



FOREIGN DIRECT INVESTMENT AND IMPORTANCE OF THE “GO WEST” STRATEGY IN CHINA’S ENERGY SECTOR

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March 2002

Introduction

China has grown into a “global energy power” as it consumes one-tenth of annual global energy output (second only to the United States) and ranks third in energy production (behind the US and Russia). Its market also is seen to have the greatest potential for developing energy products, services, and technologies. In the coming decades, how China plans to satisfy its ever-increasing demand for energy will definitely have a significant impact on both global energy production and supply. And China’s energy-rich western region is likely to play an increasingly important role in energy development.

With Gross Domestic Product (GDP) growing at an average rate of 9.5 percent for the last fifteen years, China has the world’s fastest growing economy. This rapid pace of growth and industrialisation has caused economic strain, which is particularly noticeable in the inability of Chinese commercial fuel production to keep pace with demand. If China allows its commercial energy supply to fall much further behind demand, massive energy imports will be necessary in order to avoid severe bottlenecks in industrial production. Such an energy shortage could impact world energy markets, and possibly affect the worldwide energy security if China decides to balance the excess of demand over supply with imports.

In terms of overall energy supply, China has the resources to meet rapid economic growth with only modest efficiency gains. However, there will be major disconnects between available and required fuels. Specifically, there will be severe shortages of petroleum and an over-abundance of coal. Should China adopt measures to encourage fuel substitution, the fuel imbalances force a dilemma. If imports are restricted to allow domestic prices to reflect the scarcity of oil, the ensuing market dislocations will hurt development; if imports are allowed, the cost will drastically reduce China’s ability to finance badly needed energy infrastructure projects. However the energy supply problems are resolved, energy demand will continue to grow rapidly, led by the industrial sector.

Geography and geology shape China’s energy system fundamentally². Coal has accounted for roughly 75 percent of China’s primary energy mix for the past quarter-century. Oil accounts

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2 Whether it is gas-rich Sichuan, oil-rich Heilongjiang, coal-rich Shanxi or energy resource-poor Guangdong, each province has its own unique energy imperatives, its own economic logic and sense of self-aggrandisement, and its own set of ideas of how to utilise and/or obtain resources to meet its current and anticipated needs.

for about 20 percent, hydro (5 percent), natural gas (2 percent) and nuclear (1 percent). China's largest and fastest-growing energy demand is in the southern and eastern coastal provinces, but its energy endowments are located in the North and West. These geographical facts have reinforced decentralisation trends in China's economy and shape its energy options.

In terms of available energy resources, the problems China faces are not from extraction or development, but distribution. The lack of infrastructure is further inhibiting the development of new petroleum resources, particularly in western China. There is only one railway into the region, making delivery of both supplies and personnel difficult at best. Unless these infrastructure problems are resolved quickly, increases in resource production will be essentially meaningless because the Chinese will be unable to get the fuels to consumers.

While predicting what China will look like in the next five years is a daunting undertaking, every two years OECD's International Energy Agency (IEA) makes an effort to project China's energy future over the two subsequent decades. IEA's latest projections show China, including Hong Kong SAR, accounting for 23 percent of world primary energy demand *increase* between 1995 and 2020. This leaves about half the increase for the rest of the world. Meeting such a huge demand requires massive investments, as well as policy adjustments to facilitate these investments. The World Bank estimated the cost of demand infrastructure, over a 10-year period too 2004, at US\$1.5 trillion, of which transport accounts for US\$600 bn and energy for US\$490 bn.

After many years of neglect China's investment in infrastructure has been picking up³. Chinese leaders have grasped the plain reality that massive energy infrastructure investments needed to produce and transport increasing energy cannot be realised unless adequate foreign investment and technology are mobilised⁴. The government has made significant strides over the past few years towards opening its energy sectors to foreign capital, technology assistance and global trade. The scope for foreign direct investment in the petroleum industries is vast.

An Overview of China's Oil and Natural Gas Industries

China is facing a widening gap in its oil supply and demand. Oil production stagnated during the 1990s, as rising output from offshore fields has offset declines in a number of important eastern oil fields. However, demand continues to rise, particularly for transport fuels, resulting in a continuing increase in imports of both crude oil and petroleum products. By the end of 1999, China's external dependency for oil had risen to 26 percent. At this level of import dependency, the domestic market has become increasingly affected by changes in the international market, leading to severe disruptions in early 1998, when international oil prices collapsed.

