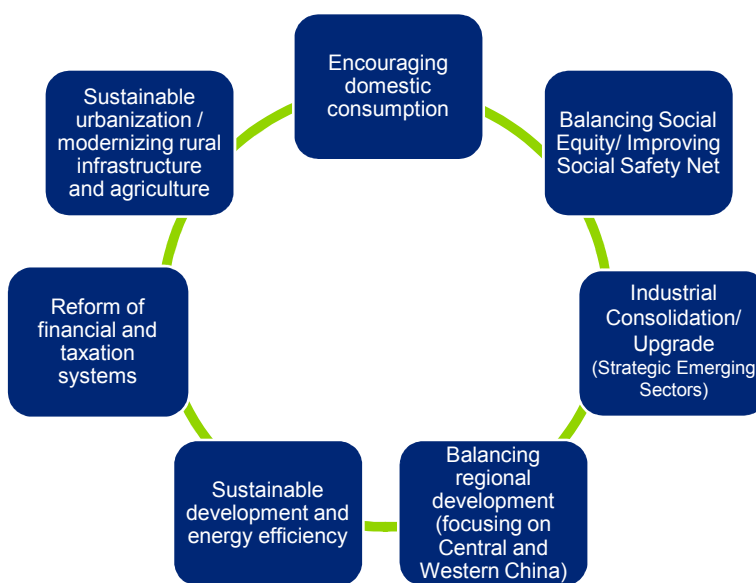




China's 12th Five Year Plan: Energy & Resources

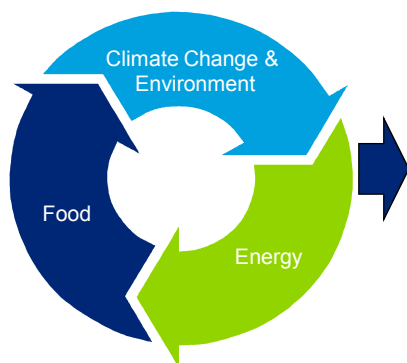
China Research and Insight Centre

Strategic priorities of 12-5



A virtuous circle of policy guidelines

Critical concerns for national security, sustainable growth and quality of life, and sustained export-import strength



	11 th FYP (2006- 2010) (Target)	11 th FYP (2006- 2010) (Actual)	12 th FYP (2011- 2015) (Target)	13 th FYP (2016- 2020) (Target)
GDP annual growth	7.5%	10.8%	7%	-
Primary energy consumption annual growth	4%	6.3%	3.75%-5%	5.5%
Energy consumption (billion tce)	2.7	3.3	4.2-4.5	<4.9
Non-fossil as total primary energy consumption	10%	8.3%	11.4%	15%
Energy intensity (% reduction in 5 years)	20%	19.1%*	16%	-
Carbon intensity (% reduction in 5 years)	-	-	17%	40%-45% vs. 2005

* 19.1% is officially reported, but the independent estimates is less than 10%

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How energy and resources industry is addressed in plan

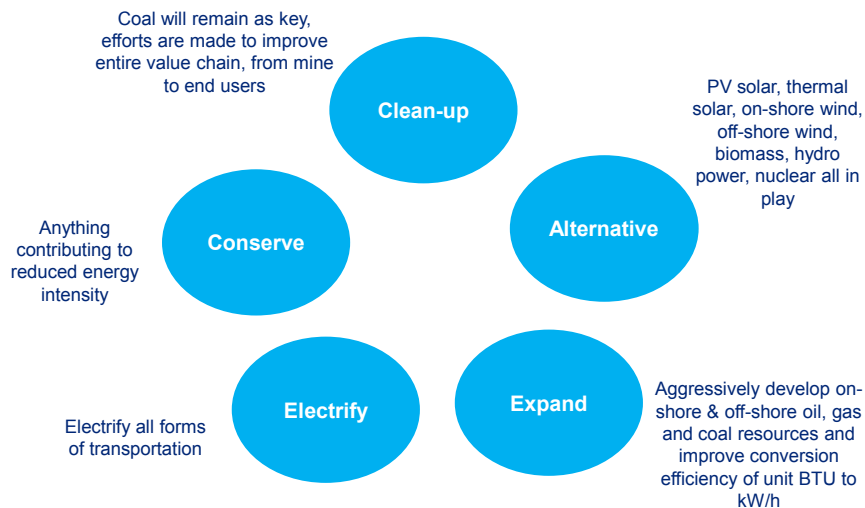
All energy policy is related to national security issue of reducing growth rate of oil and gas imports

