

# The Business Evolution of International Oil Majors and Japanese Corporations into China's Energy Market

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## **Introduction**

Since the 1990's, alongside a highly mature economy and led by the need for oil, China's energy demand has been greatly increasing. China has been ranked as the second largest consuming nation of energy and oil, led only by the United States, since 2003 .

Along with China's increase in energy demands, and accompanied by participation in the WTO, political movements and legislation to bring about foreign investment through the liberalization and deregulation of energy and oil markets are bringing large investment opportunities to the international energy industry.

For foreign enterprises such as oil majors, despite the inevitable investment risks from politics, economic structure, instability in energy policies, patent ownership issues, etc. existing in China, as a developing nation making the shift to a market economy, with the energy demand and market size accompanying such economic growth, expectations have risen for the creation of a huge energy market based on an abundance of potential energy resources. Beginning with investments in oil exploration and development in China in the 1980's, alongside an overall worldwide increase in direct investment in China, foreign corporations, led by oil majors, have been, in recent years, accelerating investments in various energy areas, based on their international strategic plans for corporate dominance, development, and profit growth.

In recent years, foreign enterprises such as oil majors Exxon Mobil, Shell, BP, and Total, have advanced in the area of oil and natural gas exploration, and in the downstream area of oil refinement and marketing. Coming from an impending Chinese energy demand and a cost lower than the high price of crude oil, accompanying the actualization of new energy market demands and energy savings, foreign enterprises such as oil majors, including Japanese corporations, are recently coming into the area of oil alternatives and energy savings.

Thus far, the entrance and expansion by international majors' into Chinese energy markets has required them to take up various strategies, utilizing corporate dominance and strength, and adjusting to factors such as Chinese energy market demand, local legislation and social environment, and Chinese oil enterprises as dominant powers.

This paper will, in addition to outlining Chinese government policies and measures for the introduction of foreign capital into Chinese oil and energy related fields, provide a grasp of the chief facts regarding upstream and downstream investment by oil majors and other foreign enterprises within the area of Chinese oil and energy, and in addition make clear the features of strategies for expansion operations in China by international oil majors as well as Japanese corporations, creating an outlook for Japanese corporations' continuing advancement into the Chinese energy market.

## I. Policies and Measures for the Introduction of Foreign Capital Within the Areas Oil of Energy

China's acceptance of direct foreign investment first began in 1979, and has been growing greatly since the 1990's (fig. 1). With its total amount (actual spending) of direct foreign investment from 1979 to 2006 reaching \$662,400,000,000, China has become the world's 2<sup>nd</sup> largest accepting nation of direct investment, after the United States. In efforts to further the introduction of direct foreign investment, China has proactively opened up to foreign investment within the upstream and downstream fields, in order to attract capital, technology, and top-notch management experience and know-how from within the oil industry. Legislation and other steps for the introduction of foreign investment to that end, as well as movement in the oil industry, can be primarily summarized as follows.

### 1. Steps to Open Foreign Access to Oil Fields and Resource Deposits

In January 1982 and October 1993, the Chinese government announced regulations for foreign cooperation over land-based oil resources, and regulations for offshore and foreign oil resources, respectively. Under these regulations announcements were made for 4 international biddings in exploratory offshore oilfield development in 1982, 1984, 1989, and 1993, and 4 international biddings in exploratory land-based oilfield development in 1993, 1994, 1995, and 2006. In continuation, CNOOC opened sites up to foreign access in 1999, 2000, 2002, 2003, 2004, and 2005.

The first bidding within land-based exploration development was publicly announced in 1993, the target region being 5 blocks in the southeastern region of the New Tarim Basin Border, measuring a total area of 72,730 m<sup>2</sup>. The second bidding was announced in 1995, the target regions (EOR) being 14 blocks in each of the areas of Daqing, Shengli, Zhongyuan, Huabei Dagang, Jilin, Henan, Jiangsu. The third bidding was carried out in 1995. The target area being the Jungal Basin and Tarim Basin in Xinjiang, the specific bidding blocks being Mingli in the Tarim Basin, Yutian, 5 districts in Sangzhu, empty land in the northwest Tarim Basin, 3 districts in Shajingzi, 2 sectors in the Dongdao Sea, the southern Middle Bay, and 2 districts in Qingshuihezi, for a total of 12 areas reaching an area of 112,739 km<sup>2</sup>. Additionally, as a 5<sup>th</sup> bidding, in July 2006, CNPC opened 9 sites in the Xinjiang Tarim Basin to foreign access, over which it was decided bidding would be conducted. The target area was 110,000 km<sup>2</sup>, and the locations were the southwest, central, and eastern areas of the Tarim Basin.

Within offshore exploration development, the same way as mentioned above, a total of 4 biddings had occurred by 1993, opening up access to ore sites to the international community 5 times between 1999 and 2005.

- ① In 2002, CNOOC's deep sea deposit #12 in the South Sina Sea, with a total area of 76,000 m<sup>2</sup>, and an ocean depth of 300-3,000 m.
- ② In 2003, 10 deposits and 2 areas. Target being 4 sites in the East Sina Sea, 3 sites in Zhu Jiang offshore, located within the eastern South Sina Sea, and 3 sites in the North Bay, located within the eastern South Sina Sea. Total area: 30,388 m<sup>2</sup>.
- ③ In 2004, 10 deposits. Target territory being 1 site in the Bo Hai Sea, 1 site in the

Yellow Sea (Huang Hai), 1 site in the East Sina Sea, 4 sites in the eastern South Sina Sea, and 3 sites in the western South Sina Sea, with a total area of 35,158 m<sup>2</sup>, and an ocean depth of 20-200 m.

- ④ In 2005, 10 newly opened deposits. Target ocean sites being 1 site in the Bo Hai Sea, 1 site in the Yellow Sea (Huang Hai), 1 site in the East Sina Sea, 4 sites in the eastern South Sina Sea, and 3 sites in the western South Sina Sea, with a total area of 66,666 m<sup>2</sup>, and an ocean depth of 20-200 m.