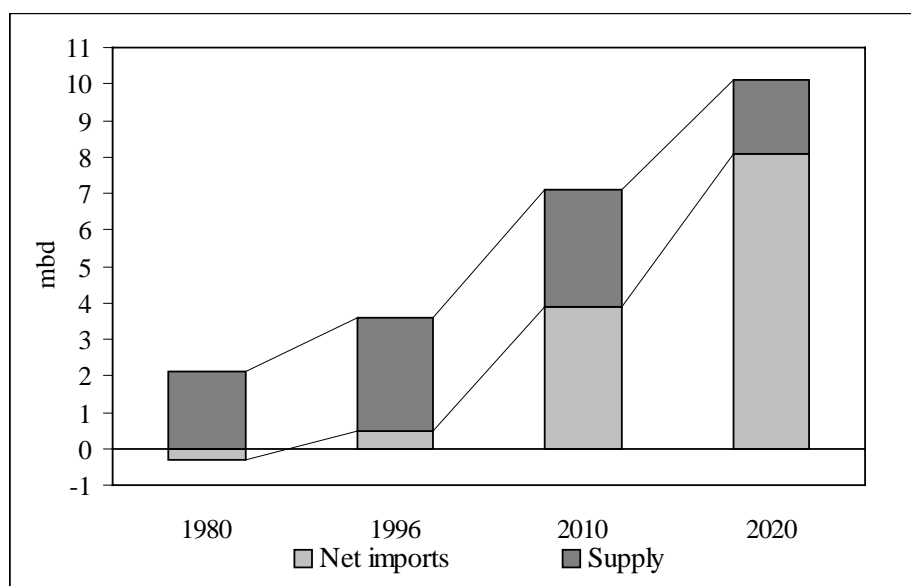
China's total oil reserve estimates are uncertain. The IEA projections are based on reserve estimates of 29.5 billion barrels. This matches a conservative view of the development of Chinese oil production. Production grows till around 2010 and then declines to about 2 million barrels per day (mbd) by 2020. The Figure below compares expected oil production and demand. The gap between domestic production and demand widens, especially after 2010. It is projected that China will be importing more than 8 mbd by 2020, making it a major

3 Across the economy, it averages around 6.5 % of GDP, well above the developing-country average of 4 % and not far from the World Bank's recommended level of 7 %. In March 1999, Finance Minister Xiang Huaicheng announced a 14.7 % rise in budget expenditures, largely on infrastructure.

4 See for further details "China's Worldwide Quest for Energy Security", IEA, Paris, 2000.

importer in the world oil markets. In comparison, projected net imports of the OECD Pacific region by 2020 are just at 7.6 mbd.

Domestic Supply and Net Oil Import in China



China's natural gas production has been gradually rising since the mid-1990s, as new fields come on line, particularly offshore fields, and new pipelines are built. Despite the recent growth, natural gas still accounts for only about 2 percent of the nation's energy mix, the same as in 1980, and significant growth requires long-term investments in development of new resources and infrastructure for imports. Current output is about 23 billion cubic meters (bcm) per year, but China has targeted expansion of combined onshore and offshore output to 30 bcm in 2005 and 50 bcm in 2010. Output in 2010 is to be supplemented by annual imports of 50 bcm, but this assumes optimistically that a planned 3 million tons LNG terminal in Guangdong and several cross-border pipeline projects go forward. China also plans to produce up to 10 bcm per year of coalbed methane by 2010, but this will require significant investment to raise it from its current level of 500 mcm.

China has made clear its intention to encourage the use of natural gas, in particular to boost its utilisation in the power generation and the residential sectors – both sectors in which gas is still marginal. Used for power generation, natural gas has less unit capacity investment costs, shorter building periods, more operating flexibility, and reaches higher energy efficiencies than any other source of energy. It is in this sector that gas is expected to grow fastest, making it the largest sector for gas by 2010. However, gas in power will increase mainly with economic growth and the need for more power generation, less by displacing coal fired power units. Its growth will thus most likely be concentrated in the coastal areas and in the large cities, since these will be the centres of economic growth⁵.

Even in the short term, despite China's large gas reserves, gas imports are inevitable. For the coastal areas, many of China's fields are too distant for the gas to be piped to market economically. Options under review include imports of liquefied natural gas as early as 2002. In addition to LNG imports, long-distance pipeline gas imports from Russia and/or Central Asia are being discussed. Preliminary discussions with Russia include plans for a pipeline that could eventually extend to Japan via the Korean peninsula. But the costs involved with such

5 New gas-fired power generation will provide the anchor for new gas supply projects. Once the anchor is established, distribution systems can be developed to expand the supply of gas to surrounding industry, commercial enterprises and households.

LNG or long-distance pipeline projects represent a considerable challenge. The realisation of such projects will depend on their economical viability, and thus on whether policy makers and potential investors – national and foreign – can rely on an adequate economic and regulatory framework.

The government has made investment in natural gas more attractive by adjusting domestic prices closer to internationally comparable levels. However, gas pricing varies substantially from city to city and in the absence of a national pipeline network, a true market for natural gas does not yet exist. Potential demand for natural gas in China is likely to be as large as any potential supplies, at least in the short term. There is currently very little natural gas-fired power generation in China, but the country would benefit enormously by replacing coal-fired power plants (particularly small ones) with gas turbines. As a result, growth in natural gas consumption in the next few years will likely be more affected by supply constraints than the level of general economic activity, even if overall energy consumption continues to decline.

Foreign Investment in China's Energy Sector

China faces two urgent pressures: to develop its domestic energy system rapidly and massively as demand swells with growth; and to establish secure access to energy from abroad to satisfy rising import demand. These goals, coupled with the pressing need to build physical infrastructure, will be difficult to achieve without private foreign investment and technology.

Securing finance and investment to modernise the energy infrastructure is clearly a central priority for the Chinese government. Although the energy sector is still dominated by state-owned enterprises (SOEs), foreign investor participation is being encouraged with the aim of expanding infrastructure and introducing new technology. The government has recognised the importance of liberalisation and openness to FDI as demonstrated by growing Chinese joint ventures with multinational corporations such as Shell, BP Amoco, Enron and invitations to foreign investors to participate in international initial public offerings (IPOs) of PetroChina, CNOOC and SINOPEC. These measures are designed to attract the capital and management expertise to transform inefficient state-dominated economies, while easing the burden of this transformation on the public budget.