- Energy security:** reduce energy risk by diversification of energy sources and energy partners and strengthen domestic energy capacity
- Further exploration of oil and gas:** increase natural gas production, develop and deploy the unconventional oil and gas resources such as coal bed methane gas and shale gas
- Consolidation:** re-centralize state control on critical commodities, push coal mining consolidation from Shanxi province to all major coal mine regions and appropriately develop coal chemical industry
- “Go West”:** explore and develop resources in western China (especially in Inner Mongolia and Xinjiang) and optimize energy conversion efficiency
- Globalization:** encourage overseas expansion and international cooperation to gain and secure access to resources, reinforce technology expertise and improve management capabilities
- Renewable energy:** set targets for renewable energy and encourage social investment in the sector, signaling the long term demand for renewable energy
- Energy related fiscal reform:** identify energy and resources price reform as priority and gradually liberalize energy price
- Energy conservation:** prioritize energy conservation and reduce energy intensity across all nation

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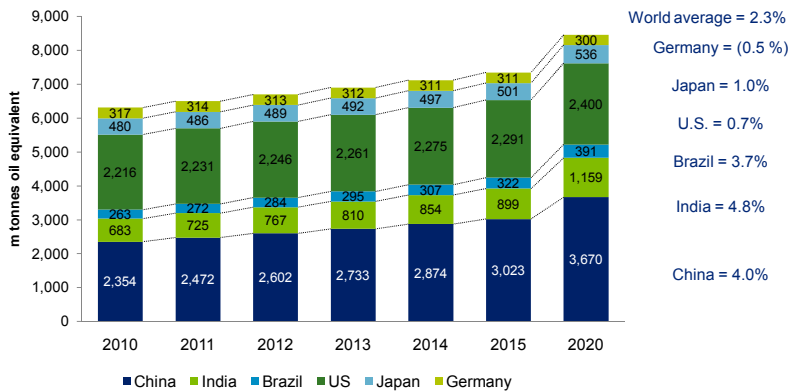
Top SOE & MNC opportunities - investment gateways



1. Emerging countries will lead the growth of energy demand and competition for resources among the countries is rising

- China has become the world's largest energy consumer and the second largest oil importer/ consumer
- China's energy demand growth is estimated at 4% CAGR during 2011-2020
- Key factors driving China's consumption growth are relative rapid economic growth, industrial structure upgrade, urbanization, improving but still inefficient energy use

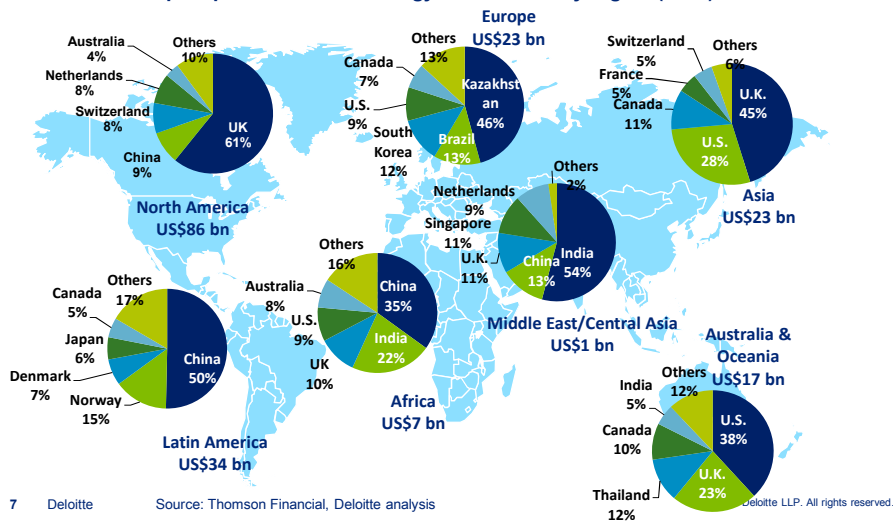
International Comparison of Energy Consumption



