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## Article

# Planning for Sustainability: An Emerging Blue Economy in Russia's Coastal Arctic?

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**Abstract:** The main research objective of this study is to examine how coastal urban communities in the Arctic Zone of the Russian Federation (AZRF) organize the sustainable development (and emerging blue economy) strategy planning process. Along with this general objective, this study focuses on four more specific questions: First, to examine whether the sustainable development and blue economy concepts are integrated into the urban development strategies and whether they are a real priority for the northern coastal communities? Second, to figure out which local government and civil society institutions are involved in the policy planning process and whether this sphere of local politics is transparent and open to public discussions? Third, to find out which specific aspects of the sustainable development and coastal blue economy concepts are given priority in the municipal development strategies? Finally, to discuss whether the AZRF coastal sustainable development/blue economy strategies aim to solve short-term/most pressing problems or they suggest long-term policies built on sustainability principles and are oriented to solve fundamental socioeconomic and ecological problems of the AZRF coastal communities? The hypothesis of this study is that a properly designed strategy planning system would be helpful for both familiarizing northern municipalities with the blue economy concept and its effective implementation. This research is based on several empirical cases, including major Arctic coastal urban centers/ports—Anadyr, Arkhangelsk, Dudinka, Murmansk, Naryan-Mar, Pevek, Sabetta, and Severodvinsk.

**Keywords:** Arctic Zone of the Russian Federation; blue economy; coastal areas and municipalities; regional and urban planning; sustainable development strategies



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## 1. Introduction

“Blue economy” (BE) has become a popular buzz word over the past decade starting from Gunter Pauli's report to the Club of Rome in 2009 [1]. Drawing from the notion of a “green economy”, it refers to the control of the Earth's oceans and marine life. However, the BE concept has different, and often conflicting, meanings for different people, resulting in incompatible or blurred definitions and applications.

Normally, the BE is defined in terms of sustainable use of ocean resources. For example, according to the World Bank, the BE is the “sustainable use of ocean resources

for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem" [2]. However, this approach ignores the fact that the marine-based economic activities, such as fisheries, aquaculture, shipping, offshore oil and gas extraction, offshore wind energy, ocean energy, desalination, and marine tourism, to a greater extent depend on marine-related coastal activities.

To our understanding, the EU's approach to the BE definition is more correct from the scientific point of view and more relevant for the description of coastal states' existing economies, including the Russian Arctic sector. According to the European Commission, the BE concept embraces "All economic activities related to oceans, seas and coasts. It covers a wide range of interlinked established and emerging sectors" [3] (p. 5).

In the EU's view, the BE's coastal component includes the marine-related activities, which use products and/or produce products and services for the ocean and marine-based activities, for example seafood processing, marine biotechnology, shipbuilding and repair, port activities, communication, equipment, maritime insurance, and maritime surveillance [3] (p. 16).

A number of other sectors and activities, which seriously affect the marine-based BE component, can be added: onshore energy (including its decarbonization, development of alternative energy sources, energy savings), reduction in coastal air and water emissions, waste disposal management, coastal tourism, creation of nature reserves and parks, food security, health, and integrated coastal and marine area management.

The BE concept is a relatively new one for the Russian social sciences. Most Russian scholars prefer to focus either on the general description of this phenomenon or the study of foreign experiences in this field (European, U.S., Chinese, and other countries' BE strategies) [4–7]. Very few works touch upon the BE issue with regard to the Arctic Zone of the Russian Federation (AZRF), mostly focusing on conservation of biodiversity and prevention of pollution in the Arctic Ocean [8–10]. The coastal component of the AZRF BE is largely ignored by the Russian academic community in spite of its obvious importance for the region's sustainable development.

To identify at least some elements of Russia's emerging BE, we should choose a broader focus and pay attention to its sustainable development (SD) strategies in the AZRF. For example, its recent Arctic strategy designed up to 2035 outlines a number of important priorities for the AZRF sustainable development, including those related to the BE concept:

- Economy: introduction of a cycle-type economy; support for the indigenous peoples' traditional economy; digitalization of the AZRF economy; support for sustainable fisheries, forestry, and Arctic tourism.
- Infrastructure: port and Northern Sea Route (NSR) infrastructure development; further Polar Code implementation; building a satellite group providing communication above the 70° latitude and the AZRF's remote sensing.
- Environment protection: establishment of land-based natural reserves and marine-protected areas; cleaning up the environmental mess both on the coastline and archipelagos; creation of a state ecological monitoring system, and establishment of an international Arctic Sustainable Development Fund [11].

It should be noted that in order to develop an adequate SD/BE strategy, the Russian Arctic coastal cities and regions need an effective planning system. In other words, planning is an integral part of any urban and regional development strategy, including for the AZRF. City and regional administrators understand that planning gives more power over the future. Planning is deciding in advance what to do, how to do it, when to do it, and who should do it. This bridges the gap between where the city/region is to where it wants to be. The planning process involves establishing goals and arranging them in logical order. Well-planned cities and regions achieve goals faster than local and regional actors that do not plan before implementing their development strategies.

