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# China's Policy to Secure Overseas Energy Resources

Dr. Jianping ZHANG

Director, Dept. of International Economic Cooperation  
Institute for International Economic research, NDRC

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## **I. China's energy production, consumption and external energy demand**

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- ✓ China resorts to domestic resources for resolving the energy issue
- ✓ Primary energy self-sufficiency rate has kept more than 90%
- ✓ In 2006, the proportion of net import of China's primary energy is only 8%
- ✓ Oil is the main primary energy relying on international market
- ✓ Will rely more on the international markets to seek gas

Table 1: China's Energy Production and its Composition (1999-2006)

Source: China Statistical yearbook 2007

	Total Energy Production	As Percentage of Prime Energy Production (%)			
	(10 <sup>4</sup> tce)	Raw Coal	Crude Oil	Natural Gas	Hydro Power (10 <sup>8</sup> kWh)
1999	125935	72.6	18.2	2.7	6.6
2000	128978	72.0	18.1	2.8	7.2
2001	137445	71.8	17.0	2.9	8.2
2002	143810	72.3	16.6	3.0	8.1
2003	163842	75.1	14.8	2.8	7.3
2004	187341	76.0	13.4	2.9	7.7
2005	205876	76.5	12.6	3.2	7.7
2006	221056	76.7	11.9	3.5	7.9

Table 2: China's Prime Energy Consumption and its Composition (1999-2006)

Source: China Statistical yearbook 2007

	Total Energy Consumption	As Percentage of Prime Energy Production (%)			
	(10 <sup>4</sup> tce)	Raw Coal	Crude Oil	Natural Gas	Hydro Power (10 <sup>8</sup> kWh)
1999	133831	69.1	22.6	2.1	6.2
2000	138553	67.8	23.2	2.4	6.7
2001	143199	66.7	22.9	2.6	7.9
2002	151797	66.3	23.4	2.6	7.7
2003	174990	68.4	22.2	2.6	6.8
2004	203227	68.0	22.3	2.6	7.1
2005	224682	69.1	21.0	2.8	7.1
2006	246270	69.4	20.4	3.0	7.2

Sources: China Statistical yearbook 2007 and National Development and Reform Commission's website.

