China’s growing dependency on foreign energy is both a theoretical and a practical challenge for China’s energy planners. From a theoretical perspective, reliance on imported oil arguably violates the Maoist doctrine of self-reliance (zili gengsheng), the guiding principle for economic development in the 1960s and 1970s. Self-reliance does not mean “total independence,” but rather refers to the ability to “keep the initiative in one’s own hands.” Applied to the energy sector, self-reliance implies ultimate control by the government over the domestic energy system.

Self-reliance in oil became the primary objective of energy policy after the Sino-Soviet split in 1960 and the withdrawal of Soviet advisers from China’s oil sector. Soviet advisers played a principal role in Chinese energy development in the 1950s, and their abrupt departure delayed and in some cases seriously damaged the large-scale projects they had been overseeing. Furthermore, China, dependent on the Soviet Union for more than 50 percent of its critical refined oil products, out of necessity continued to import those products from the Soviet Union following the split. The loss of Soviet assistance combined with the Great Leap Forward–induced economic collapse created energy supply shortages. China’s leaders blamed the entire crisis on the Soviet Union and called for an accelerated effort to be-

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China’s Quest for Energy Security

China’s recent shift from an oil exporter to an oil importer has renewed concerns within China about energy security. Forty years ago, the Chinese government was worried about China’s dependence on foreign oil, but at that time a clear solution to China’s foreign energy dependency existed—the development of domestic resources. Barring the unlikely discovery of substantial new reserves, this option is no longer available to China. The reality of increasing oil imports has prompted fears to resurface about dependence on foreign oil. Oil is no longer a source of international political influence for Beijing, but rather a source of vulnerability that could subject China to unwanted foreign pressures. As a result, a debate about the future direction of China’s oil policy has been raging within the State Council for many years. China’s leaders have been divided over whether China should increase the development of domestic re-

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3 Woodward, pp. 32–33, 50–53.
serves and resist a return to dependence on foreign oil or explore for oil abroad.\textsuperscript{6} Both sides of this debate are reflected in China’s efforts to ensure energy security in general, and oil security in particular. These efforts include investment in overseas oil exploration and development projects, discussions about the feasibility of several transnational oil and gas pipelines, plans to establish a strategic petroleum reserve, construction of refineries capable of handling crude oil from the Middle East, development of the natural gas industry, and the gradual opening of onshore areas to foreign companies for exploration and development.

**INVESTMENT IN OVERSEAS OIL PROJECTS**

To improve China’s energy security, the country’s state-owned oil companies are investing in overseas oil exploration and development projects. The decision to search for oil abroad has resulted from rising oil consumption, declining production, and the failure to make major new discoveries. Another factor contributing to overseas expansion is the peculiar structure of China’s oil industry.

During the 1980s, the Chinese government created three large oil companies, each in charge of an industry sector. The China National Offshore Oil Corporation (CNOOC), founded in 1982, controlled most of the offshore oil business. The China National Petrochemical Corporation (Sinopec), established in 1983, was responsible for refining and marketing. The China National Petroleum Corporation (CNPC), created from the Ministry of Petroleum Industry in 1988, was responsible for exploration and production onshore and in the shallow offshore areas.\textsuperscript{7}


\textsuperscript{7}In 1998, the Chinese government reorganized CNPC and Sinopec to create two vertically integrated oil companies. CNPC transferred some of its oil fields to Sinopec, and Sinopec transferred some of its refineries to CNPC. However, CNPC is still China’s dominant upstream oil company and Sinopec is still China’s dominant downstream company. For information about this reorganization, see Katherine Stephan, “Big Gusher,” *China Trade Report*, Vol. 36, June 1998; and Fereidun Fesharaki and Kang Wu, “Revitalizing China’s Petroleum Industry through Reorganization: Will it Work?” *Oil & Gas Journal*, 10 August 1998.
Division of the oil industry along sectoral lines prompted internal competition between the companies for state funding and for the prices of crude oil, refined products, and petrochemicals. The Chinese government maintained a two-tiered pricing system that required CNPC to sell most of its oil to Sinopec and other industrial consumers at a state-controlled (first-tier) price that was a fraction of the open-market price. This practice left CNPC with limited funds for investment in exploration activities. As a result, domestic production stagnated and imports soared.\(^8\)

In 1933, the Chinese government responded to this situation by gradually relaxing oil price controls to provide more money to CNPC for oil-field development. The first-tier price for crude increased in 1996 and 1997,\(^9\) resulting in enormous windfall profits for CNPC. The value of CNPC’s total output reportedly tripled from about $6 billion in 1993 to about $21 billion in 1997.\(^10\) CNPC officials knew that if they did not invest this money quickly, it would be confiscated by the central government. The company was initially divided about whether to invest domestically or overseas. However, uncertainty about prospects for domestic development, the ready availability of oil abroad, and the appointment of the internationally minded Zhou Yongkang as the company’s president in 1996 prompted CNPC to invest overseas.\(^11\)

The Chinese government supported CNPC’s involvement in international exploration and development. Although the company’s autonomy has increased over the years, China’s Communist Party and state leadership still choose the company’s top management and have a direct say in how the company operates. Furthermore, China’s fragmented, bureaucratic authority structure requires the enthusiastic support of at least one top leader for large projects to be approved.\(^12\)

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\(^8\)Christoffersen, p. 12.
\(^9\)Christoffersen, pp. 13–14.
CNPC began investing abroad in the early 1990s. The company's initial overseas activities were designed to minimize risk, largely because of their limited funds and lack of experience in overseas exploration and production. It focused on small projects such as enhanced oil recovery from older fields and purchases of shares and operating rights in targeted blocks. CNPC purchased reserves in Canada in 1992, signed a production-sharing contract in Thailand, successfully bid to improve oil recovery at a Peruvian field in 1993, and signed an agreement to explore oil in central Papua New Guinea in 1994.\textsuperscript{13} CNOOC also undertook its first overseas investment in Indonesia in 1993. The company acquired a 32.58 percent interest in a block in the Straits of Malacca through the purchase of shares from Arco. CNOOC purchased an additional 6.93 percent interest in 1995 to become the majority shareholder.\textsuperscript{14}

Although these early investments did not substantially change China's oil supply situation, they did expose China to the international oil business, paving the way for larger future investments. In 1997, CNPC pledged over $8 billion for oil concessions in Kazakhstan, Venezuela, Iraq, and Sudan. The high bids offered by CNPC for the fields in Kazakhstan and Venezuela and the company's exploitation of politically favorable circumstances to win deals in Iraq and Sudan highlighted the Chinese government's growing concern about energy security.

