



## IMPLICATIONS OF RUSSIA'S WAR ON UKRAINE FOR SOUTH KOREA: MARITIME ROUTES AND ENERGY SECURITY

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### JCSP 49

#### Exercise Solo Flight

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## **IMPLICATIONS OF RUSSIA'S WAR ON UKRAINE FOR SOUTH KOREA: MARITIME ROUTES AND ENERGY SECURITY**

### **INTRODUCTION**

The security crisis of the maritime shipping route following the Russian military's maritime blockade has great implications for South Korea. This is because Korea is a country that relies on imports through sea transportation for most of its energy resources. In addition, as the competition for supremacy between the US and China intensifies in the South China Sea, instability in maritime transportation is increasing. As experienced in Russia's war on Ukraine, the blockade of sea transport routes has not only caused Ukraine's economic crisis but also a global food crisis. The impact of the blockade of sea transport routes is truly enormous. Now is the time to think about the crisis that Korea may face through the lessons of Russia's war on Ukraine.

The topics covered in this paper are as follows: First, the importance of maritime transport routes is confirmed through the effects and results of Russia's blockade of the Black Sea. Then, the importance of maritime transport in energy transport, the definition and historical examples of energy crises, Korea's dependence on high energy imports, the vulnerability of Korea's major maritime transport routes, and finally, Korea's countermeasures will be covered. The purpose of this article is to look at how security problems in Korea's maritime transportation routes can cause Korea's energy crisis and threaten national security, and to think about some ways to prepare for it.

### **IMPLICATIONS OF RUSSIA'S WAR ON UKRAINE**

Immediately upon invading Ukraine, Russian forces laid mines and blockaded Ukraine's main export ports on the Black Sea. This blockade prevented the export of about 20 million tonnes of grain. Ukraine is a world grain exporter, accounting for 46% of world exports of sunflower oil, 12% of maize, 17% of barley and 9% of wheat exports<sup>1</sup>. When Russia blocked major grain export ports in Ukraine, Ukraine attempted to export grain after moving it to other regions by land using large trucks and trains. The European Union, along with Ukraine's efforts, has created an alternative route for Ukrainian grain exports, called the solidarity lanes, to help grain exports from ports in the Baltic Sea and Romania<sup>2</sup>.

However, the problem was that there was a clear limit to export capabilities through land transportation, including train transportation. Only about 10% of Ukraine's total grain exports were covered by land transportation. From the standpoint of Ukraine, which exports grain mostly by ship, Russia's maritime blockade caused a complete halt in grain exports by sea, which triggered a global food crisis. Before the war, Ukraine exported grain that could feed 400 million people in peacetime, but after the outbreak of war grain exports through the Black Sea fell from 5.7 million tonnes in February 2022 to

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<sup>1</sup> <http://www.bbc.com/news/world-61759692>

<sup>2</sup> [https://transport.ec.europa.eu/media-corner/news/european-commission-establish-solidarity-lanes-help-ukraine-export-agricultural-goods-2022-05-12\\_en](https://transport.ec.europa.eu/media-corner/news/european-commission-establish-solidarity-lanes-help-ukraine-export-agricultural-goods-2022-05-12_en)

0 tonnes in March. As the world food crisis escalated, criticism continued that Russia was using 'hunger' as a weapon of war. Additionally, the United Nations World Food Program has warned that the war could lead to the worst global food crisis since World War II.<sup>3</sup>

As the situation worsened, the UN arranged an arbitration plan called the Black Sea Grain Initiative (Initiative on the Safe Transportation of Grain and Foodstuffs from Ukrainian Ports)<sup>4</sup>. With the agreement between Russia, Ukraine and Turkey on this initiative, grain exports were resumed through sea routes that had been blocked by the outbreak of war.

