



China's 12th Five-Year Plan (5YP) marks a turning point from the country's previous emphasis on headline growth. While the country's GDP growth has benefited millions, it has impacted the environment; the current plan's emphasis on clean energy sources is an important step to ensure sustainable growth for the nation.

Three out of seven strategic investment areas relate to energy:

- Clean energy
- Energy conservation
- Clean energy cars

Overview and significant developments

- China's National People's Congress approved a new national development strategy for the next five years (2011 to 2015) in March 2011.
- Clean energy, energy conservation, and clean energy cars are three key investment areas (among seven special sectors) identified in China's 12th 5YP. Clean energy outlook: hydro power is likely to see strong growth, while the picture for nuclear energy is less clear after the nuclear crisis in Japan. Expansion of other clean energy sources - wind, solar and biomass - will also be part of China's environmental efforts.
- To further the goal of energy efficiency, China's State Grid and Southern Grid are engaged in smart grid development. They are now developing national standards and studying the standard in other countries. Smart grid construction will take place during the 12th 5YP and foreign players (e.g. - Siemens, ABB) have an opportunity in terms of equipment and smart meter supply.
- China's Big Five power generation groups (China Huaneng, China Guodian, China Datang, China Huadian, and China Power Investment) are actively looking at overseas investments, especially in coal mining and renewables.
- We are also seeing more PE funds focusing on clean energy.

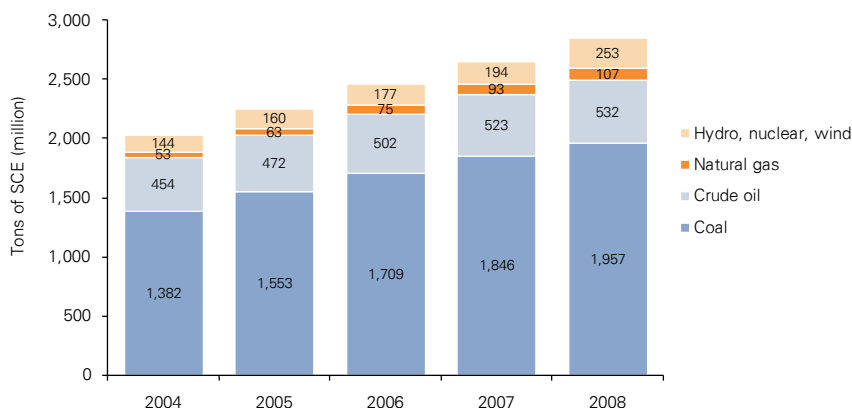
Energy	2015 target
Reduction in energy use	16% reduction per unit of GDP
Reduction in carbon dioxide emissions	17% reduction per unit of GDP
Power industry investment	RMB 5.3 trillion investment
Use of non-fossil fuels as a percentage of total energy use	11.4% by 2015; 15% by 2020

Sources: (1) China 12th Five-Year Plan
(2) Xinhua, China plans RMB5.3 trln investment in power in next 5 years, 22 Dec 2010

China's current energy sources

- The majority of China's energy (around 90 percent) comes from carbon-intensive fossil fuel such as coal, crude oil, and natural gas.

Breakdown of historical energy use (2004-2008)



Note: This source defines SCE as "standard coal equivalent"
Source: China Statistical Yearbook 2009

Energy sector: targets and planned investment

- China aims to cut the amount of energy and carbon dioxide emissions needed for every unit of economic output by 16 percent and 17 percent, respectively, over the five years to 2015. This is consistent with China's long-term plan to cut carbon intensity by 40 percent to 45 percent by 2020, relative to 2005 levels.
- The nation also intends to push the use of non-fossil fuels to 15 percent of the country's total energy use by 2020.
- China plans to invest RMB 11.1 trillion in the power industry in the next 10 years, with RMB 5.3 trillion invested from 2011 to 2015. RMB 2.75 trillion will be invested in power plant construction, and RMB 2.55 trillion will be invested in power grid construction.⁽¹⁾
- Upstream in electricity production, China plans to consolidate coal companies to make them more efficient.
- A National Energy Administration official indicated that the government is considering capping total energy use at either 4.1 or 4.2 billion tons of coal equivalent by 2015. The breakdown under discussion would include around 3.8 billion tons of coal.⁽²⁾ Coal's dominance as an energy source suggests that meeting the 11.4 percent non-fossil fuel target by 2015 will be a challenge.
- Nuclear power and hydropower are prominent items on the government's agenda
 - China originally planned to approve another 10 nuclear power projects and increase nuclear power capacity to around 43 gigawatts by 2015.⁽³⁾ However, after the Japanese nuclear crisis in March 2011, the government stopped approving new nuclear power stations pending a safety review; industry experts believe China will resume approving nuclear plants in mid-2011, but the pace of development will be less ambitious than before.⁽⁴⁾
 - The 5YP also calls for the construction of large-scale hydropower plants in southwest China. By 2015, normal hydropower capacity will grow to 284 gigawatts and pumped storage hydropower capacity will hit 41 gigawatts.⁽⁵⁾