Before 1990, no effort was made to attract foreign investors to China's public utilities and energy sector. This was in contrast to the rest of the China's economy, which has become the world's second largest destination for direct investment inflows since reforms began more than two decades ago. Official hesitation to open the sector manifested itself in heavy state intervention, long and complicated approval processes and the lack of an institutional and legal framework comfortable for investors. The investors continue to criticise this lack, especially the ambiguous separation of institutional responsibilities between the central and lower-level governments. Permission to invest still requires approval from both the government authorities and the SOEs involved; the SOEs can face a clear conflict of interest as they seek to protect their own market positions. The partial moves towards market pricing also are problematic.

Nevertheless, the situation clearly has improved since 1990. Chinese authorities have overcome much of their reluctance to accept a foreign presence in the sector considered "strategic". Recent energy-market reforms, expanded capital markets, the deregulation that has occurred and state-sponsored initiatives have all spurred both FDI and foreign portfolio financing in China's energy sector. The SOEs themselves participate in and seek ventures with foreign investors much more frequently than before. Yet, the pace of foreign energy investment, especially in relation to China's needs, still does not match its buoyancy elsewhere in the economy, but much change has occurred. Much more must occur if China

wishes to meet the financing and technology requirements of its domestic energy investment targets.

China's state-controlled oil industry began to selectively open to foreign investment since 1982, first on offshore oil exploration in the East China Sea and the South China Sea, and later in the Tarim Basin. Chinese officials have had high hopes that the Tarim Basin would become their version of Kuwait, and estimated Tarim oil and gas reserves as high as 150 billion barrels of oil⁶. A number of exploration blocks in Tarim were given to Western and Japanese investors, but thus far, they have produced only less than 9 percent of the total Chinese production. While Tarim may have large potential reserves, the terrain is hostile: oil is in deep wells and isolated, hard to extract. Moreover the lack of infrastructure requires investment in roads and telecommunications to develop any oil resources, and nearly 4,000-km long pipelines to get it to markets.

Similarly, despite extensive exploration by Western firms in the East and South China Seas, only small pockets of oil have been found, many not commercially exploitable. One focus of current exploration activity is the Bohai Sea area off the coast of Tianjin, which may have more than 1.5 billion barrels of reserves. While modest new offshore finds are probable in the future, they will have little impact on Chinese oil balance. It is frequently reported (and widely assumed) that territorial disputes between China and six ASEAN states over the Spratly islands in the South China Sea, as well as the Sino-Japanese dispute over the uninhabited Senkaku/Diaoyutai islands in the East China Sea revolve largely around massive oil and gas resources.

In petroleum exploration and development, the Chinese government permits foreign companies to operate only in specific regions approved by the State Council in conjunction with CNPC, which has exclusive charge of the activities. Policy favours the central and western regions with concrete improvements in their investment climate, including recent removal of mandatory export performance requirements, so that foreigners may now sell their energy products without hindrance in the domestic market. CNPC has signed 48 exploration and production contracts with foreign companies. These contracts have lured actual foreign investment of around US\$580 million out of a contracted US\$1.12 billion as of end-1999, in concessions with a total area of over 25,000 square kilometres.

In *downstream operations*—refining and petrochemicals—the focus is shifting from CNPC to SINOPEC and CNOOC as the chief deal-makers with foreign investors, although CNPC is not absent from these businesses. SINOPEC is upgrading existing refineries (foreigners are welcome), and has allowed Total of France to finish its new Dalian refinery, with projected production of 100,000 b/d. Plans for several foreign and joint-venture refinery projects linked with SINOPEC, however, have gone on ice.

Shell was and is the first and biggest foreign investor in China's energy scene. In early 1998, Shell Chemicals and CNOOC signed a framework agreement for the next phase of a US\$4.5 billion joint-venture petrochemical complex—the largest of its type in China—in Guangdong Province. The project has a complex history, illustrative of the long lead times of such investments. Project conception goes back to the late 1980s; China approved its registration in 1991; the feasibility study came forth in 1994, for a combined refinery and petrochemical complex. In 1997 the partners (Shell and CNOOC holding 50 % and 40 %, respectively) submitted an amendment to the SDPC that proposed constructing the petrochemicals complex before the refinery. The joint venture's physical operations would begin in 2003⁷.

6 However, the highest-end estimate of potential reserves in Tarim cited by the IEA is 80 billion barrels.

7 Shell has other ventures as well. They include a petrochemical plant in Hainan; a possible pipeline between Guangzhou and Hainan; a lubricant blender under construction in Zhejiang's Zhapu port; and

Consistent with the policy of many Middle East oil exporters to invest in downstream facilities of their customers in exchange for long-term import contracts, Saudi Aramco plans a US\$1.5 billion deal to invest in and supply oil to joint venture refineries in China that would both sell output both domestically and as exports. Currently, Saudi Aramco's negotiations centre on expanding and upgrading the Thalin refinery at Qindao in Shandong Province as well as allowing for some Saudi presence at the Maoming refinery in Guangdong⁸.

