



Krzysztof Kubiak¹

CHINA ACTIVITIES ON THE ARCTIC

Abstract

Climate change in the Arctic has a great influence not only to the Northern Hemisphere but also to all World. The consequences of the ice melting underline the possibility of the opening up of the Northwest Passage to shipping and the all arctic seas mineral exploration. The scenarios also point to China as a potentially active actor in this opening up, given the fact that the distance between Europe and China is much shorter through Arctic sea routes than via the Panama Canal or Strait of Malacca. A closer look at the shipping companies' strategies, on the one hand, and at China's Arctic interests, on the other, shows the idea that if China's interests in the Arctic are absolutely real. Despite the fact that China's presence in the Arctic rooted in science (over the past 10 years China has developed the researches in Arctic science, structured along four main axes: oceanography, biology, atmospheric science, and glaciology) Beijing's "Northern" policy is situated in the general frame of China's policy to assert itself as a major power in the 21st century. The situation creates the new chances to the region but also the new challenges and threats. The paper shows the previous, current and planned Chinese activities in the Arctic in the political, economic and security context.

Key words

Global warming, Arctic, North-East Passage, China

Introduction

Since the end of the Cold War the geopolitical position of the Arctic has changed radically. The process is caused by polar warming which is the main reason of ice cap melting. The free of ice Arctic seas give also the access to natural resources, as well as, widely open polar sea lines of communication (North West Passage, North East Passage and in the future Trans Pole Passage too). It is also believed that the Arctic will provide business opportunities also in fishing, tourism and other sectors of

¹ Krzysztof Kubiak, Professor, Jan Kochanowski University.

economic activity. The new situation rises interest of Arctic not only among “old” polar states, but also amid “new” actors. The last group consists East Asian countries: China, Japan, South Korea and Singapore, which under the decisions taken at the ministerial meeting of the Arctic Council in Kiruna in Sweden in May 2013 were granted the observer status of the organization². It must be underlined that reasons and areas of interest in the Arctic of mentioned countries of East Asia at first glance seem to be the same, because they are in a similar situation in terms of conditions but the scale of the phenomena are radically different³.

The literature about Chinese involvement in the Arctic is dominated by the empirical stream. It is understanding of the situation requires, above all, knowledge of the facts, phenomena and processes. China is a country in the world with the longest, unbroken tradition of the state, but the Arctic is a new area for them. This explains the small amount of theoretical work. The theoretical aspects we can find, for example, in the work of Mark Lanteigne⁴. He presents the phenomenon “China’s rise” and the growing role of PRC (People’s Republic of China) in of in global governance. In the Arctic the process is illustrated by general trend – China is joining a large number of international organizations gradually becoming more engaged and integrated in the international community. But it is not the only approach to Chinese Arctic activity. Some of the researchers from the realistic school, especially in the USA, show – so called – “China threat” theory. China’s growth is presented as the dangerous for the West. It is the scenario of potential rivalry between United States and European Union on the one side, and PRC of the second one. The interesting review of contemporary theoretical approaches to Chinese Arctic polity is given by Njord Wegge⁵.

The Source Factor

People’s Republic of China is the biggest and the most important country among the Arctic players from East Asia. During the last decade China’s international status has risen dramatically, both in economic, political and military terms⁶. “The Middle Empire” is the real raising super-power but the country is deeply dependent on foreign

² M. Łuszczuk, *Arctic Cooperation of the Nordic and East Asian States*, “Studia i Materiały. Miscellanea Oeconomicae” No 2, 2014, p. 214.

³ K. Kubiak, *Nowi gracze z Azji Wschodniej wobec Arktyki w pierwszych dekadach XXI wieku*, „Arktyka na początku XXI wieku. Między współpracą a rywalizacją”, Lublin 2013, p. 509-510; M. Łuszczuk, op. cit., p. 215.

⁴ M. Lanteigne, *Chinese Foreign Policy. An introduction*, London 2013, p. 3.

⁵ N. Wegge, *China in the Arctic Interests, Actions and Challenges*, “Nordlit” No 32, 2014, [online:] <http://septentrio.uit.no/index.php/nordlit/article/viewFile/3072/2964>, (12.06.2017).

