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The profit in green

Going green in China

The Boao Forum for Asia's 2010 Annual Conference in April dedicated a special China CEO Roundtable to the topic of "The Profit in Green" as a reflection of the importance of driving sustainability. Deloitte China CEO, Chris Lu, was invited to moderate the discussion.

The roundtable was an integral part of this year's overall Boao Forum agenda, *Green Recovery: Asia's Realistic Choice for Sustainable Growth*. With economies across Asia, and especially China, roaring back to high growth levels after the crisis, energy consumption, carbon, and overall climate-related growth issues are central to all planning activities. At the roundtable and during registration, a series of polling questions were asked of participants.

Many businesses are beginning to change the way they thinking about "going green," integrating this concept not only into the sustainability of their business model from an environmental perspective, but also from an economic perspective.

Green practices can be profitable as well as socially and ecologically beneficial

Deloitte China Research and Insight Centre
Issue 7, August 2010

Originally, businesses were driven by compliance pressures; going green was something done out of regulatory imperative or pressure. Subsequently, many businesses recognised that they were benefiting from cost savings arising from sustainable processes and began to adopt them more widely.

Most recently, many companies have seen that sustainability actually can contribute to revenue; many have launched new sustainable products and services aimed at attracting new customers. With these new products and services, considerable value is seen in building a "green" reputation among consumers. A fair portion of companies now benefit from sustainability in terms of cost management and profitability, and those that have not yet fully integrated green practices into their business model still anticipate that "green" is going to contribute hugely to their future growth.

Government support of green growth is a critical component, but it cannot be the sole driving force. Government-business partnerships continue to play a critical role, especially in terms of support of R&D, large-scale infrastructure investment, incentives, and maintaining strong standards.

Governments of major economies have adopted somewhat different attitudes about their role, generally aligned with their basic philosophies of growth. In the US, for example, grants from organisations like the Department of Energy generally require applicants to make a case that within a short period of time their technologies or projects will be commercially viable. In China, the government takes a longer-term view toward investment, considering as well energy security issues, export opportunities, and regional economic development goals. A more detailed comparison is in the following section.

China's political and business framework, in which the government-business partnership is a central pillar, positions China as a strong competitor in developing green business

Part of the developing story in areas like renewable energy, energy efficient building materials, and LEED-compliant urban planning and building design will be how various government strategies succeed in accelerating progress.

Obviously responsibility does not lie entirely with government.

Businesses also need to take action with top-down execution of policy, technological advancement, expansion of financing channels, and balance between long-term vision and short term goals and benefits

In terms of the role of MNCs in China's marketplace in the coming three to five years, domestic companies have a moderate competitive advantage in purchase preference and policy support, while MNCs hold the competitive advantage in technology.

Most important for MNCs is finding a sustainable way to integrate this technology into their China operations

They must understand what drives China's overall green growth agenda, from both central and local perspectives. They must work with local partners in a mutually beneficial arrangement to maximise their technology's capabilities and output. This is equally true of the financial services sector, which should also consider means to promote sustainability through financial products and services.

In recent months, global media has recognised China's focus and commitment to green growth, and it has been noted that in some key areas China is setting the pace for major economies globally.

In areas such as clean mobility, renewable energy, and clean fossil fuel conversion, China has made huge investments that span the value chain, from R&D to manufacturing capacity to commercial-scale installation

The State's role

Some observers have focused on competition in China between the State and private sector, but historically, big infrastructure spending by the State has created huge opportunities for entrepreneurs and MNCs (Internet backbone, ports, petrochemicals, power grid).

The 12^{th} 5-year plan (2011-2015), taking shape now, will continue to do this, highlighting clean tech and energy

Green spending as a part of the 2008 stimulus package was estimated to be US$221 billion, including renewables, low-carbon vehicles, high-speed rail, smart grid, efficiency improvements, water treatment (by HSBC). Much will be financed by local governments.

Specific programmes under a new 2010/11 RMB 4 trillion (US$589 billion) stimulus to be announced in August are even more focused on cleantech. As well, the State Council has just reiterated China's interest in attracting foreign capital into areas with large investment and high technology needs, particularly focusing on clean tech and energy. The State Council's "Certain Opinions on Further Improvement of the Utilisation of Foreign Investment" (Circular 2010 No. 9), published in April 2010, not only encouraged investment in the above areas, but also raised the threshold amount for local approval of foreign-invested projects from US$100 million to US$300 million. Beyond this, the State Council has newly encouraged M&A activity and IPO by foreign invested enterprises (FIEs), and even went to far as to permit and encourage the issuance of corporate bonds and mid-term notes, opening up new financing channels for FIEs in cleantech (and other sectors) in China.

Moreover, as it announced in February 2010, the Ministry of Finance (MoF) will provide significant tax incentives and subsidies by the end of 2010 for the "Seven Strategic Emerging Industries," which places emphasis on high-tech sectors and energy sectors, particularly new energy

Those seven industries are: new energy, energy conservation and environmental protection industries, clean fuel vehicles, new materials, biomedical industry, high-end equipment manufacturing and information technology. These initiatives by the government come against a background of some public uneasiness among some of the world's largest cleantech MNCs about their access to the China market.

