of greatest importance. The Chinese flag now flies over the exploitation sites, the ships, and the polar scientific stations in the Arctic, and the technologies adapted to climate change are also from Asia. In the years 2020-2030, Russians moved to the European areas of the country, the Far East came under Chinese control, with the wealth of the Arctic being exploited by 30 million migrants. To avoid interethnic riots, segregation mechanisms have been instituted. The two principal communities of migrants – Central-Asian and Chinese – are in increasing conflict and their powerful lobbies are clashing. The Muslims of Tatarstan and the North-Caucasus region constitute a significant part of the population. Moscow is no longer the master of the development of its Arctic territory and the geographic fragmentation of Russia as a whole is becoming increasingly noticeable: Russians in Europe, Central Asians in Siberia, and Chinese in the Far East.

High in his 34<sup>th</sup> floor office, Igor Vassilievich Petrunov, CEO of Norilsk Nickel, had been awakened early this morning when the building – situated on unstable permafrost – jolted and shook. Even though he was used to it, he could not accept it and always wondered deep down just how sturdy the Chinese construction really was. Public criticism of China, however, would not have been appropriate for a man of his position. Since 2035 the majority shares of Norilsk were held by the All-China Mining Company, so he had to maintain a good image of Russia's new big brother. As such, Igor Vassilievich decided to take advantage of his free time and revise his speech for later that morning, clumsily practicing a few words of welcome in Chinese. Born in 2000 and just a few days shy of his 40<sup>th</sup> birthday, Igor, like many in his generation, was better at English than Chinese – a situation now reversed in Russia's younger generation of students.

Igor Vassilievich tried to peacefully envision his workday's busy schedule. His morning would be devoted to meeting the Chinese delegation, led by Chengzhang Chu, the Chinese chargé d'affaires who held place of consul in Norilsk. In the afternoon, the Norilsk Nickel CEO would have to deal with the usual commercial headache involving Japanese, Korean, Indonesian, and Indian representatives who were trying to win Arctic markets, and to whom Igor Vassilievich would diplomatically try to explain that Moscow's room for maneuvering vis-à-vis Beijing was

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unfortunately limited. Finally, a meeting awaited him that he already knew would be rough, with Faroud Beknazarhodja, the Central Asian representative of the very powerful trade union of Arctic Industry Migrant Workers. At this early hour of the day, he wondered which he was dreading more – the meeting with the Chinese or the one with Beknazarhodja, but he could not decide.

Igor Vassilievich began by receiving the Chinese chargé d'affaires and his delegation. In addition to his post at the Chinese consulate of Norilsk, Chengzhang Chu belonged to the moderate lobby of the Chinese National Unity Party, which had succeeded the Communist Party once the decision to abandon the communist reference was passed in the 2026 Congress of Shanghai. Chengzhang Chu was generally reserved with regard to the current nationalistic trends in Beijing, and he tried to remain pragmatic, which made him likeable in Igor Vassilievich's eyes. But he also had some less pleasant qualities. Chengzhang Chu was one of the main underground promoters of the Chinese lobby to the Kremlin, created in the second half of the 2010s and having emerged on the Russian political scene as an autonomous group in 2025. Since then, Russia's political life was split into two groups – the Europeanists and the Asiophiles – taking on once again an age old set-up of opposition, dating from the slavophiles, but this time with direct consequences on Russian society and not just on national narrative.

Igor well remembered China's rise in power, which had taken Russia completely by surprise, but he also remembered key moments that had changed the balance between the two countries. Ever since 2022, Chinese politicians no longer hesitated to speak condescendingly about Russia as a "junior partner," which infuriated the Kremlin, but with no way to retaliate. The facts were indeed impossible to deny: Beijing controlled the majority of the Russian economy; it had become Moscow's primary competitor in the global arms market; and had easily achieved the status of the number one power in Central Asia, as the Shanghai Cooperation Organization had not succeeded in limiting China's economic and political expansion in the region.

The balance between Russia and China had shifted definitively at the time of the 2034 Khabarovsk conflict. Tensions in the Far East had already been increasing for several years, with China exploiting vast amounts of wood from the taiga and minerals and having extended its network of crop farms all the way toward the Baikal. The 2 million Russians residing in the Far East had resigned themselves to their fate. Those most wary of the Chinese had left the region long ago and those that stayed essentially all worked for the Chinese businesses. Mixed couples had become increasingly common and the local political elite were at the service of Chinese interests.

