

China's Global Quest for Energy



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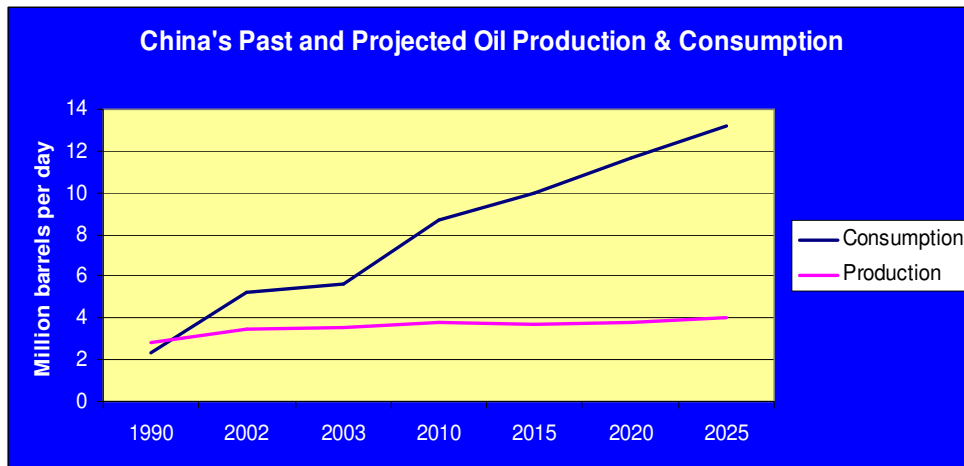
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Introduction

During the past several years, China experienced an economic explosion that has triggered a frantic scramble for natural resources to sustain its growth. Currently the world's second largest consumer of oil, only thirteen years ago China did not import any oil at all. In 2004, oil imports to China are said to have increased by 37 percent, which contributed to soaring oil prices around the world.¹ In 2005, China consumed an average of 6.9 million barrels per day (mbd) of oil.² By 2025, that amount is projected to increase to approximately 13.2 mbd.³ That same year China's production level is expected to be approximately 4.0 mbd, which will require the country to have a net import of at least 9.2 mbd.⁴



China had managed to be self-sufficient until 1993, meeting all its internal consumer oil needs for the previous five decades due to the discovery of massive oil reserves at the Daqing oil fields in the far north of the country during the 1950's. With the increase in oil consumption, the Daqing oil fields can no longer be relied upon to fully sustain the country in the years to come. With economic growth running at a rate of about nine percent per year, China is now engaged in a massive effort to reach beyond its borders and grab as much oil as possible to ensure its future economic growth. To this end China is directing much of its attention to Russia, Canada, South America, the Middle East and Africa. (For China's activities in Africa see Cindy Hurst's IAGS report: China's Oil Rush in Africa)

“Beijing is pushing domestic oil companies to actively invest in overseas oil projects in Sudan, Iran, Kazakhstan, and many other countries.”

*James P. Dorian, Ph.D.
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Across the globe, China's efforts to acquire oil are far-reaching and aggressive. However, all along the way, China's efforts are being met with political, economic, strategic and environmental roadblocks. Faced with the challenge of trying to overcome

many hurdles, China has been taking many steps, some more controversial than others, to achieve its goals.

The China-Russia Connection

Just north of China is neighboring Russia, a major non-OPEC oil-producing country endowed with huge hydrocarbon resources. Currently, Russia holds the world's largest natural gas reserves, of which it is also the largest exporter, and the eighth largest oil reserves, of which it is the second largest oil exporter.⁵ However, Russian oil fields, located mostly in Western Siberia were established in the 1970s and desperately need capital and technology to stabilize their production. Russia needs at least a \$25 billion overall investment to accomplish this and approximately \$6-7 billion annually.⁶

In the 1950s, China and Russia maintained a close alliance. Between 1960 and 1985, China's relationship with Russia was defined as deeply hostile. After 1985 there was a gradual normalization during the Gorbachev years. Then, after 1991, which marked the end of the Cold War, Russia maintained a political distance from China because China remained communist and had publicly endorsed a 1991 coup attempt by Soviet communist hardliners. However, Boris Yeltsin changed his policy in April 1996 when China urged Russia to agree to a "strategic partnership." In July 2001, Presidents Vladimir Putin and Jiang Zemin signed a treaty of alliance, which formalized and expanded Chinese-Russian cooperation and strategic coordination.

The rapprochement created the conditions for China to turn to Russia for some of its oil needs. While Russia has the oil to provide China, China has the capital to help improve some of Russia's poor infrastructure. However, the exchange is not without difficulties.



Russian internal affairs are fraught with politics that can make construction processes slow and complex, and, therefore, no immediate significant solution is being offered to China to quench its thirst for oil.

Since 2001, China has been involved in talks with Russia to try to negotiate building a major pipeline that would take oil from western Siberia to Daqing. Japan, which was interested in having the pipeline terminate at Nakhodka instead, began bidding for the project. Russia teetered between China and Japan, which were

locked in a fierce struggle over access to the Russian oil. In late 2004, Japan appeared

to have won the deal by offering to finance a substantial amount of the project. Then, in September 2005, President Putin announced that the pipeline would first go to China's Daqing and then continue to the Pacific Coast. This appeared to be an ideal solution for various reasons. First, since China had resolved its border issues for the first time in 40 years with Russia, the relationship between the two countries has improved dramatically. Second, sending oil to both locations would allow Russia to diversify its export routes.

Construction and continued planning on the pipeline are now underway. The complete project cost was estimated at \$11.5 billion. The first stage, which will originate at Taichet and continue to Skovorodino, is expected to be completed sometime during the second half of 2008.⁷ In China's view, the cost of building pipelines is worth the price because it lessens China's dependence on imports by sea, something that is of growing concern due to potential security implications.⁸

Central Asia & the Caspian Sea

Since the breakup of the former Soviet Union, the Caspian Sea, which borders Russia, Azerbaijan, Iran, Turkmenistan and Kazakhstan, has become one of the world's hottest new oil zones. The Caspian Sea has mostly untapped oil and natural gas sources. Some experts have previously predicted that the Caspian Sea region could one day become the next Middle East. However, this is highly unlikely as production levels, currently roughly 1.8 mbd, are expected to reach only 4 mbd by 2015, compared to 45 mbd for the Middle Eastern countries that year.⁹

China's proximity and insatiable appetite for oil make it an ideal partner for Central Asia's energy market. Kazakhstan has the Caspian Sea region's largest percentage of recoverable crude oil reserves. Its production accounts for approximately two-thirds of the overall region. In 2005, Kazakhstan produced approximately 1.3 mbd.¹⁰ Kazakhstan's net exports have been increasing steadily since 1992, which then totaled 129,900 barrels per day (bpd). Today net exports have passed the 1 mbd mark.¹¹ Kazakhstan's current infrastructure has allowed it to export the oil to world markets via the Black Sea (via Russia); the Persian Gulf (via swaps with Iran); northward to Russia via pipeline and rail;¹² and most recently to China, via a newly constructed pipeline.