⁶ For example on 25th September 2012 People’s Liberation Army Navy (PLAN) commissioned the first aircraftcarrier called *Liaoning*. Originally she was laid down in Nikolayev (now: Ukraine) as the *Admiral Kuznetsov* multirole aircraft carrier called *Riga*. She was launched on December 4, 1988, and renamed *Varyag* in 1990. The stripped hull was purchased in 1998 by the China and towed to Dalian Shipyard in north eastern China. Despite of very complicated fates of the ship the fact shows the fast rise of Chinese naval capabilities. In At present China is building the second carrier. The second sign of PLAN’s global ambitious is participation of China ships in anti-piracy operations along Horn of Africa and naval evacuation of Chinese citizens from Libya during the anti-Qaddafi rebellion and the next evacuation – from Yemen. In 2017 China establish in the Djibouti the first overseas military base.

energy resources – oil and gas, which are imported mainly from the Middle East. It means that the world’s most populous country with a fast-growing economy which is the largest energy consumer and producer in the world. Rapidly increasing energy demand, especially for liquid fuels, has made China extremely influential in world energy markets⁷. China has been diversifying the sources of its crude oil imports in recent years as a result of robust oil demand growth and recent geopolitical uncertainties. Saudi Arabia continues to be the largest supplier of crude oil to China and in 2013 provided 19% of China’s 5.6 million barrels per day. Because production levels from Iran, Libya, and Sudan and South Sudan dropped since 2011, China replaced the lost shares of crude oil and other liquids imports from these countries with imports from Oman, Iraq, the United Arab Emirates, Angola, Venezuela, and Russia. China over the course 2014 Chinese crude imports averaged 6.2 m b/d (million barrels per day), up 530,000 b/d or 9.6 per cent on 2013, when the growth rate was 5 per cent. In December 2014 the import of oil has risen – for the first time – above 7 m barrels per day⁸.

Table 1. Chinese import of oil 2015 (by direction)

Country	Percentage
Saudi Arabia	19
Angola	14
Russia	9
Iran	8
Oman	9
Iraq	8
Venezuela	6
Kazakhstan	4
Kuwait	3
Congo	2
Brazil	2
Others	12

Source: *China 2015*, US Energy Information Administration, [online:] <http://www.eia.gov/countries/analysisbriefs/China/china.pdf> (10.03.2016).

After recording a rapid increase in natural gas consumption at 16% during 2003-2012, China has become the world’s fourth largest gas consumer, trailing after the United States, Russia, and Iran. In 2012 China consumed 144 billion cubic meters of natural gas, accounting for 4.3% of global consumption. In 2012 China was responsible for 40% of the total increase in gas consumption among non-OECD (Organization for Economic Co-operation and Development) countries. The Chinese government has pledged to consume more gas in the future, driven by its quest for a cleaner energy mix. China has set a goal to increase the share of gas in its total

⁷ EIA, *China*, US Energy Information Administration, 2014, [online:] <http://www.eia.gov/countries/analysisbriefs/China/china.pdf> (10.03.2015).

⁸ L. Hornby, A. Raval, N. Hume, *China’s oil imports climb above 7m barrels a day for first time*, “Financial Times” 2015, [online:] <http://www.ft.com/cms/s/0/78f88222-9aff-11e4-882d-00144feabdc0.html#axzz3Xvs0zgm>, (10.03.2015).

primary energy consumption mix to 7.5% by 2015, 10% by 2020, and 12% by 2030⁹. In 2013 China imported 52 billion cubic meters of natural gas, making it the world's fifth largest gas importer. Imports increased more than tenfold in the period 2008-2013. China has worked to diversify its sources for natural gas imports. In 2013, China was the world's third-largest importer of LNG, behind Japan and Korea. In that year, 85% of China's LNG supply came from Australia, Indonesia, Malaysia, and Qatar¹⁰.

The Chinese economy stay also in face of deficit of other raw materials (iron ore, copper, nickel, zinc, bauxite). For examples:

- iron ore imports are forecast to rise to a record 1 billion tonnes this year, with main suppliers Australia and Brazil¹¹,
- copper imports surged 46.4 percent in March 2015 reached 410,000 tonnes, compared with 280,000 tonnes in February¹².

