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OVERVIEW

We are:

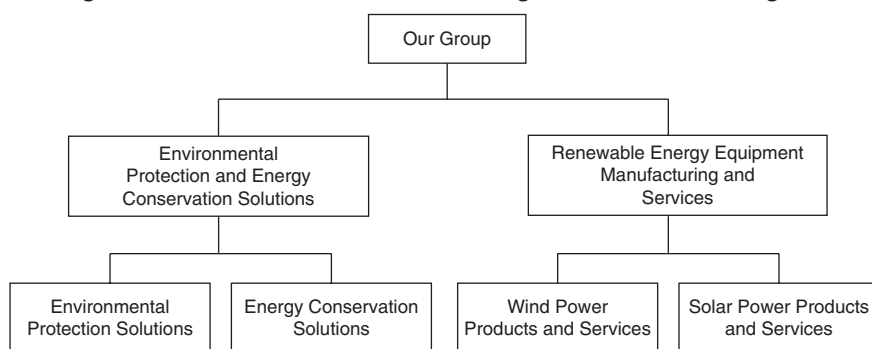
- the largest environmental protection and energy conservation solutions provider for coal-fired power plants operating in the PRC, based on cumulative installed capacity (in the case of our environmental protection solutions business) and contract value (in the case of our energy conservation solutions business) as of December 31, 2010; and
- a renewable energy equipment manufacturer and service provider, with a leading position in the PRC's WTG manufacturing industry, based on both newly installed capacity in 2010 and cumulative installed capacity as of December 31, 2010.

Our strong R&D capabilities, core technologies and innovative business models have allowed us to enjoy rapid growth in our operations. Our revenues and profits attributable to shareholders have grown significantly at a CAGR of 66.5% and 96.3% respectively between 2008 and 2010. We have dominant or leading market positions in many of the businesses in which we operate. For example, we are:

- the largest desulfurization EPC service provider and desulfurization concession operator in the PRC, based on cumulative installed capacity as of December 31, 2010 and June 30, 2011, according to Frost & Sullivan;
- the third largest desulfurization EPC service provider in the PRC, based on newly installed capacity in 2010, according to Frost & Sullivan;
- the fourth largest SCR denitrification service provider in the PRC, based on cumulative installed capacity as of December 31, 2010, according to Frost & Sullivan;
- the fifth largest SCR denitrification service provider and the largest SCR denitrification service provider in the PRC, based on newly installed capacity in 2010 and in the six months ended June 30, 2011, according to Frost & Sullivan;
- the largest EMC service provider in the PRC's power industry and the largest steam turbine retrofit EMC service provider, based on contract value in 2010, according to Frost & Sullivan;
- the largest plasma ignition and combustion stabilization service provider in the PRC, based on cumulative installed capacity as of December 31, 2010 and newly installed capacity and sales volume in 2010, according to Frost & Sullivan;
- the fifth largest WTG manufacturer in the PRC, based on cumulative installed capacity as of December 31, 2010, according to Garrad Hassan; and
- the fourth largest WTG manufacturer in the PRC, based on newly installed capacity in 2010, according to Garrad Hassan.

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The following chart illustrates our business segments and sub-segments:



The industries in which we operate have positive market outlooks. The demand for our services and products is significant. Our environmental protection and energy conservation solutions business serves the coal-fired power industry, which is subject to the most stringent environmental protection requirements in the power industry of the PRC and accounts for the majority of aggregate installed power capacity in the PRC; and our renewable energy equipment manufacturing and services business serves the wind and solar power industries, which have experienced significant growth. We believe that the industries in which we operate present ample potential for further development. For example, China is the world's largest consumer of fossil fuels and is also the largest producer of pollutants causing the greenhouse effect and other environmental damage, including carbon dioxide, sulfides and NOx. In recent years, the PRC Government has encouraged pollution reduction, energy efficiency and related adjustments to energy structures, and has promulgated policies to promote the environmental protection, energy conservation and renewable energy industries.

Our parent, the Guodian Group, is a Fortune Global 500 company and is one of the five largest power companies in the PRC. At the end of 2010, the installed capacity of the Guodian Group and its subsidiaries reached 95,310 MW, of which coal-fired power comprised 76,220 MW, making the Guodian Group the third largest coal-fired power producer in the PRC. The Guodian Group was also ranked as the largest wind farm operator in Asia and the second largest wind farm operator in the world (in terms of total installed capacity as at the end of 2010). We are the Guodian Group's flagship platform for environmental protection and energy conservation solutions and renewable energy equipment manufacturing and services.