China's offshore oil production development has depended from the start on heavy participation of foreign companies in exploration and development. In fact, the offshore sub-sector offers the notable exception to China's reluctance until the present decade to open its territory to international investment. China opened the South China Sea to foreign firms in 1980 and the East China Sea (including Bohai Bay) in 1992. CNOOC has tried hard to adopt standard international investment practices, and it has benefited greatly from an array of joint-venture operations. As a result, offshore work has gained a much higher profile, as the older onshore fields demand ever-increasing effort to maintain production, and as the Tarim basin has still uncertain prospects.

To date, CNOOC has signed about 126 contracts and agreements with 67 companies from 18 countries and areas. They involve US\$5.38 billion in foreign capital, some 58 percent of the total investment in offshore oil exploration and development. The situation continues to evolve, and reports of new ventures appear regularly in the trade press. Meanwhile, the joint statement issued by China and Vietnam in early March 1999 provided a boost to oil and gas development in the Beibu Gulf by the two neighbouring countries⁹. Both sides agreed to resolve the existing border and territorial issues and plan to resolve the issue of the demarcation of the Beibu Gulf before the end of 2000.

The development of a large *natural gas industry* requires the participation of a large number of industrial players. Each is required to make substantial investments. The potential risks and rewards associated with their investments must be clarified by the national and local gas policies, and supported by the relevant institutional structure. The most important question facing the upstream investors (exploration, development and high-pressure transport) is whether the wholesaler or large customer has the ability to pay for the gas supply for a period of ten to twenty years. In a simple linear market with one supplier and one major consumer linked by a pipe (or a LNG tanker) the credit rating of the buyer is relatively easy to establish. In a large country such as China, where a nation-wide gas market may emerge, which is to some extent integrated with overseas markets and where substantial resources of alternative forms of energy exist, this question assumes a far greater importance.

Another fundamental issue is how natural gas will be priced at the wholesale and retail levels, and how transit tariffs will be established and regulated. Natural gas in China will be in three types of competition: with "dirty" fuels such as coal and oil; with other "clean" fuels such as renewable energy and LPG; and between imported and domestically-produced gas. The nature of this competition will vary across the country. Substantial investments in natural gas production or transportation are unlikely to proceed until the ground rules for these different forms of competition are clarified; and the system for the pricing of gas is crucial. The incentives must not only be clear, but they must be broadly the same for all players; or failing

a recently agreed petrochemical joint venture with a SINOPEC company in Nanjing, Jiangsu Province, to which Shell will bring advanced technology and in which it will hold 60 percent of the equity.

8 As China continues to import increasing quantities of Middle Eastern crude oil, it must modify and upgrade its refineries to deal with it. This falls under refinery investments, which involves joint ventures with its Middle Eastern crude oil suppliers.

9 *China Daily*, 7 March 1999, Xiao Zhao, p.1.

this, the competitive part of the market must be protected from encroachment by the monopolist¹⁰.

FDI in China's gas sector is increasing, particularly in exploration and production, LNG receiving terminal construction, domestic and cross-border pipelines and gas-fired power plans.¹¹ Enron is operating a gas-fired plant in Hainan Island. Chevron has expressed interest in natural gas exploration and production efforts in Bohai Bay, the South China Sea and Shengli Basin¹². The largest foreign participant in China's onshore gas sector is Shell. In September 1999, Shell signed a US\$3 billion contract with CNPC to jointly explore and develop gas resources in Ordos basin. In 1999, Enron and CNPC undertook a separate plan to build a 503-km pipeline to move 3bcm a year of gas from Sichuan to Hubei province. Enron took a 45 percent share of the 1.9-bn Yuan project, expected to be completed in 2000. Further proposals have been made to pipe gas from Russia's Sakhalin region to Beijing and other Northeastern Chinese industrial centres.

Early this year, CNPC signed a natural gas exploration contract with Italian Oil Company Agip¹³, allowing Agip to be the sole operator of a 7,000-square-kilometer onshore concession block in Qinghai province. The block has a possible reserve of 500 bcm of natural gas. If the field turns commercial, CNPC has the right to become a joint developer holding up to 51 percent. Any eventual gas production would most probably be piped to east China through a 950-km pipeline from Qaidam to Lanzhou, which CNPC will start building this year.

IPOs to Bring Foreign Finance to Petroleum Companies

Chinese reform passed a milestone when its petroleum companies were allowed to offer stocks to international equity investors in Hong Kong, London and New York in search for additional foreign finance. China has accepted being subjected to the high standards of international capital markets, including requirements that investment bankers research their financial records under strict guidelines.

While some Chinese enterprises already have successfully secured public listings abroad, including on stock exchanges in Hong Kong, the US, Singapore, Canada and the UK¹⁴, only six Chinese companies made it to the Fortune 500 list in 1999. They won admission not because of their performance, but mainly because of the size of their employees. According to the Chinese government's own figures, the average assets and sales of the country's top 500 companies are 0.9 percent and 1.7 percent respectively of those of the average *Fortune* 500 company. In 1998 China's top 100 firms had overseas investments of a mere US\$2.6 billion.

Anxious to raise capital for its oil and gas industries, China is pushing forward its plans to launch initial public offerings (IPOs) of shares in its national petroleum companies. The first attempt took place in October 1999 with the launch of an IPO for CNOOC, the most

10 Policy, Institutional and Regulatory Requirements for the Development of a Natural Gas Market In China, Philip Andrews-Speed and Stephen Dow, University of Dundee, IEA-China Natural Gas Conference, November 1999, Beijing.