Regulations in the upstream area, as well as international bidding, and legislation and political measures regarding exploration in newly opened resource sites, are primarily the following types of things:

- ① Contractual methods for foreign capital and capital ratios: Product manufacturing and distribution (PS) contracts; 51% by China, 49% by foreign entities
- ② Entities in charge of contracts: For land based, CNPC and Sinopec. For offshore, CNOOC.
- ③ Project participation by government: as a general rule, foreign oil corporations involved in contracts bear their own risk in exploration investment as well as the establishment of new business operations. Foreign corporations following the terms of contracts bear responsibility towards development and manufacturing operations until CNPC, Sinopec or CNOOC turn over new production operations, and return on investment from produced crude oil is received according to the agreement.
- ④ Income Tax: 30% corporation tax (although reduced tax rates apply in some cases). 3% local tax.
- ⑤ Royalties: Depending on production volume, rates between 0-12.5% apply.
- ⑥ Bonuses: Signing bonuses, manufacturing bonuses, education and training bonuses, etc. are determined on a case-by-case basis.
- ⑦ In cases where foreign corporations conducting oil development in collaboration with China possess multiple contracted zones of operation, in situations where a loss occurs in one of the zones, the corporation can calculate taxable income by calculating profits to include another contracted zone. In regards to investment at the corporate development stage where oil development is being carried out, expenditures can be repaid over the course of six years or longer from point of the beginning of ore chute production. Regarding development investments occurring continuously for a long period of time from the point of the beginning of production, the total investments will be summed every year, and repayment can be made, in order, over the course of six years or longer, starting the following year.

## 2. Policies and Measures for the Introduction of Foreign Capital into Oil and Energy-Related Industries

Chinese government policies and measures for the introduction of foreign capital, from 1979 through the present – the initiation of the measures (1979-1983), expansion (1983-1989), and promotion and regulation (1990 on) – with the “Joint Management Law” (the 1979 “China/foreign mutual corporate investment law”), the “Sole Investor Law” (the “law concerning foreign corporations with a 100% stake”), the “China/foreign management collaboration law” (a law for enterprises under joint contracts), applying to foreign investment conducted in China, developed with the foundational “Three Laws” at

its core, as well as the appended “Provisions for the Promotion of Foreign Investment” (a 1986 “provision giving favorable treatment to enterprises exporting goods and advanced technology”), and the “tentative regulations for foreign firm investment industry leadership” and “foreign firm investment leadership catalog” (1995; 1998), the above-mentioned “Three Laws” was revised in 2000 to 2001, and additionally, following entrance into the WTO, announcements were made in April this year for a new “tentative regulations for foreign firm investment industry leadership” and “foreign firm investment leadership catalog”, and old regulations and catalogs from 1995 and 1998 were abolished.

In 2001, the main points revised within the “Three Laws” were: ① the abolition of the requirement to preserve a balance in foreign ownership, ② the abolition of local content requisitions, ③ elimination of the requirements for export demands, and ④ the elimination of reporting regulations to the government of production and management plans by each corporation. Also featured was a new “regulations catalog”, including the three divisions of “promotion”, “restrictions”, and “prohibitions”, the relaxation of authority over inspection licensing related to promotion projects and control projects, and additional strengthening of the attractiveness of investment in western China. Concrete promotional projects were increased drastically from 86 to 262, while control projects were reduced from 112 to 75. Additionally, in January, 2005, in promotion of Chinese industry (energy, oil refinement, and the automobile industry), the 2004 “regulations catalog” was adjusted and revised under political measures aimed at elevating industry structure. While promotion items decreased from 262 to 250, restriction items also decreased from 75 to 73.

Adjustment features are items planned for the promotion of investment by foreign enterprises in energy-related areas critical to China.

For example, beginning with traditional promotional items (oil exploration and development, as well as EOR and Asphalt, oil machinery, oil and gas pipelines, oil gas tanks, establishment and management of terminals), and with the modification from control projects to promotion projects in areas such as automobile manufacturing, establishment and management of natural gas, atomic energy, and coal-based power plants, wholesale and retail of general items, distribution and delivery of good, etc., things like previously banned municipal gas and the construction of supply pipeline networks became limiting factors, and it became possible to for foreign capital to be brought in. Also, as part of the same list of control projects, the wholesale of crude oil and oil products as well as oil factory and service station construction and management became possible. Additionally, the government established a guideline known as the “Industry List for Predominantly Foreign-Invested Western China” for cities, and a total of 20 inland provinces in western China, including Xinjiang, inner Mongolia, Xiapi province, Shanxi province, Sichuan province, Yunnan province, attracting investors in energy, water resources, agricultural development, etc.

A large feature in political measures and steps for the introduction of foreign capital into China’s energy field when compared with other types of industries, is that while the rate of foreign investment at present is less than 50%, importation of raw materials for construction of equipment related to exploration development projects has become tax exempt. Additionally, with taxes including a 33% regional tax and corporate income tax, there are greater incentives compared to other countries and regions.

In this way, current measures for the introduction of foreign capital are being made with a focus on new guidelines and the revised “Three Laws”. New foreign investor based industry tentative guiding regulations and foreign investment guidance catalog divide industries brought in into the three types, “promotion”, “restrictions”, and “prohibitions”.

## **II. Entry into the Fields of Chinese Oil and Energy by Foreign Corporations**

### **1, Entry into Upstream Projects**

Since the end of the 1970's, China has opened up exploratory oilfield development to foreign countries through inquiry and development in the underdeveloped offshore area. Following that, with oil demand falling drastically behind due to a highly mature domestic oil production supply, since the period of sluggish domestic oil production, resulting from stagnation in major oilfield output, from 1993 on, China started to open land-based resource sites to foreign countries.

#### ① Participation in Offshore Exploration development

Until this point, due to China's opening of offshore oilfields, 70 foreign firms including oil majors advanced into the area of offshore exploration development, and have come to be tied with the China National Offshore Oil Corporation (CNOOC), one of three organizations making up the "Big Three" group, in 135 distinct cases of exploration development contracts. Since 1997, foreign oil companies have created 36 new development contracts with CNOOC. Active participation towards offshore exploration development by foreign oil corporations such as these oil majors has contributed to an increase in production output from China's offshore oilfields, and an enlargement in the amount of confirmed recoverable reserves.

One thing of particular attention in the Bo Hai Sea Bay is a joint development project between Phillips Petroleum (currently ConocoPhillips) and CNOOC at PengLai resource site 19-3. A confirmed deposit volume of 600,000,000 tons of oil was discovered at that site at in 1999, and production officially commenced on December 31, 2002. An objective was set to reach an annual crude oil production of 8,000,000 tons by 2005.