China and Kazakhstan began energy cooperation in 1997 and, prior to the Sino-Kazakhstan oil pipeline, the two countries relied on railway shipments of oil. During the first five months of 2006, 45,000 bpd were shipped via train from Kazakhstan to China.¹³ Then on July 29, 2006, the Sino-Kazakhstan pipeline, jointly constructed by CNPC and construction companies from Kazakhstan, delivered its first batch of crude oil to the northwestern Xinjiang Autonomous Region. The pipeline currently runs from Atasu, in west Kazakhstan, and enters China at Alashankou port on the Chinese border before reaching its final destination at PetroChina Dushanzi Petrochemical Company.

Construction on the pipeline had been broken into three phases. The first section was completed in 2003 and runs westward across western Kazakhstan from the oil fields of Aktobe region to the oil hub of Atyrau. The second section of the pipeline, the Atasu-Alashankou section, was actually completed in May 2006 but suffered some minor setbacks, attributed to differences in measuring standards, before oil was finally transported through the pipeline. The final section will entail completing the Kenkiyak-Kumkol pipeline in central Kazakhstan. The entire pipeline project is expected to be completed by 2011.

Previously there was doubt as to whether or not China would be able to fill the pipeline enough to make the project worthwhile. But in August 2005, CNPC scored a major victory when it won a bid to purchase PetroKazakhstan Inc, a Canadian oil producing Company, for \$4.8 billion. Not only will owning PetroKazakhstan give China access to probable reserves of approximately 550 million barrels of oil, it will also give Beijing more influence in Central Asia, an area of focus in part due to the available natural resources.

In October 2005, the deal was finalized with Kazakhstan approving the purchase after CNPC agreed to sell one third of PetroKazakhstan to Kazakhstan. A political significance of the victory for Kazakhstan is that it breaks some of its reliance on Russia, something a number of countries in Central Asia long to do. Had India won the bid, the oil would likely have to be shipped through Russia. Instead CNPC will be able to transport the oil via pipeline directly to China.¹⁴

The advantages China has in its proximity to the Caspian region cannot be denied. By sharing the same borders with Central Asian countries, China has a common concern over regional security. The Shanghai Cooperation Organization (SCO), whose members comprise China, Russia, Kazakhstan, Kyrgystan, Tajikistan and Uzbekistan, came about in an effort to fight what is commonly referred to as the three forces -- terrorism, separatism and extremism -- to safeguard peace and stability in the region. A lack of regional stability could put current and future oil infrastructure at risk.

On the other hand, conflict can play in China's favor. For example, in 2001 the U.S. formed an alliance with Uzbekistan to fight terrorism from neighboring Afghanistan. However, after the Andijan tragedy, which occurred in May 2005 and is believed to have claimed up to 500 lives, Western-Uzbek relations deteriorated when the U.S. criticized the killing. What Western countries were calling a tragedy and a violation of human rights, China was justifying as an appropriate response to terror understood to be the work of religious extremists. This helped further relations between China and Uzbekistan and paved a way into further oil and gas deals. In June 2005 a joint-venture agreement was signed that called for CNPC to invest up to \$600 million in the country in a partnership with state-owned Uzbekneftegaz. Then, in September, CNPC joined a consortium that included companies from Malaysia, South Korea and Russia, to carry out exploration near the Aral Sea.

Iran: Causes for Western Concern

Iran is becoming a major oil supplier to China. With an estimated 125.8 billion barrels, Iran is said to have the second-largest pool of untapped conventional petroleum in the world after Saudi Arabia, which has an estimated 260 billion barrels. One advantage Iran has over Saudi Arabia is a tremendous potential for future production capacity. Currently Saudi Arabia is reported to be producing at nearly its maximum sustainable rate, which is between nine and 10 mbd. This means that it likely will not be able to raise its output significantly over the next 20 years even as global demands continue to rise. Iran, on the other hand, while currently producing approximately 4 mbd, is thought to be capable of boosting that amount to 7 mbd. Few other countries have this increase potential.¹⁵

Under Executive Order 12959, signed by President Bill Clinton in 1995 and renewed by President Bush in March 2004, U.S. companies are prohibited from doing business in Iran. Furthermore, the U.S. has threatened to punish foreign firms that do business in Iran, under the Iran-Libya Sanctions Act (ILSA) of 1996, which penalizes foreign companies investing more than \$20 million in Iran's oil and gas industry, but this has not deterred China. In 2000, China is said to have imported some 170,000 bpd of oil from Iran.¹⁶ According to the U.S. Department of Energy, in 2003 Iran supplied China with roughly 13 percent of its oil imports. Last year, China imported approximately 244,000 bpd of crude from Iran. More recently, the two countries signed a memorandum of understanding that will commit Sinopec, one of China's largest integrated energy and chemical companies, to buying 250 million tons of liquefied natural gas from Iran over 30 years. While the U.S. may frown on these actions, it has little recourse without adequate support from the United Nations.

The primary concern is that Iran's massive oil reserves give it the ability to influence countries in need of the oil into selling arms to Iran or providing good financing on arms deals. This serves as a sweetener for China in that it is able to provide both financing and weapons or weapons technology to Iran. Iran has the leverage to obtain the technology and arms because China wants what Iran has.

Additionally, China's taking steps to conduct business with Iran in deals that will bypass the ILSA paves the way for other countries to partake in similar kinds of deals. For example, India is on track to have a \$4.16 billion pipeline that will carry gas from Iran through Pakistan to India. With countries such as China and India backing Iran, the U.S. begins to fight a losing battle. China's backing provides a strong support system to Iran. This backing could hurt U.S. objectives of curbing any potential nuclear activity.

"No matter if it's rogue's oil or a friend's oil, we don't care. Human rights? We don't care. We care about oil. Whether Iran would have nuclear weapons or not is not our business. America cares, but Iran is not our neighbor. Anyone who helps China with energy is a friend."