However, it is true that mines installed by Russia in the Black Sea still remain, threatening the safe navigation of ships and making it difficult to secure the safety of maritime transportation routes as much as before the war. Also, as long as Russia's war on Ukraine continues, a maritime blockade and a global food crisis are likely to occur again. This underscores the importance of securing and maintaining maritime transport routes amid growing economic interdependence between countries. South Korea is a country highly dependent on foreign imports for energy. Also, most of this energy comes through shipping by sea. For Korea, the threat to the safety of sea transportation routes means a significant negative impact on Korea's energy supply. This will soon lead to a crisis in energy security, and if this situation continues, it will become a national security crisis in which the daily life of the people and the national economy are threatened.

## **DEFINITION OF ENERGY SECURITY**

The International Energy Agency (IEA) defines 'energy security' as the uninterrupted availability of energy sources at an affordable price.<sup>5</sup> Dr. Fattouh Bassam, the Director of the Oxford Institute for Energy Studies (OIES), said that price appropriateness is an ambiguous concept. Low prices are appropriate for energy-importing countries, but exporting countries are different. He examined energy security in terms of potential factors or events that affect the flow of oil through the supply and defined energy security in terms of supply without serious shortages or interruptions.<sup>6</sup> Therefore, when the energy supply is severely reduced or disrupted, or when a disruption in supply does not actually occur but is highly probable and is perceived as a serious threat, it can be defined as an energy security crisis<sup>7</sup>.

## **THE IMPORTANCE OF MARITIME ROUTES IN ENERGY TRANSPORTATIONS**

Deposits of major energy resources such as crude oil and natural gas are concentrated in some regions, such as the Middle East and Africa. In addition, since producers and consumers are far apart, most of them are first transported to consumers

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<sup>3</sup> <https://press.un.org/en/2022/sc14894.doc.htm>

<sup>4</sup> [https://www.un.org/sites/un2.un.org/files/black\\_sea\\_grain\\_initiative\\_full\\_text.pdf](https://www.un.org/sites/un2.un.org/files/black_sea_grain_initiative_full_text.pdf)

<sup>5</sup> <https://www.iea.org/topics/energy-security>

<sup>6</sup> Fattouh, Bassam. 2007. How Secure Are Middle East Oil Supplies?: Oxford Institute for Energy Studies WPM 33 . Oxford: Oxford Institute for Energy Studies, September. P.6-7

<sup>7</sup> Jang Seong-il, 2022, Russian War and Energy Security, Jeju Peace Institute. P.3

through pipelines and secondly through maritime transport (oil tankers). Tankers for maritime transport of crude oil pass through major maritime routes such as the Strait of Hormuz, the Strait of Malacca, and the Suez Canal. Therefore, security is very important in transporting oil and natural gas, and is often combined with military elements such as military protection of supply areas or oil tankers. For this reason, the Republic of Korea Navy has been dispatching the Cheonghae Unit since 2009 to secure the safety of maritime traffic routes in the Middle East<sup>8</sup>. Blocking the entirety of a specific sea route is realistically difficult unless you have a huge naval force. However, there are historical cases in which energy security threats have occurred by directly attacking tankers transporting oil or by blocking some of the maritime transportation routes. The first is the German U-boat attack during World War I. At that time, Germany had been attacking oil tankers heading to England since 1915, and in 1917 it raised the level even further with indiscriminate attacks. As a result, Britain suffered from a severe oil shortage from 1917, and as it experienced a serious energy crisis throughout the country, it requested oil supply from the United States.<sup>9</sup>

Another example is the 1956 Suez Canal Crisis. In June 1956, Egypt's President Nasser came to power and nationalized the Suez Canal, which prior to this was owned by British and French shareholders. These actions led to the invasion of Egypt by Britain, France and Israel. In November of the same year, Egypt blocked the passage of ships by blocking the Suez Canal against the invasion of Britain, France and Israel. When the Suez Canal was blocked, Britain, which imported oil from the Middle East, suffered a serious energy security crisis.<sup>10</sup>

Currently, the main maritime transportation routes for crude oil transportation are the Strait of Hormuz and the Strait of Malacca. According to the daily oil trade data, it can be confirmed that the largest amount of oil passes through the Strait of Hormuz and the Strait of Malacca in the order of daily oil trade.<sup>11</sup> According to Figure 1, of the 97.2 million barrels of oil produced per day worldwide, about one-fifth (18.5 million barrels) passes through the Strait of Hormuz, and most of the oil that passes through it passes through the Strait of Malacca. Therefore, if the strait is blocked by a specific country or a non-state actor or a problem occurs in the movement of oil tankers, there is a possibility of a global energy security crisis.