In addition, Penglai development project II is now being planned. ConocoPhillips, in December 2004, decided to invest \$1.8 billion into a second development project in Penglai oilfield 19-3 (also including Penglai 25-6) located on Bo Hai Sea site 11/05, and has plans to start production in early 2007. This second development project is expected to yield 190,000 b/d of crude oil, and 500 million barrels of recoverable reserves. An additional 300 million barrels are expected to come from surrounding waters.

Further, in the year following 2000, based on collaborative studies and development between foreign oil companies such as majors and CNOOC, 7 oil fields were discovered in the Bo Hai Sea, with a yield 100 million tons, doubling oil reserves, and exceeding confirmed reserve amounts for the past 32 years. Thus, in the present Bo Hai Sea bay, with offshore oilfield reserves exceeding 3 billion tons, and an estimated future discovery of 1.5 billion tons, it is expected that reserves will reach 4.5 billion tons.

In the East Sina Sea, since 1980, biddings have occurred and contracts executed by Occidental, Esso, Phillips, Texaco, BP, ACT (Agip, Chevron, Texaco), and Amoplex, as well as Japan's JHN group. Since the advancement towards the area of inquiry and development in the South Sina Sea by foreign corporations such as oil majors in 1983, 26 oilfields and/or oil-bearing formations have been discovered at the mouth of the Pearl River, and on coasts such as that of the North Bay, and with the shift already made in 9 oilfields to the production stage in places such as Huizhou, Luli, Liuhua, Wenchang, and Fanyu, as of 1997 production had reached 12,972,000 tons.

Also, as a result of a consortium in February 2005, consisting of Chevron, Texaco, Eni and CNOOC, construction of an oil field in Huizhou 19-3/2/1, at the mouth of the Pearl River, was completed, and production began. With crude oil production in the

second quarter of 2005 at 325,000 tons, yearly production, at its peak, is expected to be 2,250,000 tons.

Recently, in June of 2006, Kerr-Mcgee entered a contract with CNOOC for exploration development in block 43/11, a deep-water site at the mouth of the Pearl River, located 350 km southeast of Hong Kong, and as a deep-water resource site (1,500-3,000 km) with an area of 9,729 km<sup>2</sup>, it was decided to collect seismic mineral exploration data, performing wildcat excavation. Also, Husky Energy discovered natural gas resources (potentially 4-6 trillion cf) in deep-sea resource sites in the South Sina Sea, one of the largest natural gas discoveries ever in Chinese waters.

In the East Sina Sea, since 1992 oil majors and foreign corporations, such as Chevron, Shell and Texaco, have entered into contracts and conducted study projects with the China National Offshore Oil Corporation (CNOOC). Based on boring by England's Primeline Petroleum in October of 1997, a yield of natural gas and condensate was confirmed for the first time in Lishui 36-1-1, within the East Sina Sea. In March of 2005, Primeline signed an inspection contract concerning block 25/34 in the east Sina Sea. The target block was located 390 km southeast of Shanghai, and had an area of 7,006 km and an ocean depth of 75-95 m. According to this contract, Primeline was to carry out seismic mineral exploration and, with the data acquired, excavate inspection shafts.

## ② Advancement into Land-Based Oilfields

Since advancement into China's offshore oilfields in the 1980s, as well as China's land-based oilfields starting in the early 1990s, 10 foreign oil majors and/or other corporations, such as Shell and Texaco have developed in continuous effort, in autonomous regions and 21 provinces in China, 60 exploratory oilfield development projects and 9 EOR projects.

Thus far, foreign oil corporations such as oil majors have, under a bidding system, participated in exploration development and EOR projects only through collaborative work with China.

Foreign oil corporations, such as oil majors Exxon, Texaco, and Agip, have carried out 13 exploration and development projects in the Tarim Basin, confirming 8 crude oil and natural gas sites in the outlying and middle parts of the basin, and discovering 23 formations containing commercial grade oil and natural gas. Also, through local operations, upgrades are proceeding in collateral infrastructure such as storage, transport, communications, and roads.

Oldos' Changbei gas field benefited from Shell, which in Beijing in 2005, aligned with natural gas market growth in North China areas such as Tianjin, and actively moving forward with 50% ownership in cooperation with CNPC, is tackling joint development in gas. This provided natural gas to North China regions, such as Beijing, at a rate of 1.5 billion m<sup>3</sup> within 1997.

China's eastern and central oilfields, including major oilfields like Daqing, Shengli, and the Liao River have already been advanced into by foreign enterprises such as oil majors, at some 14 resource sites.

In addition, even in projects raising the crude oil collection ratio from existing oilfields, foreign enterprises including oil majors have participated in 9 EOR projects, with an area of operations development reaching 118 km<sup>2</sup>.

This led to the supply, in 2007, of 1.5 billion m<sup>3</sup> of natural gas in the North China region, as well as East China's Shandong district, and it is additionally planned to boost supply to 3 billion in 2008. These gas fields, located in Shanxi province, in Jingbian's north, and the Yulin's Xiqu region, have an area of about 1,600 km<sup>2</sup>, confirmed original reserves of 72,640,000,000 m<sup>3</sup>, and recoverable reserves of 72,640,000,000 m<sup>3</sup>. The amount of invested funds for the joint development project is expected to be \$620 million. Primary work content includes things such as excavation, the manufacturing of gas processing equipment, and the construction of inter-field pipelines. Natural gas development projects utilizing foreign capital within the country are the largest.

America's Burling Resource Co., in February 2004, gained approval from the National Development Committee regarding gas development in Sichuan's Chuanzhong gas field block of Bajiaochang. Burling Resource Co., in the first development project, invested \$150-\$200 million into gas manufacturing to produce 400-500 million m<sup>3</sup> over several years, and ultimately added \$500-800 million in investment, focused on Chuanzhong, with a plan to produce 150 million m<sup>3</sup> of natural gas annually.

In turn, Japanese corporations started to advance into Chinese oilfields around the early 1980s, carrying out 10 exploration development projects in places such as the southern and western Bo Hai Sea, the South Sina Sea's Pearl River area, as well as the inland areas of the Tarim Basin. During that time, development projects at those locations did not produce results, and were phased out. Presently, 3 resource sites (South Sina Sea Pearl River, Chong 16/06, Luli 13-1) are being operated by 2 Japanese corporations (South Sina Sea Oil Development, Nichiko Pearl River Development), at a production rate of about 10,000 b/d.