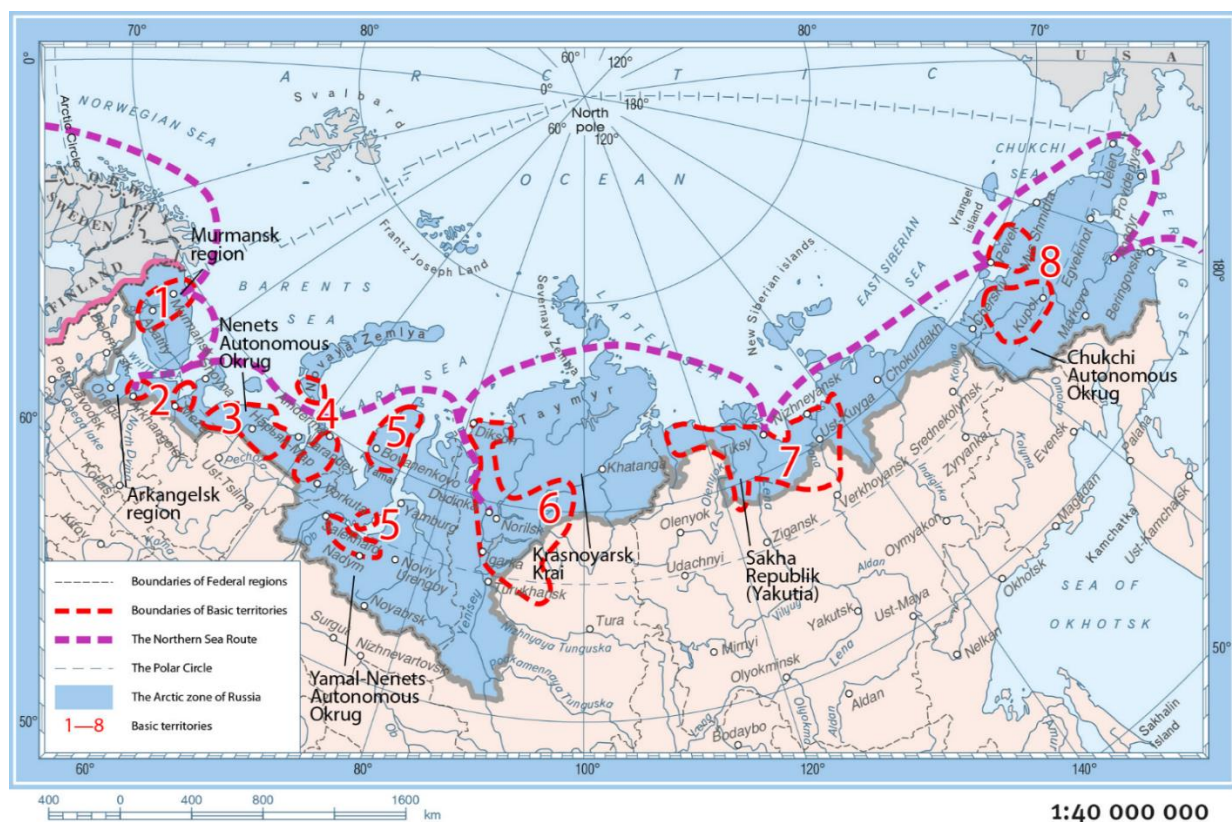
Planning is especially important for designing a proper SD/BE strategy for the coastal part of the AZRF because such a strategy requires an integrated approach to the developmental policies where all its aspects—economic, social, and environmental—

should be harmonized and coordinated. Planning is also important, because all potential stakeholders—municipal, regional, and federal authorities; companies; universities; civil society institutions and NGOs—should be involved in the SD/BE strategy formulation and implementation in order to make such strategies efficient and feasible.

The novelty of this study is that it contributes to the discussion on how AZRF coastal urban communities organize the SD/BE strategy planning process. Along with this general objective, this study focuses on four more concrete unexplored research questions: First, to examine whether the SD and BE concepts are integrated into the urban development strategies and whether they are a real priority for the ASZRF coastal municipalities? Second, to find out which local government and societal institutions are involved in the policy planning process and whether this sphere of local politics is transparent and open to public discussions? Third, to find out which specific aspects of the SD and coastal BE concepts are given priority in the municipal development strategies? Finally, to discuss whether the AZRF coastal SD/BE strategies aim to solve short-term/most pressing problems or they suggest long-term policies built on sustainability principles and are oriented to solve fundamental socioeconomic and ecological problems of the AZRF communities?

To address these questions, a hypothesis was formulated: we believe that an effective strategy planning system could be crucial for increasing awareness of the BE concept, its embedment in the municipal developmental plans, and successful implementation by the coastal urban communities.