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<sup>8</sup> <https://www.koreaherald.com/view.php?ud=20200121000803>

<sup>9</sup> Kelanic, Rosemary Ann. 2012. Black gold and blackmail: The politics of international oil coercion, Ph.D Dissertation. The University of Chicago. P.136-139

<sup>10</sup> Itayim, Fuad. 1974. "Arab Oil-The Political Dimension." *Journal of Palestine Studies*, Vol. 3, No. 2 (Winter). P.86-89

<sup>11</sup> U.S. Energy Information Administration, World Oil Transit Chokepoints (July 25, 2017) P.2

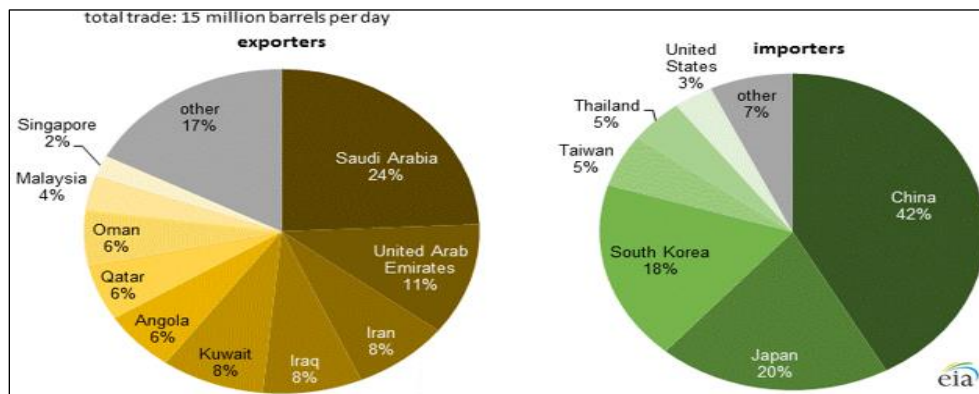
Figure 1. Daily transit volumes through world maritime oil chokepoints



\*source : U.S. Energy Information Administration, World Oil Transit Chokepoints (July 25, 2017)

Most of the crude oil passing through the Malacca Strait also passes through the South China Sea. According to Figure 2, the South China Sea is a major trade route for the Middle East, which accounted for more than 70% of total South China Sea crude oil shipments in 2016. The three crude oil importers with the largest volumes passing through the South China Sea—China, Japan, and South Korea—collectively accounted for 80% of total crude oil volumes transiting the South China Sea in 2016<sup>12</sup>. Most of South Korea's imports are from Middle Eastern suppliers and are transported through the Strait of Malacca and then the South China Sea.

Figure 2. South China Sea crude oil trade flows (2016)



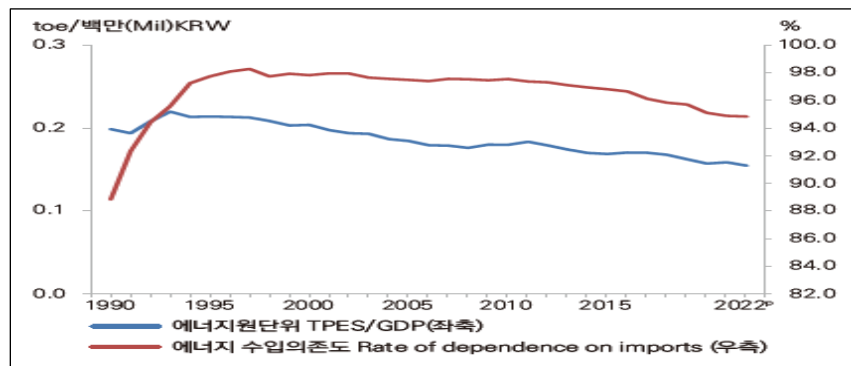
\*Source : U.S. Energy Information Administration, More than 30% of global maritime crude oil trade moves through the South China Sea(Aug 27, 2018)