Moreover, in January 2006, Mitsubishi Gas and Chemical bought out a 10% interest held by Canada's Ivanhoe Energy Co., located at Sichuan province's Zitong resource site, and proceeded to carry out inspection studies at the site. In area of advancement into Chinese oilfields, Japanese corporations are standing in the shadows of foreign oil corporations such as oil majors in respect to management resources such as corporation scale, and especially upstream assets and technology.

In the area of natural gas, Shell, the Gazprom Group, and others participated in the planning of a construction project (West to East Gas Transfer Project) for a long-distance 4,200 km pipeline tying the natural gas-producing area of Xinjiang's western Tarim Basin and the gas-consuming region of the eastern Shanghai district, previously reaching foundational contractual agreements in July of 2002. However, although such agreements were reached in July of 2002, negotiations toward a final contract were rough-going, and reached an impasse over foreign demands for guaranteed return rates, after which the foreign capital was withdrawn around August of 2004. CNPC is going forward with the project independently (without foreign capital). Profitability guarantees for the West to East Gas Transfer Project are difficult, and with negotiations at a standstill over foreign demands for guaranteed return rates, the foreign side ended up withdrawing their capital from the project.

In the western area of Xiapi province, Shell and Russia's Gazprom are coming into natural gas development. In this vein, they are participating in a natural gas pipeline construction project tying that area to the Shanghai's home, the Huabei region; natural gas development at the far north resource site of the Ordos Basin; and another pipeline construction project.

In the area of LNG (Liquefied of Natural gas) BP is taking part in LNG importation projects belonging to CNOOC-based Dapeng in the Gungdong province. In April of 2004, CNOOC, BP, and others entered into 15 contracts, including a financing contract, a transportation contract, a gas trade contract, and a main gas pipeline contract.

In looking at the connection between foreign capital from oil majors, etc., and China's Big Three, in 15 joint projects carried out by foreign enterprises, including oil majors, and CNPC, by 1995, a total of 540 million tons of confirmed crude oil reserves, and 130.5 billion m<sup>3</sup> in confirmed natural gas reserves were acquired, while 2005 crude oil and natural gas production reached 3.77 million tons, and 483 million m<sup>3</sup>, respectively. With investment into Sinopec-led exploratory oil development projects totaling \$60.26 million, total investment as of 2001 had reached \$150 million. Furthermore, recently, with CNPC's (China National Petroleum Corporation) investment of \$8 million in risk-control exploration projects, foreign oil corporations are trying to enter new projects (11 in resource development, 3 in EOR) in the Tarim, Ordos and Songliao Basins. As of 2005, 75 oil corporations contracted for 175 projects with CNOOC (China National Offshore Oil Corporation), in cooperative development at 23 oilfields, producing an oil and gas output of 21.74 million toe (oil-converted tons).

In the above-mentioned way, in their advancement into the field of exploration and development within China's upstream oil sector, foreign oil corporations, in accordance with international conventions, bear most of the exploration risk, and in case commercial scale oil and gas fields are discovered, are to enter joint development operations with the Chinese side and share the output, as set forth contractually. It is estimated that, as of 2006, the total investment by foreign oil corporations, led by oil majors, into petroleum exploration development had reached the tens of billions of dollars.

### ③ Advancement into the Areas of Oil and Gas Alternatives

In response to China's market growth and surging oil and energy demands, foreign enterprises such as oil majors, have been actively advancing into the field of oil and gas substitutes since the latter half of the 1990s. In the area of Coal Bed Methane Gas (CMB), from 1998 through August 2006, oil majors and other foreign corporations, including ChevronTexaco, BP and ConocoPhillips, entered 28 contracts (output-sharing) with Chinese enterprises, investing a total of \$100 million to develop 37,000 km<sup>2</sup> in target resource sites. Reserves in these areas total 3 trillion m<sup>3</sup>.

In coal liquefaction, South Africa's Sasol, in September of 2004, signed the MOU, an agreement for the construction of indirect coal liquefaction plants, with China's 2 major coal corporations (the Shenhua group and the Zhuxia Coal and Mineral Group), and took part in planning operations for those plants. When Chinese Premier Wen Jiabao visited South Africa in June of last year, the MOU for FS was signed to carry out the construction of plants. Under the project, 2 primary coal liquefaction plants were constructed, where the size of the first construction effort produced 3 million tons of petroleum product, at a total investment cost of \$3.6 billion. Further, in attempts to actively promote the transfer of related technologies to China, Shell has shared, on 10 occasions, direct liquefaction and gasification technology.

In the area of oil shale as well, oil majors, etc. are putting their technological superiority to use, actively entering into upstream oil shale development. Shell, in April

of 2006, contributed 61% in the Jilin province, and in collaboration with the Jilin province (39%) formed the Shell Oil Shale Development Company to plan for oil shale development projects. It is estimated that the province's oil shale can be distributed to dozens of basins, serving a total area of 60,000 km<sup>2</sup>, at an amount of 300 billion tons in resources. Even within, the 14 blocks including the Songliao Basin, Huadian Basin, etc., with a confirmed reserve amount of 17,426,000,000 tons, occupy 55% of China. Shell has plans to adopt technologies and methods for the separate collection of oil and natural gas through fracturing and underground heating. If the resources in the ICP system (In-site Conversion Process) are in good condition, it is possible to produce 5-15 million tons of oil shale.

In August of 2005, Australia's Rock Oil Ltd. also entered into the area of oil shale development in the northeast region of Fushun, carrying out general application oil shale projects there in cooperation with local organizations. At a total project investment amount of \$546 million, \$136 million coming from Roc Oil, 100,000 t/y and 500,000 t/y oil shale production plants were constructed.

## 2, Operations Development and Movement in the Downstream Sector

Alongside growth in domestic oil demand coming from a highly mature economy in China since the 1990s, foreign oil corporations such as oil majors, under a global management strategy, are actively progressing, with an aim on the Asian energy market, especially the quickly-growing, potentially enormous Chinese market, not only in the upstream area of exploration development, but also into downstream areas such as purification, distribution and services.