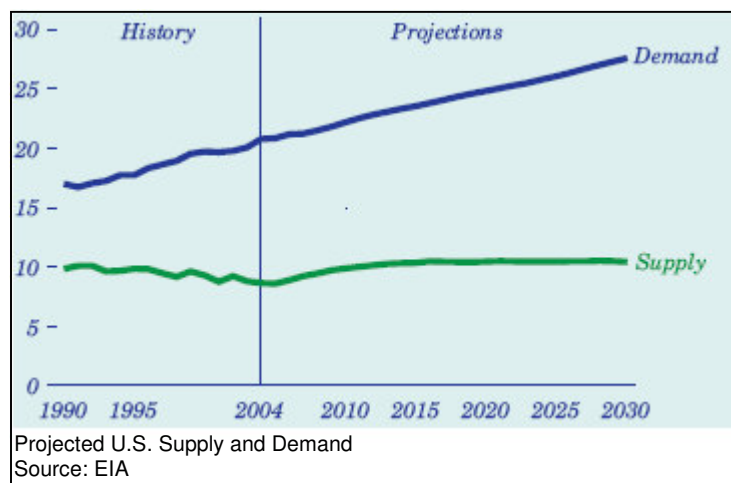
An energy adviser to the central government, quoted in the Washington Post, July 13, 2005.

Saudi Arabia

Much of China's strategy lies in pursuing natural resources with countries in which they can obtain a strong geopolitical foothold. The political tide in the Middle East has been turning in China's favor because relations between the U.S. and Saudi Arabia have been marred by events stemming from the September 11, 2001, attacks.

Saudi Arabia has one-fourth of the world's proven oil reserves and it will most likely remain the world's largest oil exporter in the years to come. Until 1996, Saudi Arabia was the number one exporter of crude oil to the U.S. However, over the past decade, Canada, Venezuela and Mexico, with their proximity and increasing production rates, have become major sources of imported oil. From January to May of this year, the U.S. imported 14 percent of its oil from Saudi Arabia, 12 percent from Venezuela, 17 percent from Mexico and 18 percent from Canada.¹⁷

Following the September 11 attacks in New York, finger pointing began, and a number of lawsuits against members of the Saudi government were born. Accusations such as that the Saudi government funded the 9/11 attacks and the Saudi regime was responsible for nourishing most of the hijackers (Osama bin Laden and 15 of the 19 hijackers were born in Saudi Arabia) were predominant. Although the September 11



Commission concluded that the Saudi government did not fund al-Qaeda, it did criticize the country as being "a problematic ally in combating Islamic extremism."¹⁸ Saudi Arabia continues to claim its allegiance to fighting terrorism. However, should these accusations be left to fester, it could cause serious damage to the U.S.-Saudi relationship.

Meanwhile China has been stepping up its relations with the

Saudi government. According to China's Foreign Ministry, total trade between the two countries, mostly Saudi oil bought by China, grew by 59 percent during the first 11 months of 2005.¹⁹ After the two countries signed cooperative agreements in January 2006, Xinhua reported that Saudi Arabia had become China's largest crude oil provider, largest trade partner and second largest export market in the regions of west Asia and Africa. According to the report, in 1999 bilateral trade between the two countries was below \$2 billion. By 2005 that figure had risen to \$15 billion. In four to five years the bilateral trade volume is expected to reach \$40 billion.²⁰

Venezuela

China is also busily strengthening bilateral relations for oil south of the U.S. in Venezuela, which has maintained a tense relationship with the U.S. since Hugo Chavez took office in 1999. The fifth largest oil exporter in the world, Venezuela exports approximately 60 percent of its oil to the U.S.²¹

Since coming into power, Chavez has visited China on five different occasions. Both countries have been striving to strike up cooperation deals that would not only bolster Venezuela's economy and oil infrastructure but also provide increased oil exports to China. In 2004, Chavez signed eight agreements on energy cooperation with China. In 2004, Venezuela exported 12,300 bpd to China. Currently, Venezuela is exporting some 150,000 bpd to China. Through recent agreements, China hopes to increase this amount to 200,000 bpd by the end of 2006.²² Some reports are saying recent agreements between the two countries will increase imports to China to 500,000 bpd.²³

In addition to various business arrangements between Venezuela's state-run oil company and China Petroleum that include purchasing Venezuelan fuel oil and power plant fuel, Chinese companies are seeking to invest in oil exploration and production in the country. In return Chavez expects and is receiving Chinese assistance in the areas of telecommunications, food production and culture.

China and Venezuela are planning to cooperate on various oil projects, including the exploration and development of new fields as well as the development of older fields.²⁴ Chavez visited China in December 2004, where he declared that Venezuela was ready to help China establish its own strategic petroleum reserve. He also spoke "of a budding strategic alliance between the two countries,"²⁵ and signed an agreement that would allow Chinese companies to gain developmental rights to 15 oil fields in eastern Venezuela.²⁶ Although this would appear to be an excellent opportunity for China, there are still a number of hurdles to overcome before the full export potential can be realized.

One issue facing China is that of transporting the oil. While Chavez is opening the doors and allowing China access to Venezuela's oil, transporting the oil could prove to be costly. A tanker capable of hauling 500,000 barrels would be profitable if it is for a short haul. However, that same size tanker will undoubtedly lose money hauling oil all the way to Asia. China requires supertankers capable of hauling 2 million barrels in order to be profitable. However, profitability diminishes as oil prices rise. Supertankers are not permitted to pass through the Panama Canal, which would save time and money. There is ongoing discussion on widening the Panama Canal. However, not only would this be an expensive proposition but it would also take several years to accomplish.

Another alternative is to build a pipeline from Venezuelan oil fields across Colombia to Pacific ports in Colombia or Ecuador. Unfortunately such a pipeline would currently be vulnerable to sabotage because it would run across a war zone where rebels have long made a habit of attacking the country's existing pipelines. Additionally, the necessary

Pacific port facilities currently do not exist and would have to be constructed. A third alternative would be an existing, refurbished inter-oceanic pipeline located in Panama. However, large-scale oil shipments from Venezuela to China would dramatically increase the pipeline's use. Additionally, the Venezuelan and Panamanian governments have been negotiating the use of the pipeline to pump the oil for quicker access to China. The pipeline reportedly has a capacity of 800,000 bpd. However, the pumps were installed to move oil from the Pacific to the Atlantic and would require modification or reversal to send the fuel the other direction.²⁷

Chavez has also signed a contract to have China construct a number of supertankers, which will eliminate its dependency on renting these tankers. It will also, according to Chavez, allow him to create one of the greatest fleets in the world.²⁸ Additionally, Venezuela plans to manufacture parts for the tankers, which will enable it to conduct much of its own maintenance.