There is no any doubts that China – as one of the world's fastest-growing and biggest developing countries – needs more energy and resources for its future development. It is obvious, taking into consideration Chinese resources, that a large part of them will be imported from abroad. The government in Beijing is fully aware that the Arctic contains up to 30 percent of the world's undiscovered gas and about 13 percent of the world's undiscovered oil resources. The region also contains large amounts of chromium, coal, copper, diamonds, gold, lead, manganese, nickel, rare earths, silver, titanium, tungsten and zinc. China is diversifying its energy and raw material sources, and the opening of the Arctic offers more possibility of providing resources.

The mineral raw materials from the High North can potentially play significant role for Chinese economy, but with regard to rare earth elements (RRE)¹³ situation would be more complicated. Rare earth element are crucial for modern technologies. They are used in many civilian devices (computer memory, DVDs, rechargeable batteries, cell phones, catalytic converters, magnets, fluorescent lighting and much more) but also are absolutely necessary for military high-technologies: the military uses night-vision goggles, precision-guided weapons, communications equipment, GPS equipment, batteries and other defense electronics. China in 2010 controlled about 95% of the world's rare earth production and prices for many rare

⁹ Y. Yang, *China's Natural Gas Imports and Prospects*, 2014, [online:] http://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/8459/MP_Final_Tang.pdf?sequence=1, (21.03.2015).

¹⁰ EIA, op. cit.

¹¹ D. Stanway, *Chinese iron ore imports seen rising to 1 billion tonnes as top miners rule*, 2015, [online:] <http://www.reuters.com/article/2015/02/04/us-china-ironore-idUSKBN0L80VT20150204>, (02.04.2015).

¹² P. Yam, *China copper imports climb over 46 pct in March vs Feb*, 2015, [online:] <http://www.reuters.com/article/2015/04/13/china-economy-trade-copper-idUSL4N0X733G20150413>, (02.04.2015).

¹³ Rare earth elements (rare earth metals) are a group of seventeen chemical elements that occur together in the periodic table. The group consists of yttrium and the 15 lanthanide elements (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium). Scandium is found in most rare earth element deposits and is sometimes classified as a rare earth element. The International Union of Pure and Applied Chemistry includes scandium in their rare earth element definition. The rare earth elements are all metals, and the group is often referred to as the "rare earth metals". These metals have many similar properties and that often causes them to be found together in geologic deposits. They are also referred to as "rare earth oxides" because many of them are typically sold as oxide compounds.

earth oxides had risen over 500% in just a few years. That was an awakening for rare earth consumers and miners throughout the world. Mining companies in the United States, Australia, Canada and other countries began to reevaluate old rare earth prospects and explore for new ones (see table 2).

Table 2. REE World Mine Production and Reserves (2015)

Country	Production (Metric Ton)	Reserves (Metric Ton)
United States	4,000	13,000,000
Australia	2,000	2,100,000
Brazil	140	22,000,000
China	100,000	55,000,000
India	2,900	3,100,000
Russia	2,400	?
Vietnam	220	?
Malaysia	100	30,000
Other countries	Not available	41,000,000
World total (rounded)	110,000	140,000,000

Source: REE - Rare Earth Elements and their Uses, The demand for rare earth elements has grown rapidly, but their occurrence in minable deposits is limited, [online:] <http://geology.com/articles/rare-earth-elements/> (05.04.2017).

The fear about taking control over the Arctic source of REE is still present in international policy. For example, a Chinese businessman’s plan to buy a large area of land in Iceland was met with a dubious response by the European public in 2011. In the end, Iceland rejected the bid. Very similar situation took place in Greenland¹⁴. Finally European Union Vice President Antonio Tajani offered Greenland hundreds of millions of dollars in development aid in exchange for guarantees that Greenland would not give China exclusive access to its rare earth metals. Tajani unabashedly called it “raw mineral diplomacy”. Security concerns expressed in Denmark over the mining of uranium and rare earth have not yet been resolved. A working group established in early 2014 between Greenland and the Danish government to resolve these issues was scheduled to conclude in late 2014, but these talks have been interrupted by the change in government. While the new Greenland coalition supports uranium mining, these issues will have to be worked out before mining can move forward. This is particularly important for the development of the rare earth project, which contains significant levels of uranium. Actually Denmark still keep the right to reject proposed rare earth projects on security grounds regardless of uranium content¹⁵.