In 2034 riots between Chinese and Central Asian migrants in Khabarovsk degenerated when it was revealed that the Kremlin had been trying to set the two communities against each other. Beijing then accused Moscow of not being able to guarantee the security of Chinese citizens in the Russian Federation and demanded joint military control of Primorie, which became a Russo-Chinese province. Primorie was still attached to Moscow on paper, but it was in all practicality a dependent of Beijing. A new *Bingtuan*, perfect replica of Xinjiang Production and Construction Corps (XPCC), had been installed there. It was both an armed wing of Beijing and a major component of China's demographic and agricultural colonization. Thus, Russian Primorie served

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as a base of departure for Chinese migrants making their way further north, to Yakutia-Sakha, Kamchatka Peninsula, and Taimyr Peninsula. The trauma of losing the Far East had created a major political crisis in Moscow, which led to the radicalization of the two camps (Europeanists and Asiophiles) and a latent quasi civil war between ruling elites.

Almost everyone in Russia believed that China had definitively revealed its true nature as a nationalist power, seeking domination over its neighbors, but not everyone had the same reaction to this new order. The Europeanists sought a European option for Russia with integration into the European Defense Organization that had succeeded NATO in 2036 and the establishment of shared economic strategy between Brussels and Moscow so as to create a better counterbalance to China. The Asiophiles, on the other hand, believed the battle was lost. They saw Europe and even more so the U.S. as too dependent on China to be an effective counterbalance, and so believed that Moscow should protect its own interests by playing the card of Beijing's loyal supporter. Igor Vassilievich, however, had never had any hesitations. He was fully aligned with the Europeanist view and the Party for the Union of Russia and Europe had his complete support. Nevertheless, he was careful not to make any public anti-Chinese remarks so as not to lose his position at the head of Norilsk Nickel.

China also achieved a dominant position in the Arctic in the 2030s. Beijing had been a member of the Arctic Council since 2013 – along with Japan, South Korea, the EU, NATO, and the United Nations – and had quickly asked to participate in decision-making concerning the high seas, as they were considered a “common good,” belonging to all nations. China was also in control on land. Russo-European energy cooperation had gotten off to a good start in the early 2010s, but it had quickly lost its footing due to changes in the international context. In the latter half of the 2010s, Iraqi oil production took off, Iran reintegrated into the international community after the 2017 “Pistachio Revolution” and the upset of the Ayatollah regime, and world gas and oil prices went down. This resulted in the main international majors starting to question the profitability of the resources in the Russian Arctic, and eventually leaving them due to the 2018 Shtokman debacle and the repeated delays and over-costs of the Yamal mega-project. In the following decade the difficulties caused by climate change that was slower than anticipated comforted Western firms in their choice. Only the booming Asian economies could maintain interest in too expensive Russian Arctic resources.

Ever since the merger between Gazprom and Rosneft in 2015 – initiated by the Kremlin in the vain hope that the creation of a hardly functional administrative giant would help to recover the losses experienced by the Russian energy industry – Gazneft Unified had made one error after another. It refused to undertake the necessary internal reforms and became mired in several internal conflicts between the *siloviki* who still controlled the sector. Due to a lack of Western competitors, the Kremlin had to turn to the Chinese, the only investors still interested. From 2020 onward, the China National Petroleum Corporation invested enormous sums in the Yamal Peninsula and acquired a large share in the Barents Sea and Pechora Sea deposits, while Sinopec bought up shares in Sakhalin 1 and 2. Arctic drilling technology, as well as the Russian LNG market, passed slowly but surely into the hands of Chinese companies. Gazneft Unified was but a shadow of its former self, controlling only a minority of the Russian oil and gas reserves.

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China also became a major power in Arctic shipping. Beijing had acquired sufficient specialized know-how from Korean shipyards to establish its own Arctic fleet in the 2020s. Bit by bit, Chinese shipyards put their own Arctic tankers into the global market, to the detriment of Scandinavian productions, and Russian shipping companies were gradually bought out by their Chinese colleagues. From then on China considered itself a first class maritime power, a reality symbolized by the 2032 Sri Lanka conflict between India and China, which put the two naval fleets face to face with China emerging as the victor. The Chinese Navy had also become a real challenge to U.S. sea supremacy. Despite the difficulties that came with climate change, which kept Arctic shipping hazardous and costly, the Northern Sea Route had become China's number two international sea-lane route in 2039, after the classic Suez Canal - Strait of Hormuz - Strait of Malacca route.

