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To cite this article: N A Kondratov and A N Trofimova 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **263** 012069

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Prerequisites for the transition to sustainable development in the Russian Arctic

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Abstract. Environmental management in the Far North and in the Arctic Zone of the Russian Federation (Arctic Zone) should rely on concepts and approaches that take into account the extremely challenging environmental and economic conditions of the area and would lead to more effective use of natural resources and higher living standards in the area. The concept of sustainable development could become a solution for dealing with the challenges of the Russian Arctic. This article discusses geographical prerequisites for the transition of the Arctic zone of the Russian Federation to sustainable development. It identifies the challenges that need to be addressed in order to achieve sustainable development of the Arctic as a macro-region. Due to the fact that this region is undergoing rapid transformation and due to its the geopolitical value, of relevance is the development of models for sustainable development in the Russian Arctic. Climate change is a crucial factor to be considered. The work to develop such model may require a review of the existing environmental monitoring system in the Arctic and beyond.

1. Introduction

In 1992, the United Nations Conference on Environment and Development in Rio de Janeiro adopted the Sustainable Development Concept. Although the definition of sustainable development doesn't make any express reference to natural environment, its importance is globally recognized. This concept is not limited in material sense, but is restricted by some objective factors including the size and distribution of natural resources and the anthropogenic load the environment is able to take. However, there's no shared understanding of what sustainable development and its indicators are. In 2015 and 2016, 17 interrelated Sustainable Development Goals were set by the United Nations Summit for the 2030 Agenda for Sustainable Development.

On regional level, sustainable development is influenced by socio-economic, ethnocultural and ecological diversity. The Russian Federation strategy for environmental protection and sustainable development was endorsed by Presidential Decree No. 236 of February 4, 1994. One more document – The Concept for the Transition to Sustainable Development in Russia – was approved by Presidential Decree No. 440 of April 1, 1996. Both the documents note that the process of implementation of the Sustainable Development Goals needs governments, public, academic community and industrial corporations to pool together their efforts.

2. Research methodology

The Arctic is a high-latitude part of the Far North, taking up the land area and the marine environment of the Arctic Ocean within the exclusive economic zone of the Russian Federation (Figure 1). In the



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Russian Federation, the importance of the Arctic issues is contributed by the fact that circumpolar area, and any scientific rationale for their development, constitute a key priority in Russia's economic development and modernization strategies. The studies into different issues of the Arctic development have shown a particularly crucial role of geography in framing and solving the national economic purposes. The role of geography is becoming more important not only because of the huge impact of the geographical factor in the Far North and the Arctic regions but also due to remarkable differentiation of natural and social conditions of economic activity [1,2].