<sup>12</sup> <https://www.eia.gov/todayinenergy/detail.php?id=36952#>

## SOUTH KOREA'S HIGH DEPENDENCE ON ENERGY IMPORTS

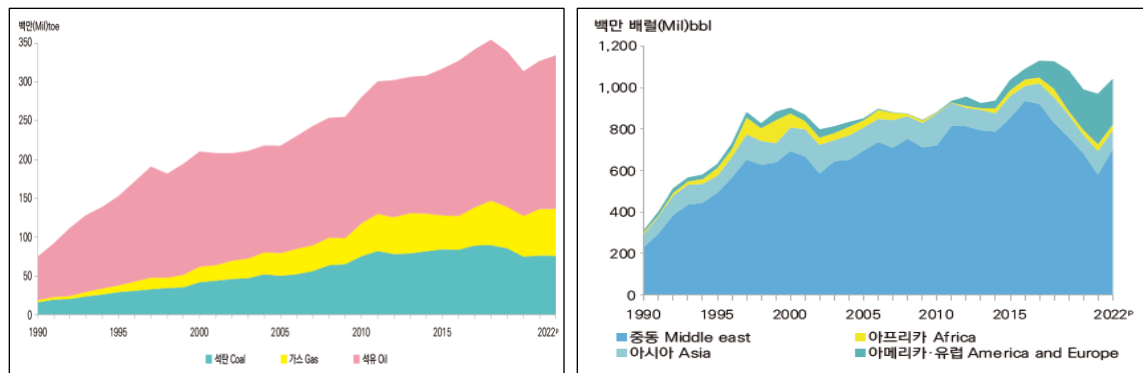
To confirm Korea's dependence on overseas energy in detail, data on Korea's dependence on energy imports, types of energy import sources, and share of crude oil import countries over the past 30 years are as follows. According to Figure 3, Korea's energy import dependence is 98% in 1995, 97% in 2005, 95% in 2015, and 93% in 2021, showing very high figures of over 90% in the last 30 years. And according to figure 4, Oil, natural gas and coal imports have all increased over the past 30 years. In particular, oil imports have increased significantly and account for the highest share. The share of crude oil importing countries. As a non-oil producing country, South Korea relies on imports for all of its crude oil. In particular, in the case of crude oil, the share of imports from Middle Eastern countries is overwhelmingly high.

Figure 3. South Korea energy dependence on imports



\* source : Korea Energy Economics Institute - Monthly Energy Statistics(April.23) P.6

Figure 4. South Korea energy import by source and crude oil import by area



\* source : Korea Energy Economics Institute - Monthly Energy Statistics(April.23) P.10/50

Of course, recently South Korean government is also expanding national efforts to switch to eco-friendly and renewable energy, but it is difficult to achieve drastic changes in a short period of time, and this trend is expected to continue for the time being. In summary, South Korea is a country with a very high dependence on energy imports (more than 90%), and imports the largest portion of oil, most of which comes

from the Middle East. Crude oil produced in these Middle Eastern countries is imported to Korea through the Strait of Hormuz, the Strait of Malacca, and the South China Sea via tanker ships. Under these circumstances, the security of maritime transport routes departing from the Middle East is a very important issue for Korea, and for Korea, the maritime transport security issue of energy resources can be seen as a national security issue that is directly related to the country's survival and prosperity. However, as the US-China hegemony conflict in the South China Sea has recently become more serious, many vulnerabilities have recently been observed regarding the security of South Korea's major maritime transportation routes.

## **VULNERABILITY OF SOUTH CHINA SEA MARITIME ROUTE**

Factors that threaten the security of maritime transportation routes can appear in a wide variety of ways, including natural disasters, piracy activities, maritime terrorism, maritime disputes such as fishing and territorial claims, and disputes between countries such as US-China competition. Especially, considering the current international political situation, the biggest threat to Korea's maritime transportation security seems to be the competition for hegemony between the US and China.

