The Arctic policy of the Republic of Korea

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Abstract. Nowadays the Arctic attracts a lot of countries all over the world, including Asian ones, due to its features, especially its abundant resources and research potential. In the paper the authors consider the Arctic policy of the Republic of Korea. Shipping and sea trade, oil and gas prospection, scientific research are of particular importance for South Korea. International cooperation with the circumpolar states and protection of indigenous people and nature preservation are also essential for the country. To achieve these goals the government of the state has designed several policy documents which provide the authors with the information for this research.

1. Introduction

The Arctic for many years has been an object of regard for numerous countries – not only for circumpolar, but also remote from the North Pole. The latest scientific research and improvements in machinery and equipment provide the states with information about the new unique peculiarities and natural resources of the polar region, which determines even more states from different parts of the world to focus on it. Asian states, as the most emerging, likewise have begun to show interest in the Arctic and its resources in the last few years; furthermore, the Arctic diplomacy enables some countries to strengthen their position on the international stage and in dialogue with powerful circumpolar powers [1]. Among Asian countries, not only PRC and Singapore [2], whose Arctic policy intentions is well-known in the world, are present in the region, but also India [3], Japan [4] and the Republic of Korea. Korea is known all over the world due to its experience in shipping and high technology production, however, it rarely manifests itself in the area of international and multilateral diplomacy. Nonetheless, the state shows it worth to be extremely active in the Arctic, and, importantly, in different fields. What are the interests of the Republic of Korea in the Arctic and which states may become its rivals and allies?

2. Results

The Republic of Korea became an observer in the Arctic Council in 2013; the application was approved at the Ministerial meetings ministers in Kiruna (Sweden); simultaneously with Korea the observer status was approved for PRC, Japan, India, Singapore and Italy – this meeting made the foundation for large-scale development of the region by Asian countries. It is worth mentioning that the Republic of Korea applied for observer status with the organization as early as 2008. The interest of South Korea in the Arctic stems from many factors – among them logistics and sea trade, different
scientific research, including monitoring of climate change, hydrocarbon prospecting and production, fishery, and the implementation of its own marine technologies and equipment [5]. The Republic of Korea has been working to explore and develop the polar region for over 30 years. It started in 1987 when the Polar Research Center was opened at the Korea Ocean Research & Development Institute (KORDI), later, in 2004, it was reorganized into the Korean Polar Research Institute (KOPRI). In the same year, 1987, the government of the Republic of Korea commenced a program of development of the North regions, and, in 2004, particular attention started to be paid to the Arctic.

Sustained interest was followed by an awareness of the need for a full-fledged Arctic strategy for the country – the work on it began in the early 2000s. The first comprehensive and completed document in this area were 2012 Measures for the Advancement of Polar Region Policy, which for the first time recognized the growing importance of the Arctic and the need to develop a unite state policy in the region. The document envisaged conducting research and development, related to navigation, extraction of natural resources, current problems in the region, as well as establishing partnerships with other states for joint work in the Arctic and developing a national strategy in accordance with International Arctic Law [6]. With the acquisition of the observer status in the Arctic Council, a new stage in the development of the Arctic policy has begun – South Korea announced that it was planning to establish its presence beyond the Arctic Circle and increase the amount of scientific research. Within the framework of a new government course concerning the Arctic, a new document emerged, it declared the principles, which the Republic of Korea planned to follow in regard to the region – 2013 Plans to Further Comprehensive Arctic Policy. Among these principles, apart from increasing research activities, are the enhancement of international cooperation in the region, the establishment of national institutions for the proper implementation of the Arctic strategy and realization of various business cases in the region. In the same year Korean government, with the help of research organizations, issued another document, called Arctic Policy Master Plan, covering the period 2013-2017. The Republic of Korea declared in the Plan, that its primary goal is not to benefit from the development of the Arctic, but to protect, preserve and support it. According to the document, the country’s goals are to establish cooperation with circumpolar countries, conduct scientific research, the results of which will be useful for all humankind and the region, as well as to develop economic projects.