In June 1997, CNPC acquired a 60 percent share in Kazakhstan's Aktyubinskmanagaz Production Association, which controls three large oil fields in northwestern Kazakhstan (Zhanazhol, Kenkiyak One, and Kenkiyak Two) with combined recoverable reserves of 1 bb. CNPC pledged to invest $4.3 billion over a 20-year period, including $585 million between 1998 and 2003.\textsuperscript{15} The company also agreed to guarantee the pensions and housing of some 5000 employees, service Aktyubinskmanagaz's debts of $71 million, invest $10 million in environmental protection measures, and pay royalties to


\textsuperscript{15}“China Takes Control of Kazakhstan's Aktyubinsk,” \textit{East European Energy Report}, No. 69, 24 June 1997, p. 16.
the government of Kazakhstan. The key to CNPC’s success in beating out Texaco, Amoco, and Russia’s Yujnimost for the tender were two offers the other companies could not match. CNPC agreed to pay up-front a $320 million bonus to the cash-strapped Kazakh government and to conduct a feasibility study on the construction of an 1800-mile pipeline from the Aktyubinsk fields to western China, estimated to cost $3.5 billion, which would provide Kazakhstan with a non-Russian export line. In August 1999, the company shelved its plans for this pipeline, as discussed in the next section.

In September 1997, CNPC offered similar benefits to defeat a joint bid from Petronas and Unocal and another from Amoco to win a controlling interest in Uzen, Kazakhstan’s second largest oil field, with reserves of 1.5 bb. In this deal, CNPC paid an up-front bonus of $52 million in addition to an immediate investment of $400 million. Projected total investments by CNPC range from $1.3 billion to $4.38 million. CNPC also agreed to pay 8 percent of its net profits in royalties to the Kazakh government, assume Uzen’s $6 million debt, invest $10 million in training programs for oil technicians, and provide $27 million in social services. The key to CNPC’s success in this deal was its offer to invest in a pipeline from Uzen to the Aktyubinsk fields. The company reportedly also offered to invest $1.1 billion in the construction of a pipeline from Uzen to Iran via Turkmenistan, which would provide Kazakhstan with a Persian Gulf outlet for its oil. This pipeline is also unlikely to be constructed.

18Davis, p. 9.
CNPC similarly outbid larger oil companies for two marginal fields in Venezuela in June 1997. The company offered twice as much as its closest competitors, acquiring the Caracoles field for $241 million and the Intercampo unit for $118 million. Although both fields are producing only small amounts of oil, they could yield more with more advanced technology. The Caracoles field, producing 2,700 b/d at the time of purchase, has an estimated potential for 50,000 b/d. The Intercampo unit also has a substantial upside.

In its Sudanese and Iraqi deals, CNPC combined its deep pockets with political opportunism to win concessions. The U.S. congressional ban on business dealings with countries accused of supporting terrorism gave CNPC the opportunity to replace the U.S. firm Occidental Petroleum in an oil and pipeline project in Sudan. In March 1997, CNPC formally acquired a 40 percent stake in the Greater Nile Petroleum Operating Company (GNPOC) consortium to explore for oil in Sudan’s Heglig and Unity fields and construct a 940-mile pipeline from the fields to Marsa al-Bashair, a terminal located near Port Sudan on the Red Sea. CNPC’s partners in this venture are Malaysia’s state-owned company, Petronas (30 percent); the National Oil Company of Sudan (5 percent); and the Canadian firm Talisman Energy Company (25 percent). The Heglig and Unity fields could contain 8.5 bb to 12.5 bb of oil in place. The pipeline was constructed between May 1998 and May 1999, with 70 percent of the work done by the CNPC-owned China Petroleum Engineering and Construction Corporation. On 30 August 1999, the first tanker from China’s concession left Sudan with 80,000 tons of crude oil bound for the Shell Singapore refineries. China has invested over $700 million in the Sudan project to date. CNPC is also assisting in

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24Ottaway and Morgan, p. 1.


the construction of a 50,000 b/d refinery near Khartoum, which is expected to be operational by mid-2000 and will use crude from the GNPOC pipeline.\[28\]

In June 1997, a consortium of Chinese oil companies represented by CNPC and China North Industries Corporation (NORINCO), an ordnance production conglomerate and major arms sales agent, signed a 22-year production-sharing contract with Iraq to develop half of the al-Ahdab field after UN sanctions against Baghdad are lifted.\[29\] Al-Ahdab, located about 40 miles south of al-Kut in central Iraq, is the country’s second largest oil field, with estimated recoverable reserves of 1.4 bb and a peak production potential of 90,000 b/d. CNPC and NORINCO have formed a new company, al-Waha, to develop this field. Development and operational costs are expected to be around $1.3 billion. CNPC has also been negotiating for rights to develop three other Iraqi oil fields—Halfaya, Luhais, and Suba—and to explore the remote Western Desert.\[30\]

China’s state-owned oil companies have similarly sought to take advantage of U.S. sanctions against Iran. A number of projects are reportedly under review.\[31\] CNOOC is interested in several onshore projects, but no agreements have been signed.\[32\]

Chinese analysts indicate that China’s overseas oil projects are intended to enhance China’s energy security in several ways. These investments are not only meant to fill the gap between domestic oil production and consumption, but are also aimed at diversifying supply, gaining greater control over China’s foreign oil supplies, and


\[31\]Email correspondence with Chinese oil industry analyst, 8 June 2000.

insulating the Chinese economy from price hikes on the international market.

An important goal of China’s investments in overseas oil fields is to diversify China’s import channels. Diversification of energy sources and markets is a sound strategy for energy security that both the United States and Japan have pursued. According to Gu Shuzhong, director of the Economic Development Research Center of the Chinese Academy of Social Sciences, “Diversity is the foundation of stability in resource supply.” The primary objective of the supply diversification strategy is to reduce China’s dependence on the Middle East and the sea-lanes stretching from the Persian Gulf to the South China Sea. The Middle East’s share of China’s imports was 61 percent in 1998 and could increase to around 80 percent by 2010. The Chinese government recognizes that the bulk of China’s imports will continue to come from the Middle East and is concerned about supply disruptions in this politically volatile region. The establishment of viable alternative sources of supply, such as Central Asia and Russia, could reduce China’s vulnerability to embargoes or blockades of Middle Eastern oil supplies.

