

REGIONAL DEVELOPMENT AND ENERGY SECURITY IN THE KOREAN PENINSULA

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ABSTRACT

The prevalent national and international security concerns necessitated an appropriate geopolitical framework for adoption in conceptualizing international politics for much of the Cold War period. After the Cold War, economic aspect gained the prominent profile in the discussions of geopolitics. This paper seeks to analyse the geopolitical aspect and issues of the Korean peninsula, focusing primarily on energy issues and linkages to regional development. Apart from this, energy also becomes an excellent confidence building measure for engaging the interests of regional and extra-regional powers on the peninsula. Korean peninsula's energy dependence can also be connected with its geographical attributes. The peninsula lacks domestic oil and natural gas reserves. Hence, apart from geopolitical reasons, both the Koreas have found the alternate nuclear proposition attractive, particularly since the oil shock of 1970s. In this background then, it is pertinent to examine the geopolitics of the energy resources of the region.

KEYWORDS: North Korean Nuclear Programme, Geopolitics, Energy Security, Regional Development, Korean Peninsula

INTRODUCTION

Korean peninsula is located in a region which is undergoing massive economic transformation fuelled to a large extent by the Middle Eastern oil. However, given the volatility of this source, the two Koreas have also explored other sources of energy, in particular the natural gas and nuclear power. Therefore, energy security has come to occupy paramount importance for the Korean peninsula. It is in this context that this paper takes a look at the issues of energy security for the peninsula by placing them in the larger context of energy security for the Northeast Asian region. The paper would explore the strategies implemented by the two Koreas in their quest for energy security and the consequent geopolitics of nuclear and other energy resources on the peninsula.

Energy Scenario on the Korean Peninsula

Korean peninsula is particularly an energy-deficient region with North Korea far surpassing South Korea. In fact, during the Japanese colonial occupation, the Northern part of the peninsula served as the center for mining and industry whereas the Southern part, with somewhat greater rainfall, a warmer climate, and slightly greater arable terrain, served as the center for rice production. Offshore oil possibilities in the Yellow Sea and on the continental shelf between Korea and Japan have yielded nothing significant.

North Korea-Energy Situation

North Korea's total fuel and energy resources of combustible fossils, wood fuel, and hydropower are estimated to be 7.672 billion tons. Of this total, coal makes up 6.617 billion tons. The capacity of North Korea's two oil refineries totals 4.5 million tons a year. Oil is imported by North from China and Russia by pipeline, and from Iran by sea. Because both Russia and China have insisted on hard currency payments at international prices for oil since 1991, Iran has become a major oil source. Historically, North Korea has had a high energy-use economy. An abundance of coal and water resources allowed North Korea to build a well-developed electrical power network. Since the 1970s however, the country has increasingly turned to coal as an energy source. With a high concentration of energy-intensive sectors like steel and fertilizer production, DPRK's industrial energy requirements constitute an important element of its energy security. As Figure 1 illustrates coal and oil dominate North Korea's primary energy structure.

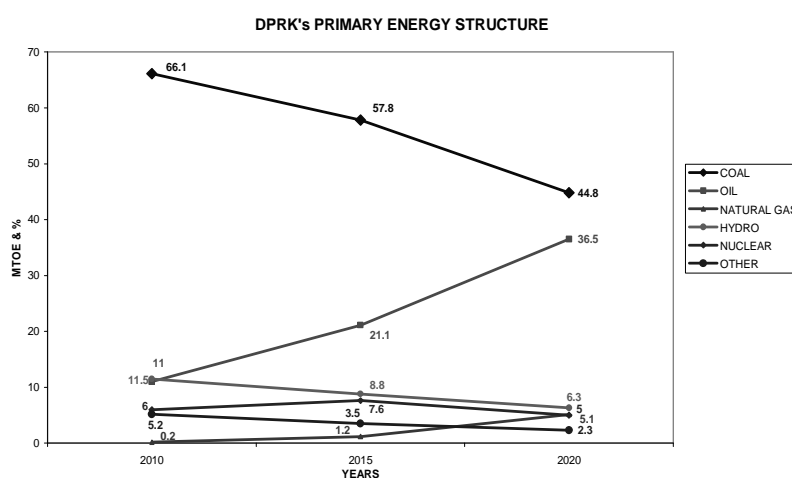


Figure 1

Eui-Soon, Shin (2004). *Energy and Environment in the Korean Economy*. (Seoul: Yonsei University Press)