11 Kalicki, Jan, Counselor to the Department of Commerce, "Regional Energy Development & Transportation: the Commercial Dimension", presented a US/China Oil and Gas Industry Forum, sponsored by US DOE November 2-4, 1998.

12 "China-Foreign funds flow into natural gas", China Daily, June 6, 1999.

13 China CNPC To Sign Exploration Contract with AGIP, Singapore, February 24, 2000, [Reuters](#).

14 "China: The Favourite Asian Destination of Foreign Investors", Express China News, Issue No: 96-10, October 1996.

sophisticated and market-oriented of China's energy companies. The offer had to be quickly cancelled, partly because the markets were jittery and partly because the price had been set too high¹⁵. There were also questions over CNOOC's reported intentions to use part of the funds raised to pay off retiring and redundant employees. Whatever the real reasons, the withdrawal of the CNOOC IPO has raised questions over the IPOs planned for the much larger CNPC and Sinopec.

PetroChina was created as a joint stock company in November 1999 and holds most of CNPC's assets, liabilities and interests in domestic exploration and production, refining and marketing, chemicals and natural gas businesses. PetroChina operates 29 refineries throughout China, 17 chemical plants. The company also owns and operates about 11,100-km of pipelines, most of which are used for natural gas. It had about 480,000 employees as of September 1999¹⁶. PetroChina's capital expenditure plans include the construction of eight natural gas pipelines, many in central China but also feed Shanghai and Beijing. PetroChina offered its shares in the New York and Hong Kong Stock Exchanges in early April 2000¹⁷ in the hope of raising as much as US\$5 billion¹⁸. After the dust settles, Sinopec, the second largest oil company, also is preparing to go public, perhaps in the second quarter of this year. The vehicle, China Petrochemical Co Ltd., will be fully integrated, with business ranging from oil exploration and refining to the production and marketing of oil and petrochemical products¹⁹.

These IPOs are aimed at easing financial constraints for new investments²⁰ and promoting reform process. Ironically, the potential success of the IPOs relies, in large measure, on a perception by foreign investors that substantial further reform is unlikely in the short term. Regardless of their success, the important point is that they are looking to the market rather than China's state-owned banks to finance future operations. CNPC, Sinopec and to a lesser extent, CNOOC are currently working hard to reach commercial viability. The combination of financial pressure from the reforms and new competitive pressures after China's entry into the WTO may put to the test their ability to become competitive multinationals over the coming decade.

15 CNOOC dropped the offer price by one-third to \$18 a share and still found no takers. Yet CNOOC plans to refloat a smaller issue (about \$1 billion) in 2000.

16 SINOPEC Global Stock Offer Gets Ready to Boil, Shanghai, 28 February 2000, [Reuters](#).

17 China International Capital Corporation and Goldman Sachs Asia LLC are the joint global coordinators and bookrunners. Bear, Stearns & Co. Inc., Credit Suisse First Boston and Donaldson, Lufkin & Jenrette are other underwriters for the IPO.

18 PetroChina Files for U.S. IPO, 29 February 2000, [Reuters](#).

19 The other nine companies formerly under Sinopec, which were transferred to the vehicle, list shares for domestic investors on the Shanghai or Shenzhen stock exchanges. The Shanghai-listed companies are Hubei Xinghua Co and Qilu Petrochemical Co. The Shenzhen-listed firms are Wuhan Phoenix Co, Shengli Oil Field Daming Group Co, Shijiazhuang Petrochemical Co, Shandong Taishan Petrochemical Co, Wuhan Petroleum (Group) Co, Yangzi Petrochemical Co and Zhongyuan Petroleum Co.

20 One should note that China has excess domestic savings that can be channelled to infrastructure investments if attracted wisely by secure high rates of return. The gross domestic savings rate hovers around 40 percent since 1993. Reflecting this large amount of savings is the \$750 billion of household saving deposits in the banking system, which continues to grow.

China's Investments in Foreign Energy

With its entry into the volatile global energy bazaar as an importer, China quickly learned the hazards of relying solely on purchase policies in open markets. In May 1997, former Premier Li Peng blessed Chinese involvement in the exploration and development of international oil and gas resources and tied such projects specifically to the objective of securing stable, long-term supplies of oil and gas²¹. CNPC's overseas investment forays include, so far, several Middle Eastern countries, plus Argentina, Bangladesh, Canada, Colombia, Ecuador, Indonesia, Kazakhstan, Malaysia, Mexico, Mongolia, Nigeria, Pakistan, Papua New Guinea, Peru, Russia, Iran, Sudan, Thailand, Turkmenistan, Venezuela and the US. CNOOC has investments in Indonesia and the Gulf of Mexico, and plans new ventures in the Middle East (especially Iran), Central Asia, Myanmar and other parts of Asia.

By the end of 1997, CNPC had pledged more than US\$8 billion for oil concessions in Sudan, Venezuela, Iraq and Kazakhstan, plus another US\$12.5 billion to lay four immense (but still far from real) oil and gas pipelines from Russia and Central Asia to China. The oil projects in Iraq, Kazakhstan, Sudan and Venezuela are large-scale.

