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Capgemini uncovers \$180 billion investment gap in Chinese power market by 2020

Heavy reliance on coal brings environmental targets under threat

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Massive demand for power by businesses and consumers in China over the next 15 years means that targets for investment in generation plants have been significantly under-estimated, according to a major new study by Capgemini. The Capgemini *China Electricity Market 2006* report finds that an extra 280 gigawatts of electricity generation will be required by 2020 on top of the 950 gigawatts currently planned. Capgemini's assumption is based on a slightly higher impact of GDP growth on electricity consumption for the period 2010-20, taking into consideration standard of living catch-up effects as well as large-scale heavy industry investments. The investment required to deliver the total power resources equates to \$590 billion (the extra 280 gigawatts equates to \$180 billion), representing a significant opportunity for domestic and foreign investors.

The report also reveals that the Chinese Government's targets for introducing a broader mix of carbon-free energy sources are unlikely to be met. The Government has stated that it aims to reduce its heavy dependency on coal fired capacity from today's figure of 73% of the total mix to 68% in 2010 and less than 60% in 2020. According to Capgemini's research the coal-fired plants

will still provide 71% of the supply in 2010 and 65% in 2020. This should make it difficult to meet the requirements of the Chinese Law for Renewable Energies that was adopted in 2005.

Colette Lewiner, energy, utilities and chemicals global sector leader at Capgemini, said: “The China power market will require on average, 48 gigawatts of new capacity every year, which is equivalent to two thirds of the UK’s total installed capacity today. Even with the additional capacity planned, per capita consumption of electricity in China will only reach the level of the US in the 1950s.”

“In the past 3 years, a nationwide power shortage spurred a new wave of physical investments in new power plants, which will restore a balance of short-term demand and supply expected by 2006/7. But the huge growth of the Chinese economy means that without extra investment that surplus will dissipate once again between 2010 and 2020.”

“Our research has found that China is unlikely to reduce its dependence on coal in the near future, and that nuclear energy is, with hydropower and natural gas, an interesting option to adjust the power mix that China needs. The stated goal is to reach an installed capacity totaling 40 gigawatts by 2020 with an investment funding of \$49 billion. In total, more than 25 sites are planned for construction of nuclear power stations by 2020.”

This requirement for greater power resources presents significant opportunities for foreign investors in the China power market. Foreign investment has greatly declined over the past few years because of limited profitability linked to increased coal prices (following the international market) combined with regulated and capped retail prices. To overcome these difficulties, executives interviewed for Capgemini’s China Electricity Market survey suggest a tighter integration with coal sourcing.

Today, however, policy makers are expecting a new generation of international direct investments, combining managerial know-how and state of the art technology. Foreign industrial

and engineering companies that are willing to set up technology transfer agreements with China should now benefit from the growing market. The big national power generation groups that are controlled by national and regional state agencies are looking for strategic foreign investors to help them transform corporate governance, gain international competitive advantage and access new technologies.

The four main types of investment opportunities are as follows:

- International manufacturers who can provide equipment to the fast-growing wind, nuclear energy and clean coal sectors
- Global energy players who can secure long-term fuel supply contracts (such as natural gas) for power generation
- International investors willing to seize M&A opportunities emerging from the need to restructure state-owned enterprises and adapt “clean coal” technologies
- International business consultants who can provide consulting in customer service management, software solutions and energy saving concepts

Colette Lewiner concludes that there are a number of elements that need to change before the Chinese market is operating effectively and can provide optimum opportunities for foreign investors. These include an acceleration of deregulation in the region as well as merger and acquisition between the national players and local players in generation, which could lead to a critical market size for new investments and technological innovations implementations.

Note to editor

Capgemini’s *China Electricity Market 2006* study is based on live interviews undertaken with senior utility executives in the second semester of 2005. Over 140 interviews were conducted, covering all points of the value-chains in both electricity and gas. A number of industry regulators, foreign investors and industry experts were also interviewed.



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