1. Emerging countries will lead the growth of energy demand and competition for resources among the countries is rising (cont'd)

China has become the largest acquirer in Latin America and Africa in 2010, but competition is rising from other emerging countries such as India and Brazil

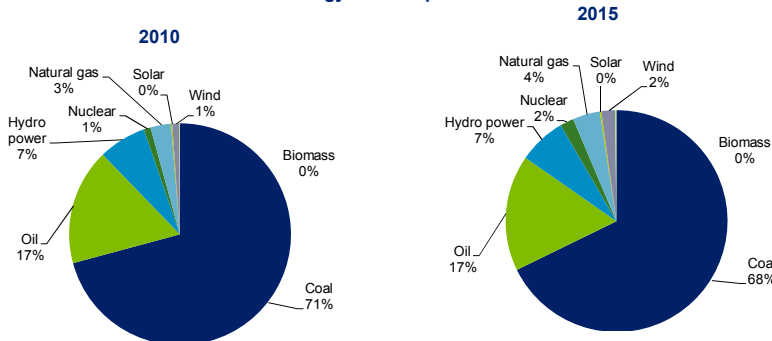
Top acquirer nations of energy & resources by region (2010)



2. Supply side, the conventional thermal sources are expected to continuously dominate electricity generation in coming years

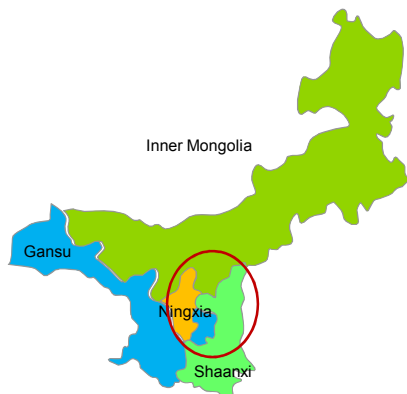
- Power consumption will increase from 3248TWh in 2010 to 4510TWh in 2015, with a 6.2% annual growth
- Conventional thermal sources are expected to dominate electricity generation in the coming years, with many projects under construction or planned that will use coal or gas

China Energy Consumption Mix



2. Supply side, the conventional thermal sources are expected to continuously dominate electricity generation in coming years (cont'd)

Form of energy and chemical "Golden Triangle"

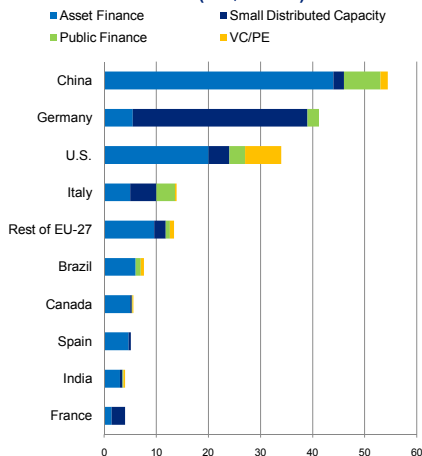


- The "energy Golden Triangle boasts coal , oil and gas and other fossil fuels equal to 2000 billion tons of standard coal, 40% of China's reserves
- The guideline on the exploitation of the Energy Golden Triangle had been drafted and will be proposed to the State Council within 2011
- Mining , power and oil & gas companies are all in the play
- Companies seek for best integration of value chain - coal/ gas-power-chemical

3. Stronger policy will result in a further deployment of alternative energy and energy efficiency solutions (cont'd)

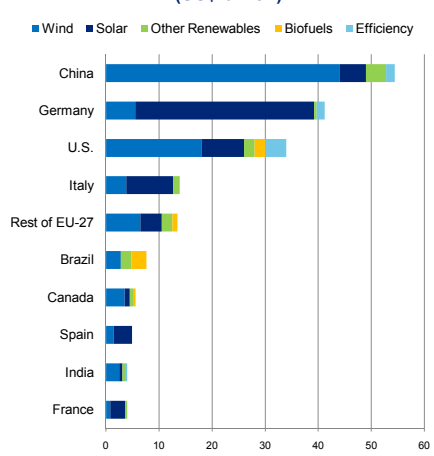
The strong policy and long term targets help China attract investment