Majority of international commentators agree that Arctic minerals are China’s new strategic target. The opinion is confirmed by the “famous” sentence of Rear Admiral Yin Zhuo, who said: The Arctic belongs to all the people around the world,

¹⁴ S. Koprа, *China’s Arctic Interests*, “Arctic Yearbook”, 2013, [online:] http://www.arcticyearbook.com/images/Articles_2013/KOPRA_AY13_FINAL.pdf (02.04.2015).

¹⁵ T. Boersma, K. Foley, *Dark Clouds Gather over Greenland’s Mining Ambitions*, “Policy Planet”, 2015 January 16, [online:] <http://www.brookings.edu/blogs/planetpolicy/posts/2015/01/16-greenland-mining-boersma-foley>, (02.04.2015).

as no nation has sovereignty over it. [...] China must play an indispensable role in Arctic exploration as we have one-fifth of the world's population¹⁶.

It was treated as the unofficial Beijing's claim to the "North Pole race". It must be recalled that according a few researchers Yin Zhuo's thought was badly translated by the media and the admiral's conclusion was different. Senna Copra presented his own translation: according to the UN law of the Sea, the North Pole and areas surrounding it do not belong to any country but are common wealth of the whole human population¹⁷.

Described situation wake up the great unrest in other countries due to China's size and status as a rising global power. After that Chinese government had become very cautious in publicizing their views. According to the official policy: There is no doubt that for China, gaining access to Arctic resources – which, according to estimates are mostly located within the exclusive economic zones of Arctic coastal states – will require cooperation with the Arctic countries to gain access to those resources. Chinese companies are seeking opportunities with both Russian oil tycoons in developing Russia oil in the Arctic region and with Canadian oil companies, as well¹⁸.

For China an access to Arctic energy resources potentially can provide the state with significant increase in their energy security, both by diversifying the sources of oil and gas, and by using alternative routes of transport. An access and rights to exploit the marine areas of the Arctic beyond the jurisdiction of the Arctic Ocean coastal states is very important issue for Beijing¹⁹.

Sae Lines of Communication (SLOC) Factor

PRC is deeply demanded not only on maritime import of energy and another raw materials. The export of goods for European and American markets is crucial for the economy, social and political stability. Chinese Sea Lanes of Communication (SLOC) passes through periodically unstable areas (Ormuz Strait, Malacca Strait, Taiwan Strait, Bab-el Mandeb Strait). The traditional SLOC are also vulnerable for different actions of dominant world naval super power – United States and US. Navy. It is the reason why China is interested in Arctic sea routes, mainly North East Passage.

The Northern Sea Route (NSR) is the Russian name for what is often known outside Russia as the Northeast Passage (NEP). In Europe, the term Northeast Passage has for centuries nurtured visions – that have never completely died out – of an adventurous shortcut that may bring about a revolution in sea trade between Europe and East Asia. In Russia, the term Northern Sea Route holds different connotations, primarily evokes visions of a grand national waterway, created by the efforts of the Russian people, and which can be also perceived as an internal transport corridor for bringing natural resources out, and for bringing deliveries in to the many settlements

¹⁶ G. Chang, *China's Arctic Play*, "The Diplomat", March 9, 2010, [online:] <http://thediplomat.com/2010/03/chinas-arctic-play/>, (03.04.2015).

¹⁷ S. Kopra, op. cit.

¹⁸ K. Sun, *China and the Arctic: Business and Beyond*, EMC Chair Conference Paper, [online:] <https://usnwc2.usnwc.edu/Academics/Faculty/Derek-Reveron/Workshops/Maritime-Security,-Seapower,---Trade/Maritime-Working-Papers/sun-china-and-arctic.aspx>, (02.04.2015).

¹⁹ M. Łuszczuk, op. cit., p. 221.

in the Russian Arctic. The Russian emphasis on the route's internal character is further seen from the formal definition, by which the NSR is strictly limited by the Novaya Zemlya islands in the west and the Bering Strait in the east²⁰.