It can be observed that the conduct of scientific research is one of the most significant areas of interest of the Republic of Korea. According to several sources, South Korea is spending on scientific research in the Arctic almost as much as the USA – the circumpolar power. Back in 2002, the Dasan research station was opened on Svalbard, which performs various studies in the fields of ecology, hydrology and glacier observation. The main scientific organization involved in the research of the region is KOPRI: its scope of activity includes study of climate, of the atmosphere, oceanology, geology and the preservation of species diversity. Moreover, the Research Institute prepares recommendations for the national government concerning the development of the Arctic policy, implements national research and development projects and organizes various Arctic scientific forums and conferences [7]. It is worth noting that KOPRI is involved not only in research on the Arctic, but on Antarctica as well. As far back as in 2009, the country launched the Aron icebreaker in order to conduct research successfully. In 2017, it undertook an expedition to the North Pole, crossing the Bering Sea and the Chukchi Sea; a couple of months later it set sail again in the Arctic waters for 220 days. Thanks to the work of the icebreaker and assistance from Japan and Russia, gas-hydrate deposits were discovered in the Sea of Okhotsk and a map of the Bering Sea oceanic zone was made. Although the Republic of Korea has been conducting research in the region only for a short time compared to other countries, its results are highly impressive (largely due to South Korea’s high technology) – the state has already declared that it will soon be able to forecast the course of climate change in the Arctic, as well as to inform the international community of the ice situation in the Northern Sea Route (the NSR), which will definitely facilitate transportation along this route. This has always been quite relevant, and the Arctic sea route has been used for transporting particularly important cargo before. A striking example is the delivery of goods by Russia, Great Britain, and the United States during World
War II [8]. Today these forecasts will be of undoubted interest, including the possibility to be compared with existing forecasts of climate change in the Arctic with potential impact estimation [9], [10], [11].

In addition, within the framework of the international partnership development in the region, KOPRI is also engaged in establishing scientific connections with the circumpolar (and not only) countries. South Korea’s counterparts include research centers and universities in China, Japan, Russia, Norway, the UK, Germany and France [12]. In 2011, the Arctic Science Summit was organized in Seoul, where scientific and business sessions were held, and which was largely sponsored by South Korean research institutes and business corporations. Issues related to shipping, ice melting, climate change and environmental protection were discussed at the Summit [13]. In 2013, South Korea and the USA organized a large-scale project on research of the environment and energy issues in the Beaufort Sea. In 2014, the Center for Arctic Research was opened jointly with the Norwegian Polar Institute (NPI); two years earlier the countries signed a Memorandum of Understanding on Arctic Shipping and Shipbuilding. In the same year 2014, South Korea received permission from Canada to operate its research icebreaker in the Beaufort Sea Special Economic Zone to study permafrost lithosphere and methane hydrate deposits [14]. It is important to note that Korea pays considerable attention to cooperation with the Arctic countries – this is not surprising, as according to International Law, they are eligible to extract resources and develop the region.

Russia is a special South Korean circumpolar partner. Russia has the largest territories in the Arctic [15], possesses rights to a vast amount of Arctic natural resources [16], almost completely controls the NSR [17], and most importantly – its national policy pays particular attention to the problems of Arctic development, the government recognizes the significance of the region as an exclusive economic and military-strategic zone. Cooperation with Asian countries and their developed high technology sector will, undoubtedly, unleash the scientific and technological potential of Russia in different areas – in realization of its export facilities, development of high technology market [18] and digitalization of industrial processes [19], culture and film industry [20].

Furthermore, Russia and South Korean corporations develop economic partnership. In 2018, South Korean company KOGAS and Russian corporation Novatek signed Memorandum of Understanding on cooperation in the natural gas liquefying according to which the Korea may buy a part of Arctic LNG 2 shares – the project will have commenced in 2023 [21]. So, in this case the Republic of Korea will get solid positions in the region via its direct development. The memorandum was signed at the International Economic Forum where another MoU has been signed – Russia and the Republic of Korea have agreed about cooperation in energy sector, LNG trade and shipping optimization. This memorandum also submitted KOGAS’ opportunity to join Arctic LNG 2.

South Korea also stated that it would like to establish another Arctic research station near the Russian city of Tiksi (Yakutia) in the near future [22]. The countries signed two memoranda of understanding concerning the Arctic cooperation: about development of port infrastructure in the Arctic in 2014, and about Korean access to Arctic resources in 2017. These documents laid a solid foundation for a long-lasting partnership.