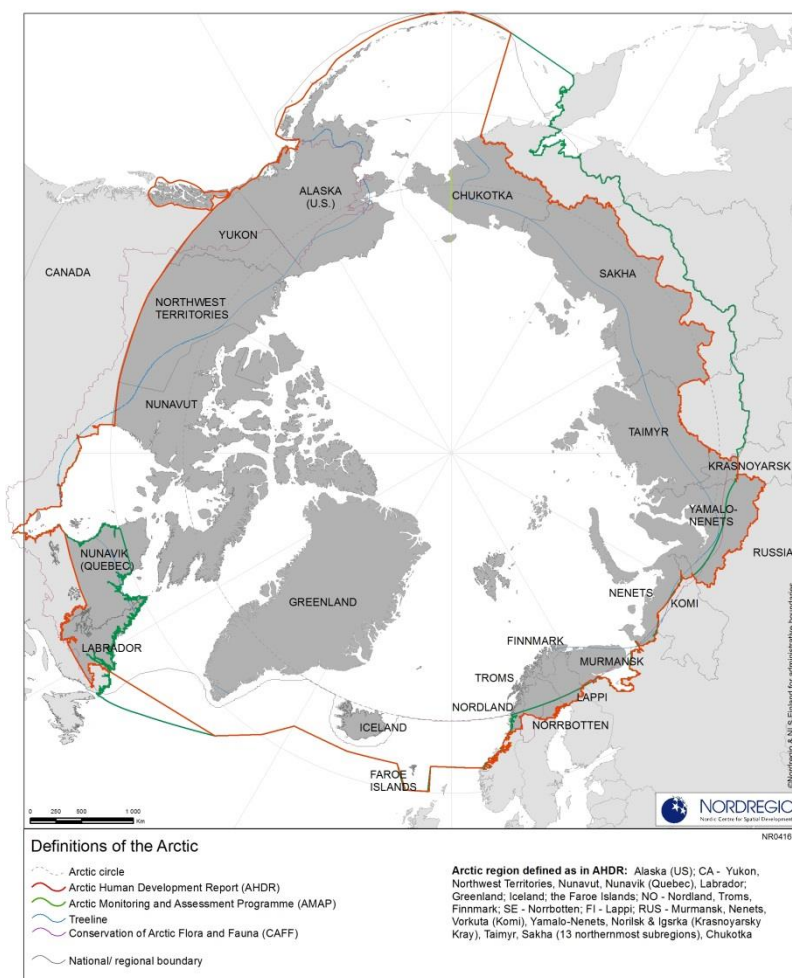


Figure 1 – Definitions of the Arctic [3].

The specific features of Russia's Arctic zone consist in:

- extreme natural and climatic conditions, including permanent ice sheet and drifting ice;
- focal character of industrial and economic territory development and low and uneven population density;
- remoteness from major industrial centres, high resource intensity and dependence of economic activity and provision of the population on fuel, ration and essential supplies from other Russian regions;
- low resilience of ecological systems, specifying biological balance and global climate, their dependence even on minor human impacts.

The Russian Arctic performs global functions. It is the area where climate is formed, the largest protected natural areas and potentially vast mineral resources are concentrated, and traditional indigenous economic activity is carried out.

The need has arisen over the past decades in solid scientific basis for and methodology of sustainable social and economic development in the Russian Arctic, which would take into consideration the existing economic structure and population density, as well as the goal of preserving the environment and the indigenous ways of environmental management. For the Arctic zone of Russia, “sustainable development represents an essential priority that regional development policies are governed by due to the area’s geopolitical and geoeconomic significance”. The work to elaborate approaches to sustainable development in the Russian Arctic should consider the institutional (territory management system) and the technological aspect (mining). Moreover, the ethnocultural aspect should be taken into account because any mining project must first hear the voice of the indigenous communities [4].

3. Results and discussion

Over the past 80 years, the Arctic has seen extensive development. Two principles should be adhered to when analyzing the possible schemes of the sustainable development system in the Russian Arctic zone. One is the globality principle which means that the Russian Arctic is a part of the Arctic and any economic or geopolitical process occurring here will have its effect on the entire Arctic and its neighboring regions. The other principle is that of sovereignty, underlining the strategic role of the Arctic zone in Russia’s economic performance. Any development-related measures in the Russian Arctic should be oriented towards national security and sovereignty.

One of the Arctic-specific features to be taken into account with regard to sustainable development is that its area has been changing rapidly over the last decade. The transformations in the Arctic environment are happening in the face of our scarce knowledge about their causes and consequences, threatening to spread far beyond the Arctic region. The fair examples of global challenges are population growth, technological progress, generation of new chemical substances, and increase in environmental pollution. The climate change results in the unprecedented reduction in the sea ice coverage and shifts in the territorial and sectoral structure of natural resource management. The Arctic Council report titled “Snow, water, ice and permafrost in the Arctic” has noted that warming in the Arctic is happening twice as fast as in the world as a whole (Figure 2).

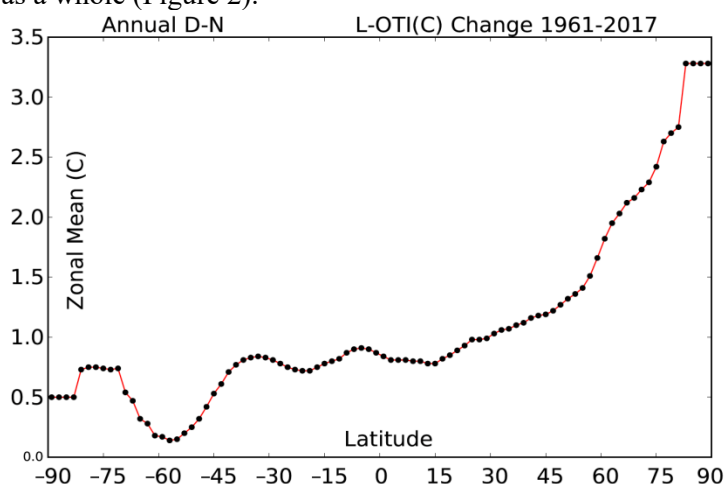


Figure 2 – The increase in air temperature over the period 1961-2017.

