Overseas Oil Development of South Korea

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Introduction

In recent years, South Korea has emerged as one of the most active acquirers of assets in the global E&P business. This article introduces the current status of Korean upstream assets overseas and gives a brief overview of its government strategies in securing overseas resource equities. The paper then highlights a few characteristics of the country's overseas upstream strategy and concludes with the prospects of Korea's future activities in this field.

1. Overview of Korea's upstream activities

South Korea, importing almost all of its oil from abroad as the world's 9th-biggest oil consumer and 5th-biggest crude oil importer, is inevitably affected by any changes in the global oil market. As the country has experienced oil shocks in the 1970s and, more recently, large increases in price volatility in the 2000s, the significance of securing stable energy supply has been increasingly recognized in the country. Backed by such a sense of concern, the Korean government set its first national master plan for overseas resource development in 2001, and since then has steadily increased financial support for the development. [1]

As of May 2010, Korean companies participate in 178 overseas projects in 37 countries and 2 domestic projects. Among them, Korea National Oil Corporation (KNOC, hereinafter), a state-owned oil company and the largest upstream player in Korea, is involved in 47 overseas projects in 17 countries and 2 domestic projects.

Table-1 Korea's Oil and Gas Project, 2010 May

Project by Phase	Korea Total		KNOC	
	Countries	Projects	Countries	Projects
Production	21	53	12	14

[1] *The Overseas Resources Development Plan* has been published every three years since 2001. Details are discussed in TBN of this article.

Development	8	21	3	3
Exploration	33	106	12	32
Total	38	180	18	49

Source：KNOC Press Release

In the last three years, KNOC has achieved remarkable results in securing overseas upstream assets. One such example is the acquisition of Dana petroleum, a UK-based oil and gas exploration company, in October 2010. Acquisition of Dana Petroleum marks the largest hostile take-over by a Korean firm in its history, and the second biggest acquisition for KNOC.[2] Dana Petroleum's assets enable KNOC to expand its exploration and production activities to a global scale, from the Americas and the former Soviet Union regions to the North Sea and Africa.

Another recent success is the purchase of Harvest Operations, one of Canada's largest oil producers and refiners, in October 2009. Harvest, currently a wholly-owned subsidiary of KNOC, acquired Canadian oil and gas assets (Hunt Oil Canada and Hunt Oil Alberta) from Texas-based Hunt Oil in December 2010. Acquisition of Hunt Oil Canada as a result will give KNOC the access to prospective unconventional natural gas plays in UK and Canada.

In addition to KNOC`s success mentioned above, Korea Gas Corporation (KOGAS, hereinafter), another state-owned energy company of Korea, has also been active in overseas upstream deals. In October 2009, KOGAS won the development contracts of the Zubair and Badrah fields in Iraq as a non-operating partner, and in October 2010, the gas company was awarded the development contracts for the Akkas and Mansuriya gas fields of Iraq. What is notable for the development contract of the Akkas field is that this is the first time for KOGAS to engage in gas field development as the operator. This experience is expected to bring the company valuable expertise for future natural gas development projects abroad.

Table-2 Recent major oil & gas projects by KNOC and KOGAS

Country	Major projects	Firm	Amount (US$)	Time
Uzbekistan	Surgil project- gas field development and chemical plant construction	KOGAS	3 billion	Feb.2008
Kazakhstan	27% share of the Jambyl oil field	KNOC	315 million	May.2008

2 "Korea oil's hostile $2.6 billion Dana bid marks new aggression," *Bloomberg*, 8 September 2010.

	Acquisition of Sumbe (a Kazakh oil company)	KNOC	330 million	Dec.2009
Iraq	Development and infrastructure construction in Kurd regions	KNOC	1.9 billion	Jun.2008
	18.75% share of Zubair oil field	KOGAS	34.7 billion	Oct.2009
	30% share of Badrah oil field	KOGAS	3.52 billion	Dec.2009
	50% share of Akkas gas field	KOGAS	4.4 billion	Oct.2010
	20% share of Mansuriya gas field	KOGAS	2.87 billion	Oct.2010
U.S.	Acquired production oil fields in the Gulf of Mexico	KNOC	1.15 billion	Jan.2008
Peru	Acquired 50% of Savia (Former Petro-Tech)	KNOC	0.9 billion	Feb.2009
Canada	Purchased Harvest Operations (Former Harvest Energy)	KNOC	3.95 billion	Oct.2009
U.K.	Purchased Dana Petroleum	KNOC	2.91 billion	Oct.2010