### ① The Purification Field

In 1996, Total invested 20%, in collaboration with organizations including the China Chemical Import and Export Group and the China Petroleum & Chemical Corporation (Sinopec), established Dalian West Pacific PetroChemical Co., with a yearly processing capacity of 5 million tons per year, which began operations in China's Dalian in 1997, to target the purification of high sulfur crude oil imports from the middle east, etc. In 2001, with a purification capacity upgrade from 5 million tons to 8 million tons yearly, and additional enlargement by 2005 to 10 million tons yearly, the introduction of new equipment was moved forward with 150 ton/year hydrogen analysis equipment, and 200 ton/year capacity light oil hydrogenation refining equipment.

ExxonMobil and Aramco, each at a rate of 25%, and Sinopec Fujian Oil Products Company (50%), jointly investing \$3.5 billion, prepared for the expansion of oil factories and construction of a petrochemical industrial complex, and, making use of each other's technology and investment funds, they are planning for the completion by 2008, of an oil factories expansion project (from 4 million tons per year to 1200 tons per year) and the construction of an 800,000 ton per year ethylene plant within Fujian, in order to upgrade the processing capability of Middle East crude oil, the imports of which are surging.

Additionally, ExxonMobil, through subsidiary ExxonMobil Guangdong, cooperating with Sinopec-affiliated Guangzhou Co., is planning to upgrade crude oil processing capacity in Guangdong from its present yearly 7.7 million tons to 10 million tons, and upgrade the ethylene plant capacity from its yearly 200,000 tons to 300,000 tons.

Recently, Kuwait Petroleum (KPC), a state-run Kuwaiti corporation, in efforts to enter the field of purification in the southern region of Huanan, has been planning, in a collaborative effort with CNPC, the construction of an oil factory and petrochemical complex in the city of Guangzhou. Under the plan, the oil factory's crude oil processing capacity would be 15 million tons, with a total investment figure of \$5 billion, with \$3 billion of that going to the construction of the oil factory itself. Formal approval for the project was received from the State Council in 2007, and plans call for construction to begin in 2008, with completion in 2012.

KPC is coming into the oil demand-intense Huanan region with predominance in upstream assets and abundant crude oil sources. The jointly-run oil factory's crude oil source is imported mainly from Kuwait. It is also planned to link mineralization (ethylene, etc.) plants to the joint company.

With a growing Chinese oil market, and guaranteed buyers, foreign countries like Kuwait benefit from smooth development into the oil product sales operations of China's Huanan market. In turn, in the context of China's expectation of the above-mentioned resolution of the supply shortage, through joint efforts with foreign enterprises such as oil majors, attracting technology and know-how, China can not only make use of the partner's management resources, but guarantee stable crude oil supply from the oil-producing nation of Kuwait. Especially for CNPC, which is not a dominant management and sales entity, joint development, makes possible the entry into Huanan's market, beginning with the Huangdong province, and market share growth.

Figure 1 Entry by oil majors, etc. into China's oil purification industry, as well as primary joint projects

Company Name	Location	Foreign Investment	Chinese Investment	Capital Amt.	Work Content (oil factory)	Crude Oil Processing Type	Established (operations)
Dalian West Pacific PetroChemical Co	Dalian	Total (20)	CNPC, etc. (80)	\$1.013 billion	8 million t/y	Middle-Eastern	1992 (1997)
Sinopec Fujian Oil Products Company	Fujian	ExxonMobil/ Aramco (25/25)	Sinopec (50)	\$3.5 billion	4-12 million t/y in upgrades and construction	Saudi-imported	2004 (2008)
Kuwait Guangdong Purification Project *	Guangdong	KPC, BP, Shell	CNPC	\$5 billion	15 million t/y	Kuwait-imported	2008 (2010)

\* Project-planning stage. Sources: Data from CNPC, Sinopec, CNOOC

Japan's oil corporations, since the 1990s, began entering China's lubricant oil market. Japan Energy Corporation (JOMO), as Japan's first entrant into China's downstream sector, in 1994, at an investment ratio of 49%, joined with the Shanxi Oil Corporation to establish the Shanxi-Japan Energy and Lubricant Corporation, beginning blending operations in 1995 at 10,000 t/y, and the local joint operation proceeded smoothly. In response to China's growing market needs, local production was boosted, and local sales activities for lubricant oil products are being expanded, with a focus on Huabei, beginning with Beijing.

Idemitsu Kosan Co., Ltd., through 25% Taiwan-owned lubricant oil maker Guohong's 100% Chinese subsidiary corporation "Changzhou Guohong", started operation of 10,000 kl of blending equipment in 1997 at the Changzhou Jiangsu Industrial Complex. Additionally, in July of 2003 Idemitsu Kosan, with the growth of local production, invested \$5 million to establish a base of operations (Tianjin Idemitsu Lube Co., Ltd.) in lubricant oil manufacturing in the Japanese automobile manufacturing (Toyota, etc.) city of Tianjin, commencing operations in December of 2004. The Tianjin

manufacturing base, with a yearly production capacity of 28,000 kl, produces automobile gasoline, diesel engine oil, ATF, and lubricating oils for factory equipment, with a focus on sales to Japanese automobile and part makers.

Besides this, Japan Oil Mitsubishi (now Nippon Oil Corporation), with plans to advance into China's lubrication oil market to meet demands for high quality lubrication oil for Japanese makers' local production in China, in the latter half of the 1990s, in response to Japanese automaker's advancement into China, jointly established (40% stake) with the Tianjin Petrochemical Corporation, TianJin - Japan Oil Lubricant Ltd., and began of blending operations at 35,000 kl/y in 1998.

In addition, Nippon Oil Corporation, in response to active business operations by Japanese automakers and part makers, etc., established the new factory, New Japan Oil/GuangZhou Lubricant Ltd. in 2005 at a cost of ¥1.9 billion, manufacturing approximately 27,000 kl of lubrication oil in operations in 2006. Lubrication oil production capacity is 27,000 kl. Above-mentioned, TianJin - Japan Oil Lubricant Ltd., by the end of 2005, had grown production capacity from 35,000 kiloliters to 55,000 kiloliters.

## ② The Sales and Distribution Field

In the latter half of the 1990's, and especially since the year 2000, foreign oil corporations, beginning with oil majors, have entered the Chinese oil industry's sales and distribution field with aims on ever-growing oil products market.