Some of China’s leaders also appear to believe that the purchase of overseas oil fields can improve China’s energy security by providing greater control over domestic oil resources. According to one industry analyst, some senior politburo members believe that overseas investment is a better way to ensure that China’s energy needs are met than reliance on the market alone. The greater the control Chinese

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oil companies have over overseas oil, the greater the security of supply.38 It is unclear, however, how much control China could exercise over its foreign oil concessions during a crisis.

Evidence also suggests that overseas investments are intended to improve China’s energy security by protecting it from price fluctuations. According to two Chinese analysts,

“[U]nless China invests the capital to control some oil resources, any even insignificant international economic, political, or military conflict could affect the supply and demand on the spot market, causing severe interference to our oil imports, to seriously undermine China’s economic stability and sustained development.”39

In 1997, Zhou Yongkang, then president of CNPC, stated that “overseas exploration and development is a better way for China to achieve a stable oil supply because oil price fluctuations make oil imports a high risk.”40 These statements suggest that China is not investing in overseas oil exploration and development projects to profit from hikes in international oil prices but rather to help stabilize the economy during an oil shock. In the event of another oil shock, the Chinese government will be able to pressure state-owned oil companies to forgo windfall profits from higher international oil prices by requiring them to supply Chinese industries at artificially low prices, cushioning the impact of the shock on China’s economy.41

Despite the intentions of China’s energy planners, China’s overseas oil investments (see Table 3.1) to date most likely will not enhance China’s energy security. CNPC’s foreign oil exploration and devel-

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41Wang Yan, president of CNOOC, makes a similar argument. See Zhao Yining and Pu Shurou, “Zhongguo shiyou mianlin de tiaozhan” (“The Challenges Facing China’s Oil”), Liaowang (Outlook), No. 9, 3 March 1997, p. 13.
Table 3.1
Selected Chinese International Oil Exploration and Development Projects

<table>
<thead>
<tr>
<th>Country</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>1998</td>
<td>Letter of intent signed for joint construction of a refinery in Lobito City and the purchase of crude oil.</td>
</tr>
<tr>
<td>Canada</td>
<td>1992</td>
<td>CNPC Canada purchased reserves for $6.64 million (Canadian).</td>
</tr>
<tr>
<td>Canada</td>
<td>1993</td>
<td>CNPC Canada purchased reserves for $5 million (Canadian).</td>
</tr>
<tr>
<td>Egypt</td>
<td>1998</td>
<td>The Great Wall Oil Well Drilling Company, a subsidiary of CNPC, and two Egyptian companies signed an agreement to form a joint-investment company; the Chinese side will own a 51 percent share to develop oil and natural gas.</td>
</tr>
<tr>
<td>Italy</td>
<td>1997</td>
<td>CNPC formed a joint venture with the Italian oil company Agip to develop oil fields in Central Asia and Africa.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1997</td>
<td>CNPC purchased 60 percent of Aktyubinskmlunaigaz Production Association for $4.3 billion. CNPC also agreed to assume $71 million of debt, pay $320 million in cash up front, guarantee pensions and housing for approximately 5000 employees, invest in environmental protection measures, and pay royalties to the Kazakh government. Aktyubinskmlunaigaz controls three oil fields (Zhanazhol, Kenkiyak One, and Kenkiyak Two) with estimated recoverable reserves of 1 billion barrels.</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1997</td>
<td>CNPC purchased 51 percent of Uzen field for $1.3 billion plus a promise to conduct a feasibility study on a $3.5 billion oil pipeline to China. Uzen has estimated recoverable reserves of 1.5 billion barrels.</td>
</tr>
<tr>
<td>Kuwait</td>
<td>1995</td>
<td>China Petroleum Engineering Construction Company was awarded two construction contracts for $788 million.</td>
</tr>
</tbody>
</table>
Table 3.1—continued

<table>
<thead>
<tr>
<th>Country</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1998</td>
<td>CNPC and India’s Oil and Natural Gas Corp. ONGC Videsh set up a joint venture to explore for oil in western Kazakhstan, where it has a concession.</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1993</td>
<td>China National Offshore Oil Company (CNOOC) purchased a 32.58 percent interest in an oil field in the Straits of Malacca. In 1995, an additional 6.93 percent interest was purchased.</td>
</tr>
<tr>
<td>Iraq</td>
<td>1997</td>
<td>A consortium of Chinese oil companies represented by CNPC and North China Industries Corporation signed a 22-year production-sharing contract to develop al-Ahdab field. The consortium’s share is 50 percent. The field will be developed for an estimated cost of $1.3 billion after UN sanctions are lifted. It has recoverable reserves of 1.4 billion barrels and a peak production potential of 90,000 b/d.</td>
</tr>
<tr>
<td>Mongolia</td>
<td>1998</td>
<td>China’s Haufu Industrial Company and Mongolia’s Oyuni Undraa Suuba Company signed a $29.7 million contract for oil extraction and the joint construction of a refinery in southeastern Mongolia.</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1994</td>
<td>CNPC joined a consortium with other foreign firms, including China International Trust and Investment Corporation, Marubeni, and America Garnet Resource, and won two exploration blocks offshore of Gulf Province in 1994 (Block 160) and 1995 (Block Kamusi).</td>
</tr>
<tr>
<td>Nigeria</td>
<td>1997</td>
<td>CNPC began oil exploration in the Chad Basin under an agreement with the Nigerian National Petroleum Company. In 1998, CNPC purchased two blocks—OML 64 and OML 66—in the Niger River delta.</td>
</tr>
<tr>
<td>Peru</td>
<td>1993</td>
<td>Sapet Development Corporation, a subsidiary of CNPC, bought the Talara Block for $25 million.</td>
</tr>
</tbody>
</table>
Table 3.1—continued

<table>
<thead>
<tr>
<th>Country</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sudan</td>
<td>1997</td>
<td>CNPC acquired a 40 percent stake in the Greater Nile Petroleum Operating Company consortium to explore and develop the Heglig and Unity fields, which could hold 8.5 bb to 12.5 bb of oil. A 940-mile pipeline from the fields to the Red Sea was completed in May 1999. CNPC is also assisting with the construction of a 50,000 b/d refinery near Khartoum.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1998</td>
<td>Taiwan’s Chinese Petroleum Corp. and CNOOC formally implemented a 1996 contract to explore for oil in the South China Sea.</td>
</tr>
<tr>
<td>Thailand</td>
<td>1993</td>
<td>CNPC signed a production-sharing contract to develop Sukhothai field.</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>1998</td>
<td>China Oil and Building Corporation invested $14 million to restore oil wells.</td>
</tr>
<tr>
<td>Venezuela</td>
<td>1997</td>
<td>CNPC bought two marginal fields for $359 million. It purchased a field in the Intercampo Norte with a current output of 6700 b/d for $118 million and the Caracoles Block with a current output of 2700 b/d for $241 million.</td>
</tr>
</tbody>
</table>

Opment projects are moving slowly and probably will not produce enough oil to offset China’s projected growth in oil imports over the next 20 years. Furthermore, transportation and logistical costs may well prevent most of the oil produced in China’s overseas oil fields from entering China. This oil will most likely be sold on the international market or swapped for other oil that would enter the Chinese market. In the long run, the best source of energy security for China is likely to be the development of efficient oil markets, although this idea is not yet universally accepted within the Chinese government.