We believe it is an indication that China has now aligned with other major economies and recognises that critical cleantech technologies will be included in global technology portfolios

No single country can develop or own the technologies necessary to achieve the green growth goals that every country must attain.

The market's role

On the market side, there exists a distinct trend of the proliferation of local PE firms and the liberalisation of international PE firms. The strong rise of local PE is evidenced by the increasing number of local funds, the greater breadth and depth of investment activities, and the more sophisticated fund managers. International PE firms have been setting up RMB funds at a record rate, interested in doing so to gain the advantage of reducing their exposure to China's foreign exchange regulatory controls and government approval requirements.

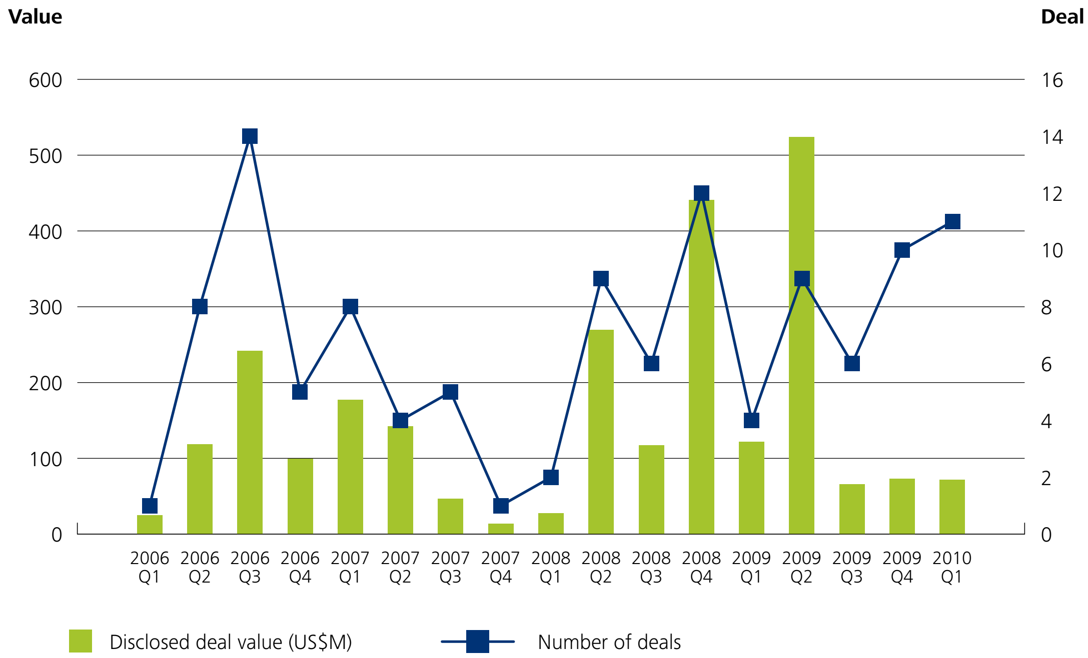
With all of the above regulatory and market forces at work, cleantech now is the most popular VC/PE investment category in China, and the investments continue to increase

From 2006 to Q1 2010, 114 PE/VC deals took place in the China cleantech realm, with the total disclosed value topping US$2.57 billion. By primary sector, the most investments in both number and total value were made in energy generation, energy efficiency, transportation, agriculture, and energy storage. The most popular sectors for investment by secondary sector were solar (31 deals), natural pesticides (10 deals), water and wastewater treatment (10 deals), advanced batteries (9 deals), lighting (9 deals) and wind (8 deals).

- In 2009, 29 companies received VC/PE investment with total disclosed value of US$784 million
- The largest deal in 2009 was Chery Automobile Co, a major developer of electric vehicles, who received US$426 million from CDH Investments
- In Q1 2010, 11 cleantech companies received VC/PE investment with a total disclosed value of US$ 72 million

- The leading deals in 2010 thus far have been Wuhan HC SemiTek, a developer of LED lighting, in whom CXC Capital and IDG Ventures invested a combined US$22 million; and Prudent Energy, a developer of advanced batteries for large-scale energy storage, who also received a total of US$22 million from Northern Light Venture Capital, Sequoia Capital China, Draper Fisher Jurvetson, and DT Capital.