The field component of research is based on the following AZRF coastal urban communities—Anadyr, Arkhangelsk, Dudinka, Murmansk, Naryan-Mar, Pevek, Sabetta, and Severodvinsk (Figure 1).



**Figure 1.** The Arctic Zone of the Russian Federation. Note: 1 = Kola Peninsula; 2 = Arkhangelsk Region; 3 = Nenets Autonomous District; 4 = Vorkuta (Komi Republic); 5 = Yamal-Nenets Autonomous District; 6 = Taimyr; 7 = Northern Yakutia; 8 = Chukchi Autonomous District. Source: [12].



## 2. Materials and Methods

The data for this research are drawn from various sources:

- Twenty-two urban development strategies/plans of eight coastal cities and towns;
- City and regional administration reports on the implementation of the above strategies;
- Official statistics that can be found on the websites of the Russian governmental agencies dealing either with official statistics, such as the Federal State Statistic Service (Rosstat), or specific areas of domestic policies, such as the Ministry of Natural Resources and Environment (Minpriroda), and Ministry of Construction, Housing and Communal Services (Minstroi);
- Analytical papers produced by various expert centers and NGOs;
- Media publications.

The focus of our research is on the AZRF coastal/port cities and towns that form the basic structure of the AZRF economy. There are 23 coastal/port urban settlements in the AZRF: Anadyr, Arkhangelsk, Belomorsk, Beringovsky, Dikson, Dudinka, Egvekinot, Igarka, Kandalaksha, Khatanga, Mezen', Murmansk, Naryan-Mar, Novy Port, Onega, Pevek, Provideniya, Sabetta, Severodvinsk, Severomorsk, Tiksi, Varandei, and Vitino.

Eight relevant urban settlements were selected for this study: Anadyr, Arkhangelsk, Dudinka, Murmansk, Naryan-Mar, Pevek, Sabetta, and Severodvinsk (Figure 1). They were chosen on the basis of three criteria: the coastal location, significance for the AZRF BE development as largest AZRF ports, and gravity of socioeconomic, climate change-related, and ecological problems that pose challenges to their sustainability. In some cases, such as that of Arkhangelsk, Murmansk, and Severodvinsk, two or even all three criteria are applicable. In addition, Anadyr, Arkhangelsk, Murmansk, and Naryan-Mar are regional capitals (administrative centers of members of the Russian Federation).

Among the research methods available, the preference was given to the development of an indicator system, because it provides us with a scientific and systematic approach to the study of the SD/BE strategy planning process by measuring its quantitative and qualitative aspects and identifying problems and gaps, which may remain invisible for a scholar without such an accurate research instrument.

Based on previous research [13–20] and comparative analysis of the AZRF city development strategies and plans, a system of indicators to assess urban SD/BE planning was developed and taken as an organizing principle for this study (see Table 1). In the case of environment protection and urban planning strategies, the data provided by urban/regional development plans/strategies were correlated with statistics provided by Rosstat, Minpriroda, and Minstroi, because these agencies have more detailed data than city/regional documents.

The above indicators reflect the most important aspects of the SD/BD strategy planning process, including specific BE sectors, as well as planning organization and procedures. For this reason, they allow an assessment of efficacy of this process. The value of each indicator ranges from 0.0 to 1.0 (Table 1).

The value each indicator (or group of indicators) was defined differently. Some indicators, such as, for example, "Does a special municipal SDE strategy exist?", "Does a special municipal BE strategy exist?", "Are all three components of SD represented in the municipal strategic documents?", "Does the municipality pay attention to the environmental problems?", and so on are developed on the basis of the qualitative content analysis of municipal strategic documents. In total, 22 municipal development plans, socioeconomic forecasts, and target programs designed by eight AZRF urban settlements were studied.