From geographical point of view the Northern Sea Route, is a marine passage that follows the Eurasian coastline between the Atlantic and Pacific oceans and crosses four arctic seas: the Kara, the Laptev, the East Siberian, and the Chukchi. Specifically, it extends from the islands of Novaya Zemlya in the west to the Bering Strait in the east. While the entire route is affected by ice for much of the year, in the summer there is melting due to the combined effects of milder temperatures and the influx of warmer water. The North Cape current, an extension of the Gulf Stream, affects water temperatures as far east as the Kara Sea, and the great Siberian rivers discharge large volumes of warmer water into coastal seas. Between late June and mid-November parts of the route are ice-free, and conditions improve progressively between June and September. The whole system is open for a period in the summer, but all sections are not necessarily open simultaneously. Dates of break-up and freezing can vary widely and local winds are the principal influence on ice conditions in a given area. Sustained northerly winds can bring heavy ice from the polar pack onto the route²¹.

The next factor which limits the shipping possibilities is the shallowness of its seas. The shallowness creates three major concerns for shipping:

- shallowness of the straits through the New Siberian Islands seriously limits the draft and size of ships that can use the whole NSR on a regular basis. The draft restrictions in Sannikov Strait is 12.5 m and in only 6.7 m in the Dmitriy Laptev Strait. By choosing a route north of the New Siberian Islands, this problem can be avoided, but ice-conditions are often prohibitively severe. In reality, vessels that are constructed to operate on the whole NSR on a regular basis will have to observe the 12.5 m draft restriction;
- shallowness of the coastal areas force deep-draft ships to choose routes far from the coast. This creates additional problems for larger ships, since ice conditions often are better close to the coast, where small islands and other local features may provide shelter from drifting ice;
- shallowness of the coastal areas and the Arctic ports seriously limits the size of ships that can moor at Russian Arctic ports. Even with the existing standard class of Russian NSR cargo vessels – the Norilsk (SA-15) class vessels – the 9.0 m draft is too deep to proceed to quay in many of the NSR ports – loading/unloading will have to take place by reloading to smaller vessels, or directly onto the ice. Another serious consequence is the inability of larger ships to seek shelter and repair in emergency situations²².

Despite of the aforementioned constraints the route offers distances between north Pacific and European ports that are 35-60% shorter than the traditional routes through the Suez and Panama canals. Transit speeds since July until October are competitive with those attained on the southerly routes, although slower speeds for the rest of the

²⁰ C. L. Ragner, *Northern Sea Route Cargo Flows and Infrastructure – Present State and Future Potential*, Fridtjof Nansen Institute, Lysaker 2000, p. 114.

²¹ J. Drent, *Commercial shipping on the Northern Sea Route*, "The Northern Mariner", III, No 2, 1993, p. 2.

²² C. L. Ragner, op. cit., p. 7.

year offset the savings in distance. Ship speeds in autumn and spring will have to be increased substantially to maintain the route's economic advantage. The eastern portion of the route may in fact need to be open year-round to be economically attractive to the international community.

Table 3. Alternative Shipping Routes to Ports in the Pacific and Atlantic

[nautical miles]	From Hamburg to:			
Shipping routes via:	Vancouver	Yokohama	Hong Kong	Singapore
NSR	6635	6920	8370	9730
Suez Canal	15377	11073	9360	8377
Cape of Good Hope	18846	14542	13109	11846
Panama Canal	8741	12420	12920	15208

Source: Ragner, C. L. (2000) Northern Sea Route Cargo Flows and Infrastructure – Present State and Future Potential, Lysaker: Fridtjof Nansen Institute, 1.

Historically, foreign vessels were prevented from using the NSR because certain key straits and passages were in sovereign waters of the Soviet Union, but in October of 1987 then – General Secretary Mikhail Gorbachev announced a new spirit of cooperation in the arctic regions: the Soviet Union would open the NSR, with certain restrictions, to all foreign vessels for peaceful and commercial purposes. Although navigational difficulties were considerable in these northern waters due to more favourable weather conditions, short daylight season, ice-infested waters, and isolation. At present, as it was mentioned, the situation has changed.