**Figure 1 China's crude oil, as percentage of total energy production and consumption**

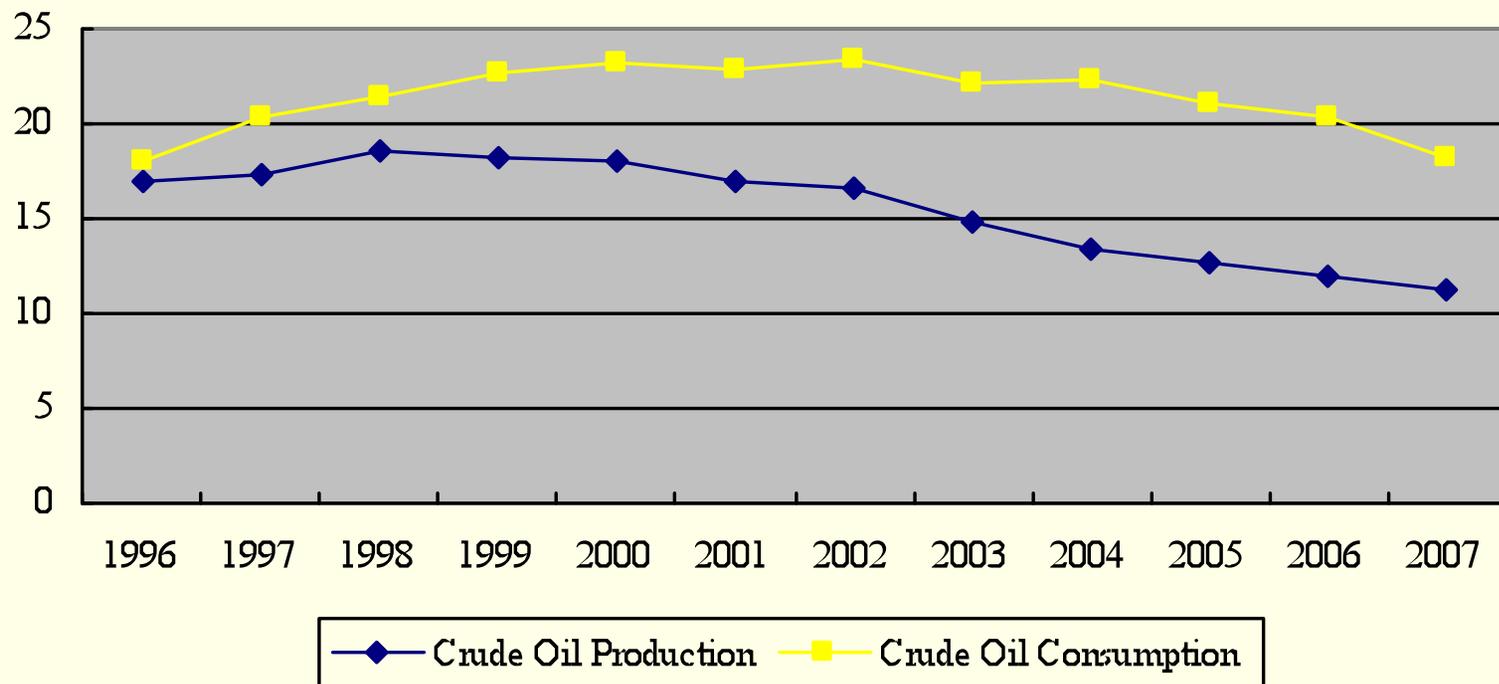


Table 3: Energy Balance of China (10<sup>4</sup> tce)

Source: China Statistical yearbook 2007

Item	1995	2000	2004	2005	2006
Total Energy Available for Consumption	129535	136535	203344	223213	243918
Prime Energy Production	129034	128978	187341	205876	221056
Recovery of Energy	2312	1760	2508	2840	2903
Imports	5456	14334	26593	26952	31057
Exports (-)	6776	9633	11646	11447	10925
Stock Changes in the Year	-491	1097	-1452	-1008	-173
Total Energy Consumption	131176	138553	203227	224682	246270
Balance	-1641	-2017	117	-1469	-2352

Table 4: Petroleum Balance (10<sup>4</sup> ton)

Source: China Statistical yearbook 2007

Item	1990	1995	2000	2003	2004	2005	2006
Total Energy Available for Consumption	11435.0	16072.7	22631.8	27540.5	32116.2	32539.1	34889.8
Output	13830.6	15005.0	16300.0	16960.0	17587.3	18135.3	18476.6
Imports	755.6	3673.2	9748.5	13189.6	17291.3	17163.2	19453.0
Exports (-)	3110.4	2454.5	2172.1	2540.8	2240.6	2888.1	2626.2
Stock Changes in the Year	-40.8	-151.0	-1244.6	-68.2	-521.9	128.8	-413.5
Total Energy Consumption	11485.3	16064.9	22439.3	27126.1	31699.9	32535.4	34875.9
Balance	-50.6	7.8	192.5	414.4	416.3	3.7	13.9

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- the 2<sup>nd</sup> largest energy consumer in the world, China's energy consumption occupies 14.60% of the global total.
  - the 2<sup>nd</sup> largest energy producer, with primary energy output totaling 2.37 billion tons of coal equivalent (TCE) in 2007
  - Raw coal dominants in China's energy production and consumption(70%).
  - Crude oil: production has declined to 11.3% in 2007 from 23.8% of the total energy output in 1980, consumption has fluctuated according to time, from 20.7% in 1980 to 23.4% in 2002, then dropped to 18.3% in 2007 of the total.
  - China's major external energy depending on import is oil. In 2007, 46.6% ratio of external dependency.
  - Gas import will also grow in future.