Source: National Assembly Budget Office (NABO), "Current situation and challenge of overseas resources development," Ministry of Knowledge and Economy, Korea (MKE); KOGAS Press Release.
Note: Entity does not show its partner companies. Amount numbers represent the total amount of the investment of the projects

Under the government's effective energy policies to encourage overseas investment, the country's oil self sufficiency rate, which had only made slow progress at slightly above 4% until 2007, rapidly began to increase to 5.7% in 2008, and to 9.0% in 2009 (Table-3).

Table-3 Nation's self sufficiency rate

(Unit: 1,000 B/D)	2007	2008	2009
Import of crude & gas a day (A)	2,971	3,013	2,891
Korean equity production (B)	125	172	260
Self sufficiency ratio (B/A,%)	4.2	5.7	9.0

Source : MKE Press Release

2. Korea's Overseas Resource Development Strategies

2.1 Government's policies

The Ministry of Knowledge Economy (MKE, hereinafter), which is responsible for energy, commerce, and industry, has provided an "Overseas Resources Development Plan" every three years since 2001. The Plan is prepared in accordance with the Overseas Resources Development Business Act [3] and is required to include the country's oil and gas acquisition strategies abroad over the next decade.

In the latest plan published in 2010, oil and gas acquisition strategies toward 2019 are provided. [4] The target for the self sufficiency ratio of oil and gas is set at 18% as of 2012, and 30% as of 2019, compared to 9.0% in 2009. To meet this target, several strategies are proposed in the plan, namely,

1) Enhancing the global competitiveness of overseas development companies;
2) Developing the Korean cooperative business model;
3) Encouraging investment in resource development from the private sector;
4) Strengthening domestic infrastructure system for resources development; and
5) Encouraging development of non-conventional energy and rare metal resources

The plan includes policy ideas such as supporting state-owned energy companies like KNOC, KOGAS, and KORES[5] to become globally competitive firms, and also utilizing a cooperative model of a Korean consortium or business partners. The plan provides that the government promotes investments from the private sector through the measures of RBF (Reserve Based Financing)[6], financial guarantee or loans of national banks like the Export-Import Bank of Korea[7] or the Korea Trade Insurance Corporation[8]. The plan also requests that the government focus on the development of R&D, education for E&P engineers, and other E&P-related technology services, to support the country's overseas activities. Lastly, the plan suggests enhancing the country's capability to develop non-conventional and rare

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[3] Overseas Resources Development Promotion Act, enacted in 1979, was renamed the Overseas Resources Development Business Act in 1983

[4] The Fourth Overseas Resources Development Plan was released on December 22, 2010

[5] Korea Resources Corporation is wholly owned by the Korean government and is charged with overseas exploration, development and production of strategically important mineral resources

[6] RBF (Reserve Based financing): Financing based on proven reserves in producing oil fields for production projects rather than exploration

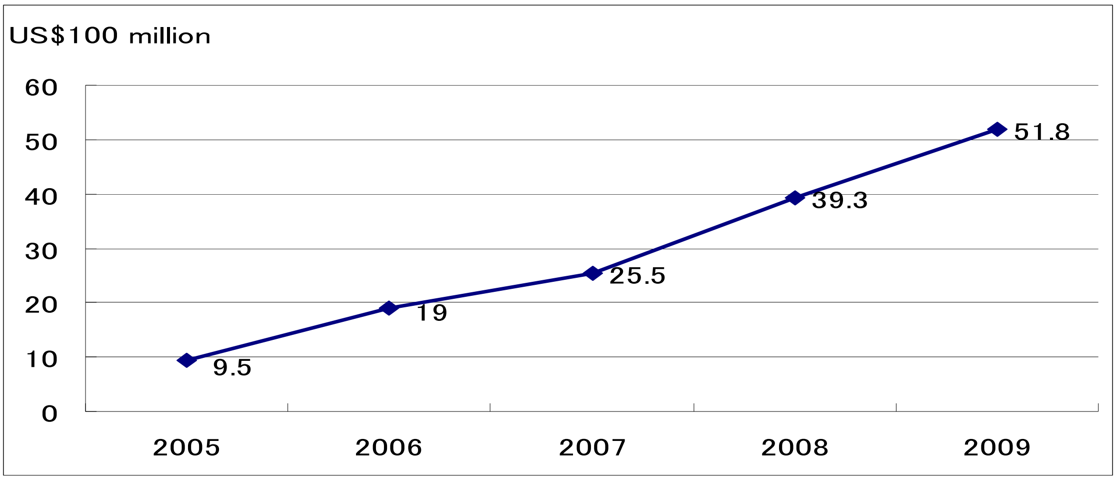
[7] The Export-Import Bank of Korea is an official export credit agency providing comprehensive export credit and guarantee programs to support Korean enterprises in conducting overseas business. The bank also provides overseas investment and natural resources development credit.