Scientific researches and development of multilateral partnership in this area are definitely one of the main interests for the Republic of Korea, but not the only one. South Korea is one of the largest importers of energy resources in the world. Most of the oil comes from the Middle East, where the political and economic situation is very unstable, what poses a threat the country’s energy security, especially with regard to industrial needs. Korea imports more than 60% of the oil from Saudi Arabia, Kuwait and UAE, and more than 50% of the natural gas – from Qatar, Malaysia and Indonesia. Now the government is interested in diversification of its energy resources export and is planning to replace 10% of total national oil imports with Arctic oil in the near future. The urgent demand for hydrocarbons largely explains the Republic Korea’s increased interest in the region and its active scientific researches, which is partly focused on geological exploration, as, according to United States Geological Survey estimates, there are approximately 90 billion barrels of oil and 47 trillion cubic meters of natural gas in the Arctic. That determines the government’s readiness to invest in the
development of new fields and develop its own technologies for deep-hole drilling on the Arctic offshore. Fishery is also not the least important for Korea, as the state is a major importer of fish and seafood as well; fishery in the Arctic is expected to account for more than 37% of the world’s volume by 2020.

Talking about Korean technology, the country plans to use it widely in the Arctic. Shipbuilding is especially crucial – South Korea is known all over the world as a major shipbuilder and port infrastructure designer – about 300 factories operate in the shipbuilding industry, and the country’s centuries-long experience in this area plays a considerable role. Vessel export accounts for 8 to 12% of the total Korean exports [23]. There are several large corporations (chaebols) in the country which are supported by the state and possess resources to implement major projects. The main ones are Heavy Industries (HHI), Samsung Heavy Industries (SHI) and Daewoo Shipbuilding & Marine Engineering (DSME) – these shipbuilding corporations are the largest in the world. They are distinguished by their high competitiveness and high technology equipment. Of particular importance is the fact that South Korea has the technology and experience to produce and service icebreakers, which enables it to increase its presence and develop cooperation with other countries in the Arctic.

Shipbuilding industry of South Korea is also highly significant for Russia whose demand for ice-class ships is constantly rising due to the strengthening of its activity in the region. The Russian company Sovcomflot signed a contract with DSME on the construction of 9 carriers for the transportation of LNG from Yamal LNG worth $2.8 billion [24]. The same South Korean company was the first to design an ARC-7 ice-class gas carrier to transport gas via the Northern Sea Route. The Republic of Korea also showed interest in Russian orders for ice-class methane carriers. The Russian Maritime Register of Shipping signed a contract with SHI for technical supervision of the design and launch of a new class oil-carrying vessel – 42K Arctic Shuttle Tanker, which are designed to transport hydrocarbons from the Novoportovskoye field (Yamal), one of the largest fields in the Arctic. Moreover, in 2017, a joint container shipping service from Petropavlovsk-Kamchatsky to Murmansk via the NSR was discussed at the meeting between representatives of the Republic of Korea and Russia.

Apart from shipbuilding, Korea is also interested in using of its offshore drilling platforms, both mobile and stationary. It stands to mention that all of the machinery offered by South Korea for work in the Arctic, is not only of high quality and performance, as it is created in accordance with the latest technology and scientific developments, but also of maximum environmental-friendly, which is of utmost importance for work in the Arctic region. The environment in the Arctic is extremely fragile and may be destroyed under the influence of multiple scientific and economic activities; in addition, it is very difficult to eliminate the consequences of an environmental disaster in polar climate conditions, which increases the demand for equipment designed with care and attention to nature [25].

The entire Northern Sea Route and its potential as a transport track and one of the largest crossroads in the world is of exceptional interest to the Republic of Korea. South Korea is effectively cut off from the land by its northern neighbor, rendering maritime communications incredibly important for the country. In addition, the country has many large ports; maritime transport and trade are essential. The opening of the Northern Sea Route prospectively should decrease cargo shipments duration by approximately 10 days compared to the traditional route and fuel costs by around 25% [26]. However, shipping in such harsh weather conditions simultaneously requires creation of own Arctic fleet or escorting by other country’s ships which also cost money. So, there is still a question: will the transportation via the NSR really be cheaper? Some papers [27], present models and justify the factors that enable transformation of the Northern Sea Route into an international transport corridor.