# Senarios Prediction

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- China's energy demand is expected to reach 3.1 billion TCE in 2020, or 13.2% of the global total
- GDP annual growth rate above 7% over the next two decades, energy supply growing at a rate of 4% year on year
- Oil production and demand gap will be 155 - 187 million tons in 2010 and 240 – 520 million tons in 2020, with external dependency rates of 46.3% - 52.3% and 55.8% - 66.1%.

## II. Overseas energy (oil & gas) distribution

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- (I) Overview of overseas oil resource distribution
- The residual proved oil reserve has risen to 182.44 billion of tons at the end of 2007, up 146.74% from 73.94 billion tons at the end of 1971.
- The oil output has climbed to 3.62 billion tons, up 50.12% from 2.41 billion tons.
- 38% of recoverable oil reserve is in the Middle East; 17.3% and 16.5% are in the former Soviet Union area and the North America, and less than 4% in Europe.
- The world's oil resource growth will come from Middle East, Russia-Central Asia, South America, and Africa

## (II) Three changes in world's oil demand and supply

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- the world's oil demand structure has changed. China and India has climbed sharply, whereas U.S., Europe and Japan have stabilized
- Oil supply shows a noticeable tendency of diversification. OPEC's control on oil export has dropped from 53% in 1973 to 31.2% at present, and will continue to fall.
- The big four have a growing influence on the international oil market.(Mobile\BP\Shell \Chevron) 80%

# III. China's Strategy to Secure Overseas Energy Resources

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- (I) Diversification strategy
- Now, about 60% of oil imports of China rely on the Middle East.
- The ideal future oil security strategy: Middle East – 1/3; Russia – 1/3; Central Asia – 1/3(American Rand Corp.) .
- A new look of diversification in future, incorporating Middle East, Russia, Central Asia, Africa and South America.
- China is developing a global strategic energy plan. Within the above scope, priority will be given on Russia, Kazakhstan, Turkmenistan, Iran, Iraq, Sudan, Venezuela, Indonesia, etc.

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- China has adjusted its energy consumption structure, and strengthened the cooperation with foreign countries in electricity imports, natural gas imports and other energy imports.
  - Sino-Russian large-scale electricity cooperation has entered the implementation stage.
  - The electricity import has been divided into three steps.

## (II) Going abroad strategy for energy enterprises

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- Various cooperation projects between China and other countries adopt the form of “shareholding oil”, i.e. China is involved in the local oil construction projects by means of equity participation or investment, receiving a certain share of oil output each year.
- China has obtained the right of shareholding, equity participation or independent exploration and exploitation in Sudan, Malacca, South America, the Gulf of Mexico and Central Asia, etc.

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- CNPC, SINOPEC, and CNOOC have expedited their overseas strategic implementation and have been involved in 65 oil and gas exploration and exploitation projects in more than 30 countries, having invested US\$7 billion in total and, in return, having gained 60 million tons of shareholding oil.
  - CNPC is implementing 44 overseas oil investment projects covering 18 countries and areas in 4 continents. Four major overseas oil and gas production bases (i.e. North Africa, Central Asia, South America and Asia-Australia) have been set up.

### (III) International cooperation in energy technology

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- The “11th Five-Year Plan implementation platform of international cooperation in science and technology” shows that China’s international scientific and technological cooperation has made energy technology as the priorities.
- Strengthen Clean-coal technology, oil and gas exploitation and comprehensive utilization of international technology cooperation
- Implement China-based international cooperation on renewable energy, such as wind, solar, biomass and others.
- Advanced nuclear energy utilization
- Promote international cooperation on energy-saving industries

# IV. Priorities of external energy strategy for China

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- **(I) Strategic ties with major energy suppliers overseas**

- **Russia.**

- Russia's energy diplomatic is featured by the stress on exploring the world market, in particular the non-European market including C, J, K, U.S. and Turkey.
- The prime ministers of both countries have made decision on increasing trade value to US\$60 billion by 2010.
- China has committed itself to investing US\$12 billion in Russia, a substantial part of which will be used in oil and gas cooperation.
- Oct.2008, Energy Dialogue on vice PM level