If political and military conflicts between the US and China lead to a complete blockade of the South China Sea or a blockade of specific straits, such as the Bashi channel<sup>13</sup>, a serious crisis may arise in the security of maritime traffic routes. Blockade of all South China Sea is realistically difficult, but it seems possible to block certain straits such as the Bashi channel. Changes in routes and detours caused by this may cause delays or instability in maritime transportation and may cause an energy security crisis for Korea. In addition, in the case of South Korea, it is possible that China intentionally restricts the navigation of Korean ships in the South China Sea because it is an ally of the United States. The following series of recent examples illustrate this.

China recently entered into force with an amendment to the Maritime Traffic Safety Law, requiring prior notification of foreign vessels entering its territorial waters, including the South China Sea.<sup>14</sup> This is because China, which is trying to territorialize the South China Sea, intends to block US ships operating in the South China Sea for freedom of navigation operations. As a result, the possibility of a US-China conflict has increased. In addition, conflicts with neighboring countries such as the Philippines and Vietnam, which are engaged in maritime territorial disputes with China in the South China Sea, are expected to intensify. According to Article 54 of Maritime Traffic Safety Law of the People's Republic of China, a total of four vessels are subject to prior notification.<sup>15</sup> If Chinese authorities classify an oil tanker bound for South Korea as a hazardous material vessel, prior notification would be required and free navigation may be restricted. However, many of China's amendments to the law not only exceed the

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<sup>13</sup> [https://en.wikipedia.org/wiki/Bashi\\_Channel](https://en.wikipedia.org/wiki/Bashi_Channel)

<sup>14</sup> Center for Strategic & International Studies. CODIFYING WATERS AND RESHAPING ORDERS: CHINA'S STRATEGY FOR DOMINATING THE SOUTH CHINA SEA(Sep.27.2021)

<sup>15</sup> [https://www.piclub.or.jp/wp-content/uploads/2021/08/Maritime-Traffic-Safety-Law-of-the-Peoples-Republic-of-China\\_Revised-in-2021-1.pdf](https://www.piclub.or.jp/wp-content/uploads/2021/08/Maritime-Traffic-Safety-Law-of-the-Peoples-Republic-of-China_Revised-in-2021-1.pdf)



international legal limits of coastal state jurisdiction, but also violate the international maritime law order, such as the right of innocent passage recognized by the United Nation Convention on the Law of the Sea(UNCLOS) and International Maritime Organization(IMO)<sup>16</sup>. China is likely to use the revised law to launch a gray zone operation, threatening its neighbours and disrupting the rule of law at sea.

Another example is China's unilateral military act of encircling the Taiwan Strait during the recent visit of US House Speaker Nancy Pelosi to Taiwan. Tensions between the U.S. and China over Taiwan are increasing military tensions in the waters near Taiwan. These military tensions are becoming more intense and sharper by the day. Many think tanks around the world are closely watching the acute military conflict situation of the US-China hegemony competition over Taiwan and are analyzing various possibilities and scenarios from various angles. Among them, the Institute for Strategic Studies of International Studies, a US think tank, recently disclosed details of the wargame 'First Battle of the Next War', which assumes a Chinese invasion of Taiwan in 2026<sup>17</sup>. Of course, this scenario should not become a reality, but considering the current international political reality, there is a high risk that the US-China hegemony competition will seriously affect the maritime traffic routes in the South China Sea. Therefore, it is very important for Korea to prepare a pre-emptive response method through analysis of factors that threaten the security of maritime transportation routes for energy resources. Accordingly, several countermeasures are suggested to prepare for security threats in Korea's energy maritime transportation routes.