Furthermore, the NSR is a much more secure route, as it is controlled only by Russia and is exposed neither to piracy, nor influence of local conflicts in different parts of the traditional sea route (by the way, there are about 6 of them and they differ for their scale and potential danger [28]). The NSR should enable Korea to reduce its transportation costs and provide South Korean companies with an opportunity to offer its services for commercial transportation along this route. It should be noted
that transportation via the NSR will be extremely beneficial for South Korea in trade with Nordic countries – one of the country’s greatest partners. In 2013, a Korean vessel made its first passage through the Northern Sea Route and, in 2014-2015, the first commercial shipments were made, following which the authorities recognized the economic feasibility of the NSR study. This was followed by active use of the NSR by South Korea, the government supports logistics and shipbuilding companies planning to use the northern route. The majority of cargo transported by Korea via the NSR consists of Russian Arctic resources, especially oil and gas. Due to the active use of the Northern Sea Route, trade turnover at Korean ports has increased significantly. The prospect of increased demand for the services of South Korean logistics companies around the world is prompting the government to seek ways to participate in building and maintaining port infrastructure in the Arctic, and the companies – to increase production of ice-class vessels.

South Korea is also planning to turn itself into a regional oil hub. The convenient geographical position and relative proximity to the Northern Sea Route determines the conditions for the implementation of the idea. To fulfill its ambitions, the state plans to increase the volume of its oil storage facilities, which will work together with the already existing refineries in the country. The oil terminals in the cities of Yeosu and Ulsan were declared a free trade zone for energy crude materials and oil products in 2014.

The Republic of Korea uses international institutions, through which it broadcasts and promotes its interests to successfully implement its plans. It is worth highlighting not only the Arctic Council, but also the International Maritime Organization, which is developing the Polar Code programmed to elaborate rules for navigation in the Arctic and to develop requirements for the reduction of duties levied on the use of equipment in Arctic ports that support the Northern Sea Route, which is beneficial to Korea as it actively operates the route.

3. Conclusion
We can see that the Arctic is of extreme interest to the Republic of Korea from the angle of economy and geopolitics. The country's energy security, trade and production volumes as well as the development of science largely depend on polar resources. Despite the fact that the state is actively establishing ties with the Arctic states, there may be contradictions with new challengers to develop the region in the future. It is unlikely that South Korea will face a fundamental conflict with Russia, even though, according to the Arctic programs, the Asian party does claim Arctic energy and natural resources and seeks to derive the possible economic benefits from its researches. Based on the events described in this article, two countries have adopted a policy of mutually beneficial scientific and economic cooperation. The Republic of Korea still considers Russia a 'senior partner' in the development of the Arctic and does not seek to infringe on its national interests. Russia, on the other hand, recognizes Korea's interests for its share of resources and meets its needs in partnership relations. One should remember that the Korean government also attaches considerable importance in its Arctic policy to protecting the environment in the region, studying climate change, building and maintaining infrastructure, and supporting indigenous people. These goals are consistent with Russian policy, and South Korea's assistance in the above-mentioned matters will be very useful. In addition, owing to South Korean technologies, Russia is able to carry out certain types of research, the results of which benefit the entire international community, to conduct geological exploration and drilling in hard-to-reach areas, and to effectively explore the Northern Sea Route [29]. Russia provides the Republic of Korea with access to hydrocarbons, the opportunity to expand its scientific researches and active use the NSR. Thus, bilateral cooperation appears to be mutually beneficial rather than competitive, especially as Korea's Arctic policy is not aggressive, as can be inferred from the content of its Arctic programs and the direction of its foreign policy.

The situation is different in relations with China. China is known to aspire to actively develop the Arctic on a par with the circumpolar countries entering the region by supporting economic projects as well as the economies of countries, as was the case with Iceland. China is interested in both energy and natural resources, and also plans to implement its shipbuilding and drilling technologies in the
region by gradually creating the "Polar Silk Road". China's progress in the Arctic is hampered by the constant opposition from the Arctic powers, which are reluctant to let a strong and ambitious player into the region of their exclusive interests. In the last few years China's activity in the region has become easier, largely due to a softening of the political line, and competition in strengthening presence in the Arctic is likely to be painful for the state. Competition between China and the Republic of Korea in the region is likely to lead to the latter's retreat, as China has many levers to influence the country, especially in foreign trade. In order to present a comprehensive analysis of the potential way of China-South Korea relations in the Arctic, it is required an individual paper in which the goals and interests of China in the Arctic will be analyzed, points of intersection with Korea and the prospects for confrontation and conflict resolution between two countries will be indicated.

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