[8] Korea Trade Insurance Corporation was founded by the Korean government in 1992 to operate import and export insurance programs for the purpose of facilitating global trade.

metal resources.

Through the efforts and contributions made by the Korean government to secure oil and gas resources, the country's overseas investments have steadily increased even during the period of the global financial crisis starting in 2008. In 2009, Korean investments in overseas oil and gas developments marked US$5.18 billion, a significant increase of 32% compared with the previous year (Figure-1).

Figure-1 Investment in overseas oil development



Source: MKE Press release

2.2 Government's activities

Many significant achievements in resource developments in Korea have been made since the launch of the Lee administration. Since he was elected President in 2008, President Lee Myung-bak, a former CEO of the Hyundai Engineering and Construction Co., one of the largest conglomerates in Korea leading the economic transformation of Korea during the 1970s and 1980s, has put emphasis on the importance of strengthening Korean companies' capabilities to secure energy resources for the country's energy security.

Just one month after he was inaugurated, he mentioned that the government needs to support E&P companies to acquire more natural resource assets abroad for the country's needs as Korea depends on imports for almost all of its oil needs. He requested MKE for a more elaborate national strategy for overseas energy acquisitions and KNOC's global expansion strategy.[9]

The president himself has been actively involved in resource diplomacy to support Korean companies' activities in overseas resource acquisition (Table-5). Since 2008, in fact, there have been a number of Memoranda of Understanding (MOUs) agreements with energy producing countries in the area of cooperation in natural resources development. In meetings with the top of those energy producing countries, the president often highlights the importance of enhancing bilateral ties in the energy resources area, and calls upon those country's heads to provide support for Korean companies' businesses in their countries.

Table-5 Summit meetings including energy issues

Date	Location	Counterpart	Detailed issues focused on energy cooperation
May.26 2008	Seoul, Korea	Sudan, Omar Hassan al-Bashir	Development of energy resources and construction of infrastructure in Sudan including the modernization of oil refining plants
Sep.11 2008	Seoul, Korea	Romania, Traian Băsescu	SCO construction, energy sector, other economic areas of mutual concern
Sep.29 2008	Moscow, Russia	Russia, Dmitry Medvedev	Development of oil fields in Russia including west Kamchatka, natural gas import through the pipeline from Russia; Several MOUs on energy cooperation were signed
Feb.23-26 2009	Seoul, Korea	Iraq, Jalal Talabani	Development of the oil fields in Basra, bidding rounds to develop oil and gas fields in Iraq
May.10-14 2009	Tashkent, Uzbekistan	Uzbekistan, Islam Karimov	Surgil gas fields, oil field development in Namangan and Chust, and the Navoi Airport modernization project
	Astana, Kazakhstan	Kazakhstan, Nursultan Nazarbayev	Coal-fired power plant in Balkash and development of the Jambyl oil field
Dec.26-27 2009	Abu Dhabi, UAE	UAE, Sheikh Khalifa bin Zayed Al Nahyan	Construction of nuclear power plants, oil development and petroleum chemical plants
Aug.26	Seoul,	Bolivia,	Lithium development accord for Uyuni

[9] "Lee urges closer energy cooperation with underdeveloped nations," *Korea Herald News*, 17 Mar 2008; "National Oil Corp. may get capital boost," *Korea Herald News*, 19 Mar 2008