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42I thank Guy Caruso for pointing out that China’s foreign oil investments will not greatly enhance China’s energy security.

The Chinese government has also sought to secure and diversify China’s energy supply through the construction of pipelines to transport oil from Kazakhstan and Russia to China (see Table 3.2). In 1996, a group of Chinese oil experts called for the construction of a “pan-Asian continental oil bridge” that would consist of a compre-

Table 3.2
Selected Oil Pipeline Projects Involving China

<table>
<thead>
<tr>
<th>Pipeline</th>
<th>Description</th>
<th>Length</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan-China</td>
<td>This pipeline will stretch from the Uzen field to the Aktyubinsk fields to</td>
<td>3000 km</td>
<td>$3.5 billion</td>
</tr>
<tr>
<td></td>
<td>the Kumkol field in central Kazakhstan to the Xinjiang autonomous region in</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>western China. In September 1997, CNPC signed an agreement to conduct a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>feasibility study. In August 1999, CNPC shelved this project, citing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>insufficient production levels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kazakhstan-Iran</td>
<td>This pipeline will head from the Uzen field through Turkmenistan and Iran</td>
<td>1000 km</td>
<td>$1 billion</td>
</tr>
<tr>
<td></td>
<td>to the Persian Gulf, from where oil will be shipped to both China and Europe.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>In September 1997, CNPC signed an agreement to build this pipeline. It</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>appears to be inactive.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia-China</td>
<td>This pipeline will transport crude from Angarsk in Siberia to China. Two</td>
<td>2400 km</td>
<td>$2 billion</td>
</tr>
<tr>
<td></td>
<td>routes are under consideration. One travels to China’s northern provinces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>via Mongolia, while the other travels to China’s northeastern provinces,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>avoiding Mongolia. The Russian oil company has proposed the formation of a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>consortium for the construction of the pipeline.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

hensive network of pipelines linking suppliers in the Middle East, Central Asia, and Russia to consumers in China and possibly Korea, Japan, and Taiwan. They argued that such a pipeline system would increase both the availability of oil on the world market and oil trade between the countries involved, possibly supplying East Asia with up to 20 percent of its oil needs.44

In 1997, CNPC’s offer to conduct a feasibility study on the construction of a 3000-km oil pipeline between Kazakhstan and China—part of its bid for development rights to Kazakh oil fields—indicated that part of this “pan-Asian oil bridge” might become a reality. It was estimated to cost $3.5 billion. Most industry analysts, however, dismissed the pipeline as a “pipe dream” because of the high costs its construction would entail. Oil executives familiar with the project suspected that the combined reserves of the Aktyubinsk and Uzen fields were not sufficient to justify it, particularly given that world oil prices had dropped to around US$10 to $12 a year after CNPC agreed to conduct a feasibility study on the pipeline.45 Some analysts speculated that world oil prices need to be above US$14 to $15 for the pipeline to be economically viable.46

The apparent economic infeasibility of the pipeline suggests that the Chinese government’s enthusiasm for it stemmed from other reasons. The most valid of these may be concerns on the part of the Chinese government about the security of the country’s oil supply.47 China currently does not possess the naval capabilities necessary to defend its sea shipments of oil and, consequently, regards their passage through waters dominated by the U.S. Navy—as especially the Persian Gulf—as a key strategic vulnerability. An overland pipeline

44 “Experts Call for a Pan-Asian Oil Bridge,” Xinhua, 16 June 1996, in WNC (Document ID: 0dt7t303s348w).
47 Indeed, this was one of the main arguments made by Li Peng in favor of CNPC’s participation in overseas oil development and production and one of the reasons why he personally assured Kazakhstan’s leaders that the Chinese government supported CNPC’s investments in Kazakhstan.
that avoids the U.S.-dominated shipping lanes would mitigate China’s vulnerability to disruptions of its seaborne oil supplies.

Analysts, both Chinese and Western, have emphasized certain potential strategic advantages of the pipeline. The author of a recent article in Strategy and Management, an influential Chinese policy journal, argues that the benefits of an overland pipeline would spill over to the political realm by making China less vulnerable to pressure from the United States and Japan.48 Xu Xiaojie, who has written extensively but vaguely on the geopolitics of China’s energy strategy, argues that China’s investment in Kazakhstan would be a means for China to expand its influence there.49 An example of this was CNPC’s request to bring 50,000 workers to Kazakhstan to build the pipeline, which would have created a sizable Chinese presence in the country.50

It has also been suggested that the Chinese government hoped that the Kazakhstan-China pipeline would help to foster political stability along its Central Asian border. China’s leaders perceive an irredentist threat from Xinjiang’s Muslim Uighur population. The Uighurs, who constitute some 46 percent of Xinjiang’s population, are culturally and linguistically more similar to their Central Asian neighbors than to their Han Chinese rulers. Uighur separatists in Xinjiang yearn to reestablish their own independent state of East Turkestan, which existed briefly in 1933 and from 1944 until 1950. Ethnic tensions between Uighurs and Han Chinese have been increasing in Xinjiang since the 1980s, with Uighur separatists waging a low-level

campaign of terror against the Han Chinese.\textsuperscript{51} Beijing is determined to prevent the emergence of an independent Uighur state, not only because Xinjiang is rich in natural resources and is an important buffer against the Central Asian frontier, but also because a successful drive for independence in Xinjiang could spark similar movements in Tibet and Taiwan.