In the latter half of the 2030s, Beijing orchestrated a masterful coup. Already in control of the Japanese-led polar research, which had only grown with Chinese financial backing, the Chinese authorities started arm-wrestling with the U.S. Due to its forex reserves, Beijing claimed a right of interference in American domestic politics. Within the package of measures demanded in 2037, the Chinese authorities had included the right to use U.S. Arctic and Antarctic polar bases – a request to which Washington hardly paid attention because it seemed so inconsequential compared to China's demands for a complete reform of the American federal administration. Thus the Chinese were able to take over the Arctic scientific scene, directing the research according to their strategic and economic interests. Knowledge had become a key asset in the balance of power with the U.S.

China took a position of power in the mineral extraction market as well, particularly rare earth metals (REMs). The wealth of China's own sub-soil was no longer enough, and Sung Haseng, one of the most clairvoyant Chinese politicians, understood already in the 2020s that China should take control of the Russian REMs market before it could become a competitor. As Igor's father, Dmitri, had explained with sorrow, Russia had really missed the bus regarding modernization in the years 2010-2020, and the mineral extraction industries in the hands of the Putin-era oligarchs had fallen like overripe fruit into China's basket. Even Norilsk, the jewel of Russian Arctic industry, had ended up selling a majority of its shares to the All-China Mining Company. The most accessible REMs deposits in the Kola Peninsula and Yakutia-Sakha had already reached their peak, and Moscow then needed Chinese assistance to exploit the more challenging deposits as well as seabed ones. In 2021 the UN Commission on the Limits of the Continental Shelf recognized a small part of Russia's claims on the Lomonosov Ridge (very modest compared to the original claims), which strengthened China's desires to control the Russian market.

Igor Vassilievich had eaten his lunch in anguish at the thought of the meetings to follow. For several years representatives of non-Chinese Asian firms had been attempting to lead joint operations, in Russia and elsewhere. Japan and Korea had been working together for a long time and had been joined by Indonesia at the beginning of the 2030s. As for India, it presented itself as the dominant South Asian power, but was slow to win its arm wrestling contest with China. India's dynamic demographics had slowed down the sharing of growth dividends with the population, and the 2026 localized nuclear conflict with Islamabad had held up the country's

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modernization. However, since the 2030s, New Delhi was gaining influence in the world, due to a tight partnership between India and Washington, signed with great pomp in 2033 by Agata Mendoza, first Latina president of the U.S.

The non-Chinese Asian consortiums wanted to guarantee themselves part of Russia's resources and avoid a Chinese monopoly. In 2024 Japan obtained a new bifurcation of the EPSO pipeline toward Japanese territory. After that Japan focused on consolidating its access to Russia's REMs in the hope of limiting its dependence on Chinese exports. As for Korean and Indonesia, they were essentially interested in rights of passage via the Arctic transcontinental lane. Competition among Asian shipping companies was fierce, even more so as the security of the Strait of no longer seemed guaranteed ever since Malaysia had become an Islamic state in 2022.

Negotiations with India included all arenas. New Delhi was just as interested in gas and petroleum as in minerals and Arctic shipping access. The tensions with China had increased abruptly after the Indian Oil and Natural Gas Corporation (ONGC) was expropriated from Sakhalin in 2031, under pressure from CNPC and Sinopec. The struggle for influence between the two Asian giants then began raging in Central Asia, especially in Kazakhstan. Like Japan, New Delhi sorely needed Russian REMs. India's commercial fleet, in direct competition with the Chinese one, had been slow in taking interest in the Arctic. For Indian ports, the southern routes via Hormuz and Suez or the route around Africa remained the most profitable. But India eventually threw its hat into the Arctic shipping ring so as to better serve the Pacific North and Europe.

Norilsk Nickel's CEO would have gladly helped the Asian representatives toward a more active involvement with Russia, and he knew he would have the support of the Kremlin's Europeanist lobby, which particularly valued India due to its privileged relation with Washington. But his position at Norilsk also brought him to know that China continued to consider Russia, in particular Arctic and subarctic regions, as its own incontrovertible supplemental resource base, and Beijing would not welcome any competition.

Igor Vassilievich then arrived, his stomach in knots, at his meeting with Faroud Beknazarhodja. This all-powerful lobbyist, of Uzbek origins, represented the interests of the LWUAI – the Labor Workers Union of the Arctic Industries – which had nearly 10 million members. His office was in Norilsk, but he traveled a great deal, anywhere from Murmansk to Yamal, and also had connections in the Kremlin. Igor Vassilievich was always surprised by Faroud's capacity to combine union demands (salaries, work conditions, rights to travel to one's country of origin) and cultural communitarianism. This time was no different. Faroud had just finished expressing the grievances of Norilsk's Muslims, the majority in the city, who wanted new mosques and the right for their children to receive primary schooling in their national languages. The Uzbek leader also snuck in some discrete threats related to municipal autonomy for Muslims in the Russian Arctic's industrial cities. Norilsk Nickel's CEO – sure of the superiority of European culture and condescending toward Islam – wondered how the situation in the country could have come to this.