Investment by country and financing type (2010) (US\$ billion)



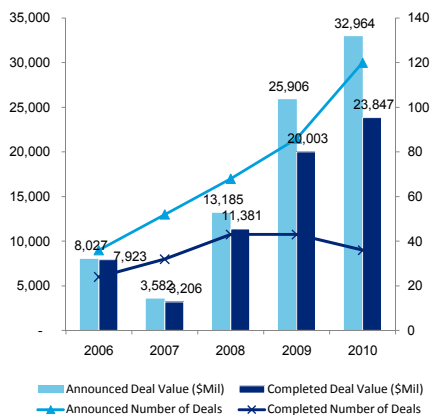
Source: Bloomberg New Energy Finance, Deloitte Analysis

Investment by country and sector (2010) (US\$ billion)



4. Overseas acquisition is driven by the growing home market demand with the need for diverse energy sources and partners

China E&R Industry Outbound M&A



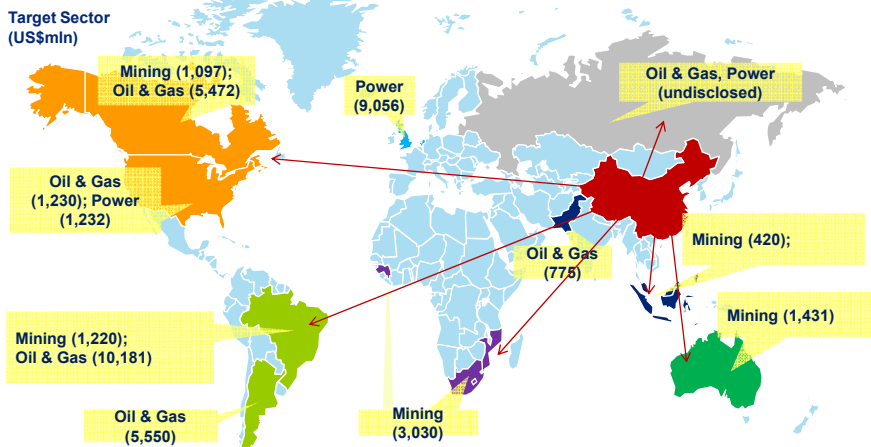
Note: Acquirers with ultimate parent company located in mainland China
Source: Thomson Financial

- China's increasing outbound M&A activities are driven by the low reserve/production ratio and the growing home market demand
- To secure long-term supply, Chinese investors are interested in acquiring an equity stake in producing assets or forming strategic partnership
- Chinese oil giants and mining companies have footprints in all major resources-rich countries, with increasing focus on Latin America
- Chinese acquirers will face a tougher global M&A environment as the competition is rising from other emerging countries
- National energy companies will cooperate with international energy companies more often to mitigate risks
- Sovereign wealth funds, CIC and SAFE, have started to invest aggressively in energy and commodities

4. Overseas acquisition is driven by the growing home market demand with the need for diverse energy sources and partners (cont'd)

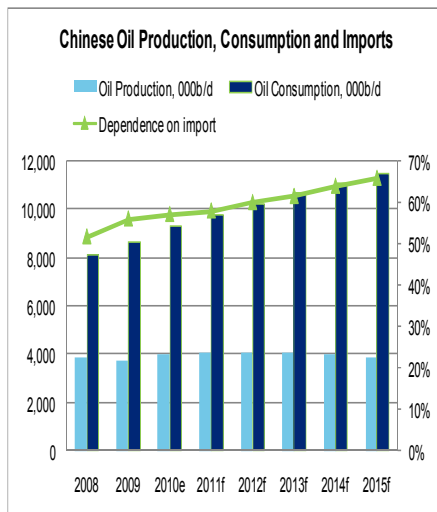
Overseas acquisitions allowed Chinese oil giants and mining companies to diversify energy sources and extend their foot prints in major resources rich countries