There was a precedent cruise through NSR in August 2009. Two ships, “Beluga Fraternity” and “Beluga Foresight”, sailed from Korean port of Ulsan to Rotterdam. It must be admitted that they were part of a small convoy escorted by the icebreaker “50 Liet Pobedy”, but ice breaking was not necessary. The tanker “SCF Baltica” (built in 2005, carrying capacity 117 500 tons, Liberian flag, owner – Russian Sovcomflot) was the first ship of this class which run through NSR, from Murmansk to China, without assistance of icebreaker. She carried gas condensate²³. It took place in August 2010 and it has been the first example of energy raw material transport directly from Russia to China by using northern shipping route. Also in 2010, but in September, bulk carrier succeeded the first crossing of NSR. Ship “Nordic Barents”, flying a flag of Hong Kong, belonging to the Danish company Tschudi Shipping Company, carried 40000 t of ore from Kirkenes, Norway to Lianyungang in China. On the entire route freighter was assisted by nuclear icebreaker “50 Liet Pobedy”. It was the first time when Russian side has made available navigation charts, which have shown that the Laptev Sea is available only for ships with a draft of 14.5 m (at a depth of 16 m fairway). During the sailing through the Barents Sea the convoy was stumbled on the ice floes and drifting ice fields with a thickness of 2-4 m and a diameter of up to

²³ The product derived from natural gas. A mixture of liquid hydrocarbons (with more than four carbon atoms per molecule). Under natural conditions, a gas condensate is a solution of heavier hydrocarbons. The gas condensate content in gases of various deposits ranges from 12 to 700 cm³ per 1 m³ of gas. The gas condensate separated from natural gas at reduced pressure and/or temperature by reverse condensation is a colorless or slightly colored liquid of density 700-800 kg/m³, which begins to boil at 30-70°C. The composition of a gas condensate corresponds approximately to the gasoline or kerosine fraction of crude oil or to a mixture of them.

a nautical mile. The most difficult ice conditions were encountered between 160 and 170 degrees east longitude. On 12-13 September, due to floating ice, the convoy reduced speed to 6 knots and the distance between the icebreaker and the bulk carrier to 3-5 cables. During the transition visibility was poor, the air temperature ranged between -1 to +5 ° C and the water temperature ranged between 1 and 0°C. The strongest recorded wind reached 8 degrees. The transition took 22 days and 12 hours. The organizers of the enterprise considered the project was a success, which increased interest of shipowners companies to use NSR. According to estimations only thanks to using smaller amount of fuel they saved 246 500 USD. Additionally, even if the passage is open only for a few weeks per year, the cost savings could be significant as the opening would be exploited during the busy pre-Christmas shipping season from China to Europe and the U.S. east coast.

At the end of September 2010, the next experimental cruise (without the assistance of the icebreaker) took place. The double action container carrier “Monchegorsk”, belonging to the company MMC Norilsk Nickel, sailed from Dudinka to Shanghai. The ship left Russian port September 23, arrived to Pusan, South Korea on October 13 and to harbor of the final destination four days later. According to reports from 2009 the last ice barrier in the straits between Kara Sea and Laptev Sea (Wilkicki Strait, Szokalski Strait and Red Army Strait) melted. At the same time it appeared that it had been the permanent climatic trend.

It must be underlined that Northern Sea Route at present has for PRC only potential importance. The first ever Chinese vessel to sail the Northern Sea Route was the icebreaker “Xue Long” (Snow Dragon). In 2012 the vessel sailed all along the Northern Sea Route into the Barents Sea and upon return sailing a straight line from Iceland to the Bering Strait via the North Pole. In 2013 the first commercial no Chinese vessels sailed the Northern Sea Route. “Yong Sheng” 19,000 tone container vessel operated by Cosco shipping group sailed from Dalian in northern China to Rotterdam, fully laden. It took her 21 days. In 2014 five of the vessels sailing the route had ports in China as port of destination or port of departure, according to the Northern Sea Route Information Office. Of course the NSR is not the competition for the Suez Canal (7,000 vessels including about 6,300 container ships and 3,600 used the canal in 2014) however the geostrategic alternative which is provided by northern sea passage is the valuable option for Beijing. According to self-official materials:

As the largest exporter and second-largest importer of global shipped goods, China relies heavily on sea lanes. The prospect of the opening Arctic passages is the most attractive reason for China’s coming to the Arctic. The benefits of the Arctic passages are fourfold:

- The shortened distance. Arctic passages are nearly 2,000-3,500 nautical miles shorter than the customary sea routes from Chinese coastal ports to the east coast of North America, and reduce the length of customary routes from ports north of Shanghai to the ports of western Europe, the North Sea and the Baltic Sea by 25 to 55 percent. EMC Chair Conference Paper The views expressed in this paper are those of the author and do not reflect the official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government.