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In 2019 Russia established a massive and well-organized migratory policy in order to confront its lack of a labor force. While the country had only about 10 million migrants in 2010, a decade later the figure had reached 20 millions, and was over 30 million in 2040. The migrants were largely from Central Asia. There were 2 million Tajiks, who had been present for a long time; 2 million Kyrgyz, who had arrived in great numbers after the collapse of their country in 2015; and over 10 million Uzbeks, fleeing the Islamic regime established in Tashkent in 2016. Many among the migrants also came from China. They had migrated from the poor provinces in north and central China, where the local economies had been penalized by the last decade's climate change. Finally, there were also some Vietnamese, Koreans, Mongolians, Afghans, and Iranians, as well as a growing number of rural Bangladeshis and Indians fleeing the poverty. Nevertheless, Chinese and Central Asians constituted the bulk of the group, and they were also better organized. The Chinese migrants were several steps ahead of the Central Asians, because Chinese firms controlled the major Russian businesses and had their own lobby in the Kremlin.

Interethnic violence between Russians and migrants, which was common as of the latter half of the 2000s, increased in the 2010s. It then took on such proportions – including massive pogroms in Moscow and Yekaterinburg – that the stability of the country was put into question. The Russian nationalists, who had growing popular support, became the majority in the 2023 legislative elections, and they threatened the Kremlin and the top oligarchs that they would plunge the country into chaos if the Russian national identity was not preserved. After several months of crisis and the threat of civil war, all the political and economic actors agreed to institutionalize a method of segregation between ethnic Russians and migrants. This angered Igor's father, Dmitri, in his old age. In keeping with his Soviet upbringing, he saw a parallel with South Africa before Mandela or the U.S. before the civil rights movement, but these historic references were lost on the Russian population. Indeed, the Russian population accepted the measure with relief and hoped that from then on they would be able to live well separated from the migrants.

Starting in 2028, Russia thus established a paradoxical system, in which the majority of migrants were confined to the Siberian, Arctic, and Far East territories. They were deprived of political rights, marriages with ethnic Russians were looked down on, and various laws discouraged their settlement in Russia's European regions – although ongoing corruption in the Russian administration made it possible to sidestep the system. Ethnic Russians, whose population was predicted to drop below 100 million in 2045, continued to migrate to European regions. As such, 90 percent of ethnic Russians lived along EU borders. They had abandoned Siberia and the North Caucasus region en masse, while the major Arctic industrial areas were occupied primarily by migrants. They resided in camps with very basic infrastructure and were sent out to the Arctic exploitation sites in bi-weekly rotations.

The legally enforced segregation aligned with the geographic segregation. This situation, highly criticized in Europe, was nonetheless justified by Igor Vassilievich, who saw it as the only viable solution for the survival of Russians as a nation. The freedom of movement had allowed them to get closer to Europe, which comforted Igor in his conviction that Russians were a European people like the others – almost. The North Caucasus region had been maintained at the heart of the Russian Federation, against all odds. But the North Caucasian and Tatar demographic

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pressure was more and more marked – or, as Igor Vassilievich thought to himself, the Russians saw their *Lebensraum* shrinking. If they lost Volga-Urals and North Caucasus, they would be left with hardly anything more than the former medieval Muscovy. Thus, it was deemed better to take part in revenues from Arctic resources exploited by migrants, and to leave local Muslims in control of the Volga-Urals and the North Caucasus, than to lose all these territories.

For several years, Norilsk Nickel's CEO had noticed the growing competition between the Chinese and Central Asian migratory upsurges. The Central Asians, whose younger generations felt at home in Russia, were asking the Russian authorities more and more directly to institute a new segregation measure between them and the Chinese. If the Chinese legitimately dominated the Primorie and the area around Baikal, even Yakutia-Sakha, the Central Asians would claim the Arctic market from Murmansk to Norilsk and exploitations in the Urals and all of West Siberia. Polar Islam had become a reality: Muslims were the majority in all major Arctic cities. Some of the Central Asians were also affiliated with Tatar and North-Caucasian nationalists in an attempt to create a major North Caucasus - Volga-Urals - Siberia axis dedicated to Muslim populations, blocking the Chinese to the east and the Russians to the west. The publications funded by the Central Asian lobby evoked more and more overtly the Kazakh geopolitical theories that central Siberia and its Arctic coastline were a natural extension of Central Asia.