2010	Korea	Evo Morales	lake in Bolivia
Oct. 8 2010	Seoul, Korea	South Africa, Kgalema Motlanthe	Cooperation in energy sector, particularly in nuclear energy
Oct. 25 2010	Seoul, Korea	Gabon, Ali Bongo Ondimba	MOUs on the development of oil and mineral resources
Dec.10 2010	Putrajaya, Malaysia	Malaysia, Najib Razak	Exploitation of oil and gas, civil nuclear energy sector, extension of the long-term LNG sales and purchase agreement set to terminate in 2015

Source: Presidential office, various media reports
Note: Table only shows the top of the state level diplomacy that includes energy related agenda

In February 2009, for instance, President Lee and his Iraqi counterpart, President Jalal Talabani, signed a deal to develop oil fields in Basra, where most of Iraq's crude reserves are located. In return, Korea agreed to help in the economic reconstruction of Iraq through infrastructure developments such as power plant constructions. During President Talabani's visit to Seoul, President Lee also asked the Iraqi president to support Korean companies for the bidding rounds for new oil and gas field developments. In fact, as mentioned earlier, KOGAS won the contracts to develop the Zubair and Badrah oil fields in 2009 and the Akkas and Mansuriya gas fields in 2010.

Another such example, although it is not an oil & gas deal, is KEPCO's nuclear power generation deals with the UAE. In December 2009, a Korean consortium led by Korea Electric Power Corporation (KEPCO, hereinafter) was awarded the contract to build one of the world's largest nuclear power plants in the UAE, beating rival bids from a French and a U.S.-Japanese consortium. The success of its nuclear power plant export is attributed to President Lee's active diplomatic support as he traveled to the UAE just one day before the date of contract award to win the final ticket in the bidding for the US$20.4 billion contract. During his visit to the UAE, Korea's second crude oil supplier, he met the Crown Prince Mohammad and President Khalifa, and signed an economic cooperation treaty on nuclear, renewable energy, and so on. He also discussed enhancing cooperation in energy and plant construction with the CEO of Abu Dhabi National Oil Co. (ADNOC).

As one of the attempts to tighten relationships with other countries in the energy sphere, Korea hosted the 'Asian NOC CEO Forum' in August 2010, inviting resource holding countries like Kazakhstan and Uzbekistan, and the world's largest oil consuming countries like China and Japan. [10] The forum aimed to promote cooperation among the national oil companies (NOCs) and to strengthen their competitiveness to compete with the international oil companies in an increasingly competitive global oil market.

2-3 KNOC's expansion strategy

In June 2008, MKE has released a strategy to make KNOC a world-class national oil corporation, the so-called KNOC expansion strategy. The key concept of this strategy is the size of the company. The Korean government considered that company size matters because it is one of the key requisites for surviving in the dynamic and high risk-taking business environment in the increasingly competitive upstream sector. The strategy provides numerical targets for KNOC; company production is to be raised to 300,000 B/D by 2012 from 50,000 B/D in 2007, and the total assets are to be expanded to KRW30 trillion (US$ 25.08 billion) by 2012 from KRW 9.4 trillion in 2007. Other targets are those for the number of E&P engineers to be raised to 2,500 by 2012, and, as a successful result of the company's expansion, the self-sufficiency of Korea is expected to be raised to 25% by 2012. [11]

Table-5 Performance of KNOC in 2009

	2008	2009	% change
Proven reserves (millions of barrels)	550	881	+60%
Production (1,000 bbls/d)	57	128	+124%
E&P Engineers	660 (117 from M&A)	1,901 (1,333 from M&A)	+188%
Total Assets (KRW in billions)	13,022	17,115	+31%

Source : Annual report of KNOC 2009

Note: The number of engineers includes the engineers of foreign companies acquired till 2009

In order to achieve these targets, the strategy provides specific measures such as (1) promoting the acquisition of production assets or E&P companies rather than

[10] KNOC hosted the Asian NOC CEO Forum sponsored by the Mineral Resources Development Association of Korea (EMRD), Ministry of Foreign Affairs and Trade (MOFAT) and MKE of Korea from Aug. 23 through Aug. 25, 2010. At the forum, there were about 200 participants including 13 CEOs and other high-ranked executive directors of National Oil Companies (NOCs) of 9 countries, and Korean energy companies.