China's interest in Venezuela's oil poses a potential threat to U.S. interests. This year, Venezuela is the U.S.' fourth largest oil supplier after Canada, Mexico and Saudi Arabia. Tensions between the U.S. and Venezuela have been flaring since an April 2002 coup briefly removed Chavez from office. Chavez put the blame on the U.S., accusing Washington of sponsoring the attempted overthrow as well as a devastating oil lockout in 2002-2003. With a severe distrust of the Bush administration, and a marked "anti-imperialist viewpoint," Chavez has voiced concerns that President Bush had plans to have him assassinated, adding that if he were killed the U.S. could "forget Venezuelan oil."²⁹

As the Venezuelan economy stands today, there is very little likelihood that Venezuela would stop exporting oil to the U.S. Venezuela depends too heavily on its oil industry. In a recent study it was estimated that over 60 percent of Venezuela's population lived in poverty, earning less than \$2 per day. Using the revenues from Venezuela's oil industry, Chavez has been able to offer a number of programs promoting literacy, job training, land reform, subsidized food and small loans. He has also used the revenue for health care and to import Cuban doctors.

Should Venezuela find an alternate export partner in China to replace the U.S., it could hurt the U.S., which depends on Venezuela to provide oil for 12 to 15 percent of its consumption rate.³⁰ Despite statements made by Venezuelan officials, such as Ali Rodriguez, president of Venezuela's state-owned oil company, PDVSA, who called the assumption of replacing its U.S. business with China "absurd," Chavez has made a number of threats, including that of putting an embargo on oil shipments to the U.S. According to the Government Accountability Office, which is the investigative arm of Congress, should Venezuelan supplies of oil to the U.S. be disrupted, it could cause an immediate 15 percent spike in international crude oil prices that could disrupt U.S. economic growth.³¹ The U.S. currently has the infrastructure in place, such as refineries capable of processing Venezuela's crude. Refineries in China are not currently capable of processing Venezuela's heavy crude oil. Under the current situation, it would be in Venezuela's best interest to maintain the U.S. as its natural market for oil. However, as

China and Venezuela continue to work together, oil might easily be turned into a geopolitical weapon.

Canadian Oil: Competition for the U.S.?

Canada has been the largest foreign supplier of oil to the U.S. since 1998. According to figures given by the EIA, so far this year, Canada has produced an average of 3.22 mbd. Of this, an average of just over 2.2 mbd has been exported to the U.S. The vast bulk of Canada's proven crude reserves are located in Alberta's huge oil sands deposits, an estimated 178 billion barrels.

Within the past two years, in an effort to increase its own energy security, China has begun flexing its muscles to strike various deals with Canada to win access to some of the most prized oil reserves in North America. In April 2005, CNOOC, through its wholly owned subsidiary CNOOC Belgium BVBA, signed an agreement with MEG Energy Corp., a Canada-based company, to buy 16.67% of MEG for \$135 million. MEG has the rights to an oil sands lease in a 52-section (32,900 acres) oil sands block that is believed to contain 2 billion barrels of recoverable oil.³² This acquisition is expected to help pave the way for further investment into Canada's huge oil sands resources. In another deal, Sinopec has acquired 40 percent of the Northern Lights Oil Sands Project in Alberta, where production is expected to begin sometime in 2009 or 2010.³³

China has also been concentrating on creating export routes from Canada. In another business transaction, PetroChina Co. Ltd. and Enbridge Inc., Canada's number two pipeline company, signed a memorandum of understanding to cooperate on the development of the Gateway pipeline which is expected to transport approximately 400,000 bpd of oil produced from the Alberta oil sands from Edmonton to a port on the west coast of British Columbia, where it can then be shipped via tanker to China, as well as other Asia-Pacific markets and California. China will possibly sign up for as much as half of the pipeline's capacity of (200,000 bpd), while Enbridge will broker the supply deals between PetroChina and oil sands producers.³⁴

In 2003, the U.S. bought over 50% of Canada's oil production, which equates to 1.5 mbd or 553,000,000 barrels for the year. That same year China imported a mere 376,000 barrels the entire year, most likely in one or two small shipments during the winter.³⁵ Although China's involvement may seem insignificant thus far, further encroachment into neighboring Canada's oil supply could potentially cause uneasiness between Canada and the U.S., which have shared a smooth energy relationship since the 1970s. Historically almost all of Canada's exported oil had been sent via a pipeline heading south. Now China is busy striking up deals with Canadian companies that could ultimately cause it to begin gaining market share. Like any capitalistic business, Canadian firms would not likely reject offers made by the Chinese simply to protect U.S. imports. Additionally, Canada is capitalizing on China's growth in other areas as well. For example, economic growth in the U.S. has been slowing. As a result of this slowing, the U.S. is not importing as much from Canada. This would have a negative

impact on the Canadian economy if it weren't for China offsetting this with its purchases of metallic minerals, machinery and electrical equipment exports. While exports to the U.S., which account for 64 percent of Canada's exports, drop in areas such as the forestry sector, China is picking up the slack in other areas. In April 2005, the Canadian government released its International Policy Statement which stated, "Internationally, we will secure and enhance Canada's place in the U.S. market, anchoring our position in a globally competitive North American economy, and further develop our trade and investment links with new economic powerhouses such as China, India and Brazil."³⁶

With a newfound interest in expanding its economic reach to further its exports, coupled with the slowing economies of the U.S. and Japan, Canada could easily feel justified in increasing its oil supplies to China. Should China become aggressive enough, it would be plausible to cause the U.S. to lose part of its market share. This is not likely to happen any time soon, however. There are a number of hurdles China first needs to overcome. Long-term contracts to sell oil to the Chinese need to be signed. Supply deals with other potential shippers need to be signed. Canada must figure out which port will best support supertankers. Canada currently prohibits oil-tanker traffic along most of its Western Coast, which could pose a problem to China. Finally, Chinese refineries are better suited for handling Middle-Eastern crude than Canadian Crude. If China hopes to diversify its oil sources, this will have to change.