The only joy that Igor Vassilievich experienced in this day like all the others was therefore paradoxical. He had gotten wind of growing tensions between Chinese and Central Asians in the LWUAI. Faroud Becnazarhodja and Chengzhang Chu detested each other cordially and each wanted to overpower the other. Would Russia come out a winner or a loser from this Sino-Muslim wrestling match? Igor Vassilievich was quickly brought back to reality, though. The Russians themselves no longer had the capacity to replace the Central Asians and the Chinese in terms of labor force and invested capital. The fate of the country was thus to remain splintered, with Russians in the European regions, Central Asians in their new Siberian Near Abroad, and Chinese in the Far East. Arctic exploitation and shipping were destined to remain in the hands of major Chinese firms, in spite of growing competition coming from India.

Yet, these tensions between the Muslim world and the Chinese world were not specific to Russia. Ever since the 2036 Sino-Arab conflict, Beijing's relations with Sunni powers had deteriorated, to the point that the China-Iran axis began to take shape. When he arrived home that evening, Igor Vassilievich lost himself in conjectures about what the Russian Arctic had become in less than three decades: the symbol of a twenty-first century dominated by opposition between Asia and the Muslim world, in which the Russian population, lacking human capital, had been marginalized. Without control over its own destiny, Russia had become a globalized playing field for issues that were beyond its power.

### **Pathways to the Future**

2013: China becomes a member of the Arctic Council along with Japan, South Korea, the EU, NATO, and the United Nations

2015: Merger between Gazprom and Rosneft to form Gazneft Unified, without much success

2016: Establishment of an Islamic regime in Tashkent, accelerating Uzbek migration to the Russian Arctic resource deposits

2017: “Pistachio Revolution” in Tehran, Iran’s reintegration into the international scene, re-launch of Iraqi gas and oil exports, global price goes down

2018: Shtokman debacle, repeated over-costs in Yamal mega-project: Western firms gradually leave the Russian energy market, obliged to turn instead to China

2019: Russia establishes a major migratory policy. Russia reaches 20 million migrants in 2020, and 30 million in 2040

2020s: China gradually takes control of the Russian REMs market and Chinese shipyards enter the global market of Arctic tankers

2020: The CNPC invests huge sums in the Yamal Peninsula, then acquires a good part of the Barents Sea and Pechora Sea resource deposits

2021: The UN Commission on the Limits of the Continental Shelf recognizes a small part of Russia’s claim on the Lomonosov Ridge, which Russia then exploits with Chinese firms

2022: Chinese politicians start to speak condescendingly about the “junior partner” that Russia has become

2022: Malaysia becomes an Islamic state, circulation in the Malacca Strait is more complex

2023: Russian nationalists are the majority in elections and demand that the Kremlin protect the Russian national identity

2024: Japan obtains a bifurcation of the EPSO pipeline in the direction of its shores

2025: The Kremlin’s Chinese lobby emerges on the Russian public scene. Russian elites are divided between two groups – the Europeanists and the Asiophiles

2026: Localized nuclear conflict between New Delhi and Islamabad slows down India’s ability to compete with China

2026: The Chinese Communist party decides to abandon the socialist standard in the Congress of Shanghai

2028: Moscow institutes an ethnic segregation system between Russians and migrants, which accentuates geographic splintering of the country

2031: India's Oil and Natural Gas Corporation is expropriated from Sakhalin under pressure from CNPC

2032: Conflict between India and China in Sri Lanka that puts the two naval fleets against each other. The Chinese Navy challenges U.S. sea supremacy.

2033: Close partnership between New Delhi and Washington, signed with great pomp by Agata Mendoza, first Latina president of the U.S.

2034: Khabarovsk interethnic conflict. The Russian Primorie comes under the control of the Chinese *Bingtuan*

2035: The All-China Mining Company acquires majority shares in Norilsk Nickel

2036: Sino-Arab tensions in the Persian Gulf, Beijing's relations with the Sunni world deteriorate while a China-Iran axis begins to take shape

2037: Due to its forex reserves, Beijing claims the right of interference in American domestic politics and obtains, among other things, access to all the American polar stations: Beijing thus controls a significant portion of Arctic knowledge

2039: The Arctic becomes the number two international sea-lane route for China's commercial fleet after the classic Suez Canal - Strait of Hormuz - Strait of Malacca route

2040: Igor Vassilievich reflects on an Arctic that has become the embodiment of a twenty-first century dominated by opposition between Asia and the Muslim world, and on a Russia that no longer really has control over its own territory