Major target nations of China's overseas energy & resources acquisition (2010)



Source: Thomson Financial, China Venture; The map illustrates the top E&R outbound destination countries in 2010, with sector focus over US\$400 mln

6. Further exploration of oil & gas resources will be on top of Chinese NOCs' agenda with needs for improving technology and operational excellence



- Continuous exploration of unknown or underdeveloped oil deposits and further technological improvements are crucial to secure China's oil supply
- The government has announced a plan to spend US\$35-45bn on offshore oil development in the next five years
- China also plans to increase the portion of natural gas consumption of total primary energy consumption from current 3.8% to 8%-10% by 2015
- National oil companies are likely to strengthen their natural gas exploration, overseas expansion, and cooperation with IOCs
- Chinese national oil companies are encountering many challenges as they mature into international players, that include the higher technology investment, governance issues, and the need for improving operational excellence etc.
- The market will continue being dominated by the "Big Three", plus Sinochem, but other several smaller companies are also attempting to grab market shares

f = forecast. Source: Historical data: BP Statistical Review of World Energy June 2010. All forecasts: BMI.

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6. Further exploration of oil & gas resources will be on top of Chinese NOCs' agenda with needs for improving technology and operational excellence (Cont'd)

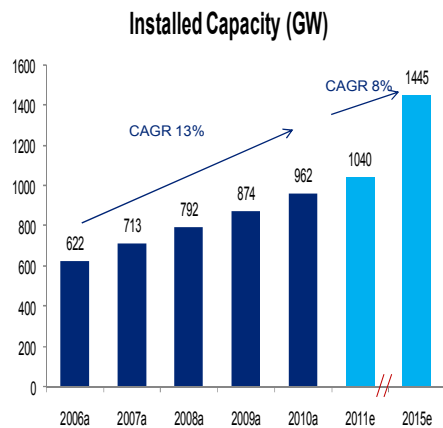
"Big Three" dominate the oil & gas sector, Sinochem is actively extending to upstream. The new circular #36 allows private companies to enter the market, but to what extent they can benefit from the new regulation is still unclear

- Zhenhua Oil Company is a subsidiary of the China North Industries Corporation's (Norinco). A manufacturer of oil field equipment, construction, civil and military weapons, it has partnered with CNPC in Syria and Iraq.
- Shaanxi Yanchang Petroleum Company is a small energy company from Shaanxi Province. Although most of its activities are in Shaanxi, it signed production sharing contracts in Thailand and Cameroon.
- Xinjiang Guanghui Industry is involved in the distribution and transportation of LNG, commodities wholesaling and retailing, as well as mining.
 - In September 2009, it purchased 49% of Kazakhstan's Tarbagatay Munay (TBM) to jointly develop the Zaysan block in Eastern Kazakhstan.
 - Xinjiang Guanghui and Uzbekistan's state-owned oil and gas company Uzbekneftegaz signed an agreement April 16 to jointly transport liquefied natural gas (LNG) from Uzbekistan to Kazakhstan and China, Xinjiang Guanghui announced April 19.
- CITIC Energy is linked to the CITIC Group, a state-owned investment giant. It owns oil assets in Kazakhstan and Indonesia.

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7. Power companies are pushed to finance on the equity market given the massive amount of capital that their expansion plans require



Source: actual data are from China Electricity Council, estimated data from press research

- Installed capacity reached 962GW in 2010 and will increase to 1445GW by 2015
- Investment need is about RMB11.1 trillion in power industry for the next 10 years, with RMB5.3 trillion for 12 FYP
- Each major power generator and power grid company will invest about RMB 330 billion (\$48.32 billion) on average in 2011
- Government pushes the power companies to finance on equity market:
 - Premier Wen: “the power companies seem especially suited for raising capital on the equity market because of their poor capital structure”
 - SASAC: the industry suffered losses in February 2011 and the debt ratio of most central government-controlled power companies has now exceeded 80%
 - Power companies have made an increasing number of investments with relatively low short-term profitability in past two years