The Chinese government has attempted to quash separatist tendencies in the past by promoting the economic enfranchisement of the Uighurs and other minority groups, notably by investments in energy-development projects in Xinjiang.\textsuperscript{52} China’s leaders had hoped that the pipeline, if constructed, would ease discontent among Xinjiang’s Uighur population by creating jobs for them. They also thought that the pipeline would be an added incentive for the Kazakh government to curb the activities of Uighur separatist groups in Kazakhstan.\textsuperscript{53}

Despite the potential noneconomic benefits of the pipeline, CNPC, under pressure from the State Council, shelved its construction plans in August 1999 for economic reasons. The Aktyubinsk and Uzen fields do not possess sufficient reserves to justify the pipeline’s construction. The projected crude oil production from these fields for the pipeline is estimated to be 152,000 b/d, far below the pipeline design capacity of 500,000 b/d.\textsuperscript{54} Furthermore, for the pipeline to be economically viable, the crude would have to cost US$5 per barrel.

\textsuperscript{51} For more information on ethnic tensions in Xinjiang, see James P. Dorian, Brett Wigdortz, and Dru Gladney, "Central Asia and Xinjiang, China: emerging energy, economic, and ethnic relations," \textit{Central Asian Survey}, Vol. 16, No. 4, 1997, pp. 465–467.


\textsuperscript{53} Personal communication with Huaibin Lu of Cambridge Energy Research Associates, 24 June 1998 and 4 February 1999; Rashid and Saywell, p. 48. It should be noted, however, that past efforts on the part of the Chinese government to quell Uighur unrest in Xinjiang through the development of regional energy sources have backfired. Economic benefits from the government’s efforts to develop Xinjiang’s petroleum industry have largely ended up in the hands of Han Chinese instead of Uighurs, further exacerbating tensions between the two groups. Krekel, p. 26.

\textsuperscript{54} CNPC Shelves China-Kazakhstan Oil Pipeline,” \textit{Oil & Gas Journal}, 30 August 1999, p. 44.
less than that purchased from the Middle East, which would have been nearly impossible to accomplish.\textsuperscript{55}

With cancellation of the Kazakhstan-China pipeline, China will not have a significant source of overland oil imports from Central Asia. Rail transport of Kazakh oil to China is not a viable option in the long term. Crude production in Xinjiang already exceeds the province’s refining capacity, necessitating that surplus crude be transported eastward by railway. However, the two Xinjiang-to-Lanzhou rail lines are near full capacity and eventually will be unable to handle extra crude oil from either Xinjiang or Kazakhstan. This situation is further complicated by the fact that the projected surplus volume of crude is unlikely to justify the cost of either a third rail line or a long-distance oil pipeline.\textsuperscript{56} As a result, the oil that CNPC produces in Kazakhstan will most likely be swapped with refiners located near the Uzen and Aktyubinsk fields. CNPC has already signed a swap agreement with Russia’s Yukos.\textsuperscript{57} If a pipeline is built from Neka, an oil port on the southern shore of the Caspian, to Tehran, then CNPC could provide crude to refiners in northern Iran in return for an equal amount exported from the Persian Gulf to China.\textsuperscript{58}

The Chinese government’s efforts to construct the Russia-China segment of the “pan-Asian continental oil bridge” appear to be more promising, in contrast with its experience with the Kazakhstan-China oil pipeline. Officials from both countries are discussing the construction of an oil pipeline from Angarsk in Siberia to China. Two routes are under consideration. One would travel to the northern provinces of China via Mongolia, while the other would travel to the


\textsuperscript{56}Not-for-attribution report prepared by an international consulting firm for the KazTrans Oil Company.

\textsuperscript{57}“Russia to Increase Oil Supplies to China,” \textit{Moscow Interfax}, 7 September 1999, in \textit{WNC} (Document ID: 0fhsxsc041212p).

\textsuperscript{58}The National Iranian Oil Company (NIOC) snubbed a bid for the construction of this pipeline by CNPC and Sinopec in 1999. NIOC sent a delegation to Beijing in January 2000 to ask the companies to reconsider, but the companies’ enthusiasm for the project appears to have waned, probably as a result of pressure from the State Council facing doubts about the pipeline’s economic feasibility. “Tehran Presses Beijing on Neka-Tehran Bid,” \textit{Hart’s Asian Petroleum News}, Vol. 4, No. 4, 31 January 2000.
northeastern provinces of China, avoiding Mongolia. Russia’s Ministry of Fuel and Energy is in favor of the first route because it is 170 km shorter, whereas Chinese officials prefer the second route because the political risk is lower. The pipeline, estimated to cost US$2 billion, is expected to transport around 220 million barrels of oil per year. Industry sources indicate that an agreement for the construction of this pipeline will be signed during the Sino-Russian summit in June 2000, with a feasibility study to begin immediately afterward.59

PLANS FOR A STRATEGIC PETROLEUM RESERVE

Concerns about energy security have prompted the Chinese government to seriously consider the construction of a strategic petroleum reserve (SPR), perhaps with help from the International Energy Agency (IEA).60 The IEA regards the maintenance of strategic reserves as a key measure oil-importing countries can take to increase their ability to manage changes in the international oil market. Chinese advocates of the establishment of an SPR contend that it could enhance China’s energy security in several ways.

First, construction of an SPR would reduce China’s vulnerability to short-term oil-supply interruptions. Chinese analysts recognize that China’s growing dependence on Middle Eastern oil imports means that its vulnerability to disruptions of its oil supply from this potentially unstable region will also increase. There have been 13 significant disruptions of Middle Eastern crude oil supplies since 1951, and the possibility of future supply interruptions, however remote, still exists.61 There is also concern in China that the flow of oil between the Middle East and China could be impeded by transportation acci-

dents because of the growing number of oil tankers passing through the Straits of Malacca.

Second, an SPR could help stabilize domestic prices in the event of dramatic oil increases on the international market. The Chinese government is extremely concerned about how China would weather oil shocks similar to those of the 1970s. China was a net oil exporter at that time and followed OPEC’s lead in increasing the price of its exports. Now that China is a net oil importer, however, it is vulnerable to sudden market changes. 62

Third, an SPR could deter politically or economically motivated supply disruptions. Some Chinese analysts point out that strategic reserves could make oil-producing countries think twice about imposing an embargo. The ability to draw on strategic reserves could similarly deter third countries from implementing an oil blockade against oil shipments to China. 63

Fourth, two analysts further argue that an SPR could increase China’s diplomatic room to maneuver. Shielded from the adverse effects of a short-term supply disruption, China could take actions that, lacking strategic reserves, it presumably would not pursue. The analysts do not specify what these activities might be, however, instead arguing that if self-sufficient, China could assist other countries, increase its influence, and raise its international position. 64

An SPR would improve China’s energy security, reducing its vulnerability to supply disruptions and presumably easing Chinese concerns about a growing reliance on oil imports, in general, and Middle Eastern oil imports, in particular. Oil import dependency does not equal vulnerability if an alternative supply exists. Thus, China could be 100 percent dependent on oil imports but be relatively invulnerable to oil supply disruptions if it possessed large

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63Zhao Hongtu and Li Rong, p. 26; Ma Hong and Sun Zhu, p. 47.