Environmental protection and energy conservation solutions. We provide a variety of technologies and services to improve the efficiency of conventional coal-fired power plants and to reduce their emissions of pollutants. We have strategically leveraged the depth and breadth of our R&D and design, construction, service and operational capabilities to achieve synergies among various businesses under this segment and to provide various environmental protection and energy conservation solutions to coal-fired power plants on an integrated basis.

- ***Environmental protection solutions.*** We provide a range of products and services tackling various pollution control issues, including primarily: (i) SO₂ emissions reduction; (ii) NOx emissions reduction; (iii) ash removal; (iv) water treatment; and (v) air cooling systems. We are a leader in the coal-fired power environmental protection industry in China, with a leading market position in the SO₂ emissions reduction and NOx emissions reduction businesses, which comprise the main environmental protection services for coal-fired power plants. We are the largest

desulfurization EPC service provider in China (based on cumulative installed capacity as of December 31, 2010) and the largest SCR denitrification service provider in China (based on newly installed capacity during the six months ended June 30, 2011). We believe that we are one of the few companies in the PRC which has the capacity to integrate and provide leading technologies in both combustion control methods and post-combustion methods and also has the capacity to commercially produce the catalyst used in SCR. We leverage our environmental protection services business through the application of various business models. We handled the first desulfurization concession project in the PRC and are the largest desulfurization concession operator in China (based on cumulative installed capacity as of June 30, 2011).

- *Energy conservation solutions.* Our products and services improve the energy efficiency of, and conserve energy for, coal-fired power plants and customers in other sectors primarily through: (i) plasma ignition and combustion stabilization systems and oil-free coal-fired power plant systems; (ii) steam turbine flow passage retrofitting; and (iii) waste heat recovery. We are the first company in the PRC to apply plasma ignition and combustion stabilization technology in mass production and have a dominant market position in providing related products and services, with a market share of more than 93% in the PRC. Leveraging our comprehensive capabilities as an integrated solutions provider in the energy conservation industry, we also provide EMC solutions which are tailor-made for our clients' unique operating conditions. In the PRC, we are the largest EMC service provider in the power industry and the largest steam turbine retrofit EMC provider (based on contract value in 2010).

Renewable energy equipment manufacturing and services. We are primarily engaged in the research and development, design, manufacturing and sale of wind and solar power products, and the provision of integrated services to wind farms and solar power plants. We provide our renewable energy customers with integrated solutions and equipment developed with advanced technologies. We focus on the development of technologies and strategically control key elements of our industrial supply chain in order to optimize our production capacities.

- *Wind power products and services.* We focus on the research, development, design, manufacturing and sale of wind turbine generators, or WTGs. We have developed a full spectrum of products which are adaptable to different geographic regions (low wind velocity, in particular) and climates. We provide a range of services to our wind power customers, which at present primarily include WTG maintenance and repair services. Since the commencement of our wind power business in 2007, we have grown into a significant market player. We are the fourth largest WTG manufacturer in China, based on newly installed capacity in 2010. We were one of the first WTG manufacturers in the PRC to produce the 42-meter blade suitable for use in low wind speed wind farms. In China, we were also one of the first manufacturers to enter the IEC III and IEC IV wind farm industry, and have a relatively large market share of this industry. This industry represents a significant wind power resource in China. Our 1.5 MW WTG was the first PRC WTG to pass the LVRT test and our 1.5 MW double-fed WTG was the first to pass the zero-voltage ride-through test by GL. We are one of the PRC's

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WTG manufacturers which have full-power testing platforms. We are also equipped with the only National Key Laboratory of Wind Power Equipment and Control (風電設備及控制國家重點實驗室). We have in-house research and development and manufacturing capacities for core parts and components of WTGs, including blades and control systems, which ensure the quality and supplies of parts and components of our WTGs.

- Solar power products and services.** We provide integrated solar power solutions, and develop, manufacture and sell solar cells and solar modules. With our advantage as an early-entrant and our substantial experience in constructing solar power stations with a total capacity of 151.5 MW, we provide value-added solar power services, from preliminary stage consultations and feasibility studies to solar power station construction. Going forward, with a broader product mix, we will strive to provide a “one-stop” shop type of service to our customers. Within this business sub-segment, we intend to focus primarily on EPC services for solar power plants, which are expected to be the main driving force in the development of our solar power-related business.