Security Challenges of Importing Oil

Currently the majority of oil imports to China are shipped in via tankers and supertankers. As much as 80 percent of its oil passes through the 630 mile-long Strait of Malacca in Southeast Asia, where 40% of the world's piracy occurs. According to some reports, China is stepping up efforts to secure sea-lanes and transport routes vital for oil shipments.

One method by which to step up its security is through closer relations with key countries. India is one such country; it can patrol the Indian Ocean, Bay of Bengal and Arabian Sea as tankers transport oil from locations such as Africa or the Middle East. Along with offering support at sea, improved relations with India now offer a secondary method to safely transport oil, specifically, via pipelines traversing critical countries. China offers pipeline construction experience coupled with engineering and petrochemical processing experience, while India and Pakistan can offer security within their borders.

China is also reportedly trying to modernize its military in what has been described as a multi-year military modernization effort that will take up to a decade to accomplish. Soldiers are being better trained to use high-technology weapons and more effective cruise and anti-ship missiles for use in the waters surrounding Taiwan. China has been trying to update its military for more than two decades to come into the age of computers, satellites and electronic weapons. Although progress has been slow, several programs will likely come into play simultaneously in the next few years, which

will offer China new firepower against Taiwan. For example, China is rapidly developing cruise and other anti-ship missiles.³⁷ This modernization and weapons buildup in the Taiwan Strait is a means by which China can project a threat of force should Taiwan's rulers take steps toward formal independence. It can also be seen as a means by which to ensure that oil is safely transported through the South China Sea and the Taiwan Strait in the event of a conflict with Taiwan. Not only is China's improved military capability aimed at Taiwan but it is also aimed at the U.S., should the U.S. intervene.

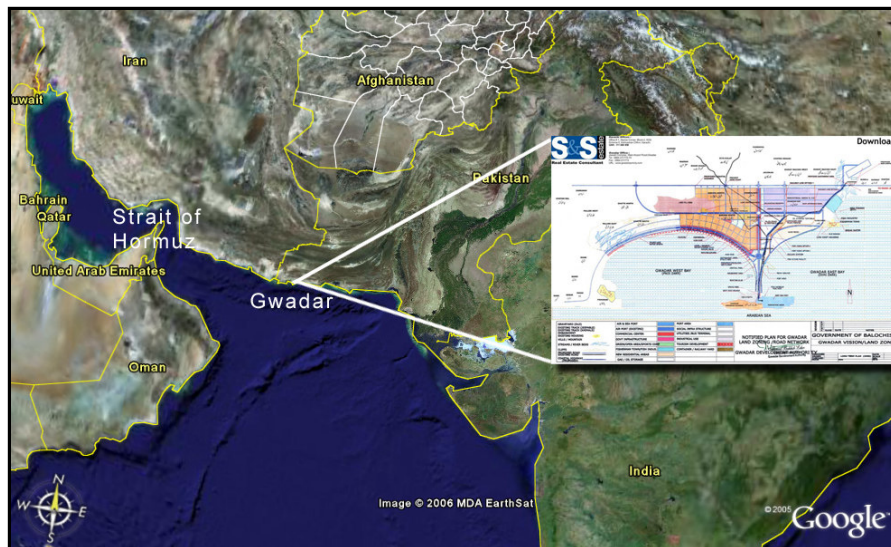
According to a report purportedly written for the Department of Defense, entitled "Energy Futures in Asia," China believes the U.S. Navy controls sea-lanes in the South China Sea and that America would disrupt Chinese energy imports in any conflict over Taiwan. China sees the U.S. as an unpredictable country that violates the sovereignty of others. Not only would China like to build a blue-water navy but they are reportedly looking at developing undersea mines and missile capabilities to deter any potential disruption of its energy supplies from potential threats, especially those that could arise from a conflict with Taiwan. According to the report, China had already developed electronic eavesdropping posts, from the Pakistani port of Gwadar to Myanmar, to monitor shipping traffic through the Strait of Hormuz and the Arabian Sea. It had also provided Myanmar, which is the closest point to the Strait of Malacca, with billions of dollars in military assistance, according to the American Foreign Policy Council.³⁸



China has been researching options to bypass the Strait of Malacca by constructing a pipeline to Myanmar as well as Bangladesh, Pakistan or Thailand. In early 2004, China was pursuing a land bridge project in southern Thailand which would give Asian oil importers an alternative to shipping oil through the Strait of Malacca. This project would include the construction of a \$3 billion oil refinery and \$881 million worth of oil depots with a 143-mile pipeline running from Phangnga to Nakhon Si Thammarat.³⁹ However, after a dramatic increase in steel prices, which accounts for 60-70 percent of the project's construction cost, Chinese investors began getting cold feet and in April 2005 the project was put on hold. Myanmar is another option China has been considering. Since at least 2004, China has been looking at the possibility of building a 775-mile oil pipeline from Sittwe on the Bay of Bengal to Kunming in Yunnan province. This project is still in its planning stages.

Geographically and logistically, Pakistan would be an ideal choice. However, a pipeline through that country could be subject to terrorist attacks. Despite this, China and Pakistan have been progressing in their discussions on energy cooperation. Pakistani President Pervez Musharraf was discussing the possibility of giving China direct access to Gwadar port, which is located near the Strait of Hormuz through which 40 percent of the world's oil passes.⁴⁰ China had contributed \$198 million while Islamabad contributed \$50 million to the port's construction, the first phase of which was completed in April 2005. China reportedly will finance phase two as well. In order to give China direct access to Gwadar port, Pakistan is researching the prospect of transporting crude oil through its mountainous terrain to China's border. This could be accomplished via railway or pipeline. Musharraf is also trying to convert Pakistan into an energy corridor for China through Gwadar seaport by developing new rail and road networks. Musharraf said that by linking the two countries by rail and gas pipeline it would ensure rapid trade and energy development, which would be mutually beneficial.⁴¹

Should a crisis occur that disrupts the flow of oil into China, it could prove to have a powerful negative impact. With China's exploding economy, fueled by an increase in oil demand and decreasing domestic supplies of oil, China could be faced with an economic and socio-economic crisis if it is not able to obtain the resources necessary to support it. Oil is at the forefront of its requirements list, being integral to myriad industrial and consumer needs. China's oil stockpiles are currently very low. Should China somehow lose part of its oil supply, it would probably impose strict fuel rationing. Fuel would be allocated to food transportation and other essential means



of transport while private citizens would be denied. China is extremely vulnerable to that.