64Zhao Hongtu and Li Rong, p. 26.
reserves. However, construction and operation costs are a major impediment to the realization of China’s plans to establish an SPR; these costs are estimated to be around US$5 per barrel for a salt cavern facility with a unit capacity of 100 million barrels.

REFINERY EXPANSION TO PROCESS MIDDLE EASTERN CRUDES

China also seeks to enhance its energy security through the expansion of its refining capacity with facilities capable of processing Middle Eastern crudes. Construction of such facilities is necessitated not only by China’s growing reliance on oil imports from the Middle East but also by the recent decision of China’s energy planners to meet the country’s oil needs by processing crude imports instead of importing refined products. This strategy reflects the Chinese government’s opinion that crude imports are a better source of energy security than refined imports, perhaps because refined products are more expensive to store and deteriorate more quickly than crude oil.

Most of China’s existing refineries are unable to process Middle Eastern crudes, which have a higher sulfur content than current sources. China competes with Japan, South Korea, and other large importers for the low-sulfur crudes produced in Asia, and China’s energy planners are aware that the export availability is in decline. Consequently, China will become increasingly reliant on the Middle East for crude supplies. The share of total crude imports provided by the Middle East is projected to increase from 48 percent in 1997 to 81 percent in 2010 (see Figure 3.1).

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65Guy Caruso, in comments on an earlier version of this report, 8 October 1999.
68Fesharaki and Wu, Outlook for Energy Demand, Supply, and Government Policies in China, p. 22.
69Fesharaki and Wu, pp. 14, 19.
China’s Quest for Energy Security

Figure 3.1—Share of Middle Eastern Crude Oil in China’s Total Crude Imports

supplier of crude oil, followed by Yemen, Indonesia, and Iran. Saudi Arabia’s share of China’s crude imports is projected to grow (see Table 3.3).\textsuperscript{70} China’s refineries can refine “sweet” (low in sulfur content) crudes from Oman and Yemen but not the “sour” (high in sulfur content) crudes from countries such as Iran, Iraq, Saudi Arabia, and Kuwait.

The upgrading and expansion of China’s coastal refineries is thus a top priority for both the Chinese government and Middle Eastern oil companies eager to break into China’s domestic market. The Chinese government hopes to establish long-term energy ties with

Table 3.3

China’s Top Sources of Crude Imports in 1999

<table>
<thead>
<tr>
<th>Country</th>
<th>Share of Total Imports (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oman</td>
<td>13.7</td>
</tr>
<tr>
<td>Yemen</td>
<td>11.3</td>
</tr>
<tr>
<td>Indonesia</td>
<td>10.8</td>
</tr>
<tr>
<td>Iran</td>
<td>10.8</td>
</tr>
<tr>
<td>Angola</td>
<td>7.9</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>6.8</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6.0</td>
</tr>
<tr>
<td>Norway</td>
<td>5.5</td>
</tr>
<tr>
<td>Vietnam</td>
<td>4.1</td>
</tr>
<tr>
<td>Angola</td>
<td>3.7</td>
</tr>
</tbody>
</table>


oil-producing countries in the Middle East\(^\text{71}\) and has devoted considerable effort to attracting foreign investment from Saudi Arabia, Kuwait, and Iran for refining joint ventures that could secure a large portion of the oil that China needs. This strategy dovetails with the exporting countries’ long-term plans to find secure markets for their oil. Saudi Aramco, which has been working for years to establish a presence in China, has a 25 percent stake in a refinery expansion project in Fujian Province. The company is awaiting government approval of its proposal to build a refinery in Shandong Province with Ssangyong of Korea and Sinochem of China. In November 1999, Saudi Arabia and China signed an agreement to build a 240,000 b/d refinery in Fujian Province that will use oil from Saudi Arabia.\(^\text{72}\) The Kuwait Petroleum Corporation (KPC) has a 14.3 percent stake in China’s offshore Yacheng 13-1 gas field. KPC officials are negotiating with CNPC for participation in the expansion of the Qilu refinery. If

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\(^{71}\)This perspective is reflected in Shen Qinyu and Wu Lei, “Focus on the Gulf Region in Developing Oil Industry,” Guoji maoyi wenti (International Trade Journal), No. 2, 6 February 1995, pp. 9–12, in WNC (Document ID: 0dils8r002sg6p); Ma Xiuling, “Zhongguo de shiyou jinkou xuyao he tong Alabo guojia shiyou hezuo de fazhan” ("China’s Demand for Oil Imports and the Development of Its Cooperation with Arab Oil-Producing States"), Xiya Feizhou (West Asia and Africa), No. 2, 1997, pp. 16–21.

successful, KPC would receive an equity share in exchange for a long-term supply contract. Iran has also promised to provide funds to upgrade a refinery in the south that will enable it to process medium-sulfur Iranian crudes, but no firm deal has been signed.\textsuperscript{73}

**DEVELOPMENT OF THE NATURAL GAS INDUSTRY**

The Chinese government can also improve China’s energy security through development of the country’s natural gas industry. Greater use of natural gas in China has been hindered by the absence of a bureaucratic champion for gas, the remote location of China’s gas reserves, an inadequate pipeline infrastructure, lack of a well-developed market, and insufficient funding. However, over the past few years, the Chinese government has expanded the role of natural gas in China’s energy structure, primarily as a result of concern over China’s growing dependency on oil imports and widespread environmental degradation caused by coal. Other reasons for the high priority placed on natural gas development include chronic energy shortages and imbalances, increasingly competitive prices for natural gas vis-à-vis coal, and greater competition among China’s state-owned oil companies for shares of the natural gas market—a result of industrial reform. Fertilizer and chemical plants currently consume most of China’s natural gas, but the government has targeted the urban industrial and residential sectors and the transportation sector for greater natural gas use.\textsuperscript{74}