[11] Details of the KNOC expansion strategy are based on the MKE Press release of 2008. The expected self-sufficiency rate is 7% higher than the targeted figure of 2012 in the "Overseas Resources Development Plan."

exploration assets; (2) investing a total of KRW 19 trillion (US$16.3 billion) for KNOC's expansion activities including 4.1 trillion (US$3.5 billion) from the government; (3) increasing the number of skilled E&P engineers together with the purchase of foreign companies; and (4) improving its technology level through R&D development such as deep-water exploration, and strategic cooperation with overseas technology service companies.

Under this strategy, KNOC has made unprecedented achievements as already described. As a result of proactive M&A activities, KNOC's oil reserves and daily production volume as of the end of 2009 surged by 60% and 124% over the previous year, respectively. The number of E&P engineers sharply increased from 660 to 1,901 as it has succeeded in M&As, which could allow KNOC to have long live assets in the competitive global oil market.[12] As well, the country's self sufficiency rate jumped to 9.0%.

3. Characteristics of Korean Overseas Oil Development Strategies

As observed in earlier sections, Korea has made remarkable achievements in overseas resource acquisitions. Several notable characteristics are found in Korea's efforts in this field.

First, the Korean government utilizes state-owned companies as its key tool for policy implementation. Because KNOC and KOGAS are state-owned entities and play a role as an industrial leader in Korea, the Korean government finds it relatively easy to realize its policy visions by directing these state-owned companies to implement them. Those national corporations are expected to share their know-how in resource developments with other private players.

Second, the Korean government takes advantages of the form of a consortium composed of various companies from different industries. This consortium is often led by a state-owned company with support from the government. Forming such a consortium prevents Korean companies from unnecessary competition causing losses for those firms. It also creates capacities to offer a variety of cooperation items for resource-holding countries. This is an essential part in making a package deal. This consortium format is also perceived as being able to spread the investment risks among the consortium members.

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[12] Annual report of KNOC 2009

Third, proactive top-level diplomacies are conducted as already mentioned in Section 2. When President Lee has had summit meetings with other countries, he has not missed the opportunity to ask his respective counterparts to provide support for the participation of Korean business in the counterpart's country. As described, the winning of the contract in 2009 for the Korean consortium led by KEPCO to build nuclear power plants in the UAE is a successful example of such diplomacy by the President Lee.

Fourth, Korea has changed the target from betting on the exploration (green field) assets to producing assets. Acquiring exploration assets is less expensive; but it requires a longer time to monetize them and inherently contains higher risks.

Lastly, Korea increases its energy related assets abroad also by taking minor stakes in foreign energy companies. Besides the examples shown in Table-2, Korea's National Pension Service (NPS) purchased 23% stake in Colonial Pipeline Company, an operator of the largest pipeline, 8,880 kilometer through the U.S. in October 2010, and Korea Investment Corporation (KIC), a state-owned investment management company, became the second minority shareholder of Osum Oil Sands Corporation, a private oil sand development company in Canada in November 2010.[13]

4. Conclusion

Thanks to this government's strong commitments to overseas resource acquisition, Korean companies could continue to invest in overseas upstream assets in spite of the global financial crisis. High uncertainties in the world oil market and fierce competition in the global upstream business will make the Korean government continue to place high priority on securing energy resources and maintain high public awareness of its importance. Korean E&P activities therefore seem they will continue steady growth at least in the short term.

There are, however, some challenges Korean oil E&P companies face. Despite a series of successes in the oil and gas spheres for the last few years, the size of the Korean upstream operation is not yet at a competitive level compared to the oil

[13] "National Pension Service of Korea became the second majority shareholder of U.S. oil pipeline," *Platts*, 26 Nov 2010; "S. Korea's KIC Takes $99 million stake in Canada's Osum," *Bloomberg*, 12 Oct 2010

majors or other national oil companies like Chinese ones. Accumulating experience as a project operator is also an urgent task. As the world economy slowly recovers and the perception of future tight oil market conditions is strengthened, competition for attractive upstream assets will become even severer. Furthermore, what may be an acute issue in the next few years for KNOC is how to manage the entire asset portfolio. Because the expansion of its assets in the last three years was very rapid, how to effectively manage those acquired companies, control risks, and optimize internal resources will be a tough challenge. Overcoming this series of challenges will promise Korea a solid energy security in the future.