**Table 1.** The AZRF urban sustainable development strategy and blue economy planning index.

Indicator	ARK	MUR	SEV	DUD	PEV	ANA	NAR	SAB
Does a special municipal SD strategy exist?	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Do the elements of a municipal SD strategy exist?	0.7	0.8	0.6	0.6	0.3	0.3	0.3	0.0
Are all 3 components of SD represented in the municipal strategic documents?	0.6	0.7	0.6	0.6	0.6	0.3	0.3	0.0
Does the municipality pay attention to the environmental problems?	0.9	0.8	0.6	0.3	0.2	0.3	0.1	0.0
Do the city development plans pay attention to the human dimensions of SD strategies?	0.7	0.9	0.6	0.5	0.4	0.3	0.3	0.0
Does a special municipal BE strategy exist?	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shipbuilding and repair	1.0	0.5	1.0	0.2	0.0	0.1	0.0	0.2
Ports and related services	0.9	1.0	0.8	0.7	0.6	0.5	0.4	1.0
Decarbonization, alternative energy sources, energy savings	0.2	0.3	0.1	0.1	0.5	0.1	0.1	0.3
Reduction in coastal air and water emissions	0.7	0.7	0.2	0.2	0.8	0.7	0.7	0.5
Waste disposal management	0.7	0.4	0.5	0.3	0.7	0.2	0.7	0.7
Seafood processing	0.8	1.0	0.2	0.0	0.0	0.1	0.0	0.0
Marine biotechnology	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Aquaculture	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Marine-related communications	0.2	0.2	0.2	0.0	0.1	0.2	0.1	0.7
Maritime insurance	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Maritime surveillance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Digitalization	0.5	0.6	0.7	0.3	0.1	0.1	0.0	0.5
Coastal and maritime tourism	0.9	0.5	0.3	0.5	0.2	0.2	0.2	0.0
Nature reserves and national parks	0.5	0.0	0.3	0.0	0.0	0.2	0.0	0.0
Sustainable forestry	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Food security	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.0
Health	0.7	0.7	0.8	0.3	0.4	0.3	0.0	0.3
Integrated coastal and marine area management	0.5	0.4	0.3	0.4	0.3	0.3	0.1	0.5
Has a municipality all three types of strategic documents (strategy, prognosis, and target programs)?	1.0	1.0	1.0	1.0	0.6	0.6	0.3	0.0
Are the municipal strategic documents of a long-term character?	1.0	1.0	1.0	0.6	0.8	1.0	0.3	0.0
Do the urban development plans include a proper problem definition, clearly outlined strategic goals, and policy alternatives?	1.0	1.0	0.9	0.9	0.8	0.7	0.8	0.0
Do the municipal strategic documents include a detailed implementation mechanism?	0.5	1.0	0.9	0.9	0.8	0.5	0.6	0.0
Do the municipal strategic documents contain indicators and/or benchmarks to monitor implementation strategies?	0.7	1.0	0.9	0.8	0.8	0.7	0.6	0.0
Does the city put out a progress report?	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
Is there a special planning office in the city/town?	0.5	0.5	0.5	1.0	0.3	0.3	0.3	0.0
Do cities cooperate with regional and federal levels? Have they addressed regional and federal priorities in their SD plans?	0.5	1.0	0.5	0.6	0.5	0.6	0.6	0.0
Are the plans publicly available, e.g., on a website?	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
How transparent is the planning process? Does a city have capacity to engage communities, community inputs?	0.5	0.4	0.8	0.6	0.5	0.7	0.5	0.0
Presence of NGOs and other organizations working on SD issues and collaborating with a city administration	0.5	0.4	0.7	0.5	0.3	0.7	0.5	0.0
Does the city administration engage the local business community in the strategy planning process?	0.2	0.3	0.5	0.4	0.3	0.5	0.1	0.0
Does the municipality cooperate with the local academic community in the strategy planning process?	0.7	0.5	0.3	0.0	0.0	0.0	0.0	0.0
To what extent does a municipality acknowledge the importance of international cooperation for the success of its SD/BE strategies?	1.0	1.0	0.5	0.0	0.1	0.2	0.1	0.0
Total	22.9	22.1	19.3	14.3	13.4	12.7	10.0	5.0

Note: ARK = Arkhangelsk; MUR = Murmansk; SEV = Severodvinsk; DUD = Dudinka; PEV = Pevek; ANA = Anadyr; NAR = Naryan-Mar; SAB = Sabetta; green cells = leaders; yellow cells = in between; red cells = outsiders. Source: authors' development.

The data on other indicators, for instance, “Has a municipality all three types of strategic documents (strategy, prognosis, and target programs)?”, “Is there a special planning office in the city/town?”, “Are the plans publicly available, e.g., on a website?”, “Does the city administration engage the local business community in the strategy planning process?” are driven from municipalities’ websites, local mass media, and other sources.

Indicator assessment methodology varies as well. For example, in the case of indicators, such as whether special municipal SD or BE strategies exist or not, assessment is very simple because none of the AZRF cities/towns had such documents and, hence, receive a zero score. The assessment is also simple in the cases of indicators, such as, for example, “Does the city put out a progress report?” or “Are the plans publicly available, e.g., on a website?” because all AZRF coastal cities do that and, respectively, receive a 1.0 score. The situation is more difficult if an indicator has a complex/multidimensional structure/composition. For instance, to assess the value of the indicator “Are all 3 components of SD represented in the municipal strategic documents?” one should thoroughly analyze the content of a municipality’s strategic documents. If all three components of sustainability—economic, environmental, and social ones—are identified, the city receives the highest score—1.0. If one or two components are found, the city receives 0.3 or 0.6, respectively. Since most of the indicators have a complex/multidimensional/multilevel structure, the team spent considerable time making a qualitative content analysis of municipal strategic documents in order to define a value of each indicator. Based on the indicator system, a comparative method was used for further analysis. As Wolff and Haase [21] rightly put it, this research approach gives a better understanding of the urban SD/BE strategy planning process by analyzing similarities and differences of several cases. The results of the comparative analysis are discussed in the next section.