In February 2005, Chinese oil officials said they were planning to set up a strategic petroleum reserve as a buffer against price rises and supply shortages. According to Chinese state-owned media, the reserve, located in four locations in Zhejiang, Shandong and Liaoning provinces, would cost the national government \$1.6 billion, plus the cost of the oil. This stockpile would last 20 to 30 days.⁴² China currently holds less than 10 days of imports.

Competition with India

China faces competition with other countries to be the first to tie the knot on oil exploration projects throughout the world. India has been going toe to toe with China in its global pursuit of oil. Given their current situations, China and India are the two countries developing the greatest new thirst for oil. While China imports approximately 40 percent of its oil, India imports more than 70 percent of its oil.⁴³ Neither country has domestic oil fields capable of supplying their domestic needs, making them equally dependent on oil from abroad. Therefore, the race for equity oil is on, and given the highly aggressive nature of the Chinese bidders, India has learned the hard way that it needs to act quickly to seal its oil contracts.

The concept of equity oil, or securing acreages abroad, is not a new one. Several decades ago U.S. and European countries began using this idea. Exxon, Mobil and Chevron are past examples of companies that came to dominate the oil business using the concept of equity oil. And each time they pursued concessions in new oil fields abroad, they were actively aided by the respective governments.

China is feeling the crunch as India is competing more and more for oil and natural gas fields around the world. Following China's example, India is also pursuing oil in remote areas. With 37 percent of the world's population, India and China are both in a desperate race to catch up with the U.S., Europe and Japan industrially. To meet its growing oil demand, India, like China, is tapping into countries that have been isolated by the West, giving China more competition in those areas.⁴⁴

Early in 2004, ONGC, the Indian state-owned Oil and Natural Gas Corporation Limited (ONGC), had almost closed a deal with Sudan to pick up an 11 percent stake in the Block 3 oilfield in Sudan. The oil field was already producing 400,000 bpd. As India waited for the Union Cabinet's nod, CNPC swooped down and offered 17 percent more than ONGC's bid, and a deal was signed immediately.⁴⁵ By learning from its mistakes, ONGC is getting better at the game and has since been able to win a number of bids.

China has figured out early on that the best way to tap into equity oil is to focus on oilfields of the relatively crisis-ridden countries shunned by Western oil majors. This explains its pursuit of oil in areas such as Sudan, Venezuela and Iran. However, companies such as ONGC are right on China's heels, engaged in bidding wars to win equity as well in these countries. By picking up equity in oilfields around the world, China is able to ensure cheap and reliable oil supplies. By acquiring equity in foreign oilfields and sharing the cost of development and production, China can cut its oil purchase cost.

Conclusions

Inevitably, China's dependence on oil and gas resources abroad will increase with time. With more and more consumers purchasing automobiles and tens of thousands of factories across the country now running on stand-alone diesel-oil generators (a reliable source but one that eats up fuel) China has entered a race for its life. To win this race China has developed a multi-faceted, geo-economic and geo-strategic approach to its global pursuit of oil. The two primary factors that drive China's geo-strategic approach are its increasing oil needs coupled with security needs. These approaches can be further broken down into three major strategic elements that comprise China's search for oil:

1. China is increasingly looking at state-to-state oil deals to secure its oil supplies rather than buying on the open market. With a slowdown of global oil production and fewer discoveries of major fields, this puts key importing countries (the U.S., India, China and Japan) in greater competition for oil on the world market, with prices higher as a result.
2. Chinese oil companies are taking more risks in order to acquire oil assets overseas. These risks are already having major geopolitical consequences. For example, in deals made with Sudan, China has become the country's chief arms supplier and diplomatic ally, as Sudan wages a genocidal war against its African tribes. In another example, China's deals with Iran, going against the Iran-Libya Sanctions Act (ILSA) of 1996, have paved the way for other countries to do the same, opening up more opportunities for trade in arms and weapons of mass destruction. The selling of arms and weapons technology is a growing trend used by countries such as China and Russia, to meet their own economic needs.
3. Finally, a strong political undercurrent can be seen in China's pursuit of oil. China and Russia have been striving for a strong alliance. But the dominant purpose behind the China-Russia relationship can be seen as a way to control the power of the U.S. As both countries feel they are threatened by the U.S., they aim to use a strategic alliance as a means to overcome their strategic isolation through cooperation. Russia sells advanced weaponry and oil to China while China returns hard currency.

“Over the longer term, I would argue that no other country in the world will have as great an impact on the world's energy industry than China.”

James P. Dorian, Ph.D.

Part of China's geo-economic strategy goes beyond its alliance with just Russia. China has joined forces with Brazil, Russia and India in a new coalition of emerging superpowers proposed by President Putin, called the BRIC alliance. There has also been talk of other countries, such as Iran, South Africa and Venezuela joining the pack

as well. The current coalition encompasses over 40 percent of the total world population. The idea of BRIC came about due to growing concerns of U.S. and European domination over the world economy and political scene. There is a sense of uneasiness and a fear that the U.S. has too much control over, among other things, the world's oil. One of the shared goals of the BRIC alliance could very well be to lessen Western influence over many of the world's sources of oil by joining together in a coalition of countries growing in economic strength and capability, one that will one day outgrow the economic strength of the western powers.

Another factor driving China's relentless pursuit of oil is the general consensus that the supply will one day be diminished. Currently supplies are able to meet demands. However, some markets are beginning to dry up. The EIA predicts that developing nations like China will push worldwide demand up 47 percent to 121 mbd by 2030. This will have a tremendous impact on oil companies around the world trying to keep up with demand. Oil companies will have to spend an estimated \$3 trillion to develop new supplies to keep up the pace of world demand.⁴⁶ Worldwide, oil production had peaked for more than 50 oil-producing countries. The discovery of new oil sources, which has declined over 40 years, had almost ceased. In 2002 the world consumed four times more than the amount of newly discovered oil. Global demand is projected to reach 119 mbd in 2025. Analysts do not agree on the world outlook for oil production. Some believe that world oil production has already peaked. Others calculate a decline in production by 2010. Some more optimistic analysts predict that output will level off by 2036. Improvements in drilling technology and exploitation of unconventional oil sources, such as Canada's oil sands, could delay an inevitable decline.⁴⁷ Either way, buying up oil and oil deals is the equivalent to buying time. This time will be necessary to develop new technologies, providing alternatives to oil and gas.