### a. Gasoline Stations

When SinopecCorp became listed on the New York and Hong Kong stock exchanges in October of 2000, ExxonMobil made a 19% stock acquisition, and accelerated operations development in China. As seen in diagram 10-1, in recent years ExxonMobil has, with Sinopec, already established and is managing gas stations at 36 locations. Also, in the first half of 2002, in the Fujian province, the corporation has joined with Sinopec and Aramco to establish the "Sinopec/ExxonMobil Jet Fuel Oil Sale Corporation", and agreed to the construction of 700 gasoline stations by the end of 2007.

For a long period of time, ExxonMobil and Saudi Aramco, as conditions for participating in joint oil purification and mineralization projects, aimed for development of the retail sale of oil products and entry into service station operations. In April of 2004, that FS was submitted to the Chinese government, and in June of 2005, it was approved. ExxonMobil and Saudi Aramco, as well as Sinopec, plan to develop 700 service stations (22% each) in the Fujian province. Sales operations officially began in 2006. Oil products such as consumer gasoline and light oil are be provided by the Fujian Purification and Mineralization Corporation, established by the joint efforts of the three companies. Shell, in August 2004, in collaboration Sinopec, established the Sinopec/Shell Jiangsu Petroleum Sale Corporation which developed 500 service stations in the Jiangsu Province, and is expanding in the area of oil product sales. BP is also actively expanding in the area of oil product sales. In April of 2001 they established the Oil Products Sale Corporation with PetroChina, and as of 2002, in collaboration with Sinopec, had already established and begun managing 45 gasoline stations in the Zhejiang province.

In August 2004, Shell, in cooperation with Sinopec, at a ratio of 40% and 60% respectively, invested \$830 million, to formally establish the Sinopec/Shell (Jiangsu) Oil

Products Sale Corporation in Jiangsu province's Nanjing. The joint corporation, with an operating period of forty years, is establishing and developing, through the purchases and new construction, 500 service stations, focusing on Jiangsu province's Suzhou, Wuxi, and Changzhou. With supplies coming from CNOOC/Shell Petrichemical Ltd., oil product sales and are being sold under the Shell and Sinopec brand name.

Furthermore, in November of 2004, with Sinopec as well as PetroChina in the Zhejiang and Guangdong provinces respectively, BP founded Sinopec/BP Petroleum Ltd., which developed 500 service stations in the Jiangsu Province, and is expanding in the area of oil product sales. BP is also actively expanding in the area of oil product sales and founded "PetroChina/BP Petroleum Ltd., and in response to the opening of the Chinese oil market to foreign access, planned by 2007 to establish and manage 500 service stations in each of the provinces of Zhejiang and Guangdong. As of 2002, BP, in collaboration with Sinopec, had established and was operating 45 gasoline stations in the Zhejiang province. Within the next several years, under cooperation between BP and Sinopec, as well as PetroChina, will establish and manage 1,000 gasoline stations in the south coastal region, in efforts to grow retail sales in China's Huanan market.

Total Co., with a 49% stake (totaling approx. \$108.8 million), in cooperation with Sinochem, has plans to establish and manage 200 gasoline stations in 4 northern areas including Beijing, Tianjin and Dalian by 2007, and match annual light oil sales of 800,000 tons.

Aside from primary oil major corporations, Japanese oil corporation Idemitsu Kosan Co., Ltd. has, since 2000, established and is managing gas stations in Dalian in collaboration with PetroChina-affiliated Chinese Union Oil Corporation.

Figure 2 Gasoline stations held by oil majors, etc. in China

Corporation	# of SS	Partners	Area
ExxonMobil	600 500	Sinopec and Aramco	Fujian Guangdong
Shell	500 ... ...	Sinopec HaiTian Investment Ltd.	Jiangsu Sichuan Chongqing
BP	500 500	Sinopec Sinopec Petrochina	Zhejiang Fujian Guangdong
Total	200	Sinochem	4 districts in Beijing
Idemitsu Kosan	1	Chinese Union Oil	Dalian

Sources: Drawn from various materials.

International oil majors, in their entry into retail oil sales in China, at time of growth in operations, not only cooperate with Chinese state-run oil corporations, but develop joint operations with private corporations as well. Shell, in December of 2005, in order to expand gasoline station operations into inland China (southwest region), negotiated to join with a major private corporation located in Chongqing in the construction and management by 2006 of gasoline stations there.

Shell, in May of 2000, invested 72 million yuan, with Sichuan province private corporation (70%, and 30% stakes respectively), to establish Sichuan/Shell Fuel Oil Ltd. In March of 2005, the company built gas stations in Chengdu, competing in the field of local oil product sales. Shell's method of making ties primarily with private corporations in entry to the southwest region, is thought to be primarily to acquire autonomy. That is

to say, although ownership in joint service station operations in coastal areas is limited to 49%, in the Sichuan province 50% or greater ownership is possible.

Additionally, local corporations are leading service station network development. In turn, local corporations, through ties with Shell, are collecting and putting into practice operating resources such as management know-how and Shell's brand name as an international oil major. Private corporations, with the competitive power gained from the introduction of technology, know-how, and capital funds from international oil majors, are competing with major domestic oil corporations, and attempting to cross the barrier into the domestic oil market.

It is possible that joint retail sales projects currently being negotiated and planned by Shell in Chongqing will make use of the same strategy as the above-mentioned Sichuan/Shell Fuel Oil Ltd. Presently, the construction of service stations is being hurried in chief areas like along Chongqing freeways or in urban areas. Shell, putting to use private corporations' networks to enter the southwest region's oil product market, but is facing fierce competition.

#### b. Lubrication Oil and Fuel Oil Sales

In 1998, BP, in collaboration with Chinese Aviation Fuel Oil Ltd, established, in Guangdong, China's first and only company, Jet fuel Sale Corporation, offering jet fuel to 15 airports in southern and central China, including the Shenzhen Bao'an International Airport.

Shell, establishing at an 85% ownership ratio the ZheJiang/Shell Oil Ltd. in cooperation with Zhejiang province's Zhuopu Port Corporation, has, through the establishment of lubrication oil specialty stores in 200 cities in China, developed lubrication oil sales operations since 1998. Furthermore, in the future, Shell and Sinopec constructed a jet fuel sales network in the 5 cities of Beijing, Shanghai, Kunming, XiaMen, and Hangzhou, and made additional plans to expand the sales network into 7 airports in Guangdong, Shenzhen, Chengdu, Nanjing, Changsha, Qingdao, and Tianjin as well. Demand at these airports is an annual 3.2 million tons, comprising 50% of the entire country's demand.