## **SOUTH KOREA'S RESPONSE STRATEGY**

First, from South Korea's point of view, the security crisis of maritime transportation routes is a national security crisis, and a pan-governmental strategic awareness and response are needed. South Korea relies on maritime transport for most of its energy imports. It is necessary to recognize that the sea route connecting the Arabian Sea, Indian Ocean, Malacca Strait, and South China Sea is a lifeline responsible for the national well-being and prosperity of South Korea. Based on this awareness, it is necessary to evaluate and analyze potential threats to secure the security of maritime transportation routes in peacetime, and when a security crisis occurs, it is necessary to mobilize all capabilities at the pan-governmental level to respond. To this end, a maritime security control tower that can coordinate and respond to national policies on overall maritime security issues, including maritime traffic routes, is needed at the government level rather than at the level of specific individual ministries<sup>18</sup>.

Second, it is necessary to strengthen the quality and quantity of the Republic of Korea naval power to secure maritime transportation routes. In general, commensurate military power is required to pursue national interests and support various national

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<sup>16</sup> Raul Pedrozo. "China's Revised Maritime Traffic Law." Naval War College, Naval War College, international law studies. Vol 97. P.8

<sup>17</sup> Center for Strategic & International Studies. The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan(Jan.2023) P.6

<sup>18</sup> Jang Seong-il, "Russian War and Energy Security", June 2022. Jeju Peace Institute. P.12

activities and policies. In particular, as the security of maritime transportation routes is directly related to the country's vital interests, the ROK Navy needs a maneuver fleet for far-sea operations, and more destroyers, submarines, and aircraft are needed to compose the maneuver fleet. Based on this, it is necessary to achieve qualitative growth by strengthening partnerships between navies of countries in the Indo-Pacific region. For example, it is necessary to actively participate in various combined exercises such as the Pacific Rim exercise to improve the combined mission and command capabilities. In addition, we must cooperate with neighboring countries on non-traditional threats such as counter-piracy, counter-terrorism, and disaster relief. Strengthening cooperation and partnership among these navies can ensure a maritime order based on norms and rules, and can be part of maritime crisis management and important conflict deterrence activities. This will soon be able to contribute to ensuring the safety of Korea's maritime traffic routes.

Third, in addition to the two internal efforts mentioned above, diplomatic efforts are needed. In order to strengthen maritime security awareness beyond Korea's independent efforts, bilateral cooperation utilizing the ROK-US alliance or multilateral diplomatic cooperation with neighbouring countries is required. In other words, South Korea should actively participate in various maritime security networks or multilateral security cooperation bodies to strengthen awareness of maritime security. In particular, through such multilateral cooperation, Korea can contribute to the security of maritime transportation routes, which are difficult for Korea to secure independently. For example, it will be possible to quickly obtain up-to-date information on factors that threaten major sea routes or maritime traffic, and based on this, swift and effective countermeasures can be prepared together with other countries<sup>19</sup>. Considering the route of Korea's energy resource imports, cooperation with ASEAN countries such as India, the Philippines and Singapore will also be very important.

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<sup>19</sup> Jang Seongho. "Threats of SLOC and Safety Securing Plan." 2015. The Journal of the Korean Political Science Society Vol. 23. P.250-251

## CONCLUSION

Russia's blockade of shipping routes in the Black Sea at the beginning of Russia's war on Ukraine sparked a global food crisis. This is because most of Ukraine's grain exports are carried out by sea, which has been completely blocked. Russia's war on Ukraine confirmed the importance of maritime transport routes for food security. In this context, Korea's energy security crisis is expected. Because most of the energy resources such as oil and natural gas are transported by sea like Ukraine's grain exports. South Korea is a country with a very high dependence on energy imports, most of which depend on maritime routes. However, competition between the US and China has recently intensified, centered on the South China Sea, a maritime transportation route, increasing the vulnerability of the maritime transportation route, which can adversely affect Korea's energy imports. In other words, the security threat of maritime routes to Korea will lead to Korea's energy security crisis, and if this continues, it may lead to a national security crisis. As a countermeasure against this, it is important to have a strategic perception that a security crisis in a sea transportation route or a sea transportation route is a national security crisis, as Korea completely relies on marine transportation for energy imports. In addition, it is necessary to strengthen naval power for the security of major maritime transportation routes, and based on this, diversified diplomatic efforts to participate in various maritime security networks or cooperation systems among countries are urgently needed.

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