### 3. Results and Discussion

From the data represented in Table 1, Arkhangelsk (22.9) Murmansk (22.1), and Severodvinsk (19.3) demonstrate the best scores, being leaders in terms of SD/BE strategy planning efficiency, while Naryan-Mar (10.0) and especially Sabetta (5.0) have the least ratings falling into a category of outsiders. Dudinka (14.3), Pevek (13.4), and Anadyr (12.7) form a group in-between with average indicators. It should be noted that ratings of specific urban settlements are determined by a combination of various factors rather than depend on one or two indicators. For example, the Arkhangelsk, Murmansk, and Severodvinsk leadership can be explained by their relatively good record in nearly all areas of strategy planning, ranging from paying attention to all major aspects of SD/BE strategy and having a proper implementation mechanism to incorporating the local stakeholders into the planning process and having well-established cooperation with international partners. On the other hand, the outsiders, such as Naryan Mar and Sabetta, failed to demonstrate their ability to organize SD/BE strategy planning in a proper manner in many important spheres. The problem with Sabetta, however, is that it is a unique urban settlement, which has no permanent residents and functions mainly on a shift basis. The employees of the Yamal LNG plant (owned by the Russian energy giant Novatek, French Total, and Chinese stakeholders) work on the shift basis. The Sabetta seaport and airport are owned by other companies. As a result of such a unique situation, Sabetta simply has no single administration that could design development plans and strategies. The data on Sabetta are driven not from such plans or strategies but, rather, from information provided by companies and Russian federal statistic and executive agencies.

To summarize the results of comparative analysis of the AZRF coastal cities’ SD/BE strategy planning, the following findings can be presented.

First of all, Russia’s northern coastal cities try to establish and further develop a proper strategy planning system. The success or failure to do that depends on whether the city leadership understands the importance of having an SD/BE strategy or not. As local governments’ strategies demonstrate, the Arctic municipalities generally acknowledge the need of having such strategies. However, none of these cities has a special SD or BE

strategy. Instead, city development plans/strategies have sections that can be titled, for example, “Sustainable socioeconomic development”, “Sustainable ecological development”, “Human/social capital development”, “Creating a comfortable urban environment”, etc. These documents address specific climate change-related threats and challenges, such as air pollution generated by the AZRF heavy industries and transport, forest impacts (change in forest composition, shift geographic range of forests, forest health and productivity), water resource impacts (changes in water supply, water quality), impacts on coastal areas (erosion and inundation of coastal lands, damage to port infrastructure, costs to defend coastal communities), and impacts on species and natural areas (shift in ecological zones, loss of habitat and species).

None of the considered plans clearly addressed emissions of greenhouse gas that are seen as the main source of global warming, including the High North. Methodology for doing this in the AZRF context would be a challenge. Climate policy actions, which many cities of the world prioritize, e.g., controlling building quality, dense development, or the introduction of parking restrictions, can hardly be found in the AZRF urban strategic documents. Unfortunately, climate change adaptation and/or mitigation, which is an important aspect of contemporary urban agenda, was not distinctively reflected in any planning documents that we reviewed in this research.

Meanwhile, AZRF coastal cities as well as the region at large are on the forefront of climate change challenges, and resiliency planning tools would be an appropriate addition to their planning. Perhaps, only the next generation of city strategic documents will represent integrated strategies for urban SD rather than a set of separate strategies for each or selected sectors of city activities as it is now.

The AZRF municipal development plans pay significant attention to the local environmental problems. First and foremost, the Russian northern urban centers now try to prevent and reduce pollution in the region rather than to focus on elimination of accumulated ecological damage [22–28]. For example, the Murmansk City Government believes that a reduction in air pollution will help to mitigate climate change and suggests a number of specific measures to reduce dangerous emissions [29–32]. These policies are viewed as more adequate and efficient than eliminating the environmental damage mostly created by the Soviet economic and defense activities in the North. Rehabilitation of damaged ecosystems, including measures, such as strategic environmental assessment; targeting the priority (i.e., most problematic) areas; clean-up initiatives in those cities where such programs are still incomplete; establishing monitoring systems, and so on, is another priority for the urban ecological strategies. Waste (solid and liquid) treatment is viewed by all Russian northern urban settlements as an important problem whose solution is still pending. Given the significance of the problem, building of waste treatment plants and/or safe storages is an important priority for many AZRF municipalities [22–36].

To protect endangered species both on the urban territory and in the adjacent coastal areas, some AZRF municipalities launched a series of targeted programs aimed at conservation of biodiversity. For example, Arkhangelsk is responsible for running the national reserve “The Russian Arctic”, which among other priorities, aims to protect unique marine mammals, such as polar bear, walrus, sealion, narwhal, beluga, and so on. It appears these programs are rather successful because these animals’ population is growing.