The Chinese government has stepped up its efforts to develop domestic gas reserves. The participation of foreign oil companies in gas development projects is encouraged because of the technological and financial constraints faced by China’s oil companies and the government’s desire to bring reserves on line as quickly as possible. CNPC and Shell recently signed a letter of intent to develop the Changbei natural gas field at the border of northern China’s Shaanxi Province and the Inner Mongolia autonomous region. It is projected that after this US$3 billion project is completed in 2004, it will annu-

\textsuperscript{73}Fesharaki and Wu, *A Survey of Energy Investment Ties Between Asia and the Middle East*, pp. 21–22.

ally supply 105.9 tcf of gas to eastern China within 20 years. The Chinese government has also approved a proposed natural gas pipeline from the Xinjiang autonomous region to Shanghai municipality. Construction is expected to begin in 2001 at an estimated cost of US$7.23 billion for the pipeline alone and an additional US$6 billion for gas exploration in Xinjiang. CNPC plans to be the dominant shareholder. Foreign participation in the project is welcome. However, according to a Chinese official, foreign investors will not be granted access to the project’s operations because of energy security concerns—possibly a fear of foreign control over China’s gas resources.

The Chinese government plans to supplement China’s limited natural gas reserves with both liquefied natural gas (LNG) and pipeline imports. In January 2000, the government approved plans for the construction of an LNG terminal in Shenzhen, Guangdong Province. Industry reports indicate that domestic investors will have a 65 percent stake in the project, with CNOOC as the majority shareholder. The remaining 35 percent will be offered to foreign investors. The project is estimated to cost US$3.68 billion. The first phase of construction will provide an LNG to Guangzhou, Shenzhen, Foshan, and Dongguan and will be completed in 2005. The second phase will expand coverage to five other cities by 2010. Guangdong constitutes a large potential market for LNG because it is located so far from China’s coal-producing regions that LNG imports are likely to be less expensive than domestically produced coal. There are also plans for a second LNG terminal to be built near Shanghai.

Chinese energy planners are also seriously considering importing natural gas through pipelines (see Table 3.4). The construction of a pipeline from the Kovyktinskoye field near Irkutsk in eastern Siberia through Mongolia to northeastern China and possibly South Korea and Japan has been the subject of negotiation between China and

75“China’s CNPC and Shell to Co-Develop Natural Gas Field,” Asia Pulse, 20 March 2000.
Table 3.4
Selected Natural Gas Pipeline Projects Involving China

<table>
<thead>
<tr>
<th>Pipeline</th>
<th>Description</th>
<th>Length</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xinjiang-Shanghai</td>
<td>This pipeline will transport natural gas from northwestern China to consumers in eastern China. CNPC will be the dominant shareholder. BP-Amoco and Enron are interested in this project.</td>
<td>4200 km</td>
<td>$7.25 billion</td>
</tr>
<tr>
<td>Turkmenistan-China-Korea-Japan</td>
<td>The natural gas pipeline will run from Turkmenistan via Uzbekistan and Kazakhstan to Lianyungang in China's Jiangsu Province with possible extensions to Korea and Japan. CNPC, Exxon, and Mitsubishi recently completed a feasibility study.</td>
<td>6250 km to China, 8500 km with extensions to Korea and Japan</td>
<td>$9.5 billion to China, $22 billion with extensions to Korea and Japan</td>
</tr>
<tr>
<td>Russia-China</td>
<td>The natural gas pipeline will run from Kovyktinskoye field near Irkutsk in eastern Siberia to either Beijing or the port of Rizhao in Shandong Province via Mongolia. In February 1999, Russia and China signed an agreement to complete a feasibility study on this line. South Korea is interested in the project.</td>
<td>2500 km to Beijing, 3400 km to Rizhao</td>
<td>$8–$12 billion</td>
</tr>
</tbody>
</table>

Russia for many years. The first official expression of the two countries’ intent to develop this pipeline was a memorandum of understanding signed between CNPC and the Russian Ministry of Fuel and Energy in November 1994.78 Both sides signed agreements on the construction of the pipeline during Russian Prime Minister Viktor Chernomyrdin’s visit to Beijing in June 1997 and during the Sino-

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Soviet summit meeting in November 1997. The June accord envisioned the export of approximately 2 billion cubic feet per day (bcf/d) for 30 years. The November accord indicated that of the approximately 2 bcf/d the pipeline is expected to carry, 1 bcf/d would go to China and the remainder would be available to South Korea and Japan. It also proposed that the pipeline be completed in 30 months at a cost of US$12 billion. Neither accord specified how the pipeline would be financed. In February 1999, China and Russia signed a deal to conduct a feasibility study on the pipeline, which is expected to take up to three years to complete.

Progress on the Irkutsk pipeline project has been slowed because the northern China gas market—the proposed destination for Kovyktinskoye gas—is currently unable to support the proposed pipeline. The amount of natural gas that the pipeline is expected to supply to northern China—1 billion bcf/d—is triple the amount of gas consumed in the region today. For the market to expand, it needs immediate large consumers (power generators, factories converting their boilers to gas, fertilizer plants) for the gas supplied by the pipeline. However, there is not much demand for gas-fueled power generators today because China has an oversupply of power and coal is often a cheaper fuel than gas. Demand for boiler conversion is limited because it is expensive and many boilers are located in money-losing state-owned enterprises. Furthermore, there is not now an acute need for new fertilizer. Industry experts predict that it will be at least a decade before the northern China market can absorb the 1 bcf/d the Irkutsk pipeline is expected to deliver.

Another reason for the inertia of the Irkutsk pipeline project is that how the pipeline will be funded has not been resolved. Estimates of the cost of the pipeline range from US$8 billion to US$12 billion, depending on the proposed length, diameter, and the number of compressor stations. China and Russia cannot finance the pipeline

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82 Quan and Paik, pp. 108–109.
alone. Both countries initially expected that Japan and South Korea would invest in the pipelines; South Korea, for example, has a huge potential natural gas market. The country pays a premium for LNG imports and may view Kovyktinskoye gas as a cheaper alternative. Japan is also a large consumer of natural gas, and concerns about acid rain may be a factor in Japanese interest. The Japanese government has invested in a number of clean energy projects in China and may view the Irkutsk pipeline as another way to reduce China’s use of coal and the damage it does to Japan’s environment. Although the Asian financial situation casts doubts on Japan’s and South Korea’s participation in the pipeline project, media reports indicate that the South Korean state-run company Kogas is still interested.\(^\text{83}\)

Another transnational gas pipeline that may become economically viable as China’s gas market develops is the proposed line between Turkmenistan and the coastal city of Lianyungang in China’s Jiangsu Province, with a possible extension to Japan via South Korea. CNPC and Mitsubishi proposed to Turkmenistan’s president in 1992, exporting Turkmen gas to China. During Li Peng’s visit to Turkmenistan in 1994, CNPC and the Turkmenistan Ministry of Oil and Gas signed a letter of intent to establish a commission to study the pipeline. One year later, CNPC, Mitsubishi, and Exxon agreed to conduct a feasibility study, which they reportedly completed in 1996.\(^\text{84}\) The length of the pipeline (6200 km onshore and 2300 km offshore) and the limited gas market in China make this pipeline a highly risky project to undertake today. However, once the pipeline between Xinjiang and Shanghai is constructed, the Turkmenistan project will become more economically feasible because the gas from Turkmenistan can flow through the Xinjiang-Shanghai pipeline.