The Japan Energy Corporation, mentioned earlier, has been, since 1996, operating in the Chinese domestic sales market, through partner corporation Shanxi/Japan energy Lub Ltd. Japan Oil/Mitsubishi has also, since the latter half of the 1990s, not only been manufacturing lubrication oil as TianJun/ Japan Oil Lubricant Ltd, but also focusing on sales by developing local asphalt sales operations in cooperation with local corporation RiZhao Lan Jadeshi Corporation. Additionally, Nippon Oil Corporation has, this year, in cooperation with Sinopec (Sinopec 50%, Nippon Oil Corporation 40%, Meiwa Corporation 10%), established Sinopec/JapanOil(GuangZhou) Lubricant Ltd., offering 55,000 kl per year in high-quality lubrication oil products to south China, where 40% of China's demand is concentrated, in plans to grow operations in China.

At present, oil majors, etc., led by Shell, BP, and ExxonMobil, with the establishment of 30 lubrication oil factories in the eastern regions of China, have a production capacity of 1 million t/y, comprising a 22% market share.

Oil majors, not only through collaboration with nationally owned Chinese corporations, but also through things like technology exchange with private corporations, are developing lubrication oil sales operations, are succeeding in growing their market

share. Exxonmobil, cooperating with BeiJing Unity Petrichemical Ltd., a major private lubrication oil corporation, is providing technological equipment and big-name brand basis oil and additive, working at the expansion of ExxonMobil brand lubrication oil sales. ExxonMobil in cooperation with Henan's ZhenZhou Commercial Trad Ltd, is selling high-grade lubrication oil in the Huabei districts of the north.

In the area of LPG sales, BP, as the largest importer and seller in China, imports 2 million tons per year, with a revenue level close to \$700 million. The company's LPG storage facility distributes to 7 storage and sales companies in the Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong provinces. Since 2004, the company has been growing its network by further boosting its LPG sales share through things such as the purchase of private LPG corporations in Guangdong.

### III. Features of Oil Majors' Strategy for Approaching the Chinese Oil and Energy Market

#### 1. Oil Majors' Approach Strategies

Until now, entry into and development of China's energy market relied on strengths and corporate dominance, and applied various strategies to adapt to factors such as China's energy market demand, local laws, corporate environment, and characteristics of nationally-owned corporations.

Firstly, investment into the initial IPO (Initial Public Offering) is a foot in the door towards entry into Chinese oil and energy market. In 1998, based on the reorganization of CNPC and Sinopec, the two majors actively progressed into management internationalization, group-formation, and the transfer of assets into stock, and put forth effort to tie into foreign capital. Under these efforts, oil majors gained a foothold in their entry into the Chinese oil and energy market, and steadily pushed forward with participation in IPOs for the Big Three Group.

BP, entered the scene for IPO proceedings for Chinese oil groups fastest of all the oil majors. Listings were made on the New York and Hong Kong stock exchanges of PetroChina in April of 2000, Sinopec in October of 2000, and CNOOC in February of 2001, at respective investments of \$620 million (20% stake), \$400 million (14% stake), and \$300 million (20% stake).

Shell, meanwhile, invested \$430 million into SinopecCorp's October 2000 listing on the New York and Hong Kong stock exchanges, and \$200 million into CNOOC's February 2001 listing, respectively 14% and 20% stakes.

ExxonMobil invested \$1 billion, amounting to a 20% stake, in SinopecCorp's October 2000 listing on the New York and Hong Kong stock exchanges.

In this way, oil majors are entering the oligopolistic market dominated by the Big Three, based on strategic IPO ties with Chinese Oil Corporations. For example, in the field of exploration development, in the above-mentioned way, Shell accelerated and expanded exploration development in CNOOC-controlled waters. In the purification and production field, ExxonMobil, together with Sinopec, expanded oil factories in Fujian, and enlarged oil product manufacturing, aiming for guarantees in the oil sales market. Additionally, in the field of sales and distribution, ExxonMobil, BP, and Shell, in cooperation with CNPC and Sinopec, established oil product sales corporations in the Huadong and Huanan regions, and with the construction of a total of approximately 3,000 service station locations, and developing sales operations there.

Secondly, with a dominant position in upstream sources, they are entering into the area of purification in China.

Majors and oil corporations in oil-producing countries, with a dominant position in private upstream assets, oil reserve and production amounts, supply capabilities in the international market, etc., are advancing into the field of Chinese oil purification. Leading oil majors ExxonMobil, BP and Shell, with production quantities of 164 million tons, 130 million tons, and 113 million tons, respectively, producing 91%, 72%, and 63%, of the overall Chinese oil production amount quantity (180 million tons). The three companies net Chinese crude oil imports (139 million tons) are an appropriate 117%, 94%, and 84% respectively.

Within import expansion based on year-by-year increases in China's oil demand cap, the Chinese side and oil majors, etc., on top of agreeing to guarantees of crude oil processing sources and importation, are establishing oil factories. For example, ExxonMobil, as well as Aramco, while establishing oil factories in Fujian with Sinopec, took charge of crude oil imports, with plans to import crude oil from the Middle East.

Additionally, Kuwait Petroleum Corp (KPC), a state-run business in the oil-producing nation of Kuwait, with its dominant crude oil resources, is also entering the field of purification in the Huanan region, establishing an oil factory and petrochemical complex jointly with CNPC in Guangzhong in an effort to bring in Kuwaiti crude oil.

Thirdly, in cooperation with private corporations, they are working towards gaining management autonomy rights through a growth in oil market share.

Shell, in May of 2000, invested 72 million yuan with Sichuan province's private corporation Haitian investment Ltd. , at respective stakes of 70% and 30%, and established Sichuan/Shell fuel oil Ltd. ,

Also, in March of 2005 the corporation established a gasoline station in Chengdu to tackle local retail sales of oil products. For Shell, in entering the southwest region, making use of private corporations' local sales networks and personal connections in local government, using the method of joint corporate connections, primarily with private corporations, may be a strategy for the acquisition of management autonomy. Specifically, while investment in service station operations in coastal areas is limited to a 49% stake, with a 50% or higher stake allowed in the Sichuan province, Shell has invested in 70% ownership.

Moreover, other majors and foreign investors are planning for the enlargement of sales networks, buying out local private corporation's service stations.

Fourthly, are strategies, etc. to pioneer in the oil and gas substitutes energy market.