Implications and insights

- Financial investors have investment opportunities given the significant CAPEX needed for clean energy.
- Overseas acquisition targets for Chinese companies
 - Coal: interest in Australian mining
 - Renewables: looking at the US, Europe, Australia, etc.
 - Nuclear: key question is how to acquire uranium, given that China's supplies are limited. Likely sources of uranium include Canada, Africa and Australia
 - Grid line M&A: looking at overseas grid line acquisitions (e.g. - China's State Grid recently made grid line acquisitions in Brazil).
- What barriers do Chinese companies face overseas?
 - Pricing: is the acquisition too expensive?
 - Regulatory: will the deal be approved?
 - Deal structure: can they get a controlling stake? (This is a common issue for uranium deals, as some governments have restrictions in this area)
 - M&A integration issues.
- The window of opportunity for foreign players has been closing in some areas. For restricted areas, they may still be able to participate in equipment supply, or make passive investments.
- China's provinces will release their own 5YPs with energy-related measures; these local plans may vary and should be consulted in addition to the central 5YP.⁽⁶⁾

Key company profiles⁽⁷⁾



Big Five Chinese power generation players

China Huaneng

- Based in Beijing
- Revenue: RMB 227 billion (2010)
- Recent news or special projects:
 - By the end of 2010, Huaneng's capacity was the largest in Asia and second in the world
 - In 2010, Huaneng bought a 50% stake in InterGen, a US power company, from India GMR Infrastructure

China Guodian

- Based in Beijing
- Revenue: RMB 165 billion (2010)
- Recent news or special projects:
 - Guodian plans to increase renewable energy, such as hydro and wind, to 21.6% of its output in the next five years
 - Guodian is focusing on coal output; its coal output reached 25% of the power station supply under the group

China Datang

- Based in Beijing
- Revenue: RMB 147 billion (2009)^(a)
- Recent news or special projects:
 - Datang will invest RMB 100 billion to develop a thermoelectricity power station in Liaoning province

China Huadian

- Based in Beijing
- Revenue: RMB 129 billion (2010)
- Recent news or special projects:
 - Huadian's clean energy has already reached 25% of its capacity
 - Huadian and GE became strategic partners, and they will cooperate in marketing and manufacturing

China Power Investment

- Based in Beijing
- Revenue: RMB 127 billion (2010)
- Recent news or special projects:
 - China Power decreased its coal power generation from 61% to 48% in 2010
 - China Power is engaged in railway and port development to increase its logistics efficiency

Note: (a) 2010 total revenue was unavailable at the time this article was drafted

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Business opportunities

- We are likely to see increased procurement opportunities from Chinese companies, especially in areas where home-grown technologies are still being developed (i.e. nuclear and smart grid).
- Nuclear technology in China is under development, so cooperation with foreign companies beyond simple equipment supply could be important.
- For outbound M&A, we need to understand the Chinese company's culture and issues, and know how to work with Chinese businesses. Similarly, Chinese companies need knowledge about the target country's culture, way of doing business, etc.
- The Big Five power generation groups would benefit from services such as fund raising assistance. This is an important issue for the Big Five because they have high gearing ratios. Providing fund raising services through IPOs, private placements, and PE investments would help.
- In light of the government's target to reduce carbon emissions from 2005 levels, there is an opportunity to offer advice and assistance in green energy consulting (e.g. sustainability).

Challenges and risks

- We are seeing tension between the central and local governments, especially in the trade-off between unabated growth and sustainability. Provincial governments have their own 5YPs and agendas – many want to grow quickly – so their initiatives may undermine China's energy conservation efforts.
- New environmental taxes, which may be imposed, could raise overheads for foreign and domestic companies operating in China.
- New regulations are likely to raise compliance costs for companies.
- Chinese companies might not give integration issues high enough priority, leading to failed deals and potentially affecting their appetite for further M&A.

CEO checklist

- If you operate in an industry with high energy intensity (e.g. – petroleum, steel, cement, chemicals, logistics), have you evaluated the impact on your company of China's energy and carbon reduction targets?
- Have you assessed the cost to your business of any new environmental (carbon) taxes and resource taxes on oil and coal?
- Does your company have contingency plans if energy rationing or blackouts are eventually needed to meet energy reduction targets?

Sources: (1) Xinhua, Five power groups to benefit from RMB11.1 trln investment in power in next 10 yrs, 23 Dec 2010
(2) Reuters, China may cap 2015 energy use at 4.1 bln TCE, 21 April 2011
(3) China Daily, Energy policy to fuel economic objectives, 21 March 2011
(4) MarketWatch, China's nuclear plans could resume by summer, 22 April 2011
(5) Reuters, China hydro push may slow wind, solar growth, 1 Dec 2010
(6) Xinhua, Energy sector goals for China's 12th Five-Year Program by province, 31 Dec 2010
(7) Company web sites and annual reports

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