VC/PE investment in China cleantech (2006/Q1 - 2010/Q1)



Source: The Cleantech Group

Comparing the US and China

China-US green-growth structure and stimulus

China	US
Near and mid-term advantage implementing infrastructure	**Near and mid-term advantage developing core technologies**
Government-business involvement deeply rooted in development model	Ideological and structural commitment to free markets and regulator independence
2008/9 RMB4 trillion (US$589 billion) stimulus	Some stimulus funds
2010/11 RMB4 trillion (US$589 billion) stimulus	Direct grants in solar
Direct grants in auto	Supportive capital markets
Direct grants in solar	Supportive private investment
State Grid Corp	Legislative delays in new regulations
SOE Power Corps	Market-based power corps
Central power price management	State-level price management
Regulatory and non-regulatory controls	Only regulatory controls

China-US green-growth goals and strategies

China	US
Build infrastructure to mitigate future import/ security risks • Crude oil and food grains	Seed marketplace to diversify commercial energy options
Maintain competitive environment for export economy and domestic growth	Reduce dependence on foreign oil and high risk domestic production
Reduce environmental impact	Reduce environmental impact
Incentivise manufacturing capacity for export value	Incentivise technology development for export value
Indigenise technology to reduce technology costs to manufacturers	Incentivise manufacturing capacity for export value
Give Cleantech firms better access to capital overall; Reduce restrictions for PE/VC in Cleantech and energy sectors; encourage FDI in these areas	Finance global green growth commercial operators through PE/VC channels

Synergies between the US and China

China	US
Supplier of energy	Supplier of capital
Supplier of environmental products & natural resources (rare earths and special metals)	Supplier of technology
Market for US cleantech technology products	Leading global producer of innovative cleantech products

Technology flows are indirectly documented in a number of high and low profile investments, strategic alliances, and government policy decisions.

Some examples of major corporate activity in the Chinese cleantech market in 2010 include:

- The American Superconductor Corporation (AMSC) partnered with Sinovel Wind Group to design and jointly develop multi-megawatt wind turbines for onshore and offshore markets in May 2010
- Boeing signed a collaboration agreement in May 2010 with Air China and PetroChina to develop a Jatropha-based biofuel with the aim of powering China's first biofuel flight later this year
- General Electric opened a smart grid demonstration centre in April 2010 in Yangzhou aimed at Chinese utilities; the centre demonstrates grid infrastructure and control and home energy applications
- IBM announced plans in March 2010 to invest US$40 million in creating its Energy & Utilities Solution Lab in Beijing to develop technologies for China's smart grid market. The company expects US$400 million in revenue from this over the next few years
- Intel Capital announced a partnership with China Investment Corporation (CIC), China's sovereign wealth fund, to invest in technology innovation globally, including Cleantech, in February 2010

Benchmark cases of cutting-edge innovation and pioneering work in the China Cleantech market include:

- First Solar's project in Ordos, Inner Mongolia, a JV with the government, to create the world's largest solar farm, to be completed in 2019. It will be a farm of 2,000 MW PV and will power 3 million homes. This project underscores attraction of Cadmium Tellurium thin film technology over domestic crystalline PV. The estimated cost is US$5-6 billion
- Applied Materials Solar Technology Center in Xi'an, Shaanxi Province will be world's largest solar research facility & lab. The Xi'an city government will reimburse the company for a quarter of the lab complex's operating costs for five years. The lab includes a thin film manufacturing line and a complete crystalline silicon pilot process as well as facilities for R&D, engineering, product demonstration, testing and training. The cost will be US$250+ million
- Government subsidies to JV automakers, including SAIC-GM, were announced in June 2010, wherein the central government approved 15 automakers and JVs to receive fuel-efficiency subsidies of RMB3,000 (US$441) per vehicle

Take aways on China cleantech

- China has been able to mobilise substantial amounts of capital and has pressed the indigenous innovation campaign for many years
- Still, the pressing need to address environmental remediation and energy security assures an important role for foreign investment and foreign technology for years to come
- China derives benefits from its well-established government-business alignment but also runs the risks of resource misallocation that is common to economies with strong industrial policies
- The renewable energy build-out in the USA is likely to have a larger role for decentralised power generation, net metering, and structured feed-in tariffs; China is likely to have a larger role for centralised, commercial scale generation facilities
- Substantial synergies exist between the US as a technology and finance leader and China as a manufacturing and construction powerhouse. The two systems working harmoniously together will play a dominant role in the greening of the globe
- MNCs seeking product and service opportunities in China's rapidly expanding green growth sectors need to invest in deep understanding of the what motivates China's goals and investment decisions, much of which is rooted in China's basic development model
- MNCs seeking sustainable growth in these sectors also are best served by indentifying drivers of success at the local level in China's current state of development and focusing on a manageable number of development bases

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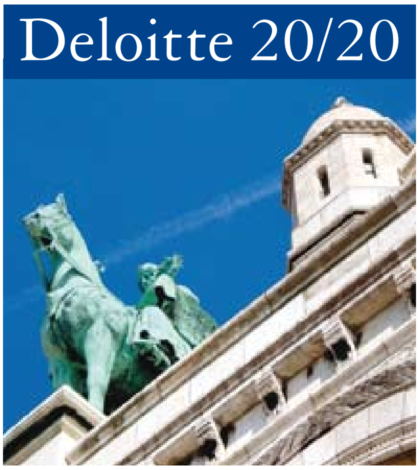

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