Clearly, geopolitics is also a factor in China's overseas oil and gas activities, particularly in the Middle East and former Soviet Union. Beijing is very sensitive about the stability of Xinjiang province, where the ethnic Turkic Uyghur minority has been increasingly restive. CNPC's entry into Kazakhstan laid down a marker of some importance in Central Asia, where Chinese presence had previously been minimal. The solid parts of this activity involve an investment of US\$4.3 billion over 20 years in Kazakhstan's state-owned Aktyubinsk oil company, plus a 60 % stake, worth US\$1.3 billion to be invested through 2002, in a joint venture with the Kazakh firm Uzenmunigas, to develop the Uzen field on the east Caspian Sea coast. Uzen is estimated to hold 130-200 Mt of oil, with near-term production at 8 Mt per year through 2002²².

Under a separate 1997 oil-swap deal with Iran, Uzen oil produced by CNPC will move across the Caspian and to a refinery near Teheran, with China receiving an equivalent amount of Iranian crude exported from Iran's Gulf coast. Beyond that, two pipelines would carry oil and gas eastward into Xinjiang. The 3,000-km oil line would connect Kazakhstan's western producing regions with refineries in its north and south, then extend into western China. The extension would make little sense unless CNPC can use it to revive official interest in a long, internal pipeline from Tarim to the markets in central and eastern China. The gas line (5,800 km from eastern Turkmenistan through China) faces similar objections and represents an even more distant prospect. The Chinese enthusiasm for the "Energy Silk Road" seems to have cooled down recently, with the realisation that this project would be uneconomical, at least in present circumstances.

Meanwhile, Moscow and Beijing have negotiated a number of joint energy projects including a nuclear power plant, natural gas and oil pipelines from Siberia. High grade East Siberian oil may soon be transported to the Transneft trunkline via a planned pipeline system to be completed in a three stage process, ultimately delivering 170 million barrels of oil to China per year from 2004. Although the exact route of the pipeline has yet to be decided, and shorter routes exist, the Chinese favour a longer, 4,000-km route to circumvent both Mongolia and the seismically active Lake Baikal region. Completion of the pipeline from Eastern Siberia to Beijing is scheduled for 2004.

21 According to official statistics, CNPC's overseas projects produced a total of 3.25 Mt of crude oil and 852 mcm of natural gas in 1998. CNPC obtained 1.89 Mt of crude oil and 501 mcm of natural gas as its share of total production, generating \$117 million of sales revenue. At the end of 1998, CNPC's overseas projects had acquired a total of 601 Mt of recoverable reserves, of which CNPC's share totaled 400 Mt.

22 To get the deal, then Premier Li Peng competed with Vice President Al Gore in lobbying the Kazakhs. In addition, to close the deal, China agreed to build a pipeline from western Kazakhstan to its Xinjiang province (estimated cost: \$4.5 billion) and a shorter pipeline from Kazakhstan to Iran. One impetus for this shopping spree appears to have been a need to spend the cash or have it returned to Beijing's government coffers.

FDI in China's "Go West" Strategy

The "Grand Western Development" Project encompasses two million square miles and 300 million people spread across eleven provinces and autonomous regions: Guangxi Zhuang, Xinjiang Uyghur, Ningxia Muslim, Tibet Autonomous Regions, and Yunnan, Sichuan, Shaanxi, Guizhou, Gansu, and Qinghai provinces, as well as Chongqing Municipality in the west. President Jiang declared the development plan crucial to China's stability and development/ According to government sources, the so-called China's second opening to the outside world calls for building 35,000 kilometres of new roads, including a Sichuan-to-Guangxi expressway, and 4,000 kilometres of new railway over the next decade. The project also includes construction of a US\$14 bn pipeline linking Xinjiang's natural gas fields to Shanghai.

The government was expected to provide US\$45.5 bn in 2000 to develop the West, US\$8.4 billion from Treasury bond to boost infrastructure and US\$37.1 bn in subsidies for local governments. At the same time, a large part of the central government's efforts lies in cajoling better-off provinces, and state banks, to help with its western plans. Chinese domestic banks have been asked to ensure that much of their portfolios also go to borrowers in the hinterland. The Industrial and Commercial Bank of China, one of the four first tier banks in China, has already responded by increasing the proportion of its loans to western provinces. However, domestic finance and technology will not suffice to undertake such a colossal task. Foreign investors and even banks are now actively being courted.

Of the more than US\$400 bn in foreign direct investment that China has drawn since 1978, only a small proportion had gone into the west. With the western development plan, the government is now offering low taxes and land-use fees to lure Chinese and foreign companies that invest. The government also said that it would set up four western special economic zones that will give investors the same preferential treatment, as do similar zones on the coast. After China's WTO accession and trade barriers have begun to fall, however, such zones may not have as much appeal as when China's economy was more closed.

The major petroleum fields in Northeast China have seen zero percent growth since 1985 despite the continuous addition of new wells. Recently, the Chinese have begun to develop potential oil resources in the western region, specifically a basin the size of France called Tarim. However, despite Chinese optimism, the production potential of the region is unproven. In 2001 the Tarim basin was expected to more than double its petroleum output, but still contribute less than 3 percent to the national petroleum production total. Even China's small offshore industry can produce almost double the Tarim amount.