The table below shows our selected financial data during the Track Record Period.

	Year ended December 31,						Six months ended June 30,			
	2008		2009		2010		2010		2011	
	RMB millions	% of Total	RMB millions	% of Total	RMB millions	% of Total	RMB millions (unaudited)	% of Total	RMB millions	% of Total
Revenue										
Environmental protection and energy conservation solutions	3,531.4	89.0	3,469.0	64.9	3,813.7	34.7	1,490.9	40.5	1,993.9	29.4
Renewable energy equipment manufacturing and services	33.5	0.9	1,681.6	31.4	7,060.7	64.2	2,150.3	58.4	4,696.5	69.3
All others ⁽¹⁾	401.2	10.1	199.1	3.7	124.5	1.1	40.7	1.1	84.2	1.3
<i>Total</i>	<u>3,966.1</u>	<u>100</u>	<u>5,349.7</u>	<u>100</u>	<u>10,998.9</u>	<u>100</u>	<u>3,681.9</u>	<u>100</u>	<u>6,774.6</u>	<u>100</u>
Gross Profit										
Environmental protection and energy conservation solutions	587.9	89.7	582.9	64.0	682.4	36.7	261.9	40.4	417.1	38.4
Renewable energy equipment manufacturing and services	5.5	0.8	288.7	31.7	1,152.8	62.0	380.1	58.6	647.3	59.6
All others ⁽¹⁾	62.5	9.5	39.5	4.3	23.6	1.3	6.2	1.0	21.8	2.0
<i>Total</i>	<u>655.9</u>	<u>100</u>	<u>911.1</u>	<u>100</u>	<u>1,858.8</u>	<u>100</u>	<u>648.2</u>	<u>100</u>	<u>1,086.2</u>	<u>100</u>
Gross Margin⁽²⁾										
Environmental protection and energy conservation solutions	16.6%	—	16.8%	—	17.9%	—	17.6%	—	20.9%	—
Renewable energy equipment manufacturing and services	16.4%	—	17.2%	—	16.3%	—	17.7%	—	13.8%	—
All others	15.6%	—	19.8%	—	19.0%	—	15.2%	—	25.9%	—

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	Year ended December 31,						Six months ended June 30,			
	2008		2009		2010		2010		2011	
	RMB millions	% of Total	RMB millions	% of Total	RMB millions	% of Total	RMB millions (unaudited)	% of Total	RMB millions	% of Total
Operating Profit										
Environmental protection and energy conservation solutions	310.3	118.4	261.8	79.1	307.1	36.0	105.8	41.2	217.9	43.9
Renewable energy equipment manufacturing and services	(57.7)	(22.0)	101.8	30.7	592.6	69.5	174.5	67.9	269.7	54.4
All others	35.5	13.6	4.6	1.4	0.5	0.1	(1.3)	(0.5)	5.1	1.0
Unallocated head office and corporate operating (loss) / profit	(26.1)	(10.0)	(37.1)	(11.2)	(47.8)	(5.6)	(22.1)	(8.6)	3.6	0.7
<i>Total</i>	<u>262.0</u>	<u>100</u>	<u>331.1</u>	<u>100</u>	<u>852.4</u>	<u>100</u>	<u>256.9</u>	<u>100</u>	<u>496.3</u>	<u>100</u>

Other Financial Information:

	Year ended December 31,			Six months ended June 30,
	2008	2009	2010	2011
Debt to Equity (%) ⁽³⁾	(10.1)	102.7	84.2	78.1
Gearing (%) ⁽⁴⁾	(11.2)	50.7	45.7	43.8
Current ratio (times) ⁽⁵⁾	1.2	0.8	0.9	0.9
Stock turnover (days) ⁽⁶⁾	101.5	181.9	217.4	253.4
Gross margin (%) ⁽⁷⁾	16.5	17.0	16.9	16.0
Net profit margin (%) ⁽⁸⁾	5.0	3.6	5.1	3.8

Notes:

- (1) This comprises revenues or profits generated from other lines of business, which primarily include biomass power generation (which has since been disposed of) and other power-related products.
- (2) Our gross margin is calculated by dividing segment gross profit by revenue attributable to that segment.
- (3) Our debt to equity ratio is determined as the percentage which our net indebtedness bears to our net assets. Net indebtedness is calculated as our total indebtedness (including interest-bearing other payables and loans) less our cash and cash equivalents.
- (4) The gearing ratio is determined based on the percentage which our net indebtedness bears to the aggregate of our equity and net indebtedness.
- (5) Our current ratio is determined as our current assets divided by our current liabilities.
- (6) Our stock turnover days is determined by the aggregate carrying value of our inventory divided by our cost of sales for the period (being 365 days for each of 2008, 2009 and 2010 and 181 days for the six months ended June 30, 2011).
- (7) Our gross margin is calculated based on the percentage which our gross profit bears to our total revenue.
- (8) Our net profit margin is calculated based on the percentage which our net profit after taxes bears to our total revenue.