SOUTH KOREA-ENERGY SITUATION

There are no known reserves for oil and bituminous coal in South Korea. The only indigenous fossil fuel is anthracite coal, with about a 30 year reserve. A few uranium ore deposits have been discovered, but the grade is too poor to develop commercially. Energy needs are also met by importing bituminous and anthracite coal and crude petroleum. The potential for hydroelectric power is very limited because of tremendous seasonal variations in the weather and the concentration of most of the rainfall in the summer months. The Korea Energy Outlook released by the International Energy Agency (IEA) in 2002, predicted that South Korea's role in world energy markets would expand over the next three decades. South Korea's energy demand has been projected to grow at 2.3% per annum through 2030.

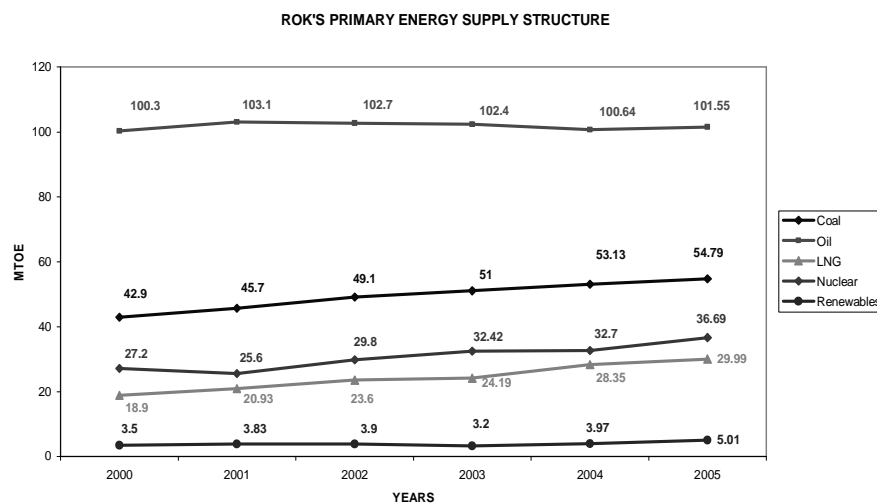


Figure 2

Puckett, Steve (2006). Gas to Power- North East Asia: Korea. (Gronigen, the Netherlands: International Gas Union)

The above graph (Figure 2) shows that South Korea is primarily dependent on oil imported from the Middle East. This dependence came as a result of the industrial expansion of the South Korean economy in the 1970s when global oil prices were on the decline. This led to the emergence of steel, ship-building, petro-chemical and fertilizer sectors which constituted an important element of the industrial infrastructure which were energy-intensive. Rising oil demand was also a result of South Korea's automotive revolution.

MATERIALS AND METHODS

The dynamics of Korean peninsula are examined by the application of theory of geopolitics. In terms of method, this study has followed historical method in studying the issue. The theoretical approach followed here will be a Realist one where an analysis is made of the interests of the actors involved such as North Korea South Korea, China, Japan, Russia, and most importantly, the United States. The sources are both primary and secondary. The secondary sources are complemented by other research techniques. Since the nature of the topic is contemporary, material is from newspaper reports, websites and other such tools. Geographical data is also used to explain the issue.

RESULTS AND DISCUSSIONS

Nuclear Energy Aspect

Strategic reasons aside, lack of thermal and hydro-electric resources is the reason why both the Koreas have found nuclear power attractive, particularly since the oil shocks of the 1970s. North Korea has substantial amount of raw materials in the form of uranium reserves while South Korea lacks indigenous uranium supplies. Yet, the cost of importing such raw material would still offset the risks that Seoul's dependence on Middle Eastern oil presents. South Korea has developed an extensive nuclear energy infrastructure. Its peaceful nuclear programme can be traced to 1950s when it established infrastructure to operate a viable nuclear programme and also became a member of the International Atomic Energy Agency (IAEA). Today, nuclear plants provide as much as 40 percent of total electricity actually generated in the country as a whole, and 28 percent of total capacity.