The Chinese authorities have given CNPC the go-ahead to offer to foreign investors at least 20 new petroleum blocks in the country's petroleum-rich provinces²³, including unexplored and producing areas in the Tarim and Turpan-Hami basins in Xinjiang, Qaidam Basin in Qinghai province and Erdos Basin in Shaanxi Province. Blocks would also be offered in currently producing basins in the Northeast, which accounts for nearly two thirds of CNPC's oil production. These new concessions might offer better prospects for success. Moreover, the corporate tax on oil and gas companies operating in central and western China has been cut to 15 percent, effective 1 January 2000, from 33 percent. The tax cut was one of a number of government incentives to draw more investment to these regions in the next five years. For high-cost commercial discoveries, China also contemplates taking a 25 to 35 percent stake in joint development, rather than the 51 percent set by previous contracts.

The State Council also has approved the construction of the country's biggest natural gas pipeline at an estimated cost of more than US\$40 bn. The project is next only to the Three

23 China's CNPC To Offer New Oil, Gas Blocks In 2000 , Beijing, Feb 28, 2000, [Reuters](#)

Gorges Project in scale. Premier Zhu Rongji says that foreign companies and investors are welcome to cooperate or co-invest in this project. CNPC has finalized the routing of the 4,212-km pipeline linking the Tarim basin in Xinjiang to Shanghai through 15 major cities. Recent prospecting indicates that the natural gas reserves in the Tarim basin reach 8.39 trillion cubic meters and the geological reserves accumulate 494.1 billion cubic meters (bcm). Twelve billion cubic meters of gas can be transferred to the Yangtze River delta area and along the pipeline area every year and the supply should remain steady for 30 years. The Yangtze River delta area is suffering from a resource shortage and market demand for high quality clean natural gas is high.

The pipeline starts from the west and goes east, passing through nine provinces, Xinjiang, Gansu, Ningxia, Shaanxi, Shanxi, Henan, Anhui, Jiangsu and Shanghai²⁴. There is an estimated eight to ten years of return terms and a 12 % rate of return. The pipeline, when completed by 2007, will have a design capacity of 20 bcm a year²⁵. The whole project of transferring gas from western China to eastern China, as a symbol of China's western development, will be available to foreign investors. Foreign investors will enjoy incentives, can hold a majority of shares and can be involved in municipal natural gas network construction²⁶.

According to the State Development Planning Commission, foreign investors are fully able to cooperate with the Chinese in this gas transfer project. Its pipeline construction as well as construction and renovation of the lower reaches of the municipal pipeline network can be done and operated by foreign investors. The gas transfer project is not a wholly state-owned project. Foreign investors can also hold a majority of shares and are not limited in how much they can invest. Finally, there is no limitation on what form the co-operation should take. Equity joint venture, contractual joint venture or other forms of co-operation are all acceptable.

The existing Chinese policy states that the Chinese must hold the majority of shares in a joint venture or have the dominant position in pipeline construction and operation involved in the development of strategic resources, e.g. petroleum and natural gas. In addition, municipal gas pipeline construction is listed in the fourth project category, prohibited projects for foreign investment, in the current Catalogue for the Guidance of Foreign Investment Industries. Thus, the changes made to the above two policies embody the Chinese government's determination to continue opening up in accordance with the WTO requirements.

The construction of the trans-China gas pipeline will not only improve the energy source composition in the east, but will also give a strong impetus to the development of related industries. The latent development potential of steel, cement, civil engineering and installation, and machine building and electronics industries alongside the pipeline will be activated and a new economic growth belt will emerge. Gas from the west will also be able to supply fuel to 850 million households in the east, which will spur the development of the local mechanical engineering industry and the civil engineering and installation industry. At present, in Shanghai, Jiangsu and Zhejiang alone, there are 170 million households that use gas in daily life. In the next ten years, the number of gas-using households will be increased

24 The gas transfer project construction is divided into two phases. The first phase will begin construction of a pipeline from Jingbian, Shanxi to Shanghai, in 2001 and will complete gas transfer in 2003. The second phase will begin construction of a pipeline starting from Tarim to Jingbian in 2002 and will connect to the first phase pipeline in 2004. Annual gas supply capability is required to reach 12 billion cubic meters by 2005.

25 CEDIGAZ News Report no: 12, 23 March 2000.

26 China's Gas Transfer Project is Open to Foreign Investors, Zhong Qing, in www.ultraChina.com, 8 April 2000.

to 340 million and the emergence of a mechanical equipment market and civil engineering and installation market worth RMB 80 billion²⁷.

The New Institutional Setting and Policies in China's Energy Sector

If China is to realise its ambitious energy plans with support from foreign investors, it needs to transform its energy sector management both in government and industries. This process gained momentum after the March 1998 reforms,²⁸ when the government announced a re-organisation and streamlining of government, and the restructuring of certain state energy companies. By this move, it appears – at least on paper -- that the Beijing government has wrested management of different parts of the energy system from competing ministries and agencies. However, one objective—to introduce competition by separating the commercial operators from the policy makers and regulators—as yet shows few signs of being realised. Characteristics typical of “command and control” systems still dominate the energy sector, despite serious moves towards more market-based practices.