In line with international standards [37], building of public-private partnerships to implement ecological projects became an integral part of the Arctic cities’ environmental strategies [22–32,38,39]. These partnerships emerged because, on the one hand, the state lacks money for such projects and, on the other hand, companies operating in the AZRF feel it is their responsibility for the protection and improvement of the local environment (especially given the fact that they were and still are the major source of pollution in the Russian North). For instance, environmental cooperation between Norilsk (one of Russia’s leading extractive and metallurgical companies) and Norilsk city administration as well as with several municipalities in the Murmansk Region, where this company has production, it exemplifies such a public-private partnership.



Trying to promote environmental studies at the local level, some AZRF municipalities financially and administratively support universities and research institutions dealing with ecological problems [22–25,29–32]. In turn, these universities provide city governments with SD-related expertise and help them to design development plans and strategies. Promotion of ecological education and culture as well as increasing awareness of the local communities about the AZRF environmental problems became an important policy priority for most of the Russian northern municipalities. To develop “green” culture among the local communities and mobilize the latter for the implementation of environmental projects, some Arctic urban centers establish cooperation with civil society institutions and mass media specializing on the ecological issues [40–43]. Some Russian northern municipalities (Arkhangelsk, Murmansk, and Severodvinsk) tried to organize regular monitoring of the most problematic areas in terms of ecological security: climate change negative consequences, protection of endangered species, conservation of biodiversity, control over air and water pollution, prevention of natural and technogenic catastrophes, etc. [22–32].

Depending on the gravity of ecological problems, the Russian Arctic local governments differ by their opinion on the importance of this problem for them. For example, Anadyr, Arkhangelsk, Naryan-Mar, Pevek, and Sabetta consider ecological problems as important ones, but for them, this issue is only one of many questions on their SD/BE agenda. On the other hand, the Dudinka, Murmansk, and Severodvinsk city administrations, which face much more acute environmental problems than other northern municipalities, pay a greater attention to the ecological aspects of their developmental programs. Since the Soviet era, these urban settlements were traditionally developed as strongholds in areas, such as extractive, machine- and ship-building industries, metallurgical production, and port services.

As for the typical BE agenda, only ports and related services are given due attention in the coastal city development plans (Table 1). Issues, such as shipbuilding and repair, reduction in coastal air and water emissions, digitalization of the local economy and management, coastal tourism, and integrated maritime and coastal management, represent some importance for the AZRF municipalities as well. Decarbonization of the coastal economies, development of alternative energy sources, energy savings, seafood processing, marine biotechnologies, aquaculture, food security, marine-related communications, establishing natural reserves, and national parks are among the lowest priorities for the AZRF coastal urban communities. Only Arkhangelsk, Murmansk, and Sabetta mentioned the significance of sustainable forestry, maritime insurance, and maritime surveillance (BE’s important sectors), respectively.

It should be noted that the Russian northern coastal municipalities pay rather little attention to the human dimension of their SD/BE strategies identifying mainly the ecological and economic challenges and risks. The societal/human security problem is rarely reflected in the municipal strategic documents, and it is often limited to civil defense programs, which are mainly about protection of city residents from natural disasters and technogenic catastrophes [22–36,38–42]. Quite rarely, some city strategic documents mentioned the need to take care of food security, although this problem is quite acute for most coastal communities—both indigenous and non-indigenous ones [29–32,35,36].

Characteristically, only large AZRF cities have all three types of strategic documents envisaged by the 2014 Russian law on strategic planning: strategy and prognosis of socioeconomic development, as well as target programs aimed to implement the above general documents [44]. Mid-size and small urban centers usually have only the third kind of documents—“target programs” that are devoted to specific urban problems and only partially reflect the SD/BE agenda. For instance, Anadyr, Naryan-Mar, and Pevek (rather small urban communities) have only target programs on the creation of comfortable urban environments or sometimes short- or mid-term forecasts of urban development, but they have never adopted full-fledged strategic documents on their socioeconomic development [33–36,40–42]. Noteworthy, since 2012, Severodvinsk (a quite big city by the

AZRF standards with 185,000 inhabitants) abandoned the practice of having long-term socioeconomic strategies. Instead, the city preferred to adopt three-year forecasts and targeted programs [26]. The local authorities believed that long-term strategies are too general, declarative, and often unfeasible, while less ambitious but more specific programs were more effective in terms of implementation.

However, as the 2014 law on strategic planning stipulated, all tiers of Russian authorities, including the municipal ones, were obliged to develop socioeconomic development strategies of their own. In 2018, even Dudinka (a small port town), had to adopt a strategic development plan [39]. In 2019, the Severodvinsk city administration, following a series of consultations with local business community, experts, and NGOs, finally approved an integrated municipal socioeconomic strategy up to 2030, instead of a set of target programs [28].