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We operate our lines of business primarily through our subsidiaries. Set out below is a table summarizing our businesses, our revenue recognition policies for each business and our material subsidiaries engaged in the respective businesses:

Business Sub-segments	Key Businesses	Revenue Recognition Policies	Material Subsidiaries
Environmental Protection Solutions	Desulfurization EPC, denitrification EPC and water treatment EPC	Construction revenue from EPC contracts is recognized using the percentage of completion method	Longyuan Environmental Lucency Longyuan Technology
	Desulfurization concession operations	Revenue is recognized during the accounting period in which the incomes are earned	
	BOT	BOT revenue comprises BOT construction revenue and BOT operation revenue. BOT construction revenue is recognized using the percentage of completion method during the construction phase. BOT operation revenue is recognized upon the performance of water treatment services during the operation period	
	Sales of environmental protection products	Revenue is recognized when the customer has accepted the goods and the related risks and rewards of ownership	
Energy Conservation Solutions	EPC	Construction revenue from EPC contracts is recognized using the percentage of completion method	Longyuan Technology Longyuan Engineering
	EMC	Construction revenue from EMC is the fair value of the consideration received or receivable and is recognized using the percentage of completion method. The consideration receivables are amortized using the effective interest method	
	Sales of energy conservation products	Revenue is recognized when the customer has accepted the goods and the related risks and rewards of ownership	
Wind Power Products and Services	Sales of WTGs	Revenue is recognized when the customer has accepted the goods and the related risks and rewards of ownership	United Power Huadian Tianren Longyuan Electrical
Solar Power Products and Services	Sales of solar cells and modules	Revenue is recognized when the customer has accepted the goods and the related risks and rewards of ownership	GD Solar
	EPC	Construction revenue from EPC contracts is recognized using the percentage of completion method	

OUR COMPETITIVE STRENGTHS

We maintain dominant or leading market positions in many of our industries and have a strong track record of business expansion.

Our environmental protection and energy conservation solutions business services the coal-fired power industry, which is the largest power industry in the PRC. Our renewable energy equipment manufacturing and services business services the wind and solar power industries, which have experienced significant growth and are expected to continue to grow in

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the future. Furthermore, the PRC Government has committed to reduce carbon dioxide emissions per unit of GDP by up to 45% and reduce the energy consumption per unit of GDP by 31% in 2020 (as compared to the respective levels in 2005). According to Frost & Sullivan, during the 12th-Five Year Plan period, newly installed coal-fired power capacity fitted with desulfurization equipment for these five years in total is expected to reach approximately 369 GW, the retrofit capacity of FGD for these five years in total is expected to reach approximately 155 GW, newly installed coal-fired power capacity fitted with SCR equipment for these five years in total is expected to reach approximately 856 GW, and coal-fired power capacity fitted with low-NOx combustion (newly installed and retrofitted combined) for these five years in total is expected to reach approximately 424 GW in the PRC. According to Garrad Hassan, newly installed capacity of wind power is expected to reach approximately 119 GW. According to Solarbuzz, the cumulative solar demand in China is expected to reach 8.13 GW (balanced energy scenario), 11.66 GW (green world scenario) and 17.5 GW (production led scenario).

We maintain dominant or leading market positions in many of our industries. For example:

- We are the largest desulfurization EPC service provider and desulfurization concession operator in the PRC, based on cumulative installed capacity as of December 31, 2010 and June 30, 2011 (according to Frost & Sullivan);
- We are the third largest desulfurization EPC service provider in the PRC, based on newly installed capacity in 2010 (according to Frost & Sullivan);
- We are the fourth largest SCR denitrification service provider in the PRC, based on cumulative installed capacity as of December 31, 2010 (according to Frost & Sullivan);
- We are the fifth largest SCR denitrification service provider and the largest SCR denitrification service provider in the PRC, based on newly installed capacity in 2010 and in the six months ended June 30, 2011 (according to Frost & Sullivan);
- We are the largest EMC service provider in the PRC's power industry and the largest steam turbine retrofit EMC service provider, based on contract value in 2010 (according to Frost & Sullivan);
- We are the first company to apply plasma ignition and coal combustion technologies in mass production and the largest plasma ignition and combustion stabilization service provider in the PRC, based on cumulative installed capacity as of December 31, 2010 and newly installed capacity and sales volume in 2010 (according to Frost & Sullivan);
- We are the fifth largest WTG manufacturer in the PRC, based on cumulative installed capacity as of December 31, 2010 (according to Garrad Hassan) and
- We are the fourth largest WTG manufacturer in the PRC, based on newly installed capacity in 2010 (according to Garrad Hassan).

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We also have a strong record in business expansion, evidenced by our success in a range of high-growth business areas. Our WTG business has gained a leading market position in the PRC within three years of commencing the business. We also started our solar power related business with a focus on solar system services and high-end thin-film and high efficiency solar cell technology. We believe that our business development strategy has provided us with fast-growing financial performance, as evidenced by our significant revenue and profit growth during the Track Record Period. Our revenues and profits attributable to shareholders have experienced significant growth at a CAGR of 66.5% and 96.3% between 2008 and 2010 respectively. We anticipate that our environmental protection and energy conservation solutions business will continue to maintain substantial growth.

We believe our dominant or leading market positions, proven track record of business expansion and our strong financial performance provide us with a solid foundation for our future growth.

We possess leading technologies and strong research and development, design and product development capabilities.

Our advanced technologies and strong research and development capabilities are key to our leading market position in the PRC. We have a large number of world-leading technologies in many of the industries in which we operate.

In our environmental protection and energy conservation solutions segment, we have a comprehensive portfolio of technologies and extensive project experience:

- we are the first domestic service provider to introduce world-leading WFGD technologies in the PRC;
- we have undertaken two 863 Programs on WFGD and have developed our Longyuan Wet FGD Process Integrated Technology (龍源濕法煙氣脫硫集成技術), which is a combination of 14 technologies with national patents;
- we have developed 11 patented seawater desulfurization technologies suitable for operating conditions in the PRC;
- we are among the first PRC companies to possess leading technologies in the design and manufacture of catalysts used in the SCR process and have undertaken two 863 Programs on relevant technologies;
- we have world-class technologies for manufacturing high-efficiency filter bags used in ash removal processes; and
- our plasma-assisted ignition and combustion technology is a world-class technology.

In our renewable energy equipment manufacturing and services segment, we possess technologies to develop our MW-level WTGs, giving us a competitive advantage in leading product development and market trends:

- we have developed a range of products which are adaptable to different geographic regions and climates;

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- we are one of the first WTG manufacturers in the PRC to produce the 42-meter blade suitable for use on low wind speed wind farms, which gives us a competitive advantage in developing low wind speed wind resources;
- as an important indicator of our WTG's on-grid connection safety, our 1.5 MW WTG was the first WTG made in the PRC to pass the LVRT test;
- our 1.5 MW double-fed WTG was the first to pass the zero-voltage ride through test conducted by GL;
- we are one of the PRC WTG manufacturers to have a full-power testing platform; and
- we are equipped with the only National Key Laboratory of Wind Power Equipment and Control (風電設備及控制國家重點實驗室) in the PRC, which focuses on the research and development of wind power equipment and control systems.

We have been given awards for our leading technologies:

- Under the environmental protection and energy conservation solutions segment:
 - Our research projects on energy conservation and desulfurization concession project management were granted the Management Achievement Innovation Award First Prize (管理成果創新一等獎) by the China Electricity Council in 2010;
 - Longyuan Environmental, our primary subsidiary in the environmental protection business, was awarded the China Independent Innovation Enterprises TOP 100 (中國自主創新企業TOP 100) by the China Enterprises Evaluation Association (中國企業評價協會) in 2010;
 - Longyuan Environmental's proprietary wet FGD technology was awarded the China Electricity Power Technology Second Prize (中國電力科技二等獎) in 2010;
 - Longyuan Environmental's SCR catalysts were awarded "The Innovative Product with the Best Investment Value" (最具投資價值自主創新產品) by the China Enterprises Valuation Council (中國企業評價協會) in 2010;
 - Our Plasma Oil-free Ignition and Combustion Stabilization Technology was awarded the National Energy Administration Technology Advance First Prize (國家能源局科技進步一等獎) in 2010;
 - Our Plasma Oil-free Power Station Systems Technology was awarded the China Power Science and Technology First Prize (中國電力科學技術一等獎) and the National Science and Technology Advance Second Prize (國家科學技術進步二等獎) in 2010;
 - China Energy Conservation Council (中國節能協會) named us as one of China's Top Ten Companies with Energy Conservation Contribution (中國十大節能貢獻企業獎) Award in 2011; and

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- Under the renewable energy equipment manufacturing and services business segment:
 - United Power was ranked second in Deloitte's "High Technology and High Growth 50" competition in 2010 and ranked as fastest-growing among all wind power-related companies; and
 - Our 1.5 MW WTG Introducing and Re-innovating and Its Domestic Production Project (1.5兆瓦風力發電機組技術引進與再創新及其國產化項目) was awarded the China Electricity Science and Technology Third Prize (中國電力科學技術三等獎) by the Chinese Society for Electrical Engineering (中國電機工程學會) in 2010.

Our professional research and development team has extensive experience in the power industry and comprehensive expertise, which is focused on continually improving our technologies and product quality and maintaining our leading market position in technological development. As of September 30, 2011, we held 222 patents and had won more than 40 national or provincial/ministerial level science and technology awards. We have undertaken seven 863 Programs. We have research and development centers located in Beijing and Shandong, one of which is a national-level research center, three laboratories of which are equipped with leading facilities in their respective research areas and one post-doctoral research center. We have more than 900 employees who hold master's or higher degrees and 20 experts entitled to receive the State Council's Special Allowance. We believe that the combination of our advanced technologies and our comprehensive capabilities in research and development will enable us to continue to maintain our market leadership.

Our comprehensive technologies and integrated capacity to provide "one-stop shop" services assist the creation of synergies across our business segments.

We are the largest environmental protection and energy conservation solutions provider for coal-fired power plants in China, providing market-leading technologies through diverse business models. Our environmental protection and energy conservation solutions business has been developed to address various issues relating to pollution emissions and energy inefficiency of the coal power industry in China, through our core businesses of SO₂ and NO_x emissions reductions, plasma-assisted ignition and combustion stabilization, water treatment and other services (such as ash removal, slag disposal, steam turbine flow passage retrofitting, waste heat recovery and power plant digital control systems). In our renewable energy business, we have a comprehensive capability to provide integrated solutions and diversified WTG products to our customers. We also deliver customized solar cells and modules based on the different requirements and needs of our customers. We provide solutions to tackle different issues that wind farms or solar power plants may encounter at various stages of development or operation, including WTG repair and maintenance and consultancy and feasibility studies for solar power station development and construction.

We have strong synergies among our various business segments, based on similar types of demands on management and research and development capabilities, mutually complementary technologies, and shared clientele and supplier networks. Because our services address various issues commonly faced by our customers and operators in the power industry, the knowledge and skills needed to provide these services across these

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industries are generally quite similar. Furthermore, in pursuing efficiency, our target customers typically require services from several of our business lines, creating cross-sale opportunities amongst our businesses. As a result, we may cultivate existing and potential customer relationships for various businesses at the same time, particularly among the various environmental protection and energy conservation solutions sectors. Our businesses may also share sales and marketing resources, supplier networks and capacities for procurement, storage and shipment of raw materials.

Synergies among our various business lines also create additional value for our customers. For example, through designing and implementing an environmental protection and energy conservation solutions scheme (which includes services such as SO₂ and NO_x removal and water treatment) for an entire coal-fired power plant, we typically expect to reduce overall project costs and operational costs for our customers. Another example is that if we combine technologies for combustion control methods for denitrification developed by one of our subsidiaries with post-combustion methods for denitrification developed by another of our subsidiaries, we may reduce up to 20% of the construction cost for the entire project. We believe that these advantages will give us a significant competitive advantage and highlight our integrated capabilities and extensive qualifications in project design and construction.

Our diversified business segments and varied business models facilitate our continued rapid growth.

We offer diversified products and services and use a variety of business models in conducting our businesses. Our lines of business complement each other and provide us with different growth and risk profiles. We regard our environmental protection and energy conservation solutions as our primary business, focusing on providing clean and efficient solutions to our coal-fired power plant customers. As the PRC Government increasingly tightens the country's environmental protection requirements, our environmental protection and energy conservation solutions businesses (especially businesses aligned with governmental policies such as our desulfurization, denitrification and ash removal businesses) are expected to continue to grow.

Our renewable energy business, which positions us as a technology-intensive, high-end service provider, has enjoyed rapid growth. With the steady progress of the wind power industry and exploration of low wind speed wind resources, our wind power products and services business has enjoyed rapid growth and has become a significant source of our recent revenues. The solar power industry in China is expected to grow in the next few years, promoted by the recent promulgation of the solar power on-grid tariff. We intend to focus on developing solar power integrated solutions by leveraging our technologies in high-end solar cell design and manufacturing.

Furthermore, we believe that our portfolio of various business models provides us with short-term and long-term cash flows. We believe that the desulfurization concession operations and EMC services and WTG maintenance and repair services businesses provide us with stable cash flows in the long term. We believe that our desulfurization and denitrification EPC services, WTG and solar module sales, and solar system integration solutions provide sources for our revenue growth and cash flows in the short term.

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We have direct access to significant clientele and abundant resources within the Guodian Group network and receive strong policy support from the Guodian Group.

Our Controlling Shareholder, the Guodian Group, is a Fortune Global 500 company and one of the five largest power companies in the PRC. By the end of 2010, the Guodian Group controlled coal-fired power plants with an aggregate installed capacity of 76,220 MW and was ranked as the third largest coal-fired power company in the PRC. The Guodian Group was also ranked as the largest wind farm operator in Asia and second largest wind farm operator globally (in terms of total wind installed capacity as of 2010). The Guodian Group also intends to promote the development of its solar power segment during the 12th Five-Year Plan period. As the flagship platform for environmental protection and energy conservation solutions within the Guodian Group, we have priority access to affiliated power companies within the Guodian Group, which are our customers or potential customers. Our renewable energy equipment manufacturing and services business also directly benefits from the Guodian Group's abundant resources in the renewable power industries.

Furthermore, in response to the PRC Government's policies on energy conservation, pollution reduction, and clean energy development, the Guodian Group has focused on promoting clean coal-fired power plants and developing renewable energy within its organization, providing us with a favorable platform to apply our technologies and our services. In 2010, the Guodian Group established its New Energy Research Institute, which makes its research results available to us. In addition, the Guodian Group provides a platform for our technology research and development by establishing illustrative projects at power plants within its network. For example, Kangping Power Station Oil-free Coal-fired Power Station Illustration Project (康平電廠無燃油燃煤火電廠示範項目) was the first power project to apply plasma ignition and combustion stabilization oil-free power plant systems in the PRC. The platform provided by the Guodian Group enables us to develop and implement new technologies, obtain first-hand customer information and apply new technologies in commercial production.

We have an experienced management team and highly skilled technical staff.

We were among the first PRC companies to tackle the pollution and energy inefficiency issues of coal-fired power plants, and have been a leader in PRC's environmental protection and energy conservation solutions business for coal-fired power companies ever since. A substantial number of our senior management and personnel in core operations, strategic planning and technology development are professionals who have long served the environmental protection and energy conservation industry in China. In addition, our senior management team has an average of 20 years of experience in the power industry. Collectively, our management team members have an in-depth understanding of all aspects relating to power plants, from their design and structure to operations and management of the business. As a result, we are able to anticipate and identify potential problems that customers may encounter and tailor our solutions to address such.

Because of our management's deep roots in the power industry and our strong research and development culture, many of our innovative technologies are at the forefront of industrial application in the PRC. For example, Longyuan Environmental has set industry standards for wet flue gas desulfurization applications in the PRC power industry. It also maintains a comprehensive set of desulfurization technologies and possesses extensive

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project experience. In addition, Longyuan Technology was the first company to apply plasma ignition and combustion technology in mass production in the PRC. The Guidelines on Designing and Operating Plasma Ignition Systems (《等離子體點火系統設計與運行導則》), drafted by Longyuan Technology, were published on October 1, 2010 and adopted as the official PRC power industry standards. We have also participated in many national science and technology projects. In flue gas treatment alone, we have participated in five 863 Programs, China's national science and technology research programs.

OUR STRATEGIES

Our goal is to become the leading cleantech solutions provider in the world, maximizing shareholder returns and contributing to China's energy conservation and pollution abatement efforts. To achieve this goal, we intend to pursue the following strategies.

Strengthen our dominant or leading market positions in the PRC.

We are the largest environmental protection and energy conservation solutions provider for coal-fired power plants in the PRC; and a renewable energy equipment manufacturer and service provider, with a leading position in the PRC's WTG manufacturing industry. We plan to maintain and further strengthen our leadership in the PRC market. In light of China's pollution issues, which have become increasingly severe, and China's energy structure, which is dominated by coal power, it is expected that the PRC Government will continue to promote development in the environmental protection and energy conservation and renewable energy industries. As such, we believe that our businesses have a positive market outlook.

Leveraging our competitive strengths, we intend to identify and develop new pipeline projects to capture market opportunities and to increase our profitability. We also plan to adopt the following measures:

- In our environmental protection and energy conservation solutions business, focus on the development of desulfurization concession operations, denitrification EPC business and concession operations, ash removal, power station water island, EMC and environmental friendly coal-fired power plant EPC businesses; and
- In our renewable energy equipment manufacturing and services business, focus on the development of large-capacity onshore and offshore WTGs and low wind speed WTGs, offshore wind farm EPC service and solar power station system integration services.

In particular, by leveraging our capability to provide one-stop shop environmental protection and energy conservation solutions to coal-fired power plants, we expect to explore this market and complete environmentally friendly coal-fired power plant EPC projects with a capacity of approximately 900 MW to 1,200 MW per year in 2012 and onwards. Furthermore, by leveraging our capabilities to design and manufacture offshore WTGs and knowledge and experience gained from installing and testing our offshore WTGs, we expect to explore the offshore wind farm EPC market, to provide general contracting services including design, procurement, testing and construction of offshore wind farms.

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Continue to enhance our R&D capabilities and to promote technological innovation and development in our businesses.

Technological advancement provides a distinctive competitive advantage in the industries in which we operate. We intend to further enhance our R&D capabilities. In particular, we plan to enhance our technological reserve and to create innovative solutions which create additional value for our customers. For example, R&D activities for our flue gas desulfurization service, one of our core businesses, is expected to be focused on the development of resource-recycling and high-efficiency desulfurization technology. Our NO_x reduction service is expected to be focused on achieving increased boiler combustion efficiency and SCR denitrification efficiency at the same time. We also intend to focus on development of offshore WTGs with a capacity of 3.0 MW or more and large-capacity onshore WTGs, to align with the trend in the wind power industry. In terms of solar power, we intend to focus on developing new solar cells such as high efficiency solar cells and increasing efficiency of the solar power station. We intend to further increase our R&D capability by various means, including increasing R&D investment and recruiting additional talent. We believe that our R&D efforts will ensure our sustainable development.

Continue to reduce costs and further optimize our supply chain.

We plan to continue to reduce costs through cost control measures and by optimizing our supply chain. The measures we intend to adopt include:

- (i) *Diversify finance sources and reduce finance costs.* Our business expansion requires adequate financing. With our established credit history and close relationship with financial institutions in the PRC, we believe we will continue to obtain favorable financing terms. We also intend to exploit alternative sources of funding, such as through domestic or international capital markets, to improve our capital structure and reduce our financing costs. Currently, bank borrowing is still our primary source of debt financing;
- (ii) *Further strengthen our in-house design and manufacturing capabilities for certain core parts and components.* We intend to further develop our manufacturing facilities for environmental protection and energy conservation products (including denitrification catalysts, filter bags for ash removal and filtering membranes for water treatment), core WTG parts and components (including blades, gearboxes, generators, converters and variable pitch bearings) and solar cells, to minimize costs and increase the profitability of our business;
- (iii) *Continue to implement stringent quality control measures.* We intend to continue to strengthen our quality control, thereby effectively reducing costs incurred; and
- (iv) *Strengthen supplier relationship.* We intend to continue to maintain close relationships with our suppliers, and to invest in selected suppliers, in order to ensure stability, quality and cost-effectiveness of our parts and components supply chain.

Develop selected overseas markets and expand our international market share.

We intend to enter into or further develop selected overseas markets and continue our international expansion. We have made some progress in entering into the international

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market. During the Track Record Period, we completed the Hong Kong Lamma Power Station project, undertook three other desulfurization projects overseas and exported 36 plasma ignition and combustion stabilization appliances. We also exported 6 WTGs to the U.S. and exported solar products to customers in Europe. We believe that expanding our international market share may assist us to identify new market opportunities and to promote our brand awareness. