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CHINA'S OVERSEAS OILFIELD ACQUISITION STRATEGY

And its Implications

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“What is your story?” That was the first question that my academic advisor, Dr Christopher Allsopp, Director of the Oxford Institute for Energy Studies, asked me at our very first meeting. I did not have a proper answer and could only give the reason why I had chosen this specific subject to research. The same question was frequently posed at our subsequent meetings. Unfortunately, for a very long period of time, I still had difficulty in answering this basic question. The research subject appeared too large – indeed I still believe it is -and I was lacking in the confidence to take a definite line.

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Chapter One: Introduction

1.1 Oversea acquisitions as oil supply side management

While I was in the final stages of this paper, the country with the second largest oil reserve, threatened to employ oil as a weapon should the United States use military force against them. That country, Iran, forewarned that the market would be shocked by a possible price hike to U.S.\$100 per barrel.¹

Would this news reinforce the existing Chinese fear of oil disruption and justify an ambitious expansion programme? Or, is Iran's threat merely a bluff and oil-as-a-weapon is too weak to halt the well functioning market to the extent that China's overseas oil acquisitions are rendered irrelevant and unnecessary?

The Chinese concern over Iran is understandable in the light of economic dynamics. China attained an averaged GDP growth by 9.9% per year between 1981 and 2000. There is no sign that the growth trend will change. As economic development has heavily involved fixed capital investment and heavy industries, energy usage in China would only be larger than ever, especially when the progress in energy saving is not so promising. (Appendix 1: Economic development: High growth with high energy intensity)

Since 2003, China has overtaken Japan to become the second largest oil consumer, only after the US. Among her three major primary energy sources, oil accounts for 20%. As the productions of some major oilfields in China come to their peaks, over 45% of China's oil needs will have to come from abroad. In terms of barrels per day (bpd), the import level stood at over 3.3 million in 2005. By 2020, at least 50% of its oil demand would be imported. (Appendix 2: Energy resources of China)

China is not the only big economy dependent on imported oil. The U.S., Japan and Germany, to name a few, import on a considerable scale. Two-thirds of U.S. oil consumption comes from abroad. Germany has virtually no domestic oil production and its 2.5 million bpd consumption relies on external supply.² However, Germany's external dependence rarely hit the media headlines over the last couple of years. In contrast, China's situation has. Probably one of the reasons is that Germany has never been as aggressive as China in acquiring overseas oil assets. The Germans do not set upon themselves a national policy to use overseas acquisition as strategy to guarantee uninterrupted supply.

The approaches that China has used to expand overseas causes much concern in the international community, especially among Western countries.

Here are the approaches China are employing:

1. China chooses to acquire overseas assets rather than simply buying oil from the international market;
2. National oil companies (NOCs) are vehicles of the Chinese government to go beyond her national borders;

¹ "Iran says won't rule out using oil as a weapon", *Reuters*, 16 June, 2007, <http://www.reuters.com/articlePrint?articleId=USBLA92313520070619>

² BP Statistical Review of World Energy 2006

3. The government plays an important role in acquisition. It offers low interest rate loans to NOCs and coordinates package deals (infrastructure, debt and aid, even arms sales) to oil-producing countries;
4. China is willing to invest in politically sensitive countries, such as Iran and Sudan, though they are perceived as problematic regimes by the U.S. and its allies.

China embarked upon purchasing oil assets abroad when it turned from being a net oil exporter to an importer in 1993. The buying did not become a spree till late 1990s. Between 2001 and 2006, the value of assets acquired went up to no less than US\$27 billion.³

From then on, China's activities have become closely watched. The country's attempt to take on the U.S.-based oil company, Unocal, in the summer of 2005 caught worldwide attention. Many American politicians were so upset that they frustrated the bid offered by one of three giant Chinese NOCs - the China National Off-shore Oil Corporation (CNOOC). They criticised China for "hoarding oil" from the world.⁴

The Chinese involvement in such hot spots as Iran, Sudan and Myanmar are put under the spotlight. Non-governmental organizations (NGOs) are preparing to launch campaigns to tie the Darfur issue with the Beijing Olympics 2008, putting pressure on China to do something about the humanitarian atrocities allegedly committed by the Sudanese government.⁵

The set back and frustration on US soil has made China lower her profile in overseas acquisitions.⁶ Beijing has shifted emphasis to its 90% energy self-reliance.⁷ But a lower profile does not mean China's buying activities have necessarily slowed. China's aggressive overseas acquisitions pace has not changed.

China's overseas oil acquisitions have become part and parcel of foreign diplomacy. It remains so as long as the government continues the current supply side management strategy.

This paper attempts to answer the following questions:

1. Why does China opt for acquisitions of overseas assets to secure oil supply?
2. What, where and how do her NOCs expand? How is the Chinese government involved?
3. What have they achieved so far and how do these impacts the international community?

³ Keun-Wook Paik, Valerie Marcel, Glada Lahn, John V. Mitchell and Erkin Adylov, "Trends in Asian NOC Investment Abroad", Chatham House Working Paper, March 2007

⁴ House Committee on Armed Services, National Security Dimensions of the Possible Acquisition of UNOCAL by CNOOC and the Role of CFIUS, Statement of Hon. C. Richard D'Amato, Chairman, U.S.-China Economic and Security Review Commission, 13 July, 2005, http://www.uscc.gov/testimonies_speeches/testimonies/2005/05_07_13_testi_damato.pdf

⁵ Chris Buckley, "China defends Darfur role, deflects Olympic warning", *Reuters website*, 10 May, 2007, available at <http://www.reuters.com/article/latestCrisis/idUSSP319572>

⁶ Keun-Wook Paik, March 2007

⁷ "Extract of speech of Ma Kai, the Chairman of National Development Reform Commission (NDRC) of China in the first Sino-Japanese ministerial meeting", NDRC releases, 12 April, 2007, available at www.sdpc.gov.cn/nyjt/nyzywx/t20070418_130118.htm

It should be noted that even though most of the Western countries do not set overseas acquisitions as their primary national oil security strategy, China is not alone in investing and providing financial aid to the countries of questionable regimes. For example, the U.S. grants aid to Angola. The aid is believed capable of creating a friendly environment for the American private oil companies' investments.⁸ India and Malaysia also invest in Sudan. However, it is China's assistance without any conditions and her diplomatic protection to problematic countries that draw wider concern and criticism.

The claims that China's growing demand in oil pushes up prices, upsets the market and accelerates depletion of reserves are patently absurd. Statistics prove this. The volume of oil that NOCs acquired and shipped back to China only accounted for 0.4% of world oil production up to 2005.⁹ Even it goes up to 1.1 million bdp in 2013-2015, it only accounts for 1.4% of world oil production.¹⁰

In other words, the actual tension China creates now and in the future would be less in the economic sphere of energy than one of politics and international relations. Therefore, a legitimate question is whether the limited benefits gained from reaching to problematic regimes in Africa is worth the blame and negative publicity.

It should be noted that China's government has never released a public document to explain its overseas acquisition strategy and its plan. Therefore, this paper is only able to be based on the information from press reports where government or NOC officials have spoken on the subject.

⁸ Jędrzej Geroge Frynas and Manuel Paulo, "A New Scramble for African Oil? Historical, Political and Business Perspectives", *African Affairs*, Vol. 106, Number 423, April 2007, pp 229-251

⁹ According to the Eurasia 2006 research, China shipped approximately 360,000 bdp from overseas assets. In 2005, according to BP Statistical Review of World Energy 2006, world oil production is 81.25 million bdp. Eurasia group report, "China's overseas investments in oil and gas production" prepared for the US-China Economic and Security Review Commission in United States on 16 October, 2006.

¹⁰ I have assumed that the world oil production remains unchanged from 2005.

Chapter Two: Reasons for overseas acquisitions

2.1 Government perspective: Distrust of an unfair market

China does not want to rely on the world oil market. There is a body of research and analysis suggesting that China does not trust the world oil market because it does not believe the system to be free from dominance by foreign players.¹¹ The dominance by foreign players and the resulting dictation on prices would work to China's disadvantage. An analyst from the China Institute of International Studies (CIIS), the research arm of the Ministry of Foreign Affairs, puts it explicitly:¹²

“The (current overseas) operation cost of crude oil ranges from U.S.\$10 to 15 per barrel; it can go even lower in the Middle East. The market price is a couple times higher than the operation cost. The profits are pocketed by Western multinational companies, which control oil assets, and international speculators.”

The spikes of oil prices in 2005 left China wondering how much bargaining power it actually had, even as the second largest oil importer.¹³ The head of a research division under the Ministry of Land and Resources of China, Zhang Dawei, described China as suffering on two fronts: while the importation of oil was increasing, the prices were also up. The combined effect was that the nation was paying more and more to get the needed energy. The increased costs were transferred and borne by refineries and the transport system and, in the end, would hurt industrial production, farming, transportation and the quality of living of common people. It would adversely affect the overall economic security of the country.¹⁴

Besides the fear of an “unfair” market, China's imports heavily depend on the open and safe access to sea lanes. Approximately 90% of oil transport is done by sea.¹⁵ In particular, 80% imported oil passes through the chokepoint of the Strait of Malacca¹⁶. The thought of any blockage by the U.S. of the Strait of Malacca in the event of military conflict over Taiwan is affecting Chinese policy makers' choices of strategy.¹⁷¹⁸ However, some argue that the probability of a blockage is quite low. (This point will be elaborated upon in Chapter 5)

¹¹ US.-China Economic and Security Review Commission, “2006 Report to Congress”, November 2006, p 96, available at http://www.uscc.gov/annual_report/2006/annual_report_full_06.pdf

¹² Outlook Magazine, quoted Chen Dezhao, used by Chinese Security Journal, “China economy is in a critical stage and under challenge”, 16 January, 2006, via WiseSearch

¹³ An interview of Chen Dongqi, the deputy research director of Macro Economic Studies Institute under the National Development and Reform Commission of China in “Who use the oil to contend the development of China-analysis of oil price spike up” (in Chinese), *China Offshore Oil Press*, 20 July, 2005, via WiseSearch

¹⁴ “What the oil spike up reflect?”, *Beijing Youth Daily*, 23 April, 2004, p. A23, via WiseSearch

¹⁵ Erica Downs, “The Brookings Foreign Policy Studies: China-Executive Summary”, *The Brookings Institution*, December 2006, p. 31

¹⁶ Mengdi Gu, “China wants More Pipelines for Improved Oil Import Security,” *Oil and Gas Journal* 103, issue 1, 3 January, 2005

¹⁷ *ibid*

¹⁸ “Interview of analyst of the China Institutes of Contemporary International Relations (CICIR)”, *21st Century Business Herald*, 13 September, 2004

In order to reduce China's vulnerability in case of an energy crisis or oil market failure and to secure oil supply in relatively stable prices, China has chosen to acquire overseas oil fields (equity oil investment). The national as well as the corporate strategy of expansion abroad is officially termed as the "Going-Out" strategy. In the context of energy, it means to buying up overseas oil assets.¹⁹ The oil produced from acquired oilfields is termed "equity oil".

According to a pro-Chinese government newspaper, former President Jiang Zemin, when he was in office, was the first one who initiated the "Going-Out" to address the increasing oil import needs.²⁰ "Going-Out" strategy is also ranked number two among the ten strategies of the government's "21st Century Oil Strategy".²¹

The Development Research Centre under the State Council was reported to conclude the "Going-Out" strategy is composed of four major areas: (1) Participate in overseas oil field exploration; (2) Participate in oil futures market; (3) "Oil-Finance" strategy: financially prepared for participation in the futures markets; (4) Re-adjust the mix of imported petroleum products.²²

2.2 Company perspective: Building up reserves at reasonable prices

Overseas acquisition is motivated by commercial reasons as well. Expanding oil reserves is a common practice of international companies. This is a principal way for them to survive. The Chief Financial Officer of CNOOC (a listed subsidiary of the CNOOC Group), Mark Qiu, wrote an article to explain why Chinese oil companies aggressively acquire overseas assets. He said:

"Any upstream oil and gas fields will be exhausted one day. Therefore, all oil companies will keep on searching for new oil fields to sustain their developments. China is in no exception. If an oil company is not able to increase its reserves and production, it is destined to be acquired by others one day".²³

The Chief Executive of Sinopec, another one of three major NOCs in China, Wang Jiming, said in an interview, "some of the oil fields (in China) are getting old and their productions are declining. Therefore, we have to keep on searching for new oil and gas

¹⁹ "Oil security: A top priority for China" (in Chinese), *People Daily Online*, 1 May, 2004

²⁰ "Four ways to 'Go-Out' to secure oil supply"(in Chinese), *Hong Kong Commercial Daily*, 22 January, 2001, A01, via WiserSearch

²¹ "China's 21st century energy strategy, strengthen the military to protect energy, US\$100 billion to spend to build up the system"(in Chinese), *Ta Kung Pao*, 13 November, 2002, A02, The report said a so-called "21st Century Oil Strategy" was drafted, which is under the guidance by the top Chinese officials. The report quoted the Vice Minister of Ministry of Foreign Trade and Economic Co-operation, Zhang Zhigang, the details of the strategies. The first strategy is to diversification; the second is Go-out strategy to form a joint venture in overseas oilfields operation.

²² "Four ways to 'Go-Out' to secure oil supply"(in Chinese), *Hong Kong Commercial Daily*, 22 January, 2001, A01, via WiserSearch

²³ Mark Qiu, "Decode CNOOC's overseas acquisitions strategy"(in Chinese), *21st Century Business Herald*, 14 October, 2004, via WiserSearch

fields. It is not only an important national strategy to secure natural resources, but to Sinopec it is also a matter of beefing up market competitiveness".²⁴

Compared to domestic production, overseas acquisition can be more cost-effective and allow the companies to build up reserves at a cheaper price. According to an estimate, China's average onshore lifting costs are about U.S.\$12 barrel, 50% more than the world average and considerably more expensive than those in the Middle East, which are nearer U.S.\$2-3 a barrel.²⁵

²⁴ "Industry recovery: interview with CEO of Sinopec"(in Chinese), *China Securities Journal*, 7 August, 2003, via WiserSearch

²⁵ FACTS Inc, "China Accelerates Shift in Energy Policy, Restructuring of State Petroleum Firms", *Oil and Gas Journal*, 10 January, 2000, page 14-18, quoted by, Philip Andrews-Speed, Xuanli Liao and Roland Dannreuther, *The Strategic Implications of China's Energy Needs*, Adelphi Paper 346, Oxford University Press, New York, 2002, p.28

Chapter Three: Government Involvement

3.1 Acquisition become s aggressive in late 90s

In 1993, China turned into a net importer of oil. Since then, the proportion of imported oil to the total oil consumption has increased every year. Government officials have been fully aware of the situation and oil field acquisitions have increased from then on. In the early days, the scale was smaller and drew less worldwide attention than what has been evident in the last couple of years.