Chinese writings generally regard the development of China’s natural gas industry and the import of natural gas as ways to improve China’s energy security. Not only would natural gas imports enable China to diversify its energy supply sources (provided they do not

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\(^{84}\)Quan and Paik, pp. 112–113, Christoffersen, p. 25.
China’s Energy Security Activities 39

originate in the Middle East), but they could also help lessen China’s dependence on foreign oil and vulnerability to oil supply disruptions.85 Gas imports supplied by a pipeline traveling through Chinese territory would also provide China’s planners with a degree of psychological security,86 although this has not been explicitly mentioned in Chinese writings.

Chinese analysts realize, however, that natural gas security could become an issue. Pipeline imports, although generally perceived in China as being more secure than tanker imports, cannot guarantee absolute energy security; supply disruptions are still possible.87 LNG imports, particularly from the Middle East, would be as vulnerable as oil imports to embargoes, blockades, and transportation accidents. Furthermore, some senior leaders and commanders of the People’s Liberation Army reportedly regard the construction of a natural gas pipeline from Russia as a threat to China’s energy and national security on the grounds that it would make China unnecessarily vulnerable to supply cutoffs during a regional or global crisis.88

OPENING THE DOOR TO OIL

The central government’s desire to reduce China’s reliance on oil imports by exploiting untapped domestic reserves has prompted the gradual opening of onshore drilling areas to foreign participation, notably in the Tarim Basin in the northwestern autonomous region

85“PRC Sees Natural Gas as Supplement to Petroleum,” Xinhua, 16 October 1997, in WNC (Document ID: 0eh70r03suw37); Yang Qing, “Yao cong zhanlue gaodu zhongshi LNG jinkou” (“Pay Attention to LNG Imports in High-Level Strategy”), Zhongguo nengyuan (Energy of China), No. 5, 1998, p. 5.
86Quan and Paik, p. 116.
of Xinjiang. Foreign involvement is regarded as a means of improving China’s energy security because multinational oil companies possess the technology, capital, and managerial skills necessary to maximize China’s onshore production. The Chinese government hopes that cooperation with foreign companies will enable China to develop a world-class oil industry.

Foreign companies have been active in China’s petroleum sector since 1982. The Chinese government initially limited foreign participation to offshore areas to gain expertise without surrendering control over China’s major onshore production bases. Offshore exploration, however, has been a great disappointment. In 1996, it produced only some 73.3 million barrels, a mere 10 percent of domestic production at a cost two to three times higher than that of onshore wells. Consequently, both Chinese officials and foreign contractors now realize that any hope for a domestic solution to China’s oil insufficiency lies onshore in the Tarim Basin.

Foreign companies have been permitted to conduct onshore exploration since 1985, but the Chinese government did not open the Tarim Basin to foreigners until almost a decade later. In 1993, the government invited foreign companies to bid for five blocks in the southeastern part of the Tarim Basin, largely out of recognition that China did not possess the funds, technology, or management skills necessary to develop such a large and difficult field.

Concerns about self-sufficiency appear to have colored the debate about foreign participation in China’s onshore petroleum industry. China’s top leaders were divided over whether inland areas should be open to foreign companies. CNPC was similarly internally split

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89Becquelin, p. 24.
90The Tarim Basin is a Texas-sized area with complex geological structures and surface conditions that are arguably more difficult than those of any other onshore basin. More than half of the basin is covered by the Taklimakan desert, which has no oases in its interior and sand finer than that of the Arabian peninsula, making the movement and operation of machinery arduous. Oil is found as deep as 6000 meters, making drilling expensive and technically challenging. Surface temperatures are extremely cold in the winter and hot in the summer. Robert Tansey, “Black Gold Rush,” China Business Review, Vol. 21, No. 4, July-August 1994, p. 14.
91Becquelin, p. 24.
over how much foreign participation to allow. First, the company was reluctant to give jobs to foreign companies when it had 1.4 million workers on its payroll, some of whom could be transferred from the declining fields in the east to the Tarim Basin. Second, company officials hoped to enhance their careers with a major discovery in the Tarim Basin. Many of the company’s top officials had achieved their positions from association with major discoveries at Daqing field and hoped to repeat their success out west. Junior officials hoped for similar career-enhancing discoveries. The company’s Tarim office was particularly opposed to the central government’s decision to open the basin to foreign companies. Their opposition may have influenced the decision to offer marginal blocks to foreign companies, while reserving the most promising ones for CNPC. The dry wells drilled by foreign companies and the failure of CNPC to make a major discovery in choice blocks dampened foreign interest in Tarim, despite the offering of eight additional blocks in 1995.

Recent developments suggest that the recognition by many Chinese officials that foreign participation in onshore oil exploration and development projects is crucial to reducing China’s reliance on imported oil could result in greater foreign involvement in China’s oil sector. In a major policy statement published in the Communist Party journal Seeking Truth in 1997, then-Premier Li Peng stressed the importance of using both foreign and domestic capital to develop China’s resources. The newly revised Guiding Catalogue for Foreign Investment in Industry officially encourages foreign involvement in certain petroleum, petrochemical, and chemical projects such as technology for tertiary oil recovery and oil pipeline and depot construction and management. Furthermore, new regions are now open to foreign companies, mainly in western China and the

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92 Yatsko, p. 69.
Songliao Plain, for risky exploration and development. Japan National Oil Corporation became the first foreign interest to gain access to some of the better blocks in the Tarim Basin in 1997. CNPC had 27 foreign contracts under execution in 1999.97

97 Quan Lan, “Sino-foreign onshore cooperation after IPO,” China Oil, Gas and Petrochemicals, Vol. 8, No. 8, 15 April 2000, p. 3.