In broad terms, China's reforms have meant significant decentralisation of authority, with provincial and local governments assuming more financial responsibility -- for unemployment, education, healthcare, pensions and other social services. This has generally meant more fiscal responsibility and autonomy for local authorities, as well as less tax receipts sent to Beijing. Not infrequently, it has meant competition between different levels of government. Three trends lock in the trajectory of reform: the construction of dense networks of contractual and ownership ties between Chinese enterprises to internalise both market costs and political risks; a withering away of the central government's capacity to monitor the gradual privatisation of Chinese companies; and the rising economic authority of fiscally autonomous local governments that compete with each other to provide market environments suitable for investment²⁹.

In the energy sector, policy direction, i.e., degree of foreign involvement and major national infrastructure investments, generally emanates from Beijing, as does final approval on other key decisions -- with the People's Liberation Army and Politburo weighing in with national security considerations. But energy decisions are the result of an inter-active process, or less charitably, of case-by-case, closed-door bargaining process between various levels of authority. This process frequently is pushed from the bottom up, at the local and provincial level, seeking approval at the national level, with numerous actors in the process including local firms, subsidiaries of larger SOEs. Not infrequently, decisions made in localities or provinces distant from Beijing are made that are contrary to existing policies, or create *de facto* new policies that are only later formalised by the political hierarchy.

27 See for further details www.ultrachina.com/english/doc.cfm?OID=197

28 Gas Matters, November 1999, p4

29 See Steven W. Lewis, "Privatizing China's Oil Companies, " Working Paper of Baker Institute, Rice University study on China and Ling-Range Energy Security, April 1999.

Multilateral Links in Internationalisation of China's Energy

The process of restructuring china's energy SOEs has not been painless. But there is more to come in the post-WTO period. China is aware of the need to overhaul its energy industries before dropping tariffs and opening up to potentially less expensive imports. WTO membership will, in the long term, have positive effects on China's economy by promoting transparency, helping to create a "rule-based" economy, and strengthening the confidence of foreign investors. It will also open up the energy sector to greater foreign investment.

Under WTO rules, China will lift restrictions on petroleum distribution, including wholesale, direct supply, retail³⁰, maintenance and transportation. Also, tariff cuts would require Chinese companies to reduce production costs for their products to compete with imports. Oil market opening is likely to be limited and gradual. Tariff cuts mean that Chinese companies will have to reduce production costs for their products to compete with imports. Current trade barriers include a quota system for certain oil products, state import monopoly of crude, oil products and fertilisers.

Within the timeframe for lifting the import quotas, China will increase the quota by 15 percent a year on top of the volume of the initial year. The timetable for lifting quotas is 2004 for oil products. China retains its import monopoly on crude, oil products and fertilisers. No elimination timetable is set for that yet.

The key to a free-competing market is quality and cost-effectiveness. In both aspects Chinese oil monopolies have already begun streamlining their corporate structure, racing against each other in launching IPOs for capital injection and patching up their incomplete sales network. Although both CNPC and SINOPEC ask for state protection from foreign competitors (i.e. through quality specifications, import-export monopoly, complicated import procedures, government purchase, strict import qualification system, etc), competition will sooner or later arrive as a result of WTO entry and broader globalisation process.

China's membership in the APEC is another component of its increasing internationalisation. Apart from APEC's goal of free and open trade and investment in the region by 2020, key APEC recommendations such as those related to natural gas and electricity have the potential to significantly facilitate energy investment and trade in the region. Much of China's energy industries' future therefore depends on whether or not they can adapt to new international rules of play within the next 3-4 years of transition period.

Conclusions

The reform in China's petroleum sector requires a strong legal and institutional framework in order to minimize conflicts of interest, to promote transparency of decision-making, to reduce the chances for collusion and to prevent the abuse of monopoly power. This type of framework not only provides a basis for industrial reform, it also enhances the probability that any mistakes made during the restructuring of the SOEs can be corrected. The restructuring of a state-dominated energy industry and the introduction of market principles requires a well-defined vision, decisive government and a clear allocation of government tasks.

China's increasing internationalisation is forcing its leaders to address major issues confronting developed and developing countries alike: how to cope with strengthening global competition, rapidly changing technology, blurred economic borders and controls, and increasingly demanding international responsibilities and obligations. China's response to these challenges will undoubtedly have a major impact on the performance of its energy industries in the 21st century. It is also evident that the country's vast size, its poverty, and its legacy of a command economy should be borne in mind in guessing how swiftly and how smoothly free markets and reforms can be introduced to the energy sector—and how the interests of the central government and the varied periphery can be reconciled.

The Chinese government has already taken steps in the right direction. The five-year plan (2001-2005) provides further precision to government departments, energy industries and foreign investors. The plan stipulates a greater role for foreign investment, particularly in the less developed Western regions, to play in providing China's rapidly growing economy with sustainable, cleaner and secure energies. The country's steady foreign investment policy liberalisation over the past two decades augurs well for continued FDI inflows to the energy sector, particularly to the petroleum and power industries.

At this juncture, China does not need to introduce a special foreign investment policy for energy. Rather, it needs an effective and comprehensive national energy policy, which is based on a reliance on market forces and which embrace a broader set of policies including competition, taxation, environment, good public governance, and regional development goals. Such a policy will by itself help attract greater inflows of foreign direct investment and help China to cope with its increasingly difficult energy challenges at national and regional levels.