The globally increased need for raw materials and fuels means that the mining projects in the Arctic are going to continue regardless of the price of human and environmental toll. The expansion of economic activity in the Arctic may lead to increased ecological risks and social problems among indigenous people as they may be no longer able to maintain their traditional trades. One more problem on the way to the sustainable development in the Arctic is the need to overcome the stereotype of seeing the relation ‘the world – the Arctic’ as ‘the world – the periphery’. Such an approach is largely promoted by the media, it has practically outlived already. The Arctic becomes a frontier from the global periphery. The multinationals that represent government’s interests have access to the Arctic. An

important role is played by international cooperation campaigns. In many Russian Arctic areas, the problem of getting the indigenous people involved in decision-making on economic project remains unsolved. Although experience is in place in overseas countries (especially in Alaska) of building relations with indigenous people, in Russia such experience is still in its infancy.

The Ministry of Regional Development of the Russian Federation first shaped its vision of the Sustainable Development Concept for the Russian Arctic Zone in 2006. Its strategic goal consists in balanced solutions to the challenges of social and economic development and natural environment preservation for present and future generations. The concept is expected to be implemented relying on the principles of efficient use of natural resources, preservation of traditional natural resource use by indigenous people, improving the quality of life and health of local population, rehabilitation of damaged natural systems, strengthening Russia's national security and developing international cooperation.

According to the Russian Arctic strategy, the development in the Russian Arctic zone seeks to provide national security offshore and onshore; ensure safety and protection of the local communities; strengthen the role and place of the Arctic in the Russian Federation's economy through the use of innovative know-hows and by way of sustainable economic growth. In the context of the strategy, 'the sustainable development' is understood as 'positively balanced changes in the most important sectors of activity, which ensure the nation's capacity to counteract external and internal threats to national security by implementing a system of targeted and long-term social and economic measures'.

The sustainable development in the Russian Arctic zone is based on problem-solving which needs cross-disciplinary approach. Such an approach was applied by D.A. Dodin while working on the program titled "The Arctic – The 21st Century" [5]. This program is expected to serve as "the main cultural, ethnical, and organizational guidelines to ensure sustainable development in the Northern Polar region". It encompasses such aspects of development as mining, environment, technologies, know-hows, territorial and judicial system (geopolitical aspect), ethnic cultures, information, transport, science, social sector, and economy.

If we were to try and develop the ideas of Dodin D.A., Krasovskaya T.M. and other authors of the programme, and if we were to define the sustainable development goals for the Russian Arctic, our major focus would be those which would guarantee the multiplicative effect while of the entire range of the development priorities, given their hierarchy and interconnections. These priorities would pertain to innovative, economic, socio-economic, cultural, institutional, infrastructural, geo-ecological and geopolitical constituents [5-10].

4. Conclusion

Transition to sustainable development is crucial to cost-effective and environmentally-friendly economic performance in the Russian Arctic. The development in the Russian Arctic should be based on the principles of resource efficiency and precautionary approach. It should rely on cutting-edge research and professional competencies, and workforce who are prepared to work in the Arctic. Field construction and development operations should make use of innovative technologies for mineral prospecting, development and transportation – through cooperation among the Russian companies. It's essential that Russia-made transport is used for energy export and sea ports are built as hubs within the national transportation network.

There exist several mechanisms to actuate the transition to sustainable development. The first to mention is partnerships. Also, there exist regional sustainable development programs which, however, should be coordinated with Federal Target Programs and investment strategies available to corporations dealing in major sectors of the Arctic economy. The programmes should be also make use of international economic practices – the experience of Northern Europe, USA, and Canada.

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