BP, Shell, and ConocoPhillips, in response to surging Chinese energy demand and growing markets, since the latter half of the 1990s, and especially under the high price of crude oil in recent years, has been advancing into the field of oil and gas substitutes. In the above-mentioned way, they are also advancing, not only into coalbed methane (CMB) development, but into the area of coal liquefaction as well. Oil majors, etc., with technology and know-how in independent development, as well as indirect and direct coal liquefaction, are entering the fields in China of coal liquefaction, oil and gas substitutes, and unconventional energy development, and are aiming for profit gains in Chinese energy operations through the capture of the gas substitute market, now starting to grow under the recent sudden jump in oil prices.

## 2. Japanese Corporate Strategy for Advancement into China Oil and Energy Market

On the other hand, in contrast to American and European oil majors, etc., Japan oil and energy corporations are not large, especially in upstream crude oil resources, better known as crude oil and natural gas reserves, where reserves and output are low, resulting in them using different process strategies when advancing into China's oil and energy market.

Specifically, Japanese oil enterprises, such as Japan Energy Corporation, and Nippon Oil Corporation, have begun development, starting with entry into the area of lubrication oil and asphalt. These areas are small, and generally free of market regulations. Japanese enterprises such as Nippon Oil Corporation now possess advanced lubrication oil manufacturing technology and know-how, coming from local corporations. Japanese oil corporations, while carrying out operations in China primarily through alliances with affiliated companies<sup>1</sup>, and driving local sales and operations development through dealings with local Japanese corporate group connections, differ greatly from American and European enterprises such as oil majors.

Japanese oil corporations, in the 1990s, in response to the advancement into China by Japanese producers such as Toshiba, Hitachi, and Matsushita, conducted business development of machine lubrication oil for consumer electronics and cooling machinery in China. Additionally, in the latter half of the 1990s, especially since the year 2000, as growth occurs with investment and local production by Japanese automakers such as Toyota and Honda, as well as related makers of automobiles in China, they have produced lubrication oil production companies in China's Tianjin and Guangzhong, and growing operations, are selling automobile lubricant oils, primarily to Japanese auto and part manufacturers.

Japanese oil corporations, implementing systems for long-term business with domestic enterprises of Japanese origin, are making the most of advantages in Japan corporate systems, and promoting and growing local Chinese oil product sales operations.

However, at the same time, compared with corporation and operations investment by American and European corporations, such as oil majors previously involved in Chinese energy operations, the scope of Japanese corporations' investment in upstream operations is far lower, with little upstream exploration development investment, as well as very few successful projects. In the above-mentioned way, entry by Japanese corporations into local energy fields, is concentrating on primarily upstream areas such as lubrication oil, asphalt, and coal. Current Japanese corporations primary organization types for investment in China are primarily consist of, appliances, transportation machinery, and textiles, with investment being respectively 15.3%, 6.3%, and 7.3%. Of those, investment in energy related fields such as oil and coal, at a tiny 1%, is extremely low.

At present, corporations of Japanese origin operating in China's energy field are avoiding asset and upstream source weaknesses, and are trying to strengthen their entry into energy areas such as energy savings, in order to gain a competitive edge locally. Japan's energy savings and environmental protection technologies are among the world's best, and direct investment and the transfer of technology in this field into China is attempting to be developed.

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<sup>1</sup> Guo Sizhi . Japanes investment in China, Metoku Press. 1999,p.143.

For example, in the field of energy savings and environmental preservation, Idemitsu Kosan Co. Ltd., in June of 2004, invested \$2 million into clean-coal operations, establishing, at a 98.9% stake, the Clean Energy Corporation, in Shandong province's Yantai. With supplied coal being preserved locally, and blending coal with differing qualities in sulfur content, calorie, ash, moisture, etc., sizing is performed and clean-coal produced and sold, offering energy savings operations and equipment technologies (boilers, etc.) and greater environmental care. With 30,000 tons in sales by the end of 2005, and an amount of proceeds reaching approximately 3 million yuan, Idemitsu Kosan is aiming for sales of 310,000 tons in 2009, with total revenues of 93 million yuan.

In the area of coal liquefaction, NEDO in July of 2006, started a project for the transfer of technology into China, and commenced confirmation experiments with local corporations, such as China's DaTang International Power Corporation. Under the project, by 2010, it is planned to begin operations of a liquefaction plant with a daily processing capacity of 3,000 tons. The construction project, a ¥100 billion large-scale operation, is seen as participation in technologically superior Japanese plant operations.

**Conclusion --** The new development and strategies in business and operations of Japanese enterprises into China

American, European, and Japanese enterprises, such as oil majors, due to differences in their respective management resources, such as corporate scale and asset composition, differ in strategies for advancement into China's energy market, entry processes, and advancement operations. Compared to American and European enterprises such as oil majors, for Japanese corporations, advancement into the Chinese energy market is likely to surround the areas of oil and energy downstream, especially energy savings and environmental preservation. New movements in the advancement into China by American, European, and Japanese corporations, such as oil majors, and local operations will be watched closely in the years to come.

Recently, under an objective set forth by the Eleventh Five Year Plan, China is beginning its foray into the area of energy savings and recyclable energy. By 2020, under an objective to reduce energy consumption per unit of GDP by 20%, China's political measures for the acceptance of direct foreign investment will provide a favorable environment for placing emphasis on energy savings and environmental preservation. By 2020, China's investment in areas related to energy savings, new energy, etc. are estimated to top 1.5 trillion yuan.

Presently, Japan's new energy and environmental preservation-related technologies are becoming top-level internationally, with energy consumption efficiency exceeding that of America and Europe by several times, and China by 8 times. When carrying out investment growth into China, sometimes called "the world's factory", and business development, in industries such as the automobile industry, where they have good energy savings, environmental preservation, and gas mileage, compared with American and European, as well as local Chinese corporations such as oil majors, Japanese corporations dominate.

With that structure, in the coming years, Japanese enterprises can be seen to, avoid upstream resource weaknesses, and demonstrate strength and dominance, adapting

to local Chinese laws and energy markets, expand energy related investments such as energy savings in China, and achieve new development in operations in China<sup>2</sup>.

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<sup>2</sup> Of course, knowledge risks have been looming, but Japanese investment's expansion into the energy sector, such as with energy savings, to adapt to Chinese industrial policies, is an invitation for foreign capital, and the region diversity will bring great opportunity to Japan.