Another important aspect of an effective planning process is whether the city administration has a special planning unit within its structure or not? Dudinka is the only AZRF coastal town that has a special forecast and implantation control department responsible for strategic planning [45]. Urban settlements that prefer to have sectoral development plans or target programs usually split planning functions among different administrative units responsible for specific policy areas (economy, social policy, environment, culture, etc.). However, most Russian northern coastal municipalities assign planning functions to their economic departments rather than establish a special strategy planning office or involve in a coordinated manner various units responsible for activities other than economic policy. Naturally, this leads to the dominance of economic issues on the developmental agenda, while the social/humanitarian and environmental problem can be largely ignored or paid less attention.

As a result of this technocratic approach, most municipal strategies focus on a single-issue rather than integrated/comprehensive character. For instance, while the Murmansk and Severodvinsk programs of socioeconomic development contain all the most important components of the SD concept [26–32], the Arkhangelsk and Dudinka strategic documents addresses only a limited number of problems (transportation, education and health care systems, environment, preservation and development of local cultural heritage), neglecting key dimensions of sustainability, such as political, community, personal, and food security [22–25,38,39].

Strategy planning units that are normally a part of economic departments are usually small and staffed with only several employees even in the largest urban centers such as Arkhangelsk, Murmansk, and Severodvinsk. That is why for the AZRF city planning offices, it is uneasy to follow the widely accepted planning management standards and principles. For the same reason, they are unable to properly interact with other municipal structures participating in strategic planning and implementation activities. Since northern city administrations often lack planning offices that have the requisite powers to coordinate the whole process of planning and program implementation, it is quite problematic for these urban settlements to harmonize municipal SD plans and guarantee that all units of the local government have the same motivation and stakes in achieving the strategic goals.

In line with international planning standards, most AZRF urban development plans include proper problem definition, clearly outlined strategic goals, policy alternatives, and implementation/monitoring mechanisms, including a system of indicators. However, they are different from each other in terms of structuring strategic documents and the nature of implementation procedures and indicators. On the one hand, some city strategic documents, such as Arkhangelsk's [22–25], Dudinka's [38,39], Murmansk's [29–32], and Severodvinsk's [26–28] development plans, describe in detail implementation procedures and contain a system of indicators. On the other hand, some other Russian northern coastal towns such as Anadyr [40–42], Naryan-Mar [33,34], and Pevek [35,36] prefer to outline only some general principles of implementation strategies.

The Russian Arctic coastal cities try to develop an adequate legal framework for their SD/BE strategies by adopting local normative acts and, as required by federal law,

through coordination of their SD/BE strategies with national and regional ones. However, in practice, this goal is achieved by different methods. While the Anadyr [40–42], Dudinka [38,39], Murmansk [29–32], and Naryan-Mar [33,34] development plans aim to harmonize its strategic priorities with the regional and federal ones, other city strategic documents only vaguely mention the need to coordinate their SD strategies with other tiers of the Russian government [22–28,35,36].

It should be noted that Russian northern cities are often wary of Moscow's undertakings in the strategic planning sphere. In 2014, when the federal center decided to apply principles and standards set by the law on strategic planning to the municipal level, this initiative got a rather cold reception in the AZRF cities. Moscow selected about 80 Russian municipalities representing different parts of the country to participate in the experiment. However, in the Russian North, only the Murmansk Region agreed to partake in this project. Several region's cities, towns, and districts were chosen to serve as pilot subnational units. However, most of them were able to implement only certain elements of a new strategy planning philosophy. Murmansk was the only city that incorporated the 2014 law standards into its strategic documents. Emelyanova [46] explained this by the status factor: being a capital city of the region, Murmansk had more human and financial resources to successfully execute the project than other municipalities.

According to the planning theory, the success of any urban development strategy largely depends on public/community support and engagement [37]. To this end, it is important to make the local planning process as transparent and interactive as possible. There are several possible ways to ensure openness of the planning process and engaging civil society institutions into both strategy formulation and implementation: hearings in the so-called public chambers (which exist under the auspices of the local legislatures), dialogue with NGOs, independent expertise of municipal projects, regular opinion polls, public debates in the local mass media, and so on.

Unfortunately, only Naryan-Mar and Severodvinsk adopted some municipal programs to maintain a regular dialogue with NGOs on the most important aspects of the local developmental strategies [28,34,43]. The Anadyr, Dudinka, and Murmansk strategic documents refer to the local NGOs as potential stakeholders in the planning and implementing municipal developmental projects, but do not provide any roadmap for such a dialogue with them [29–32,38–42]. Other Russian northern urban centers largely ignore the problem of cooperation with the civil society institutions seeing the SD/BE strategy planning process as purely a local government's prerogative.