- The reduced cost. By using the Arctic passages, it is estimated that the cost of Chinese international trade will be reduced by US\$53.3 billion to US \$ 127.4 billion yearly.
- The commercial use of the Arctic passages will put China much closer to Arctic resources and make China's use of them more feasible.
- The ports in northern China will benefit enormously from the opening of the Arctic passages, because a greater volume of goods will be transported through these ports²⁴.

The access to the Arctic waters has widen importance for PRC. It is the part of gaining (or re-gaining) resolutely safeguard China's maritime rights and interests, and build China into a maritime power. The issue was underlined during the 18th National Congress of the *Communist Party of China* (CPC in November 2012) by then Chinese President Hu Jintao. According to Hu (2012), China should enhance our capacity for exploiting marine resources, develop the marine economy and protect the marine ecological environment, which can also be seen as instructions for China's Arctic activities. The next president, Xi Jinping, confirmed such political approaches in early 2013.

The Factor of National Proud

China's "Arctic policy" is the part of widen enterprise, which can be called: "the gaining of super-power's international status". China want to show the world that they are in every way a modern nation and in every sense a great power. If this requires material wealth, technological prowess, military strength, a world-class aerospace program, then these are what they must and will achieve. This factor also explains why Beijing has increased its funding for Arctic research, set up a polar institute in Shanghai, and in 2012 sent the Chinese icebreaker "Xue Long" through the Northeast Passage above Russia and Scandinavia, presumably to determine the suitability of using that route as a commercial waterway. It is currently building another icebreaker and planning three Arctic expeditions for 2015. The growth of Chinese presence in the Arctic appeared parallel to rebuilding of international position and status of the "Middle State":

- China joined the International Arctic Science Committee in 1996,
- The first Chinese scientific expedition to the Arctic, which involved fifty researchers representing various fields of earth sciences, took place in the summer of 1999,
- In 2004, China established its own research station in Ny-Ålesund on Spitsbergen, which made it possible to carry out next scientific expeditions (what is more, this step provided the authorities in Beijing with an important argument, which is now often used to point to a primarily scientific nature of China's interest in the Arctic),
- In 2013 China gained the permanent observer status in Arctic Council was the next step.

²⁴ K. Sun, op. cit.

- Chinese policy toward to the Arctic is consequent and supported by money (China spent for different kinds of Arctic activities more than United States).

The governance of Chinese science activity in the Arctic

The science activity in very important and the most visible part of Chinese involvement on the “High North”. Arctic researches are governed by Chinese Arctic and Antarctic Administration (CAA), which is the part of State Oceanic Administration (SOA) of China. The executive body of CAA is Polar Research Institute of China (PRIC). The institution was founded in 1989 to co-ordinate Chinese polar research and makes available to national polar research the important infrastructure, for example the research icebreaker “Xuelong”. The Institute is responsible for both Arctic and Antarctic²⁵ research and stations. It carries out international cooperation and academic exchange activities. PRIC is Chinese research center in the field of comprehensive studies of the polar region. Research at the institute focuses on:

- polar glaciology,
- polar oceanographic science,
- polar upper atmospheric physics,
- polar biological science and polar information platform.

The institute has established Polar Snow Ice and Global Change Laboratory, Ionospheric Physics Laboratory, Auroral and Magnetospheric Physics Laboratory, Polar Organism Analytical Laboratory, Microorganism and Molecular Biology Analytical Laboratory, Biochemistry Analytical Laboratory, Polar Microbe Culture Collection and Shipboard Laboratory. PRIC is the polar information center of China. It is responsible for Chinese Polar Science Database, polar information network, National Polar Archives of China, Polar Library, polar sample database, polar science journals, Polar Popular Museum. The institute maintain Yellow River station, which was established in 2004 in Ny-Alesund, Svalbard, Norway. The station enables China to perform and widen her scientific research and cooperation scope in the Arctic region. Institute has been organizing the Chinese National Arctic Research in the Yellow River Station each year ever since, and the year of 2015 is the twelfth year in succession. It also has successfully organized six Arctic scientific expeditions by icebreaker “Xuelong” in 1997, 2003, 2008, 2010, 2012 and 2014²⁶.