Global implications of China's increasing energy demand include:

- China has a growing role in Central Asia, Russia, ASEAN countries, the Middle East and Africa. Additionally its role could grow closer to the U.S. border as it reaches agreements with countries in South America and even Canada.
- China is emerging as a competitor against Japan and the U.S. for imported oil.
- China's increasing demand for oil is strongly influencing world commodity prices and markets, driving prices up to dramatic levels.
- The growing pollution caused by China's industrialization is becoming a regional and international concern.
- China's influence in certain countries could eventually backfire against the U.S. as certain major U.S. oil supplying nations find an oil export substitute in China. The Venezuelan government and its political disagreements and strong words with the Bush administration provides a perfect example of a country that could potentially cut off the U.S. in favor of doing business with China. Should China be able to carry the Venezuelan oil business with

adequate purchases, oil could be used as a weapon of diplomacy against the U.S.

Finally China, knowing that it could face a bleak future if its appetite is not curbed, is also searching for technology that will stretch its resources.

Steps China is taking to stretch its oil reserves include:

- Seeking smarter technology to squeeze out more oil from oil wells.
- Seeking new refining technologies. Although China does not import oil from South Africa, it could benefit from South Africa's technology in the energy sector and Sasol's, a South African-based global company, strong refining and coal to liquids infrastructure, which would be essential to China's future development. Sasol signed a letter of intent with China in August 2004 to investigate the feasibility of establishing two coal liquefaction plants within the Asian country.
- Developing alternatives to oil in the transportation sector by developing a market for alcohol fuels like ethanol, methanol and biodiesel as well as battery technology that facilitates electrification of transportation.

Steps the U.S. should take:

In an effort to maintain a strong foothold on energy, there are three steps the U.S. should take. First, it should continue to carefully monitor China's involvement in global energy. Second, the U.S. should take the necessary steps to maintain a strong political hold on its current global resources. Finally, the U.S. should continue to seek ways to diversify its energy sources. Part of this diversification strategy should entail increased research into energy alternatives such as renewable energy. This research can be expanded through cooperation. Cooperation with China in renewable energy could prove to be fruitful in many ways. Increased renewable sources of energy would decrease dependency on oil. It would also help to increase China's own sense of energy security. By cooperating with China to improve its energy security, the U.S. could help reduce the overall wariness of both countries and form a stronger bond.

Appendix A

Glossary of Terms and Companies

Baikal Finance Group: An obscure company that was originally awarded Yuganskneftgaz in a controversial auction.

BPD: Barrels per day.

British Petroleum (BP): One of Britain's biggest companies and one of the world's largest oil and petrochemical groups.

China National Petroleum Corporation (CNPC): China's largest producers and supplier of crude oil and natural gas. A state-owned company.

China National Offshore Oil Corporation (CNOOC): A Chinese, state-run oil firm.

Gazprom: State-owned Russian giant, Gazprom, is the world's largest producer of gas.

ILSA: Iran-Libya Sanctions Act. An executive order signed in 1995 by President Clinton and renewed by President Bush in 2004, prohibits U.S. companies from doing business in Iran.

Lukoil: Russia's largest privately owned oil company, since the downfall of Yukos.

MBD: Million barrels per day.

MEG Energy Corp: A private energy company based in Calgary, Canada.

Menatep Group: An international holding company and investor in international financial and capital markets. Menatep Group is the core shareholder of Yukos' assets, this company has headquarters in London and Moscow.

OAO Sibneft: One of Russia's largest privately owned oil companies. Sibneft focuses on Russia and the CIS.

Oil and Natural Gas Corporation (ONGC) Limited: An Indian state-owned oil company.

Organization of the Petroleum Exporting Countries (OPEC): A permanent, intergovernmental organization created at the Baghdad Conference on September 10-14, 1960, by Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. These countries were later joined by Qatar (1961), Indonesia (1962), Libya (1962), United Arab Emirates (1967), Algeria (1969), Nigeria (1971), Ecuador (1973-1992) and Gabon (1975-1994).

Petroleos de Venezuela (PDVSA): A state-owned Venezuelan oil company.

Rosneft: The only Russian oil company that is completely state-owned.

Russian Railways: A state-owned railway mainline. Russia's only mainline running in the eastern direction.

Sibneft: See OAO Sibneft.

Sinopec: (Also known as China Petroleum & Chemical Corporation), one of China largest integrated energy and chemical companies.

Surgutneftegas: A Russian-based oil company and the eleventh largest oil company in the world.

TNK – BP: A major oil company with the majority of its assets in Russia. It was formed in August 2003 from the assets of TNK (Tymen Oil Co.), Onako, Sidanco and the majority of BP's assets in Russia.

Transneft: Russia's oil pipeline monopoly.

Yuganskneftegas: Formerly Yukos' largest production asset, which some claim was illegally auctioned off, causing Yukos to collapse.

Yukos: A petroleum company in Russia. The company was, until recently, controlled by Russian billionaire Mikhail Khodorkovsky and a number of prominent Russian businessmen, or "oligarchs". Khodorkovsky was arrested on 25 October 2003 and has since been imprisoned, while others have fled Russia. The company was forced into bankruptcy.