With rare exceptions, the AZRF municipal development strategies demonstrate that most northern coastal cities and towns favor intensive international cooperation in the field of SD. These northern subnational actors identify the following international institutions and forms of cross-national cooperation: the UN-related bodies (UN Development Program, UN Environment Program, UNESCO, Intergovernmental Panel on Climate Change, etc.), subregional institutions (Arctic Council, Northern Forum, Nordic Council, Nordic Council of Ministers, Northern Dimension partnerships, Barents Euro-Arctic Council), scientific organizations and initiatives (International Arctic Scientific Council, International Polar Year, International Arctic Social Science Association, etc.), region-to-region and company-to-company contacts, city-twinning, and so on. The Russian Arctic cities and even relatively small towns and other municipalities consider cooperation with foreign partners as not only a means of solving specific problems, but also an important instrument of their capacity building and long-term SD strategy [47,48].

#### 4. Conclusions

As follows from the above analysis, while most AZRF coastal urban communities accepted the SD concept and tried to apply it in their development strategies, these subnational actors are largely unfamiliar with the BE concept. It should be also noted that Russian northern municipalities still lack even special SD strategies, preferring either to have sections on various aspects of sustainability in their strategic documents or de-

velop specific target programs that address concrete SD-related problems. For this reason, some important economic, environmental, and social/human (not to mention BE-related) dimensions of urban SD strategies are often missing or not properly harmonized with one another.

It is obvious that to properly cope with challenges to its sustainability, the AZRF coastal towns and regions should develop SD strategies of their own in the form of either special documents or separate sections in their development plans. Such documents should have a detailed list of concrete measures to ensure their sustainability and eventually move to the BE. This would be in tune with the most recent Russian Arctic doctrine of 2020, which demonstrates that Moscow bases its northern strategy on the principles of sustainability and climate change action and contains some BE-related elements.

The AZRF coastal urban settlements consider strategy planning and having adequate municipal developmental programs as an important policy priority. Although, they sometimes resist Moscow's pressure to develop unified strategies for the whole region. Instead of having twin-like documents, they prefer to tailor their municipal strategies based on the local needs and realities.

Many Arctic coastal communities managed to establish proper legal frameworks, institutions, and procedures for strategy formulation and realization, including planning offices within city administrations, clearly defined goals and division of responsibilities between various administrative units, indicator and monitoring systems, power sharing with regional and federal authorities, etc.

The strategy planning system created by the northern urban centers was rather helpful in the successful implementation of some municipal projects (mostly of ecological and economic nature) during the last decade. Generally, there was an obvious trend from the AZRF municipalities' short-term survival tactics to long-term capacity-building strategies.

However, it would be an exaggeration to state that the AZRF urban or regional strategy planning system is perfect and in line with the best international standards. A number of problematic issues can be identified.

First of all, the BE problem is not properly addressed by the urban development plans. Only ports and related services are viewed by coastal cities and regions as an important priority. Other BE-related issues, such as shipbuilding and repair, reduction in coastal air and water emissions, digitalization of the local economy and management, coastal tourism, integrated maritime and coastal management, decarbonization of the coastal economies, development of alternative energy sources, energy savings, seafood processing, marine biotechnologies, aquaculture, food security, marine-related communications, and establishing natural reserves and national parks, are paid much less attention or almost completely ignored (sustainable forestry, maritime insurance, and maritime surveillance).

It is important to note that there is still a gap between strategy formulation and implementation. It is no surprise that a large number of urban SD-related programs are of declarative nature, and only a few of them were executed in full.

We should also mention the non-transparent character of the municipal strategy planning procedures as well as insufficient involvement of civil society institutions in this process. Public-private partnerships and corporate social and environmental responsibilities remain underdeveloped in the AZRF, including its coastal areas. Unfortunately, both strategy formulation and realization are still of the hierarchical character (the top-down approach still dominates over the bottom-up one). Moreover, the monitoring and feedback mechanisms are often missing or inadequate. In turn, this can lead to mistakes in identifying strategic priorities and the lack of public support for the local government's initiatives and policies.

The AZRF city planning offices are often times understaffed and lack expertise in strategy planning. For this reason, the AZRF municipalities have to look for external expertise and ask some external analytical centers to develop SD strategies for them; although, these centers may be unaware of the local needs and realities.

One more problem is that quite often, the AZRF urban development programs lack proper funding and they are not always backed up by financial and administrative arm from the top tiers of the Russian government. The Russian northern cities hope that the launch of 12 national projects in 2018 can help to solve this problem by integrating the local SD strategies to larger regional and federal programs and providing them with adequate funding.

To conclude, although there are some residual problems with familiarization of northern coastal actors with the BE concept and organization of an effective strategy planning system at the local level, the AZRF coastal municipalities are generally cognizant of the need to develop at least proper SD strategies. They favor reorganization and further improvement of their planning systems and strategies to solve existing socioeconomic and ecological problems and ensure the sustainability of the AZRF coastal cities and regions.

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