²⁵ PRC has been playing an active role in the scientific research and international cooperation activities in the Antarctic continent and the Southern Ocean within the principles and the framework of the Antarctic Treaty System. China has done 31 national Antarctic expeditions until 2015 with the operating of two year-round Stations, namely the Great Wall Station located in King George Island, west Antarctica and the Zhongshan Station located in the Larsemann Hills, east Antarctica, one inner land summer station, namely the Kunlun Station located on “Dome A”, the highest place in Antarctica and one camp, namely the Taishan Camp, located in Princess Elizabeth Land, Antarctica.

²⁶ Chinese Arctic and Antarctic Administration, 2015, [online:] http://www.chinare.gov.cn/english/gb_article.php?modid=15001, (02.04.2015).

The future ...

Official Chinese documents underlined that “Middle State” business interests overshadows other interests in the Arctic in the near term, those including investments, resources, tourism, and shipping. With the melting of the Arctic, and Arctic passages and resources becoming more accessible, it is natural for China to look to the Arctic for economic opportunities²⁷. As some high profile Chinese officials commented publicly, cooperation with countries and business partners in the Arctic states is the only way for China to realize its interests in the Arctic. On the other hand China is – undouble – the “rising” power, which presents its own strategic interests and ambitious. It is really indeed unlikely that China will engage in a serious crisis or conflict only because of the Arctic. However, it should be assumed that any deterioration in China's relations with one of the states “Arctic” five will be reflected in the far north. The Arctic is now a mirror that reflects the great global processes, but also the lens, which focuses it more powerfully. It is both an opportunity and a threat, and both of these conditions also apply to China.

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Streszczenie

Zmiany klimatu w Arktyce generują istotny wpływ nie tylko na północną hemisferę, ale również na cały glob. Topnienie arktycznego lodu możliwym czyni otwarcie dla żeglugi Przejścia Północno-Zachodniego i rozpoczęcie eksploracji zasobów mineralnych znajdujących się pod dnem mórz arktycznych. Analizowane obecnie scenariusze wskazują, że również Chiny będą aktywnym graczem na „północnej arenie”. Odległość między Europą a Chinami jest znacznie mniejsza podczas żeglugi przez szlaki polarne niż przez Kanał Panamski lub Cieśninę Malakka. Bliższe spojrzenie na strategię firm żeglugowych, z jednej strony, a na interesy Chin w Arktyce, z drugiej, pokazuje, że Państwo Środka dysponuje na północy niebagatelnymi atutami. Sytuacja ta stwarza nowe szanse dla regionu, ale także nowe wyzwania i zagrożenia. W artykule przedstawiono minione, bieżące i planowane działania chińskie w Arktyce w kontekście politycznym, gospodarczym oraz w wymiarze międzynarodowego bezpieczeństwa.

Aktywność Chińskiej Republiki Ludowej w Arktyce

Słowa kluczowe

Globalne ocieplenie, Arktyka, przejście północno-wschodnie, Chiny

Krzysztof Kubiak, Professor (born 1967), graduated from Polish Naval Academy and Gdańsk University. He gained PhD title in the Polish Naval Academy (1998) and accomplished habilitation procedure in the National Defense University (2003). In march 2015 the President of Polish Republic gained him the title of professor. He is dealing with contemporary war, conflicts and – such called – “flash points”, as well as the not-military threats for national security (terrorism, sea piracy, drug smuggling,

illegal immigration, proliferation of mass destruction weapon). The security of polar areas (both Arctic and Antarctic) is the integral part of his scientific interests. He published 17 books (among them: *Disputes and Conflicts in the Arctic at the beginning of the XXI Century*, Warsaw 2013, *British-Icelandic Cod Wars 1958-1976*, Zabrze 2014) and more than 200 scientific articles. He is also an active publicist. Now he is the professor of Jan Kochanowski University in Kielce.