According to the Eurasia Group's report²⁶, the first acquisition of a production asset outside Chinese territory was the March 1993 purchase of operating rights of the Banyan block in Thailand. Acquisitions of exploration acreage in Canada and Peru followed in the same year. CNOOC started its first offshore production investment in Indonesia in 1993. There were a couple of minor and insignificant acquisitions in later years. For the first few years, though, the amount of equity oil generated by these projects was limited.

From the late 90s, there has been a notable flurry in oil diplomacy undertaken by the Chinese government. Two major projects in Kazakhstan and Sudan were acquired in 1997. A year later, the first official visit of then-president Jiang Zemin to Saudi Arabia highlighted the countries entering into a 'strategic oil partnership'.²⁷

3.2 Role of NOCs

Like many other Asian countries such as India, Malaysia and Korea, China employs national oil companies (NOCs) to implement overseas acquisition strategies. Most of China's purchases are done by three major NOCs: the China National Petroleum Corporation (CNPC), the China National Petroleum & Chemical Corporation (Sinopec) and the China National Offshore Oil Corporation (CNOOC). All of the three have their own subsidiaries in charge of international exploration and production and all three subsidiaries are listed in Hong Kong and the United States stock markets. Most of the overseas acquisitions have been done by parent companies rather than the subsidiaries. In some cases, overseas assets were then injected directly or through a complicated structure into the subsidiaries.

On the surface the acquisitions are pursued by the corporate entity. There is a debate as to what extent activities of this kind can be attributed to the state. The case of CNOOC breaking off talks with Chevron over the purchase of LNG in the Gorgon project is often cited as an example of NOCs not being an instrument of state policy.²⁸

But a few isolated cases do not refute state involvement. The government may well not have a list of targeted assets. It may not leave discretion to individual companies to

²⁶ Eurasia group, "China's overseas investments in oil and gas production" prepared for the US-China Economic and Security Review Commission in United States on 16 October, 2006

²⁷ Philip Andrews-Speed, Xuanli Liao and Roland Dannreuter, "*The Strategic Implications of China's Energy Needs*", The International Institute for Strategic Studies, Oxford University Press, Adelphi Paper 346, July 2002, New York

²⁸ Erica Downs, "The Brookings Foreign Policy Studies Energy Security Series: China-Executive Summary", The Brookings Institution, December 2006 (page 16, 22 and 35)

identify opportunities. Neither the lack of coordination between the NOCs and competition among themselves can dismiss the existence of state involvement. On the other hand, it is easy to observe that deals have been sealed after the top leaders' visits and that low interest rate loans provided by state-owned banks have been used. The playing down of the state role is believed to be a tactical response to ease the growing international anxiety over China's aggressiveness in this respect.²⁹

The Chinese government's role in oil acquisition is outlined below. It is twofold. One is the play of diplomacy to smoothen the transactions; and, the other is financial support of various kinds.

3.3 Government's diplomatic support

1. Top political leaders' visits: Chinese leaders visit some key oil-producing countries to show friendliness towards the oil-producing countries. For example, Chinese President Hu Jintao has visited Africa three times since 2004. During his tour in 2006, an offshore exploration deal with Kenya where CNOOC could explore six blocks were signed. In a few cases, the top political leader is believed to have been directly involved, for example, in the deal of CNPC for PetroKazakhstan. Chinese media see it as the success of President Hu's personal involvement.³⁰
2. Non-interference policy: In contrast to the U.S. or some Western countries, Chinese foreign policy to oil-producing countries emphasizes the principle of non-interference in domestic matters. It is a policy that allows China to be perceived as a viable alternative or even a formidable hedge to the U.S. This is particularly attractive to Saudi Arabia, where the U.S. has pushed for political liberalization after 9/11³¹, and also to some African countries where their governments' efforts against corruption have been criticized as ineffective.

In a press interview, the Saudi Arabian ambassador to United State, Prince Turki Al-Faisal, praised China and said, "When we established relations with them, it was on a footing of one to one. They don't throw their weight around.... They are very careful in what they engage in, and they have been supporters of the Arab position.... Of course, they also buy a lot of oil from us, but it is not just an issue of oil. There is a sense of empathy between the two countries."³²

²⁹ An interview of a government source in April 2007 confirms that "A bit out of control among NOCs and the government is unable to have total control" is a message that the Chinese government spread to spin the discussion.

³⁰ Downs, 2006, p.42

³¹ John Keefer Douglas, Matthew B. Nelson and Kevin Schwartz, "Fueling the Dragon's Flame: How China's Energy Demands Affect its Relationships in the Middle East", a commissioned research study to U.S.-China Economic and Security Review Commission, 14 September 2006,

³² Royal Embassy of Saudi Arabia Washington D.C, "2006 War on Terrorism News Story". 10 May 2006, available <http://www.saudiembassy.net/2006News/News/TerDetail.asp?cIndex=6197> It is said to be a transcript of Prince Turki discussion with USA TODAY editors and reporters, however, Embassy's version is different from USA Today's version and Embassy's version more explicitly explains the relationship with China

3. *Building a long-term co-operation platform:* Forum on China-Africa Cooperation is an official platform where China and African countries can cooperate on many different issues. They meet almost every year.
4. *Diplomatic Protection at the UN level:* There are five permanent members of the United Nations Security Council; China is one of them. A permanent member can veto any draft resolution.³³ The prospect of any exercise of veto power by China has influenced and moderated the sanction terms on Sudan, where China has invested in upstream oil production since late 90s and where it provides most of China's equity oil.
5. *Military support:* China has been reported as selling arms to countries like Iran³⁴ and Sudan.³⁵

3.4 Government financial support

6. *Package deal:* China's offers to the producing countries usually come with a package. A deal not only includes the purchase money, it also includes loans or infrastructure projects. For example, Sinopec oil concessions in Angola got a U.S.\$2 billion oil-backed credit from China's Export-Import Bank of China (the Eximbank) in 2004 to rebuild railways, government buildings, schools, hospitals, and roads in the country.³⁶
7. *Direct and indirect financial support:* China Eximbank or some other state-owned banks can provide funds to the NOCs directly or offer low interest rate loans to the oil-producing countries. In the case of CNOOC's bidding for the Unocal in 2005, of the U.S.\$19 billion acquisition cost, a loan of U.S.\$7 billion was offered by the parent company while another loan of U.S.\$6 billion was offered by the state-owned Industrial and Commercial Bank of China. It was described as a "smart deal" because the cost of debt funding was likely to be less than 5%.³⁷

Governments usually play an important role in overseas oil acquisition, and it will continue to be the case, in particular where the overseas assets are still subject to tight control over foreign ownership. The Chinese government is not an exception. A parallel can be seen when the British Prime Minister, Tony Blair, was visiting Libya in late May 2007, British Petroleum (BP) concluded a 900 million sterling pounds-gas deal with a

³³ Tarik Kafala, "The veto and how to use it", *BBC website*, 17 September, 2003, available at http://news.bbc.co.uk/2/hi/middle_east/2828985.stm

³⁴ Bates Gill, "Chinese Arms Export to Iran", *Middle East Review of International Affairs*, Vol.2, No.2, May 1998, pp 55-70 available online <http://meria.idc.ac.il/journal/1998/issue2/gates.pdf>

³⁵ BBC quoted according to UN figures, in 2005, both Russia and China supplied Sudan with weapon. Paul Reynolds, "Pressure builds over Sudan embargo", *BBC website*, 8 May, 2007, available at <http://news.bbc.uk/2/hi/africa/6634639.stm>

³⁶ Jędrzej Geroge Frynas and Manuel Paulo, "A New Scramble for African Oil? Historical, Political and Business Perspectives", *African Affairs*, Vol. 106, Number 423, Pg 229-251, April 2007

³⁷ CSFB, *Switch from PetroChina*, 27 June, 2005

formerly hostile Libya.³⁸ The relations between the UK and Libya turned sour after a Libyan, allegedly sponsored by Tripoli, blew up an civilian airplane in mid-flight killing 270 people, mostly British, over Lockerbie, Scotland in 1988.

Other international oil companies may also leverage their governments' good international relations. But probably not to the extent which the Chinese government seems prepared to go. First, there are only five countries in the world that are the permanent members in the U.N. Security Council with veto power. In terms of financial support, Chinese government offers tend to be more generous than those from Western countries.

It is nearly impossible for any international oil company to structure a deal that involves infrastructure projects with costs as low as those China can put on the table. In Ian Taylor's research, he quoted an interview of a general manager of the China Road and Bridge Corporation in Ethiopia. He said that, he was "instructed to slice projected profit margins so thin---about 3 per cent---that losses are inevitable, given perennial cost overruns in Africa. Western businesses, by contrast, typically paid bids with projected profits of 15 per cent and more."³⁹

The Chinese political position fosters NOCs expansion, something particularly noticeable in Africa. At the same time, it also makes China vulnerable to criticism and even exposes Chinese worker in Africa to attack. China's non-interference policy is viewed as undermining the efforts by international bodies to fight corruption in Africa.⁴⁰ The possible threat of the UN veto in the case of any resolution against Sudan in Darfur has drawn a divestment campaign against PetroChina (a listed company of CNPC).⁴¹

China's foreign policy enhances NOCs acquisitions but at the same time draws enormous criticism. Whether it is good investment or not and what the impacts are, will be discussed in subsequent chapters.

³⁸ Rebecca Bream and Ben Hall, "BP lands \$900 million gas deal with Libya", *Financial Times Website*, 29 May 2007, available at <http://www.ft.com/cms/s/45bd31a2-0dc5-11dc-8219-000b5df10621.html>

³⁹ Karby Leggett, "Feature-China forges deep alliances with war-torn nations in Africa", *The Wall Street Journal*, 29 March, 2005, used by Sudan Tribune and uploaded dated as 30 March, 2005, quoted by Ian Taylor, "China's oil diplomacy in Africa", *International Affairs*, 82:5 (2006) pp. 937-959

⁴⁰ Hugh Williamson, "World News: Anti-sleaze pact on oil must sign up China, say Germans", *Financial Times Website*, 13 April, 2007

⁴¹ Adam Sterling, "Targeted Sudan divestment defended", *Financial Times website*, 4 May, 2007

Chapter Four: Reaching out to problematic countries

China is not the only country going beyond its own borders to buy up oilfields. However, it is the kind of countries that China is tapping that rings alarm bells. The most problematic are Iran, Sudan and Myanmar. Sudan and Myanmar have serious human rights issues according to the international community; while Iran is accused by the U.S. of possessing nuclear weaponry.

That said, China again is not alone in dealing with those problematic countries. The Japanese company, Inpex, and Italian company, ENI, are both active in Iran. The Malaysian company, Petronas, is a shareholder of the Great Nile Petroleum Operating Company in Sudan. India has gas deals with Myanmar. Yet, none of these governments is a permanent member of the UN Security Council. Not many developing countries or even developed countries can wield such power and influence as the Chinese in the United Nations.

It is rather difficult to justify China investing in these problematic countries on a cost-efficient economic analysis solely attributable to a desire for access to abundant energy. Political considerations are equally, arguably even more, important. One of the Chinese overriding diplomatic objectives is to isolate Taiwan and curtail the island's independent movement. Winning African supporters in the United Nations to China's nationalistic cause is vital.

But it is also unrealistic to ignore the energy perspective. The uneven geographic distribution of oil reserves in the world and a tough investment environment in many energy-abundant countries can explain why China takes the trouble to get involved in many problematic countries.

4.1 Uneven distribution of oil reserves

Oil reserves are highly concentrated in the Middle East, Africa and Russia. Middle Eastern countries own over 60% of the world's oil reserves but account for less than 8% of the world's oil consumption. African countries hold close to 10% of oil reserves, whereas Russia holds 6.2%. (See Figure 1) In contrast, the first three biggest oil consuming countries – the U.S., China and Japan – together account for 40% of world oil use despite owning less than 4% of world reserves.

The world does not have a big problem in producing crude oil and the supply of crude oil by the market has been working well in the last decade. Even in some of the most difficult days of recent years, such as the 9/11 terrorist attack, the invasion of Iraq in 2003 and the destruction caused by Hurricane Katrina in 2005, the prices were pushed up but the world did not suddenly find no crude oil to buy. A fatal block or a market failure has never yet occurred.

However, if it is about oil assets, acquisition opportunities are not often in the market. 75% of the world's known oil reserves are in countries where outside investment in oil

development is excluded or sharply limited.⁴² Not many outside oil fields are available for China.

The then president of Sinopec Group, Chen Tonghai, reportedly said that he thought Sinopec have faced relatively significant difficulty in acquiring overseas assets. He said that oil assets acquisition is a game for big countries. Quality oil fields basically are already occupied. As a result, the overseas expansion of Sinopec was constrained.⁴³

Figure 1 Major Countries in world oil reserves and production in 2005

Countries		Reserve Thousand million barrels	Share of total	Production Thousand barrels	Share of total
1	Saudi Arabia	264.2	22.0%	11035	13.5%
2	Iran	137.5	11.5%	4049	5.1%
3	Iraq	115.0	9.6%	1820	2.3%
4	Kuwait	101.5	8.5%	2643	3.3%
5	United Arab Emirates	97.8	8.1%	2751	3.3%
6	Venezuela	79.7	6.6%	3007	4.0%
7	Russian Federation	74.4	6.2%	9551	11.8%
8	Kazakhstan	39.6	3.3%	1364	1.6%
9	Libya	39.1	3.3%	1702	2.1%
10	Nigeria	35.9	3.0%	2580	3.2%
11	USA	29.3	2.4%	6830	8.0%
12	Canada	16.5	1.4%	3047	3.7%
13	China	16.0	1.3%	3627	4.6%
14	Qatar	15.2	1.3%	1097	1.3%
15	Mexico	13.7	1.1%	3759	4.8%
16	Algeria	12.2	1.0%	2015	2.2%
17	Brazil	11.8	1.0%	1718	2.2%
18	Norway	9.7	0.8%	2969	3.5%
19	Angola	9.0	0.8%	1242	1.6%
20	Azerbaijan	7.0	0.6%	452	0.6%
21	Sudan	6.4	0.5%	379	0.5%
22	India	5.9	0.5%	784	0.9%
23	Oman	5.6	0.5%	780	1.0%
24	Ecuador	5.1	0.4%	541	0.7%
25	Indonesia	4.3	0.4%	1136	1.4%
TOTAL WORLD		1200.7		81088	
Total Middle East		742.7	61.9%	25119	31%
Total Europe & Eurasia		140.5	11.7%	17534	21.7%
Total Africa		114.3	9.5%	9835	12%
Total S. & Cent. America		103.5	8.6%	6964	9.0%
Total North America		59.5	5.0%	13636	16.5%

⁴² Kenneth Lieberthal and Mikal Herberg, "China's Search for Energy Security: Implications for U.S. Policy", *the National Bureau of Asian Research*, Volume 17, Number 1, April 2006

⁴³ "Sinopec participate in overseas acquisition"(in Chinese), *Shanghai Securities News*, 30 January, 2004, via WiserSearch

	Total Asia Pacific	40.2	3.4%	8000	9.8%
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Source: BP Statistical Review of World Energy 2006

4.2 Expansion limitation in Middle East

The Middle East has almost two-thirds of the world's proven oil reserves. The first four largest oil reserves are all in the Middle East. They all pose difficulties of various kinds to foreign investors. Upstream explorations in Saudi Arabia and Kuwait are monopolized by local NOCs and opportunities presented to overseas investors are very limited. Iran has not allowed overseas companies to own oilfields until recently. It has a very tough buy-back system that makes international companies lose rather than make money.⁴⁴ After the collapse of Saddam Hussein's regime, Iraq has yet to allow the resumption of foreign investment.⁴⁵ The authorities there have a lengthy process for scrutinizing contracts signed in the time of Saddam Hussein. A couple of existing Chinese contracts are still under stringent Iraqi study.⁴⁶

However, recently, there are signs of change. It results from political tension arising between U.S. and the Middle Eastern countries. After 9/11 and the U.S. invasion of Iraq, Saudi Arabia and Iran started to open up some of their assets to overseas investors. It is believed to be a hedge against the U.S.'s unchallenged influence in the region. Terms are more attractive than before. When Iran invited overseas investors to bid for 16 oilfields in early 2004, the year on the contract were extended from the normal Iranian practice of 7 years to 25 years.⁴⁷ Yet it should be reinforced that the terms and conditions are always subject to change in response to the prevalent political atmosphere.⁴⁸

Recently China has started to build stronger relationships with major oil-producing countries, such as Saudi Arabia and Iran. A couple of deals were awarded to China.⁴⁹ However, the prospect is still limited because "the Middle East is a region where

⁴⁴ Simon Webb, "Iran oil exports may dwindle with sanctions, politics", *Reuters*, 4 January, 2007
<http://www.reuters.com/articlePrint?articleId=USL0440842720070104>

⁴⁵ John Mitchell and Glada Lahn, "Oil for China", *Chatham House*, Briefing Paper, Energy, Environment and Development Program EEDP BP 07/01, March, 2007

⁴⁶ Ahmed Rasheed, "China oil officials due in Baghdad for Ahdab talks", *Reuters*, 5 March 2007
<http://www.reuters.com/article/topNews/idUSPAR54340420070305>

⁴⁷ "A report of energy situation: the peaceful up-rising and energy security", *21st Century Business Herald*, 15 March, 2004 via WiserSearch

⁴⁸ In the case of Japan investment in south Azadegan oilfield reflects how risky of investing in Iran. In 2004, Japan signed a US\$ 2 billion contract with Iran to develop Azadegan oilfield to build 260,000 bpd within eight years. In Oct 2006, Iran announced that it would reduce the Japanese firm share in the project to a maximum of 10% to reflect the long delays resulting from concerns over Iran's nuclear program. An analysis by Simon Webb, "Iran oil exports may dwindle with sanctions, politics", *Reuters*, 4 January, 2007
<http://www.reuters.com/articlePrint?articleId=USL0440842720070104>

⁴⁹ In Iran, Sinopec signed an upstream contract in 2001 with National Iranian oil Company covering 4,670 km in Zavareh-Kashan. Kang Wu & Shair Ling Han, "Chinese companies pursue overseas oil and gas assets", *Oil & Gas Journal*, Tulsa:18 April, 2005. Vol. 103, Iss. 15, p18-20, 22-25 (7 pp). In Saudi Arabia, Sinopec signed a MOU with Saudi Aramco in 2006 to develop refinery plant in China, in return, Aramco promised to provide a daily supply of 1 million barrels of

China's geopolitical and political presence has traditionally been marginal and where again there is little prospect of reversing this situation and genuinely challenging other external powers, most critically the U.S. but also the major West European powers and even Russia."⁵⁰

China is fully aware of their "hedging role" against U.S. power. Pan Jiping, an analyst at a Ministry of Land and Resources research centre, said that when Middle Eastern countries open their (exploration) markets, they will first consider Western countries. China and India are considered as countries to balance Western countries.⁵¹

The opportunities offered to non-western countries, like China and India, are the product of growing tensions between Middle Eastern countries and the Western world. However, how much and how far China can leverage on diplomacy should not be over-estimated. The Sino-Saudi relationship may not go up the priority list of Saudi Arabia for as long as the U.S. military is still the ultimate guarantor of order in the Middle East. Saudi Arabia remains fearful of Iran and Hezbollah, which may destabilize the Saudi regime.⁵² Therefore, at the same time, China also needs to carefully manage how close a relationship to develop with Iran. Saudi Arabia owns the world's largest oil reserves (22% of world oil reserve and 13.5% of world oil production).⁵³ Given the above-mentioned political landscape, China does not overestimate the diplomatic clout and leverage she has in acquiring energy assets in the Middle East.

4.3 Russia: a loose ally

Compared to Middle Eastern countries, China has more political common interests with Russia, the second-largest oil producer in the world. Russia and China both are members of the Shanghai Cooperation Organization. Russia and China also have shared the same ideology for many years.

However, China's energy investment in energy-rich Russia is not as smooth as it previously expected. A long-awaited Russian oil pipeline (a branch of East Siberia-Pacific Ocean) to China is still in a state of obscurity.⁵⁴ CNPC tried and failed twice to acquire all or part of significant Russian assets: Slavneft in 2002 and Yuganskneftgaz in 2004. Frustration was also felt in gas deal discussions in which CNPC and Russian gas giant Gazprom failed to narrow the price gap for pipelines built from western Siberia to

crude oil by 2010. "Sinopec overseas acquisition: From market oil to equity oil", *21st Century Business Herald*, 25 December, 2006, via WiserSearch

⁵⁰ Philip Andrews-Speed, 2002, page 65

⁵¹ "Game theory in energy competition between China, US and Iran; Sinopec insists bidding for Iran's oilfields", *21st Century Business Herald*, 2 February, 2002

⁵² John Keefer Douglas, Matthew B. Nelson and Kevin Schwartz, "Fueling the Dragon's Flame: How China's Energy Demands Affect its Relationships in the Middle East", a commissioned research study to U.S.-China Economic and Security Review Commission, U.S.-China Economic and Security Review Commission, 14 September, 2006, http://www.uscc.gov/researchpapers/2006/China_ME_FINAL.pdf

⁵³ BP Statistical Review of World Energy 2006

⁵⁴ Yu Bin, "China-Russia Relations: What Follow China's 'Russia Year'?", *Center for Strategic and International Studies (CSIS)*, 15 January, 2007

http://www.csis.org/component?option,com_csis_pubs/task,view/id,3695/type,1/

China's northwest.⁵⁵ This seems to show that it is quite difficult for China to place any reliance on Russia for a secure energy supply.

Apart from the frustration drawn from current investment progress, Russia has in past proven to be an unstable partner. In the 1960s, Russia pulled out all engineers, technical support teams and stopped supplying energy to China when the two countries were engaged in an ideological battle. Back then, China heavily relied on Russia's support in the cold war. Over-reliance on Russia is viewed as dangerous by the military.⁵⁶

⁵⁵ Eurasia group, 2006

⁵⁶ Philip Andrews-Speed, 2002; Zha Daojiong, "Co-independence and oil security in China" (in Chinese), *World Economic and Politics*, volume 6, 2005, via www.usc.cuhk.edu.hk/wk_wzdetails.asp?id=4786

4.4 Africa : opportunities for energy and diplomacy

4.4.1 African countries more welcome foreign money

While the Russian attitude towards China is lukewarm and the Middle East ranks China as secondary, China has found a better position in Africa. African states have been keen on developing oil production at a rapid pace and have allowed multinational firms to enter its markets, something demonstrated by the projected increases in African oil production.⁵⁷ China's NOC's total investment in Africa is 20 times more than that in the Middle East.

In 2006, Africa produced 9.99 million barrels of oil per day and accounted for 12.1% of the world's oil production.⁵⁸ The U.S. Department of Energy estimated that total African oil production is set to rise by 91% between 2002 and 2025, from 8.6 to 16.4 million barrels per day.⁵⁹

African countries provide significant oil supplies to China. It accounts for 24% of China's imported oil. (See Figure 2) African oil's light and low-sulphur characteristics suit China's refinery facilities.⁶⁰

Figure 2 China's crude oil imports

	2006	
From the Country/Region	(Thous barrels)	Accounts for China's Import
Middle East	1490	38%
Africa	923	24%
Former Soviet Union	489	13%
S. & Cent. America	262	7%
Japan	67	2%
Australasia	43	1%
Europe	9	0%
USA	7	0%
Canada	1	0%
Other Asia Pacific	583	15%
Unidentified*	13	0%
TOTAL IMPORTS	3887	100%

Source: BP Statistical Review of World Energy 2007

⁵⁷ Jędrzej Geroge Frynas, "A New Scramble for African Oil? Historical, Political and Business Perspectives"

⁵⁸ BP Statistical Review of World Energy 2007

⁵⁹ Michael Klare and Daniel Volman, "The African "oil rush" and American national security", *Third World Quarterly* 27, 4 (2006), pp. 609–28 quoted by Jędrzej Geroge Frynas, "A New Scramble for African Oil? Historical, Political and Business Perspectives"

⁶⁰ Eurasia group, 2006

An analysis in the Chinese media explains the attractiveness of African oil: ⁶¹

1. The proportion of African oil production against world production may rise to 20% in 2010;
2. Most of the crude oil in Africa contains low sulphur and is easily to refine and produce as fuel for motors;
3. Some big oilfields are located offshore and, therefore, they are less likely to be affected by inland turmoil;
4. Oil in Africa is owned by countries which do not have strong linkage among themselves, therefore it is less probable that they will align to action. This provides some stability in oil supply;
5. Only a few African oil producing countries are members of OPEC, therefore most of them are not bound by the production target agreement;
6. Basically, African countries have an open door policy, which welcomes foreign investment to participate in exploration of their raw materials and oil.

There is no doubt that African oil will play an important part in future production, especially when African countries are willing to accept foreign money and share the oilfields with international companies. From this perspective, China, like other countries outside Africa, is more than willing to explore any investment opportunity.

It is hard to quantify the willingness of African countries to open their resources for international investors. Judging by the deals that China signed between June 2005 and June 2006, seven out of 13 deals signed are from Africa, four from the Americas and two from Asia⁶². What this says is that China is able to get deals done in Africa. In terms of investment amounts, it also declares Africa the major area where Chinese NOCs invest, especially after 2002. (Figure 3)

Figure 3 Total Chinese NOC investment flows by year (millions of USD)

Total Chinese NOC investment flows by years (millions of USD)						
	Total	Africa	Middle East and North Africa	Russia and Central Asia	Asia	America
1993-95	\$160	\$0	\$0	\$0	\$160	\$0
1996-98	\$5171	\$441	\$0	\$4371	\$0	\$359
1999-00	\$0	\$0	\$0	\$0	\$0	\$0
2001-02	\$1869	\$0	\$444	\$81	\$1329	\$15
2003-04	\$3506	\$1144	\$444	\$1497	\$221	\$200
2005-06	\$16472	\$6404	\$371	\$7430	\$93	\$2175
Total	\$27178	\$7989	\$1259	\$13379	\$1803	\$2749

Source: Chatham House Research⁶³

⁶¹ "America, French, British and Japanese scramble for oil in Africa", *China PetroChemical News*, 7 July, 2005, via WiseSearch

⁶² US-China Economic and security review commission, "2006 Report to Congress", November, 2006, page 95-110, available at http://www.uscc.gov/annual_report/2006/annual_report_full_06.pdf

⁶³ Keun-Wook Paik, 2007 (projects includes upstream, downstream and transportation deals listed in companies website)

The above-mentioned numbers reveal that Chinese NOCs have more deals signed with African countries. It may be a result of African countries' openness, but the Chinese government's long-term cultivation of good relations should not be ignored or dismissed. The Chinese government has been proactively cultivating relations with African countries. According to official figures, by the end of 2005, China had helped establish more than 720 projects for Africa; offered over 18,000 governmental scholarships and dispatched more than 15,000 medical personnel.⁶⁴

China also provides financial support to African countries. It is reported, without specifying the period, that China has forgiven debts of U.S.\$1.38 billion to 31 heavily indebted countries.⁶⁵ According to World Bank figures, China surpasses the Bank itself as the top lender in some countries. China committed U.S.\$48.1 billion in 2006 to Nigeria, Angola and Mozambique. In contrast, the World Bank only pledged U.S.\$2.3 billion to the sub-Saharan Africa.⁶⁶

China plans to provide another U.S.\$20 billion in infrastructure and trade financing to Africa in the next three years. If that is the case, it will eclipse many of the continent's traditional big donors with a single pledge.⁶⁷

4.4.2 African votes for China in multilateral organizations

It is inevitable that searching for energy or raw materials is one of the major reasons why China has made such a huge effort to foster good relations around the globe. But it should not be underestimated the political dimension of the manoeuvre.

"China has long believed African countries to be diplomatically important, a position that dates back to the late 1950s/ early 1960s."⁶⁸

Chinese foreign policy is highly driven by concern about American hegemony. The invasion and occupation of Iraq makes China deeply worried about U.S. ambitions and long-term objectives. This particular issue forces China to search for strategic partners with whom Beijing can have common ground.⁶⁹

African countries have the largest single bloc of votes in a multilateral setting which will be very crucial to China to court votes to protect and promote her interests. From the Chinese point of view, African countries could be reliably counted on where the circumstances warrant. In an official website for President Hu Jintao's visit to African

⁶⁴ *Xinhua*, "China-Africa cooperation fruitful over past 50 years", *China Daily website*, 30 January, 2007

⁶⁵ *ibid*

⁶⁶ Christopher Swann and William McQuillen, "China to surpass World Bank as Africa top lender", *Bloomberg*, used at *China Daily website*, 3 November, 2006

⁶⁷ William Wallis, "China pledges \$20bn for Africa", *Financial Times website*, 18 May 2007

⁶⁸ Ian Taylor, "China's oil diplomacy in Africa", *International Affairs*, 82:5 (2006) 937-959

⁶⁹ Chris Alden, "China in Africa", *Survival*, Volume 47, no. 3, Autumn 2005 page 147-164

states in early 2007, it has a backgrounder summing up the support that China got from African in the past⁷⁰:

“African countries have offered valuable support to China, playing an important role in restoring the lawful seat of the People’s Republic of China in the United Nations.

“They have given China strong support in foiling anti-China motions introduced by some Western countries at the UN Human Rights Commission and helped China defeat many attempts by Taiwan to “participate in the United Nations” and to edge in to the World Health Organization and other international bodies which only a sovereign state can join. African countries also supported China in its bid to host the 2008 Olympics and the 2010 World Expo.”

4.4.3. Comprehensive strategy

Therefore, China’s expansion in African is not only for energy or raw materials, but also for canvassing support from African countries. Beijing’s activities are very comprehensive. In 2000, the Forum on China-Africa Cooperation (FOCAC) was founded as a platform for China to discuss co-operation on various fronts with African countries. FOCAC holds regular ministerial meetings as well as leaders’ summits. In January 2006, the Chinese government issued and presented its African Policy Paper to the world delineating policy objectives towards Africa and the measures to achieve them. Chinese President Hu Jintao has visited Africa three times since 2004 and attempted to portray China’s national interest being something other and greater than natural resources. His visits, therefore, were scheduled in a way not only to oil-producing countries but also a number of poverty-ridden countries.

The core strategy of China’s African policy is the inclusion of the principle of non-interference. It means no conditions are attached in doing business or state-to-state dealings. In the press briefing on the African Policy Paper in early 2006, Assistant Foreign Minister Lu Guozeng, speaking of the bilateral cooperation in the energy sector, said:

“China would like to carry out mutually beneficial and win-win cooperation with them. China adheres to the non-interference in the internal affairs of other countries during the exchanges between nations. China will never make indiscreet remarks or criticisms to internal affairs of other countries. China believes that African countries and peoples can properly handle their internal affairs with their own efforts.”⁷¹

⁷⁰ Xinhua, “China-Africa cooperation fruitful over past 50 years”, *China’s Daily website*, under the section of special coverage of President Hu Jintao’s visit to Africa, 30 January 2007

⁷¹ “Deepening Friendly Cooperation and Achieving Mutual Benefits and Win-win Results-Lu Guozeng Briefs (12 January 2006) on the issuance of China’s African Policy Paper”, *Ministry of Foreign Affairs of the PRC Release*, 12 January 2006, available at www.mfa.gov.cn/eng/zxxx/t231204.htm

China's non-interference policy may be very attractive to many African countries, especially those under pressure from World Bank or International Monetary Funds. But, it also creates particular concern "over China's willingness to support the continent's authoritarian regimes---many of which have heinous human rights and governance records---with a no-strings-attached attitude."⁷²

In particular, China's presence in Sudan is most criticized. (See Chapter 7)

4.5 Others

Compared with Russia and the Middle East, Central Asia also provides opportunities to foreign investors. In Central Asia, China's investments these are concentrated in Kazakhstan, where CNPC started investment in 1997, producing a significant amount of oil. Traditionally, Central Asia was within Russia's sphere of influence. The Afghanistan war has allowed the U.S. to set a foot in the region. Competition among the big players exist but are less noticeable to outsiders. Human rights issues in Central Asian regimes are equally complicated and by no means better than those in Africa.

China's aggressiveness in oil acquisition has drawn enormous attention of both political and academic circles. But the equity oil China has actually received from those investments is astonishingly small, in particular when it is compared with the attention it has drawn.

⁷² Ian Taylor, "China's Arms Sales to Africa: Beijing's Reputation at Risk", *China Brief*, The Jamestown Foundation, Volume VII, Issue 7, 5 April 2007, pp 10-11

Chapter Five: Assessment

5.1 Oil from acquired assets import to China is limited

If China believes that owning overseas oil assets is more secure than buying oil from the open market, then a legitimate question arises as to how much she can import and has imported from those acquired oilfields.

Currently, Sudan and Kazakhstan are the major sources of equity oil and they are both “old” acquisitions, dating before 1997. They account for 75% of equity oil. Various research suggests that equity oil produced overseas by NOCs accounts for no more than 15% of the total oil imported. Not every single barrel of oil produced overseas is shipped back to China which means that the actual amount imported should be less.

If equity oil is a mechanism through which China attempts to secure a stable supply of relatively cheap oil, all the barrels produced should be brought back to China. But it is not the case. In 2005, CNPC equity oil output in Kazakhstan was 120,000 bpd, but exports to China were only 26,000 bpd, slightly over 20%.⁷³ One suggested reason is the difficulties in transportation.

According to Erica Downs’s research, China’s oil companies produced approximately 450,000 bpd equity oil overseas in 2005, which amounted to 15 % of the total imports. Another study, by the Eurasia group, reckons that the amount of equity oil shipped back to China in 2006 was 320,000 bpd. It was modest, less than 10% of the 3.6 million total imports and less than 5% of the nation’s total consumption of 7.4 million. Even though a number of newly acquired oilfields (such as Greater Plutonio project in Angola) is expected to go into production in next few years, given that China’s demand grows on average by 500,000 bpd every year, the proportion of equity oil share to the total import should remain at the same level.⁷⁴ (Figure 4)

The amount of equity oil will increase when new capacities are put in production. According to Chatham House projections⁷⁵ (see figure 5), up to 2015, equity oil can go up to more than 1.1 million bpd. If it is all shipped back to China, it would account for slightly over 10% of the total oil consumption.⁷⁶

⁷³ It should note that Erica Downs’ figures not consistent with Eurasia’s research. But there is no official information how much of imported oil is generated from NOCs’ assets to crosscheck.

⁷⁴ Eurasia, 2006

⁷⁵ Keun-Wook Paik, 2007

⁷⁶ According to Department of Energy of US in 2006, the projected oil consumption of China in 2015 will increase to 10 million barrels a day. EIA, Annual Energy Outlook, DOE/EIA-0383 (2006), Washington, DC, February, 2006

Figure 4 Equity oil exports to China

Country of Origin for Current Chinese Equity Oil Production	Equity Oil Volume Exported to Chinese Market	Notes
Sudan	~140,000 bpd	This does not count the new 'Dar Blend' export stream, which appears not to be going to China
Kazakhstan	~100,000 bpd	Much of the equity oil produced in Kazakhstan is sold locally or flows into Russia
Indonesia	47,000 bpd	From CNOOC offshore assets
Peru	~20,000 bpd	
Oman	12,000 bpd	Exact mechanism is unclear, but the equity oil is mixed in with the general Omani Light export stream, roughly one-third of which is purchased by Chinese firms
Iran	Minor volumes	
Syria	None	
Russia	None or minor volumes	No increase in published data for Russian exports to China after June 2006 acquisition of Udmertneft
Colombia	None	
Ecuador	None	
Canada	None	Oil sands projects have no transportation capability to Chinese market at present

Source: Eurasia group, 2006

Figure 5 Estimated Chinese NOC equity productions

China's 2013-2015 overseas equity crude (barrels/day)						
NOC	total b/d	Africa	ME&NA	RU & CA	Asia	S & N America
CNPC	733,819	244,000	33,675	247,683	60,774	147,688
Sinopec	230,590	105,000	28,125	52,515	0	44,950
CNOOC	142,562	78,750	0	0	59,640	4,173
Sinochem	7,980	0	0	0	0	7,980
Total	1,114,952	427,750	61,800	300,198	120,414	204,791

Source: Keun-Wook Paik, 2007 (the estimation includes potential future productions)

If equity oil only meets 10% of the demand in the future and China will require 50% imported oil (See Appendix 2), it still needs to purchase 40% of its needs from the open world market. Or is China required to purchase aggressively more equity oil to narrow the purchasing gap? Handshakes with leaders of some problematic countries do have a price. It is very unlikely that sanctions could effectively work against a China that is integrated with the world economy, primarily because of Beijing's dealings with the problematic regimes. Yet the country's international standing and reputation would be at stake. The image of "rising peacefully" would be tarnished.

5.2 Market functions well

It is assumed that owning an oilfield will provide security that oil will be supplied with a reasonable price during crisis. Theoretically speaking, supply disruption can happen in the following scenarios. First, oil reserves are so gravely depleted that world is running out of oil. Second, a major natural disaster, such as earthquake or hurricane, destroys production facilities. Third, a politically-motivated large-scale oil embargo is imposed worldwide or targeted at some large economies. These theoretical crises are near impossibilities.

The “peak oil theory” always has some appeal, especially in 2005 when several petroleum supply disruptions happened for various reasons (Hurricanes Katrina and Rita shut down 27% of U.S. oil production or Venezuelan strikes). But, according to a study by Cambridge University, a field-by-field analysis of projects and development plans indicates that net productive capacity could increase by as much as 20 to 25 % over the next decade.⁷⁷

As far as natural disasters or man-made crises are concerned, the International Energy Agency has a mechanism to coordinate countries to tackle accidental disruptions. Strategic Petroleum Reserves (SPR) would be shared. Though China is not an IEA member, she is building her own SPR, at the same time coordinating with the IEA. Even when the world has seen jitters in the face of Y2K, the 9/11 attack, war in Iraq and short-term oil supply strains, the SPR system is still believed to be an efficient system to safeguard the global oil supply.⁷⁸

5.2.1 Embargo: difficult to implement

In late 1960s and 1970s, oil-producing countries employed oil embargoes as a weapon to force Western countries to change foreign policies to become more favourable to the Arab world. Oil prices spiked and the economies in the West (plus Japan) suffered from recessions. Research by A.F. Alhajji explained that the embargo did not hold long enough to make the targeted countries feel the crunch. The oil embargo in the 1970s tells us it is quite difficult for the oil-producing countries to have unanimous action to cut the production. If production remains, transshipment will make up the shortage in any targeted country.

The possibility of a complete halt of oil production is remote. Such a halt is costly for technical, economic, and political reasons. “(U.S.) allies can use the Strategic Petroleum Reserve and live without crude imports for at least 6 months, the oil-producing countries cannot remain without income for that long.”⁷⁹

⁷⁷ Daniel Yergin, “Ensuring Energy Security”, *Foreign Affairs*, Mar/Apr2006, Vol. 85 Issue 2, pp69-82

⁷⁸ Didier Houssin, “The IEA’s Global Oil Crisis Management Experience and Crisis Coordination”, *International Energy Agency (IEA)*, IEA website, 2004, available, http://www.iea.org/textbase/work/2004/cambodia/bj_session3.1-Houssin%20paper.pdf

⁷⁹ A F Alhajji, “The oil weapon: past, present, and future”, *Oil & Gas Journal*, 2 May 2005, Vol. 103, Iss.17, p.22-25,28,30,32-33 (8 pp.)

There may be a slim chance that Middle Eastern countries may initiate an embargo. China's concern is not an embargo of worldwide scale but one specifically targeted at China. The vulnerability of the Strait of Malacca also deepens the worry and compels the Chinese government to shore up better relations with Myanmar, another country being subject to international sanctions. Beijing has plans for a pipeline linking Myanmar's deep-water port of Sittwe with the Chinese southwestern city of Kunming. It is hoped that the pipeline can reduce China's dependence on the sea lanes at the Strait of Malacca.⁸⁰

The Strait of Malacca is one of the chokepoints that controls sea traffic between the Middle East and Africa to various East Asian countries. Eighty percent of the crude oil imported to China passes through the strait.⁸¹ A blockage targeted at China at the Strait, however, would be very complicated to execute due to the difficulty in ascertaining the true end destination of an oil shipment. Gabe Collins's research⁸² explains that, under normal commerce, cargo may be bought and sold several times while still on the high seas. Ship destinations are unclear because cargo is often resold at sea, and oil can be transshipped to China through third-party ports in the region.

A plausible hypothesis can be made that the U.S. and China relations could deteriorate in particular over the question of Taiwan. But the question is how likely the U.S. will use an embargo or economic sanction when many of the U.S. companies heavily invest in China. Even if the relations go sour, it does not mean energy supplies will be halted. Even during the Cold War, gas from the Soviet Russia to Western Europe was uninterrupted, demonstrating how well the energy market weathered geopolitical tensions.⁸³

5.2.2 Equity oil ¹ Oil Security

Even if China's worst nightmares come true, it does not necessarily mean that equity oil reserves will ease her needs in energy crisis. If the energy supply were blocked at those chokepoints, it would disrupt equity and contract oil flows equally. "There is no correlation between equity oil and energy security".⁸⁴

Another function that equity oil is supposed to play is to provide cheaper oil at critical moments. However, at those critical moments when oil prices soar rapidly and stay high for a period of time, how cheap the equity oil could be is questionable. "...host countries tend to value the barrels of oil that are produced in their countries at the world market price."⁸⁵ "Consequently, in a time of crisis, even if China can ensure the oil produced abroad is delivered to China, the prices would likely be comparable to ones in the world

⁸⁰ "Energy: Sino-Myanmar oil pipeline", *China Daily website*, 18 April, 2007

⁸¹ Robert E. Ebel, "China's Energy Future", *The CSIS Press*, 2005, p. 56

⁸² Gabe Collins, "China seeks oil security with new tanker fleet", *Oil & Gas Journal*, 9 October 2006, Vol. 104, Iss 38, p. 20-22, 24-26 (6 pp.)

⁸³ Philip Andrews-Speed, 2002, page 85

⁸⁴ Kenneth Lieberthal and Mikkal Herberg, "China's Search for Energy Security: Implications for U.S. Policy", *the National Bureau of Asian Research*, Volume 17, Number 1, April 2006

⁸⁵ U.S.-China Economic and Security Review Commission, "Hearing on China's Role in the World: Is China a Responsible Stakeholder?" testimony of Erica Downs, August 4, 2006.

open market --- and “thus its acquisitions likely will be comparable to what they would have been if it participated in that market”.⁸⁶ An equity margin of a few dollars per barrel will do little to mitigate the impact of a large price spike.⁸⁷

After all, China’s equity oil only accounts for 10 to 15% of her total oil consumption. The effectiveness of equity oil to cushion the economy from an energy crisis impact seems questionable. The answer to whether it is a good strategy should consider the price it pays and could end of paying.

⁸⁶ US-China Economic and security review commission, “2006 Report to Congress”, November, 2006, page 106

⁸⁷ Erica Downs, “ The Chinese Energy Security Debate”, *The China Quarterly*, Volume 177, 2004 p 21-41

Chapter Six: Market impact

6.1 Manipulated energy supply: not the case

In mid-May 2007, the London-based weekly, *The Economist*, put “America’s fear of China” on its cover.⁸⁸ *The Economist* vividly portrayed a sentiment among the West about the rise of China. The sentiment is something of which China is fully aware. Since 2003, Beijing began sending out the message that China’s rise is “peaceful” – posing no threat to the world.

This line is far from fully accepted in the U.S. In the case of CNOOC’s bidding for Unocal in 2005, Richard D’ Amato, the Chairman of U.S.-China Economic and Security Review Commission⁸⁹, criticized the Chinese overseas oil assets acquisition as a practice of “hoarding oil” that might affect the U.S. economy. D’Amato said:

“Its goal is to acquire and keep energy reserves around the world and secure delivery.... To do this it is willing to pay above marketplace premium prices in order to gain exclusive control over oil and gas... This hoarding approach direct conflicts with the efforts of the U.S..... There are many other examples of China’s paying premium prices, and making uneconomical, questionable investments to secure supplies.... Disruptions in the world energy supply...(a research) showed that as little as a 3 million barrels a day disruption.... brings severe dislocations to the U.S. economy.... and \$160 dollar a barrel oil. The problem is the long run, then, is that if China soaks up too much of the world energy reserves itself, the international market will be squeezed tighter and tighter year by year...”

The “hoarding oil” argument is a dramatic exaggeration. The volume of China’s acquisitions is not actually that significant in global terms. In one single year between June 2005 and June 2006, China bought more than the combined total of what she did over the previous 15 years. Still it accounted for only 0.3% of the total world reserves.⁹⁰

China tapped many of so-called high-risk countries, in both the business and political senses. These are not places that Western companies are so willing to enter. Principal Deputy Assistant Secretary of the U.S., Katharine Ann Fredriksen, admitted that China’s oil acquisition did not really mean that oil was being taken from the international economy.⁹¹ A scholar also rejects the hoarding oil theory and argues that CNOOC will pay the going world price for oil no matter where it is produced, and oil will flow to the highest bidders. “Moreover, if CNOOC acquired Unocal and directly shipped oil to China, instead of buying it on the open market, there would be no net change in the world price of oil.”⁹²

⁸⁸ *The Economist*, 19-25 May 2007

⁸⁹ House Committee on Armed Services, National Security Dimensions of the Possible Acquisition of UNOCAL by CNOOC and the Role of CFIUS, Statement of Hon. C. Richard D’Amato

⁹⁰ US-China Economic and security review commission, “2006 Report to Congress”, November, 2006, (page 95-110) available at www.uscc.gov/annual_report/2006/annual_report_full_06.pdf

⁹¹ *ibid*

⁹² James A. Dorn, “U.S.-China Relations in the Wake of CNOOC”, Policy Analysis, *CATO Institute*, No. 533, 2 November 2005

6.2 Paid premium but arguably market price

It is tricky to evaluate whether China has paid too much for its oil fields. Most of the NOCs transactions do not disclose details of the financing costs. Only some deals involving listed subsidiaries shed light on how much China paid for the deals.

In 2005, CNPC's set up a 50-50 jointly owned company, NEWCO, with a listed subsidiary PetroChina. CNPC injected all overseas assets, except those in Sudan, into NEWCO. An equity analyst welcomed the deal and believed the price that PetroChina paid was relatively attractive at U.S.\$4.4 per barrel oil equivalent (/boe). This is compared to PetroChina's finding and development costs of U.S.\$5-6/boe. The international average of finding and development costs is U.S.\$8-10/boe. But he also said that "PetroChina appears to be paying premium versus the prices originally paid by NEWCO for several key acquisitions"⁹³ So we can guess CNPC's original acquisition cost was even lower.

It is true that the price that the NOCs paid was acceptable in the capital market, but they may have paid the premium. When CNOOC bid for Unocal, it offered 9.4% premium on top of Chevron's original bid. However, a securities house described it as a "smart" deal because its cost of debt funding was likely less than 5%.⁹⁴ Therefore, it is hard to say that NOCs bids are necessarily bad business.

Though the Chinese NOCs expand ambitiously, it is difficult to justify the claim that the oil supply would be disrupted as a result. As mentioned previously, a significant amount of equity oil is actually sold in the open market and not shipped back to China. The criticism leveled at energy supply may be misguided. However, it reflects the sensitivity of Chinese energy investment, which is often perceived to impact on international order.

⁹³ CLSA, "*PetroChina: Going Global*", 12 June, 2005

⁹⁴ CSFB, "*Switch from PetroChina*", 27 June, 2005

Chapter Seven: Challenges to the global order and agenda

7.1 Compared with U.S. China is still a small player overseas

"The U.S. has a significant position in every major area of policy in the geography and politics... of energy. It has an unusual opportunity to shape [events to] its own...priorities.... In the geopolitics of energy, all hotlines connect to Washington."⁹⁵

China's ties with oil-producing countries are never bilaterals in the real sense because ultimately it involves a third party, usually the U.S.. In dealing with oil producers, China frequently ends up in a triangular relationship with the U.S.⁹⁶

Being the largest oil consuming country and one with sweeping political powers, the U.S. can appear to be going head-to-head with China. In May 2001, the U.S. National Energy Plan was unveiled and in the following year "U.S. president George Bush took an unprecedented step, welcoming 11 African heads of states, most of them are oil-rich states, to the White House... The U.S. initiatives were mirrored by China's new strategic relationship with Africa."⁹⁷ China also founded the Forum on China-Africa Cooperation (FOCAC) in 2000, after which Chinese leaders increased visits to Africa. In 2006, China published a policy paper on Africa.

Competition between the two behemoth nations takes place at the corporate level. Competition in searching for oil is a minor concern for the U.S. administration. Chinese oil firms are still small players in overseas production. "For instance, over 95% of the oil produced in Africa's largest petro-state, Nigeria, is generated by only 5 companies: Shell, Exxon, Chevron, Total, and Agip; this situation is unlikely to change soon either in Nigeria or in some other key petro-states."⁹⁸

A scholar suggests that the total amount that China currently produces per day overseas is equivalent to just 10% of a major oil company produce every day. "If there were a serious controversy between the United States and China involving oil or gas, it would likely arise not because of a competition for the resources themselves, but rather because they had become part of larger foreign policy issues (such as a clash over a specific regime or over how to respond to Iran's nuclear program)".⁹⁹

⁹⁵ John V. Mitchell, "The Changing Geopolitics of Energy: remarks made at M.I.T. Center for Energy and Environmental Policy Research Workshop 1 May 2003", *Royal Institute of International Affairs*, May 2003

⁹⁶ David Zweig, "'Resource Diplomacy' Under Hegemony: The Sources of Sino-American Competition in the 21st Century?", *Center on the China's Transnational Relations*, Working Paper No.18, The Hong Kong University of Science and Technology (the author or the University doesn't state the date of the paper published)

⁹⁷ Jędrzej Geroge Frynas and Manuel Paulo, "A New Scramble for African Oil? Historical, Political and Business Perspectives", *African Affairs*, Vol. 106, Number 423, Pg 229-251, April 2007

⁹⁸ *ibid*

⁹⁹ Daniel Yergin, "Ensuring Energy Security", *Foreign Affairs*, Mar/Apr2006, Vol. 85 Issue 2, pp69-82

In a statement made by Assistant Secretary of the United State for East Asian and Pacific Affairs, Christopher Hill, he adopted a pragmatic approach to China's overseas oilfield acquisitions: "China's success in extending its political influence in the Asia-Pacific region and throughout the developing world is, in my view, a logical evolution, ... a significant part of China's economic growth now depends on its outreach to the Asia-Pacific region and to the rest of the world to secure inputs, especially raw materials and commodities and energy, and markets. This growth has inevitably meant increasing global engagement and expansion of China's national interests.... The biggest impact on U.S. national interests is China's willingness to invest in and trade with problem states (Iran, Sudan, Myanmar). We are concerned that China's needs for energy and other resources could make China an obstacle to U.S. and international efforts to enforce norms of acceptable behavior and encourage China's participation in international organizations to counter this tendency."¹⁰⁰

7.2 China's relations with three countries worry the U.S.

The three countries that Hill mentioned -- Iran, Sudan and Myanmar's all have Chinese oil investment. China is one of the five permanent members of the Security Council of UN and has the right to veto a sanction resolution. China does not support the idea of sanctions. However, Beijing's attitudes towards sanctions imposed upon the three nations are quite different.

On Iran, China has followed the Western line. China voted for the March 2007 U.N. Security Council Resolution 1747 to penalize Iran for refusing to suspend uranium enrichment.¹⁰¹ China appeared to accommodate the U.S. position with an understanding that the Middle East was on the top of the American agenda, even though Tehran has good relations with Beijing. China could have created a dissenting voice by exercising her veto right in favour of Iran so that her economic interests might be enhanced.¹⁰² Yet, in this case, China and the U.S. shared a common objective: a stable Middle East from where Beijing imports 40% oil.¹⁰³

Sudan provides China over one-third of equity oil. China's position towards Sudan is tricky and appears to be more willing to use her veto to block or to threaten to block any UN sanctions. China tends to support less tough resolutions. The UN's 1591 resolution,

¹⁰⁰ Statement by Christopher R. Hill, Assistant Secretary for East Asian and Pacific Affairs, "Emergence of China in the Asia-Pacific Economic and Security Consequences for the United States", 7 June 2005, <http://www.state.gov/p/eap/rls/rm/2005/47334.htm>

¹⁰¹ "FACTBOX: Highlights of U.N. resolution on Iran sanctions", 25 March 2007, Reuters, available <http://www.reuters.com/articlePrint?articleId=USN2421034820070325>

¹⁰² John Keefer Douglas, Matthew B. Nelson and Kevin Schwartz, "Fueling the Dragon's Flame: How China's Energy Demands Affect its Relationships in the Middle East", a commissioned research study to U.S.-China Economic and Security Review Commission, 14 September 2006, http://www.uscc.gov/researchpapers/2006/China_ME_FINAL.pdf

¹⁰³ CSIS, a conference remarks of John E. McLaughlin, Senior Fellow at the Johns Hopkins School of Advanced International Studies and former Acting Director of Central Intelligence in CSIS conference of "China, the United States and the Middle East". John McLaughlin's delivered remarks titled "The Vital Triangle: China, the United States, and the Middle East." on September 14, 2006

in the light of imminent veto by China, was passed only to ban arms sale for the use in Darfur. But the resolution does not disallow arms sold to the Sudanese government, which is allegedly supporting pro-government Arab militias to attack black African population in the region.¹⁰⁴

China's position on Myanmar, a neighbour, is at odds with the West. In early 2007, China and Russia vetoed a U.S.-sponsored resolution at the Security Council calling for Myanmar's military junta to stop persecuting minority and opposition groups.¹⁰⁵

7.3 Sudan: Moral trap, a less convincing investment

China's positions in both Sudan and Myanmar are in conflict with those of the Western countries. Beijing's dealings with Sudan attracts the most criticisms. China has faced enormous pressure in this regard and attempted to ease it.

During his official visit to Africa in early 2007, Chinese President Hu Jintao had a private discussion with Sudanese leaders which reportedly involved a discussion of Darfur. A four-point principle was issued afterwards. It was by and large what Beijing has underlined all along in her foreign policy, in particular the African one: non-interference. In the Sudan context, it is to respect Sudan's sovereignty and solve disputes peacefully.¹⁰⁶

After the presidential visit, China has delivered the message of its willingness to play a more active role in finding a solution to the Darfur problem. Chinese Foreign Minister Assistant, Zhai Jun, assigned as a special envoy, held a briefing for academics about his special four-day visit in Sudan.¹⁰⁷

However, the gesture has not saved China from criticism. In early May 2007, a human rights group, Save Darfur Coalition, linked Beijing's Olympic Games and the Darfur issue. The human rights group urged Beijing to take more tangible actions. It also published a series of full-page advertisements in major U.S. newspapers. They said: "While China prepares to host the 2008 summer games, its failure to stop the Sudanese government's slaughter in Darfur remains shamefully unacceptable. As Sudan's chief diplomatic sponsor, major weapons provider, and investor and trade partner, China has more power than any other nation to convince Sudan to halt slaughter and stop blocking U.N. peacekeeper."¹⁰⁸

¹⁰⁴ Paul Reynolds, "Pressure builds over Sudan embargo", *BBC Website*, 8 May, 2007
<http://news.bbc.co.uk/2/hi/africa/6634639.stm>

¹⁰⁵ Evelyn Leopold, "China, Russia cast rare veto against U.S. on Myanmar", *Reuters website*, available at <http://www.reuters.com/articlePrint?articleId=USN1148874520070113>

¹⁰⁶ Xinhua, "Hu puts forward principle on Darfur issue", *China Daily Website*, 5 February, 2007

¹⁰⁷ "The China Monitor", *The Centre for Chinese Studies of Stellenbosch University*, 18 May, 2007, page 15-17

¹⁰⁸ Lindsay Beck, "China urges patience on Sudan, opposes sanctions", *Reuters website*, 31 May, 2007

106 members of the U.S. Congress wrote a joint letter in May to warn China of possible public relations disaster if Beijing does not use its sway over Sudan.¹⁰⁹ In late May, President George Bush requested that tougher UN sanctions are imposed upon Sudan.

7.3.1 Investment in Sudan

Why has China defended Sudan so hard? Many have attributed it to Beijing's stake in Sudan's oil. But from the quantity of oil that Sudan provides to China and the reserves there, the argument of oil seems less plausible.

Sudan is one of the first countries that China invested in. In November 1997, the United States first imposed economic sanctions against Sudan. Since then, a number of different types of sanctions have been imposed on Sudan. Shortly just before the U.S. sanctions, the Sudanese government and CNPC signed China's first oil investment contracts in March 1997. Sudan itself holds oil reserves of 6.4 billion barrels and produces 397,000 barrels a day. These two figures are modest, accounting for 0.5% of the world total.¹¹⁰ Having said so, Sudan's oil is, in many ways, very important to China.

Oil from Sudan altogether makes up 5% of China's imported oil.¹¹¹ More importantly, Sudan takes the largest share of the Chinese equity oil. In the world there are only two Chinese-invested oil development projects which currently are capable of more than 100,000 barrels per day.¹¹² One of the two is in Sudan.

China has around 360,000 barrels equity oil a day shipped back to China. Sudan accounts for over 35%.^{113 114} It is a modest 5% of total imports.

Sudan plans to boost production to 1 million barrels a day.¹¹⁵ In reality production there has never gone beyond 500,000 in the last 10 years owing to civil wars. Whether it can meet its aim is yet unknown. Even if it were to come true, how many barrels of that would be Chinese equity oil is a big question.

If all projections turn out correct and Sudan produces 1 million barrels a day and ships 70%¹¹⁶ of her oil to China, it would account for more than 16% of China's imports in 2010.¹¹⁷ Is it an attractive enough figure to compensate for China so much flak? Currently four countries supply more than 10% of the Chinese imported oil. They are:

¹⁰⁹ Chris Buckley, "China defends Darfur role, deflects Olympic warning", *Reuters website*, 10 May, 2007

¹¹⁰ BP Statistical Review of World Energy 2007

¹¹¹ Eurasia Group, 2006

¹¹² *ibid*

¹¹³ *ibid*

¹¹⁴ Erica Downs, 2006

¹¹⁵ "Sudan aims to double oil output in 2-3 yrs—minister", *Sudan Tribune quoted New Delhi report*, 18 Jan, 2007

¹¹⁶ According to Eurasia research(2006), China currently, accounts 70% of Sudan's export oil market.

¹¹⁷ The oil consumption in 2010 is projected to be 8.7 million bdp, according to EIA of the US, Annual Energy Outlook (2006). If we take 2005 China imported 48% (please refers to Appendix 2) oil out of its consumption as a reference, then the total oil imported in 2010 is projected as 4.35 million barrels.

Saudi Arabia (15%), Angola (13.8%), Iran (12.6%) and Russia (10.1%).¹¹⁸ None of them have caused much trouble for China. Most of their oil exports to China are not equity oil. Why bother?

Some have suggested that the market in Sudan for weapons is also important to China. It is reported that from 1980 to 2005, China accounted for 20% of the supply of major conventional weaponry to Sudan, second only to Russia, which accounts for 40%.¹¹⁹ It is noted that if Beijing's energy diplomacy with key oil-producing states is accompanied by increased arms sales, then it will only complicate the issue.¹²⁰

China's current policy of seeking oil supplies from Sudan is under threat from likely changes in the political situation.. According to Bassam Fattouh's research¹²¹, China has been heavily criticized within Sudan for helping finance the Sudanese civil war and supplying weapons to the Sudanese government (the Northern government). In 2005, the Sudanese government and the Sudan People's Liberation Army signed the Comprehensive Peace Agreement (CPA) to end the civil war. There is a question mark as to whether the Chinese government's previous close relationship with the Sudanese government is a burden in the current political setting. Some governors in the Southern Sudan are becoming more assertive, stating that oil companies should understand that Southern Sudan is no longer a no-man's land as it was before. The challenge is ahead. A referendum is scheduled to take place in 2011 for Southerners to decide whether they wish to separate from the rest of Sudan. If so, will the deals signed by the Northern Sudanese with the CNPC (and other Asian national oil companies) be honoured?

Oil from Sudan altogether makes up 5% of China's imported oil. But China is experiencing enormous international pressure for that relatively small amount of oil. Moreover, there is a serious question as to whether the policy will succeed in securing that limited supply. China needs to re-assess the effectiveness of her equity oil strategy.

7.4 Undermining the work of world organizations

China has emphasized its non-intervention policy in doing business and offering no-strings attached financial assistance to oil-producing countries. In a package deal, particularly those offered to African countries, the terms come with plenty of infrastructure projects. This is met with both praise and criticism. As an analyst puts it, "The roads, bridges, and dams built by Chinese firms are low cost, good quality, and completed in a fraction of the time such projects usually take in Africa. However, it is

¹¹⁸ The import crude oil figures, the first quarter of 2007, China Customs, 16 May, 2007, <http://www.customs.gov.cn/YWStaticPage/4370/f11f1efa.htm>

¹¹⁹ Mark Bromley and Andrea Goldstein, "Letter to Editor: What China model can do for Africans", *Financial Times Website*, 16 February, 2007. Bromley is research associates of Arms Transfers Project under Stockholm International Peace Research Institute, Goldstein is Senior Economist at OECD.

¹²⁰ Amy Myers Jaffe and Steven W. Lewis, "Beijing's Oil Diplomacy", *Survival*, Vol.44, no.1, Spring 2002, pp.115-134

¹²¹ Bassam Fattouh, "Assess Chinese oil companies in Sudan", *Oxford Energy Forum*, issue 69, May 2007, page 17-19

also “bad for Africa if it turns countries away from the hard work of political and economic reform”.¹²²

The way that the World Bank and the International Monetary Fund provide aid requires certain conditions be met by the receiving countries. The results are not satisfactory enough, especially in Africa. The Chinese approach provides an alternative, though it is counter-productive in some respects, such as combating corruption in Africa.

The case of Angola is illustrative. Over the last few years, the Angolan government applied for reconstruction funds after the civil war. The IMF wanted to include transparency measures to curb corruption and improve economic management. While the IMF was pressing for an agreement, the Angolans suddenly stopped negotiating. “The reason for that was the Angolan government had received a counter offer of a U.S.\$2 billion loan from China’s export-credit agency, the Exim Bank. The deal came with an interest rate repayment of 1.5 per cent over 17 years and was tied to an agreement to supply at first 10,000 bpd of crude oil, increasing later to 40,000 bpd.”¹²³

China at present is not a signatory to The Extractive Industries Transparency Initiatives (EITI), which supports improved governance in resources-rich countries through the verification and full publication of company payments and government revenues from oil, gas and mining. This is an international initiative to promote transparency in the oil industry. EITI chairman Bernd Pfaffenbach recently said without China’s participation the work would fail. He therefore urged China to do more.¹²⁴

A recently published report drafted by an Oxford University task force on energy security¹²⁵, climate change and development assistance highlights the importance of getting China, India and Arab countries to participate in EITI or enhanced EITI (EITI-plus). “It is important that this should be genuinely cooperative and not an attempt to patronize these donors or corral them into policies with which they may not agree.” It suggests those countries should be included in information sharing and policy formation mechanisms such as OECD Development Assistance Committee as a first step. China has not yet committed itself to joining EITI as a member.

¹²² Esther Pan quoted Princeton Lyman, adjunct senior fellow for Africa Studies at the Council on Foreign Relations at “China, Africa, and Oil” quoted, *Council for Foreign Relations website*, 26 January, 2007, available at www.cfr.org/publication/95557/china_africa_and_oil#2

¹²³ Ian Taylor, “China Oil Diplomacy in African”, *International Affairs*, 82:5 (2006), page 937-969

¹²⁴ Hugh Williamson, “Anti-Sleaze pact on oil must sign up China, say Germans”, *Financial Times Website*, 13 April, 2007

¹²⁵ High-Level Task Force on UK Energy Security, Climate Change and Development Assistance, “Energy, Politics, and Poverty: A Strategy for Energy Security, Climate Change and Development Assistance”, *Oxford University*, June 2007

Chapter 8 Conclusion

The aggressiveness of national oil companies from emerging high economic growth countries, such as China, India, Malaysia and Korea, in acquiring overseas oil assets has already drawn intense attention. Issues of oil security are high on the international political agenda. Rising petroleum prices, wars in the Middle East and growing worries about peak oil production make these aggressive policies look more justifiable. Who can blame a country for wanting to secure its oil supply?

China's leaders fear that domestic energy shortages and rising energy costs could undermine the country's economic growth and seriously jeopardize job creation. Potential shortages pose a risk to social stability that could in turn threaten the legitimacy of the rule of the Chinese Communist Party (CCP).¹²⁶

But whether overseas oilfield acquisition is an effective strategy is highly doubtful, at least from the energy perspective. First of all, the Chinese pre-suppositions that the world oil market is being manipulated and of the dangers posed by possible sea-lane blockages are far from reality. Even if some of the fears are justifiable, the amount of equity oil is so small (it is projected to account for slightly over 10% of the total oil consumption and 20% of imports in 2010) relative to her demand, that the policy does little to secure supply. In other words, oil from the market is still expected to be the principal source of China's imports.

China may be less concerned over the physical supply of oil than over the price they may have to pay. But, in a crisis, a margin of a few dollars per barrel will do little to mitigate the impact of a large price spike.

Instead of acquiring oilfields, a more effective way of weathering a sudden spike in the oil price or short term supply disruptions could be to ensure access to petroleum in the market. Supply disruptions are best tackled by stockbuilding, as has been done by building up Strategic Petroleum Reserves (SPR). The 26 industrialized nations (including the United States) that participate in the International Energy Agency's (IEA's) emergency reserve system are required to "hold oil stocks equivalent to 90 days of net imports in the previous year. There are different models among the 26 countries on the costs and on the way oil is transferred to market. So far this mechanism has been proven to be the most effective. China is now building up her own reserves. The amount may be small in the beginning: present policy envisages reserves equivalent to 30 days of imports by 2010¹²⁷. But it may give China some room to re-visit her overseas oilfield acquisition strategy.

China's overseas oilfield acquisition has diplomatic and political implications. First, by acquiring oilfields China has established itself as a major player in the global political arena. Second, the involvement or "political investment" in some countries has guaranteed votes in multilateral organizations. Whether it is all worth it is, however, questionable.

¹²⁶ Kenneth Lieberthal and Mikkal Herberg, 2006

¹²⁷ "Kam Pao becomes a place to keep strategic petroleum reserves" (in Chinese), *Ta Kung Pao*, 10 May, 2007, via WiserSearch

As far as the Sudan is concerned, it is debatable whether the investment has been worth the trouble. Sudan's oil reserves are very limited and the country's problems in Darfur only drag China back to the arena of human rights issues, something that has dogged Beijing since the June 4 1989 crackdown on the student movement. It is foreseeable that NGOs will keep using the abuses in Darfur to embarrass organizers of the Beijing Olympics.

Being the second-largest oil consuming country and one that wields considerable political clout, means that, China should appreciate its ability to shape the norms. As Beijing's influence grows day by day, China's power grows in many areas. The other side of increasing influence, however, is the requirement for greater responsibility in accordance with universally recognized standards of conduct, i.e. being a decent global citizen. Chinese leaders may also need to put more emphasis on environment protection at home.

The Chinese government has not invested enough in energy conservation. Erica Downs, research shows China's energy conservation as a percentage of energy supply investment has declined since the peak of 13 % in 1982 to about 3 % in 1996. The amount of money invested in supply expansion was 18 times greater than the amount invested in energy conservation.¹²⁸

According to the Energy Information Administration under the U.S. Energy Department, China is the world's second-largest source of carbon dioxide emissions - after the US. China will be the largest source of growth in carbon dioxide emissions between now and 2030.¹²⁹ Over the last 2 years, the Chinese government has shifted its focus towards energy saving and efficiency. However, the results so far are not encouraging. According to World Bank analyses, premature mortality and morbidity associated with air pollution cost the equivalent of 3.8% of GDP in 2003.¹³⁰

The energy saving target of the 11th Five year plan was not met in the first year (appendix 1, the economic structure of China) and the trend provides no grounds for optimism.

Clearly, China faces many serious challenges relating to development strategy, energy supplies and environmental issues. This paper has argued that the search for energy security through the acquisition of equity oil in fragile countries, whilst understandable, is unlikely to succeed – the amounts involved are too small (and it is possible they would not be available in a crisis). On the other hand, the political costs of the present strategy seem high. There is a danger that present policies will distract attention from the real challenges that must be addressed.

¹²⁸ Erica Downs, 2006

¹²⁹ EIA, "Country Analysis Brief: China", August 2006

¹³⁰ The World Bank, "Cost of Pollution in China: Economic Estimates of Physical damage", 1 February, 2007

Appendix 1: Economic development: High growth with high energy intensity

A. Energy Saving target under 11th Five Year Plan target

China's economic growth was phenomenal between 1981 and 2000¹³¹, with an averaged GDP increase by 9.9% per year. The nation achieved to quadruple the GDP within 20 years. On the other hand, the energy consumed increased only two fold, with an annual rate of 4.6% in the same period.¹³²

In the five year of the 11th Five Year Plan, the government targets to double GDP per capita against the base year of 2000. The annual growth rate is supposedly 7.5%. At the same time, it proclaims to reduce by 20% of per GDP energy consumption.

B. Improving rural area living standards demands more energy

However, under the 11th Five Year Plan, it clearly laid down plans to improve rural areas living standard. Apart from cutting the land tax and improving drinking water system, it also targeted: 1/ Urbanization rate from 43% in 2005 to 47% in 2010; 2/ increase farmers' disposal income 5% annually; 3/ 45 million farmers will be trained to take up industrial jobs; 4/ Provide an additional 3.5 million rural household access to electricity.

There are two factors in the trend that keeps the demand for energy high.

First, as the urban sector is rapidly expanding, its implication on energy consumption should not be underestimated. The World Bank's 2006 report predicts over the next 10 to 15 years, China's urbanization rate is expected to rise to over 50%, adding another 100 to 150 million inhabitants to cities. It says in order to provide basic services to migrants and new urban residents, the Chinese government needs to invest considerably in upgrading existing infrastructures and building new.¹³³ This is why in foreseeable future heavy industries would be dominating and their appetite, bigger than light manufacturing's, for fuel and power is more than ever. If the urbanization rate increases by 1% a year, it will bring in approximately 13 million people into city. Urban residential consumption is always higher than in rural. Between 2001 and 2005, urban residential energy consumption per capita was 2.1-2.6 times to rural.¹³⁴

Second, in term of a deliberate policy to improve farmers' quality of life, fixed asset investment is inevitable. During the 10th Five Year plan period, the total fixed asset

¹³¹ According to Bloomberg, the lowest growth rate was 3.8% in 1990, and the highest was 14.2% in 1992

¹³² Fung Fei, Zhou Fengqi, Wang Qingyi, "National Energy Strategic thinking (the founding paper),(in Chinese), *Review of Economic Research*, 25 November, 2004, via the website of Beijing Municipal Science & Technology Commission, http://210.76.125.44/ztrd/jcck/yjbg/t20041126_14464.htm

¹³³ World Bank, "China Urban Development Quarterly", issue 1, June 2006

¹³⁴ China Energy Statistical Yearbook 2006, *China Statistics Press*, March 2007

investment recorded a jump of 112.4% over the previous Plan period.¹³⁵ Between 2002 to 2006, the annualised growth was 24.2%, the highest growth period since 1995. It has no signal that the figure will come down. (See Figure 6)

Figure 6 Fixed asset investment between 2002 to 06

Growth Rate (%)	
2002	16.9
2003	27.7
2004	26.6
2005	26
2006	24
Average	24.24

Source: National Bureau of Statistics of China

C. Heavy industries dominate

The structure of China's industry also intensifies energy needs. Industrial energy consumption in the U.S. accounts for about 33.4% of total consumption in 2004¹³⁶, but for China it was over 70% both in 2004 and 2005.¹³⁷ One of the reasons why the industrial energy usage recorded above the world's level was the Chinese economy being dominated by heavy industries. In 2004, energy consumption of steel, chemicals, building materials, oil refining and coking, electricity generation and heat supply sectors accounts for 63% of the total industrial energy consumption.¹³⁸ Figure 7 shows how heavy industries dominate the industrial energy consumption.

¹³⁵ Research Centre for Sustainable Development, Chinese Academy of Social Sciences, "Understanding China's Energy Policy" (Background Paper Prepared for Stern Review on the Economics of Climate Change), Available at: http://www.hm-treasury.gov.uk/media/5FB/FE/Climate_Change_CASS_final_report.pdf, (it doesn't provide the date of upload)

¹³⁶ EIA of Department of Energy, US, available at http://tonto.eia.doe.gov/merquery/mer_data.asp?table=T02.01

¹³⁷ China Energy Statistical Yearbook 2006, *China Statistics Press*, March 2007, Beijing

¹³⁸ Research Centre for Sustainable Development, Chinese Academy of Social Sciences, "Understanding China's Energy Policy" (Background Paper Prepared for Stern Review on the Economics of Climate Change), Available at: http://www.hm-treasury.gov.uk/media/5FB/FE/Climate_Change_CASS_final_report.pdf (it doesn't provide the date of upload)

Figure 7 Industrial energy Consumption in China

	2005 (10000 tce)
Total Energy Consumption	223319.30
Industry Energy Consumption	158058.37
Industrial Energy Consumption accounts for total Energy Consumption	70.8%
Some heavy industries	112205.34
Processing of Petroleum, coking and processing Nuclear Fuel	11881.87
Manufacture of Raw Materials and Chemical Products	22494.07
Manufacture of Non-metallic Mineral Products	18849.94
Smelting and Pressing of Ferrous Metals	35988.23
Smelting and Pressing of Non-Ferrous Metals	7188.69
Production and Distribution of Electric Power and Heat Power	15803
The above industries accounts for Total Industrial Energy Consumption	71.0%

Source: National Bureau of Statistics of China

The high energy intensity products marked rapid growth entered into the 21st century. From 2001 to 2006, the average growth of rolled steel is 24% annually and cement 13.6%. (See Figure 8) But the energy efficiency in producing the above-mentioned products is lag far behind developed countries. (See Figure 9)

Figure 8 The growth rates of major industrial product outputs

	Crude Steel Growth	Rolled Steel Growth	Cement Growth	Ethylene Growth	Cars Growth	Tractors Growth
1995	3.0%	6.5%	12.9%	12.8%	25.4%	35.5%
1996	6.2%	4.0%	3.3%	26.6%	13.6%	32.2%
1997	7.6%	6.9%	4.2%	18.0%	26.9%	-1.6%
1998	6.1%	7.6%	4.7%	5.2%	4.3%	-17.7%
1999	7.5%	12.8%	6.9%	15.3%	12.6%	-3.5%
2000	3.4%	8.6%	4.2%	8.0%	6.3%	-37.3%
2001	18.0%	22.2%	10.7%	2.3%	15.9%	-6.8%
2002	20.3%	19.8%	9.7%	13.0%	55.2%	18.8%
2003	21.9%	25.2%	18.9%	12.7%	89.6%	7.5%
2004	27.2%	32.6%	12.1%	3.0%	9.9%	133.2%
2005	24.9%	18.1%	10.6%	20.0%	21.7%	43.5%
2006	19.7%	25.3%	15.5%	24.5%	39.7%	22%

Source: National Bureau of Statistics of China

Figure 9 Comparison between China and developed countries in energy consumption in different areas of production

	Unit	Year 2000		
		China Ave.	Developed Countries Ave.	Gap
Coal consumption for thermal Generation	gram st.coal /kwh	392	316	24.10%
Steel production	kg st.coal per tonne	781	646	20.90%
Cement comprehensive	kg st.coal per tonne	181	125.7	44%
Ethylene	kg st.coal per tonne	1212	714	69.70%
Truck fuel oil consumption	Liter/ 100 ton km	7.6	3.4	123.50%

Source: The Development Research Centre of the State Council, "Overview of the National Energy Strategy (China's National Comprehensive Energy strategy and policy main report) May 2005

As a result, during this high GDP and industrial growth period, the elasticity of major energy consuming products to GDP growth increased greatly from 0.89 over the 6th to 9th five years to 1.38 in the 10th five-year period.¹³⁹

According to the estimates of Shi¹⁴⁰, for every dollar GDP (in U.S. dollar term) China created, it consumes 0.86 kg oil equivalent in 2002, 4.1 times of U.S., 6.2 times of UK and 13.3 times of Japan. (See Figure 10)

Figure 10 Comparison of energy consumption per GDP U.S. dollar

	2002
Japan	0.06
Germany	0.09
France	0.09
UK	0.12
Australia	0.15
Brazil	0.15
United States	0.17
Canada	0.25
India	0.34
China	0.86

Source: Shi FaQi's research

¹³⁹ Research Centre for Sustainable Development, Chinese Academy of Social Sciences, "Understanding China's Energy Policy" (Background Paper Prepared for Stern Review on the Economics of Climate Change), Available at: http://www.hm-treasury.gov.uk/media/5FB/FE/Climate_Change_CASS_final_report.pdf

¹⁴⁰ Shi Faqi, "A preliminary analysis of China's energy consumption elasticity", *China Center for National Accounting & Economic Growth, Peking University*, 8 July 2005,

Given this energy usage situation, the World Bank sees it is quite impossible to achieve its target: 7.5% annual GDP growth with 20% reduction of per GDP energy consumption.¹⁴¹ It said that if China wants to achieve 20% reduction of energy intensity, an energy consumption elasticity rate of 0.34 (for every 10 % increase in GDP energy use increases by 3.4 %, the lower the ratio implies the more energy efficient is) has to be kept. But the discouraging fact is that since 2003 the elasticity has spiked to over 1 for two consecutive years before a dip to just below 1 (See Figure 11).

In particular when it failed to the energy efficiency target in 2006, even the Chinese Government did not decline but admitted that meeting the targets was not so easy as it hoped to be. The Chinese Premier, Mr Wen Jiabao, confirmed at the annual National People's Congress session in 2007 that the 5-year planned targets of cutting energy consumption per unit of output by 4 per cent a year and of reducing the discharge of big pollutants by 2 per cent were not met in 2006.¹⁴² Nevertheless, he reiterated that the energy consumption reduction by 20 % was not negotiable.

Figure 11 Energy Consumption Elasticity in China

	Energy Consumption Growth Rate	GDP Growth Rate	Energy Consumption Elasticity
1990	1.8	3.8	0.47
1991	5.1	9.2	0.55
1992	5.2	14.2	0.37
1993	6.3	14.0	0.45
1994	5.8	13.1	0.44
1995	6.9	10.9	0.63
1996	5.9	10.0	0.59
1997	-0.8	9.3	-0.09
1998	-4.1	7.8	-0.53
1999	1.2	7.6	0.16
2000	3.5	8.4	0.42
2001	3.4	8.3	0.41
2002	6.0	9.1	0.66
2003	15.3	10.0	1.53
2004	16.1	10.1	1.59
2005	9.9	10.2	0.97

Source: National Bureau of Statistics of China, Shi Faqi's research¹⁴³

¹⁴¹ World Bank, "China Quarterly Update", February 2006

¹⁴² "China to raise its game on climate change", *Financial Times Website*, 6 March, 2007

¹⁴³ National Bureau of Statistics did not provide data of years 1997-98, the data here are quoted from Shi Faqi, Shi Faqi, "A preliminary analysis of China's energy consumption elasticity", *China Center for National Accounting & Economic Growth, Peking University*, 8 July, 2005, available at www.nepku.com/static_html/nengyuan.asp?id=1327

Appendix 2: Energy Resources in China

China's energy reserves, in absolute terms, are not inconsiderable. With 114.4 billion tons in coal reserves, China is the third largest in the world, after the U.S. and Russia; with another 16 billion barrels in proven oil reserves, she is ranked thirteen.

However, China officials see it differently. They frequently express that in terms of the amounts each citizen can share of the national treasures, the nation is poor. This is one of the arguments that China frequently uses to defend its overseas acquisition. According to a report produced by the Development Research Centre under China's State Council, in 2003 the nation's oil reserves per capita was only 10% of the world average; and the natural gas reserves even accounted for only 5% of the world average. The coal was higher, but still below the norm, only 57% of world average.¹⁴⁴

According to the latest figures¹⁴⁵, China has 16 billion oil barrels reserves, more than 4 times of the United Kingdom. In per capita terms, an average British citizen is more than 5 times better off than a Chinese. (See Figure 12)

Figure 12 Countries energy reserves (per capita)

	China	USA	UK	Russia
Population (million)	1,307.6	295.7	60.4	142.2
Coal Reserve (tonnes) million (Percentage of total world coal reserve)	114,500 12.6%	246,643 27.1%	220 3.8%	157,010 17.3%
Coal Per Capita (tonnes)	88	834	4	1,104
Oil Reserve (barrel) million (Percentage of total world oil reserve)	16,000 1.2%	21,757 1.7%	3,875 0.3%	60,000 4.6%
Oil Per Capita barrels	12	74	64	422
Natural Gas Reserve (cubic feet) million (in cubic meter) million	80,000,000 2,265,647	204,385,000 5,788,304	17,000,000 481,450	1,680,000,000 47,578,590
(Percentage of total world Gas reserve)	1.3%	3.3%	0.3%	27.2%
Natural Gas Per Capita (cubic feet) (in cubic meter) million	61,183 1,733	691,111 19,573	281,266 7,966	11,814,346 334,589

Source: Oil & Gas Journal, BP Statistical Review of World Energy 2006, EIA of Department of Energy the U.S.¹⁴⁶

¹⁴⁴ Development Research Center, the State Council, "Five challenges in energy that China is facing", June 2005, available at www.sdpc.gov.cn/nyjt/dcyj/t20050714_41391.htm

¹⁴⁵ Marilyn Radler, "Oil production, reserves increase slightly in 2006", *Oil & Gas Journal*, 18 December, 2006, p20-23, (Oil & Gas Journal estimated the Oil and Gas Reserve as of Jan 2007)

¹⁴⁶ The figures of oil and gas reserves come from the Oil and Gas Journal, (Marilyn Radler, 18 December, 2006); coal data from BP as of 2005; and populations figures from Energy Information of Administration of Department of Energy of United States

Under the current 11th Five Year Plan, the total primary energy consumption is targeted at annualized 4% growth (that is not the trend in the last few years, please see Figure 13), i.e. a projected 2.7 billion tons coal equivalent by 2010.¹⁴⁷ At the same time, total primary energy production will be raised to 2.446 billion tons of coal equivalent, approximately 3.5% growth a year. The shortfall of 254 million would be made up from import.

There is no doubt that China needs import and the question is what kind of energy source that it needs import.

Figure 13 Total Primary Energy Demand in China

	Total Energy Consumption (10000 ton coal equivalent)	Growth Rate
2000	138,553	NIL
2001	143,199	3.4%
2002	151,797	6.0%
2003	174,990	15.3%
2004	203,227	16.1%
2005	224,682	10.6%
2010	270,000	annualised 4%

Source: China Energy Statistical Yearbook 2006, China Statistics Press, March 2007. The projection to 2010 comes from National Development and Reform Commission report, "Energy development 11th Five Year Plan", April 2007.

A. Coal will still be the main primary energy source

Abundance in coal has made the fuel a natural choice for the nation to power her growth engine. In 1965, coal accounted for 91% (See Figure 14); the proportion recently goes down to 70%, while oil and gas combined has increased to 24%. The Chinese government makes it clear that taking coal as the first and foremost primary energy resource will not be changed, even though the reliance will be played down. The state Plan targets to press down from the 2005's level of 69.1% to 66.1% in 2010.¹⁴⁸

If the nation only burned coal as its fuel at a rate of 2.7 billion tons a year, the reserves, estimated by BP, would allow her 42 years to go. By the Chinese government's own projection, the supply could last for another 80 years, when coal lying within 1000 meters below the surface is taken into account and which would total the recoverable reserves to 400 billion tons.¹⁴⁹

¹⁴⁷ National Development and Reform Commission, "Energy development in the 11th Five Year Planning", 10 April 2007, available at

<http://www.sdpc.gov.cn/nyjt/nyzywx/P020070410417020191418.pdf>

¹⁴⁸ *ibid*

¹⁴⁹ The Development Research Center of China State Council, "China National Energy Strategy and Policy 2020 Subtitle: Adjustment and Optimization of Energy Supply Structure in China", 2004

Figure 14 Primary Energy Sources in China

	1965	1975	1985	1995	2000	2005	2010*	2020*
Oil	6%	20%	17%	17%	23%	21%	20.5%	21.5%
Gas	0%	3%	2%	2%	2%	3%	5.3%	8.6%
Coal	91%	74%	77%	76%	69%	70%	66.1%	59%
Nuclear	0%	0%	0%	0%	0%	1%	0.95	2.5%
Hydro	3%	3%	4%	5%	5%	6%	6.8%	8.3%
Total consumption mtoe	182	338	533	916	967	1554	NIL	NIL

Source: Lehman Brothers report; National Development and Reform Commission(NDRC); Energy Research Institute of NDRC¹⁵⁰

China's coal reserves and its annual output basically meet her needs. Rather, policy discussion centers more around whether the abundance in coal could reduce the import of crude oil. In 2006, a consortium led by China's Shenhua Corporation signed an agreement with a South African company, Sasol, the world's largest producer of synthetic fuel from coal. The agreement covers the second phase of a feasibility study for the construction of a coal liquefaction plant in Shaanxi province capable of producing 80,000 barrels of fuel. The Chief Executive of Sasol claimed that combining another project in Ningxia Hui Autonomous Region together, the two plants could reduce China's oil import by 15%.¹⁵¹

Liquidized coal is greeted with enthusiasm at local level but the central authorities has never seen it a crucial part of energy strategy. In July 2006, the National Development and Reform Commission issued a circular to limit the development.¹⁵²

Mr Fung Fei of the Development Research Centre under State Council gives reasons for the no-go measure. He says liquidized coal should not be considered as a chief alternative to petrol in automotive vehicles. He explains that the main objection is low efficiency and high emission of carbon dioxide. "It takes 3 tons to 5 tons of high quality coal to produce one ton of diesel. The whole production consumes energy 100 to 200% more and emission of CO2 50% to 100% greater."¹⁵³

Actually, apart from low efficiency of turning coal to oil, coal mining is equally problematic in the country. Delivery of coal is another bottle-neck. Transportation of coal by rail and at port is often too delayed or hindered to reach the market in time.¹⁵⁴

¹⁵⁰ Details of 1965 to 2005 data is from Lehman Brothers report, Aug 2006; projection of 2010 is from National Development and Reform Commission's report on Energy Development in 11th Five Year Plan, April 2007; projection for 2020 is a reference scenario in the report of Energy Research Institute of NDRC, which titled as "China National Energy Strategy and Policy 2020 Subtitle 3: Adjustment and Optimization of Energy Supply Structure in China", 2004.

¹⁵¹ "Coal-to-oil deal with South Africa will cut imports", *South China Morning Post*, 23 June, 2006 via WiseSearch

¹⁵² "Suspend to approve 'coal to oil' project to seek economic security" *Shenzhen Economic Daily*, 31 July 2006, via WiserSearch

¹⁵³ "Coal-to-oil can't be the direction as alternative energy in auto", *Hong Kong Commercial Daily*, 26 Oct 2006, via WiserSearch

¹⁵⁴ Cole, Bernard D, "Oil for Lamps of China: Beijing's 21st-century Search for Energy", *McNair Papers*, 10/1/2003, via High Beam Research

Therefore, though coal production basically meets the consumption, any boost of production for the usage of liquidized into fuel may not be seen as a good strategy regards the production problem it has already had.

B. Gas at an infant stage

Natural gas, highly regarded as a cleaner fossil fuel, is strongly promoted by the Chinese government. Between 1995 and 2005, its production and consumption rapidly increased, both more than doubled.¹⁵⁵ It is estimated that in 2020 natural gas production will reach 150 billion cubic meters (bcm) and consumption will reach 250 bcm¹⁵⁶. However, the share of natural gas as primary energy source is predicted to rise no higher than 10 per cent by 2020.¹⁵⁷ The future growth depends on whether the much needed infrastructure is adequately built and a successful introduction of a price mechanism to make the gas more attractive to buyer vis-à-vis oil and coal.¹⁵⁸

C. Oil 50% of consumption fulfill by import in 2020

The Oil and Gas Journal estimates China's proved oil reserves stand at the level of 16 billion barrels and ranks the thirteen in the world.¹⁵⁹ Oil has been the second largest primary energy resources after coal for more than 30 years, since the Daqing oil fields spurted the black gold in 1970's. Oil has accounted for roughly 20% of primary energy consumption since 2000. Its share is widely believed to stay in the near future. (See figure 14)

The daily production increased from 2.83 million barrels in 2001 to 3.635 million barrels in 2005. Yet it has not caught up the rapid growth of demand. China is the second-largest oil consumer in the world, after the U.S.. It overtook Japan's No.2 position in 2002. China also accounted for 30% of global demand growth of oil growth in 2001 to 2005.

¹⁵⁵ According to BP, China produced 17.9 billion cubic meters (bcm) of natural gas in 1995 and the production increased rapidly over the last couple years. In 2004 it produced 41 bcm and 50 bcm in 2005. The consumption in 1995 was 17.4 bcm and raised to 47.5 bcm in 2005.

¹⁵⁶ Erica Downs, 2006

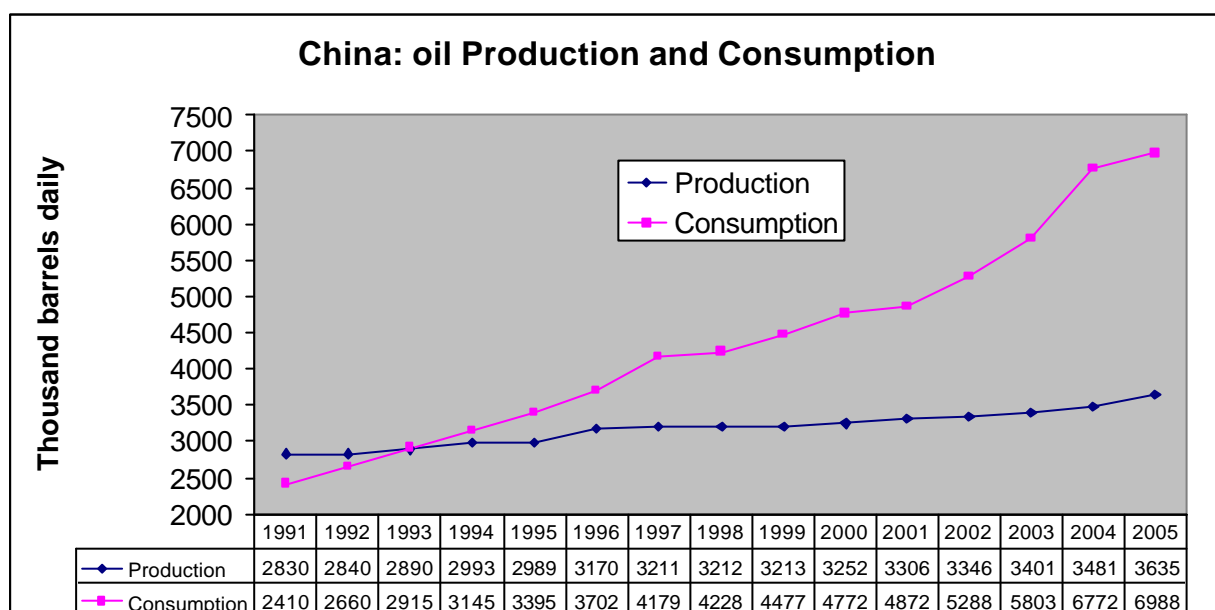
¹⁵⁷ Akira Miyamoto, Chikako Ishiguro, "Pricing and Demand for LNG in China: Consistency between LNG and pipeline gas in a fast growing market", *Oxford Institute for Energy Studies*, Jan 2006

¹⁵⁸ Erica Downs, 2006

¹⁵⁹ Marilyn Radler, "Oil production, reserves increase slightly in 2006", *Oil & Gas Journal*, 18 December, 2006, p20-23, (Oil & Gas Journal estimated the Oil and Gas Reserve as of Jan 2007)

Since 1993, China has turned to be a net oil importer from net exporter. The gap between oil production and consumption widens since then. (see figure 16) In 2002, China needed to import 37% of its domestic consumption. With the ambitious target of quadrupling its GDP at doubling energy consumption during the first decades of 21st century, the import level would hardly be predicted to be able to lower that even the Chinese government has admitted.

Figure 15 China: Oil Production and Consumption in China (1991 to 2005)



Sources: BP Statistical Review of World Energy June 2006, and Paul Horsnell, "Oil in Asia", Oxford University Press, 1997

According to reports released from National Development and Reform Commission in different channels, it stated that dependency level (oil import against the consumption) will rise to 42% in 2010, 54% in 2015 and over 50% in 2020.¹⁶⁰ International institute has projected higher oil import level in 2020; it varies from 63-70%.¹⁶¹

Apart from heavy industry domination and the poor energy efficiency, the decline production of big oilfields can also explain why the government would not be allowed to be optimistic about its oil production or underestimate its import level in the last couple

¹⁶⁰ Projection on 2010 and 2015 were made by Deputy Director of Energy Research Institute National Development and Reform Commission, Hang Wenkein. Hang Wenkein, "Our nation's oil resources Strategy" (in Chinese), July 2002, available at www.usc.cuhk.edu.hk/wk_wzdetails.asp?id=2450; Projection on 2020 is from "11th Five Year Plan Strategic Research", which edited by Ma Kai (Chairman of NDRC), 2006. Ma Kai, "11th Five Year Plan Strategic Research", Beijing Science and Technology Press, Beijing, 2005

¹⁶¹ Jonathan E. Sinton, "Evaluation of China's Energy Strategy Options", *The China Sustainable Energy Program*, May 2005, p. 13, available at <http://www.efchina.org/>

years. DaQing oil field has been the centerpiece of Chinese oil production since its discovery, but it is steadily declining from its production peak in the mid 90s. In 2010, its production is predicted as being only half of its peak, 0.6 million barrels a day, only able to feed 7% of projected hungry needs---8.4 million barrel a day. ¹⁶²(See Figure 16)

Figure 16 The projection of decline and fall of Daqing

Year	thousand barrels daily
1960	16
1970	353
1980	1038
1985	1106
1990	1129
1995	1120
2003	976
2005*	908
2010*	600
2020*	400

Source: Robert E. Ebel, "China's Energy Future: The Middle Kingdom Seeks Its Place in the Sun", The CSIS Press, 2005, and Paul Horsnell, "Oil in Asia", Oxford University Press, 1997

Recently, a giant oilfield has been discovered in Bohai Bay by PetroChina and this is a positive news. In 3 May, 2007, PetroChina (a listed company of CNPC) announced it has announced that the Jidong Nanpu discovery in the shallow waters of Bohai Bay contains approx 1,020 million tons oil equivalent, (905 tons oil and 140 million cu.m of gas) there is around 7.3 billion barrels of oil equivalent. ¹⁶³ The company also stated that 405m tons (45%) of the oil reserves are categorised as proved, 298m tons (33%) as probable and 202m tons (22%) as possible. (Currently, China has 2200m tons/16.3 billion barrels proven oil reserve, according to BP Statistical Review of World Energy 2007)

However, the securities houses think that it may take sometimes to evaluate the actual size of the reserve. Macquarie Research said that, "The key factor in the equation is the recovery rate that will be achieved (not given by the company). A 30% level would be a good estimate, but the range could be 10-40%. Using 30% recovery gives us proved recoverable oil reserves of around 850m barrels, probable oil reserves of around 625m barrels and possible of 425m barrels."¹⁶⁴ JP Morgan believed, "this discovery as part of the game plan for PetroChina to maintain their current production level (1% annual crude production growth). It will certainly make it slightly easier, but will by no means add significant growth going forward."¹⁶⁵

¹⁶² IEA, World Energy Outlook 2006, Paris, 2006

¹⁶³ PetroChina company announcement, 3 May, 2007, available at "http://www.petrochina.com.cn/english/gzgg/gg070503e1830.pdf

¹⁶⁴ Macquarie Equity Research, "PetroChina: Too high Too soon", 4 May, 2007

¹⁶⁵ JP Morgan Asia Pacific Equity Research, "PetroChina: proven to be mistaken", 4 May, 2007

Therefore, the actual size and the contribution to everyday oil consumption in China needs to have more discussion. It may ease the imported oil pressure but it is too early to judge the effect.