More worrisome for the international community however is the North Korean nuclear programme which Pyongyang used to relentlessly pursue nuclear weapons. North Korea began its nuclear programme in the 1960s with the help of the Soviet Union. In the 1980s, Pyongyang began its nuclear weaponisation. In the early 1990s, frantic efforts by the international community led by the United States resulted in the Agreed Framework between the US and North whereby the latter agreed to dismantle its nuclear programme.

Proposal for Oil and Gas Pipeline to the Peninsula

The paucity of the natural energy resources in the Korean peninsula and the Northeast Asian region is why countries such as Japan, China and South Korea have looked at adjacent energy resource-rich regions for a possible source of oil and gas supply such as the Russian Far East. The absence of an infrastructure connecting the untapped reserves in remote areas to the main consuming areas of Northeast Asia, however, has not allowed Russia to be a major oil and gas supplier to Northeast Asian economies until recently. Adding to this were the political conditions of the Cold War which hampered co-operation. What facilitated the possibility of this co-operation was the normalisation of the diplomatic relations between South Korea and China at the beginning of 1990s.

South Korea has been reviewing three major natural gas supply sources in the Russian Federation- Kovyokta gas in the Irkusk region, Chavyanandgas in the Sakha Republic, and the Sakhalin Islands gas fields. Different options have been under review for over twenty years now. Recent estimate suggest Russian/Chinese plans of about 7 million tonnes per annum of gas being supplied by pipeline with initial volumes flowing from 2012/13.

Among these proposals, the frontrunner is clearly the Kovyokta gas pipeline. In May 1999, South Korea expressed its interest in the Sino-Russian feasibility study on the Kovyokta gas project, and its participation laid the ground for a trilateral project. The pipeline expected to be nearly 3000 miles long and costing some \$ 9 billion will provide 1 Bcf/d to South Korea.

Another proposal is the Sakhalin pipeline which would originate in the gas fields off the northeast coast of Sakhalin Island and cross directly from Russia through North Korea en route to the South. South Korea would be the main market for the pipeline's gas, with an expected commitment to buy 10 billion cubic meters annually. The pipeline would cost between \$3 billion and \$3.5 billion and take three to four years for construction.

Among Sakhalin and Kovyokta, the former is a cost-effective option as it has the potential to cater to a larger market. According to some analysts, if the sizeable gas markets of South Korea and southern Japan are serviced by the proposed pipeline, then the Sakhalin option can prove to very competitive.

CONCLUSIONS

Most of the pipeline proposals discussed above focuses on South Korea. However, North Korea is too hoping to get its share of the pie. Pyongyang would not only receive royalties for letting the pipelines pass through its territory but could also tap into them to supply fertilizer plants and power stations. Even a relatively small volume of oil supply to North would make a big difference. North Korea's preference is for the Sakhalin pipeline because it genuinely fears that in the likely situation of explosive growth in China's energy demand, Beijing will not allow the Kovyokta gas go to Korea at all.

Clearly energy security is at the heart of nuclear crisis on the Korean peninsula therefore policy makers need to pay attention to these inter-related issues. In many ways, the 1994 Agreed Framework can be termed as the first energy security deal aimed at North Korea. However, the operational dynamics and the geopolitical rivalries made that agreement futile and North Korea was back at pursuing the nuclear ambitions. The pipeline proposals can prove to be a viable alternative to the arrangement envisaged under the 1994 agreement.

The countries of Northeast Asia have come to view the issues related to energy from the paradigm of national security. Therefore, any issue which has the capacity to disrupt their energy supplies therefore is taken as a national security concern. Rising energy demand can create a sense of insecurity and can also propel nations to work closely on energy issues. Nonetheless, the possibility of conflict on the issues of energy is more prominent than the possibility of intensive energy co-operation. This can have potentially devastating consequences for the economic growth of the region. Therefore, attempts need to be made to evolve co-operation on energy issues like gas pipelines and regional power grid network.

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