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- **Gulf region.**

- GCC have 45% of oil reserve and 20% of total oil output in the world

- To strengthen cooperation with GCC in oil and gas exploration, exploitation and petrochemicals

- China should be the ideal destination of oil dollar investment

- **Central Asia & Caspian countries**

- Cooperation in oil field development or acquired the stakes of oil fields in Kazakhstan

- China's "West-East Gas Pipeline" project

- Pipelines between China, Kazakhstan and Turkmenistan

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- **Africa.**

China's oil import accounts for 32.5%(2007) of its total imports. 2<sup>nd</sup> crude oil source area, with Angola, Sudan, Congo, Equatorial Guinea, Gabon, Cameroon, Algeria, Libya, Nigeria and Egypt.

- **Latin America.**

One of the future energy suppliers



## (II) Competition & collaboration between China and major energy consumers

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### **China and Japan**

Proper choice for both parties should be to replace strife and conflict with cooperation:

Russian oil and gas pipelines and East China Sea oil fields

### **China and South Korea**

Basically without conflicts and seeking for closer and closer cooperation now and in the future

### **China and the U.S.**

Both are the biggest energy consumers and more competitive in the energy game.

### **China and India**

India has been a strong rival to China in the contest for overseas oil, but they have begun to work together.

# Energy Cooperation in NEA

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- From Bilateral to Multilateral cooperation
  - Bilateral:unavoidable approach in short term
  - Multilateral:ideal and long term goal
- There are a lot of bilateral projects and a few multilateral energy cooperation projects.
- Pre-conditions for multilateral cooperation:
  - Elimination of political,historical and economic barriers
  - Common benefit and mutual trust
- The necessary approach to common market on energy

# Prospect for energy cooperation in NEA

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## A. Energy cooperation will be accelerated

### ■ Oil bilateral cooperation will be upgraded

- China, Japan and South Korea will focus on strengthening energy cooperation with Russia.
- After the completion of Far East oil pipeline, the oil pressure will be greatly alleviated in Northeast Asian countries such as China, Japan and South Korea, and countries' cooperation relations will be more closely linked by oil and gas.

## ■ **Natural gas trade will be expanded**

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- The construction of Sino-Russian natural gas pipeline.
- Russia's natural gas exported to China and South Korea's will be increased significantly.
- China, Japan and South Korea will be the potential important customers of the natural gas network in Russia's Far East.

## ■ **Electric power cooperation will be enhanced**

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- Sino-Russian cooperation in electric power will be strengthened further.
- Within the framework of “Sakhalin” project, the Russian-Japanese electric cooperation will be gradually developed.
- Sino-Mongolian Thermal Power cooperation has been steadily processed.
- In the next few decades, China will start more than 40 nuclear power projects, some of which will be cooperated with Russia, South Korea and Japan.

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## ■ **B. Approaches of energy cooperation will be diversified**

- Northeast Asian nations will promote cooperation on energy efficiency improvement and environmental security.
- China, Japan, South Korea and Russia might carry out on a series of important cooperation, so as to improve the joint response ability to energy crisis.
- In the aspect of renewable energy and new energy's development and utilization, there is large cooperation space for Northeast Asian nations.

# Conclusions

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- Oil and gas are the major areas for external energy strategy.
- Diversification of external energy sources and “going abroad” strategy.
- China’s share in the global oil trade value is merely 8%.
- Russia and Central Asia will become the most significant strategic partners of China.
- NEA countries will enter into a new era of energy cooperation.
- China should be prudential in addressing the issue of competition and collaboration with the major oil consumers.

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## ■ Thank you for attention!

- Room B914, Guohong BLDG No.Jia 11, Muxidi Beili, Xicheng Dist. Beijing, 100038, P.R.China
- Tel: 86-10-63908914 Fax: 86-10-63908941
- E-mail: [jpz@public.bta.net.cn](mailto:jpz@public.bta.net.cn) [Zhangjp@amr.gov.cn](mailto:Zhangjp@amr.gov.cn)