NOTES

- ¹ "IEA Raises 2005 China Oil Demand to 6.8 Mln bpd," *AFX News Limited*, 11 March 2005, <<http://www.rigzone.com>> (13 Mar 2005).
- ² "Table 2.4 World Petroleum (Oil) Demand, 2002-2006," *Energy Information Administration*, <<http://www.eia.doe.gov/emeu/ipsr/t24.xls>> (9 Aug 2006).
- ³ "Table A4. World Oil Consumption by Region, Reference Case, 1990-2030," *Energy Information Administration*, <http://www.eia.doe.gov/oiaf/ieo/pdf/ieoreftab_4.pdf> (9 Aug 2006).
- ⁴ "International Energy Outlook 2006," *Energy Information Administration*, Appendix E, pg 160. <<http://www.eia.doe.gov/oiaf/ieo/pdf/ieooil.pdf>> (9 Aug 2006).
- ⁵ "Russia Country Analysis Brief," *Energy Information Administration*, February 2005, <<http://www.eia.doe.gov/emeu/cabs/russia.html#oil>> (9 Mar 05).
- ⁶ Ding Ying, "Russia Gets Mileage with Oil Diplomacy," *Beijing Review*, March 2005, <<http://www.bjreview.com.cn>> (9 Mar 2005).
- ⁷ "Terminal of Eastern Siberia-Pacific Pipeline is Determined," *The Russian Oil and Gas Report* [Russia], 2 August 2006.
- ⁸ Greg Priddy, telephone interview, 21 March 2005.
- ⁹ "Caspian Sea: Background," *Energy Information Administration*, September 2005, <<http://www.eia.doe.gov/emeu/cabs/Caspian/Background.html>> (14 Aug 2006).
- ¹⁰ "Kazakhstan," *CIA World Factbook*, 29 June 2006, <<http://www.cia.gov/cia/publications/factbook/geos/kz.html>> (12 Jul 2006).
- ¹¹ "Kazakhstan," *Energy Information Administration*, Country Analysis Briefs, July 2005.
- ¹² "Kazakhstan," *Energy Information Administration*, Department of Energy, July 2005, <<http://www.eia.doe.gov>> (28 Oct 2005).
- ¹³ "First Kazakh Crude Arrives in China," *Pipeline Asia*, 13 July 2006, <<http://www.pipelineasia.com>> (13 Jul 2006).
- ¹⁴ "China Beats India for Kazakhstan Oil Firm," *China National News*, 22 August 2005, <<http://story.chinanationalnews.com>> (25 Aug 2005).
- ¹⁵ Michael T. Klare, "Oil, Geopolitics and War with Iran," *Asia Times*, 13 April 2005, <http://www.atimes.com> (14 Apr 2005).
- ¹⁶ "MOFTEC Paper Profiles Zhuhai Corporation's Visit to Iran in 2000," *Beijing Guoji Shangbao*, Open Source Center, 5 January 2001.
- ¹⁷ "Year-to-Date Imports of Crude Oil and Petroleum Products into the United States by Country of Origin, January-May 2006," *Energy Information Administration*, 2006.
- ¹⁸ "Port Authority to Join Lawsuit Against Saudi Arabia over 9/11 Attack," *USA Today*, 10 September 2004.

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- ¹⁹ “King to Sign Saudi-China Oil Deals,” *Aljazeera.net*, 23 Jan 2006, <<http://english.aljazeera.net>>.
- ²⁰ “Saudi Arabia Becomes China’s Largest Oil Provider,” *People’s Daily Online*, 26 January 2006.
- ²¹ “Chavez Se Reunira En China Con Presidente Y Primer Ministro,” *Laverdad*, 21 August 2006, <<http://www.laverdad.com/detallenew.asp?mostrar=3&idcat=1&idnot=43486>> (21 Aug 2006).
- ²² “Chavez Se Reunira En China Con Presidente Y Primer Ministro,” *Laverdad*.
- ²³ “China, Venezuela Sign Energy Deal,” *China National News*, 25 August 2006.
- ²⁴ “Chavez Se Reunira En China Con Presidente Y Primer Ministro,” *Laverdad*.
- ²⁵ Charles Roth, “Venezuela Plan to Sell US Oil Ops Flawed – Ex-PdVSA Pres,” *FWN Select*, 2 February 2005, Rigzone, <<http://www.rigzone.com>> (2 Feb 2005).
- ²⁶ Chris Buckley, “China Gains Access to Venezuelan Oil,” *The International Herald Tribune*, 28 December 2004.
- ²⁷ Eric Jackson, “China-Venezuela Oil and Telecom Deals will Affect Panama,” *The Panama News*, 9 January 2005
- ²⁸ “Chavez Se Reunira En China Con Presidente Y Primer Ministro,” *Laverdad*.
- ²⁹ Nikolas Kozloff, “Latin America: Venezuela’s Chavez: ‘Oil is a Geopolitical Weapon,’” *Triniscenter.com*, 6 April 2005, <<http://www.triniscenter.com>> (5 May 2005).
- ³⁰ Energy Information Administration.
- ³¹ Patricia I. Vasquez, “US Unprepared for Venezuela Oil Embargo,” *Oil Daily*, 15 July 2006.
- ³² “Canada Oil Sands Vital to Chinese Energy Security,” *Platts Energy Economist*, 1 June 2006.
- ³³ “Canada Oil Sands Vital to Chinese Energy Security,” *Platts Energy Economist*.
- ³⁴ Ibid.
- ³⁵ Greg Stringham, Canada Association of Petroleum Producers, email, 10 May 2005.
- ³⁶ “Government of Canada Releases International Policy Statement,” *Canada NewsWire*, 19 April 2005.
- ³⁷ Edward Cody, “China Builds a Smaller, Stronger Military,” *Washington Post*, 12 April 2005, <<http://www.washingtonpost.com>> (15 Apr 2005).
- ³⁸ Arnold Gay, “Oil Fuelling China’s Naval Build-Up,” *Straits Times*, 2 May 2005.
- ³⁹ “Chinese and Korean Firms Invited to Invest in Landbridge Project,” *Thailand-China Business Link*, 27 July 2004.
- ⁴⁰ “Pakistan Considers Energy Route for China,” *The Post Chronicle*, 22 February, 2006.
- ⁴¹ “President Musharraf Promises to Make Pakistan ‘Energy Corridor for China,’” *BBC Monitoring International Reports*, 4 July 2006.
- ⁴² “China Plans Oil Reserves to Manage Prices,” *United Press International*, 2 February 2005. <<http://www.rigzone.com>> (3 Feb 2005).

⁴³ Manjeet Kripalani, Dexter Roberts and Jason Bush, "India And China: Oil-Patch Partners?," *Business Week Online*, 7 February 2006.

⁴⁴ Keith Bradsher, "India Joins China in Stepped-up Thirst for Oil," *International Herald Tribune*, 18 February 2005, <<http://www.rigzone.com>> (19 Feb 2005).

⁴⁵ Anup Jayaram, "ONGC Videsh Faces a Chinese Challenge in its Global Search for Equity Oil," *Business World* [India], 16 August 2004, <<http://www.businessworldindia.com>> (28 Dec 2004).

⁴⁶ Marianne Lavelle, "Hostage to Oil," *U.S. News & World Report*, 10 January 2005.

⁴⁷ "Petroleum and Natural Gas, Crude." *Encyclopedia of Global Industries*. Online Edition, Thomson Gale, 2005. Reproduced in Business and Company Resource Center, Farmington Hills, Mich.: Gale Group, 2005, <<http://galenet.galegroup.com/servlet/BCRC>>.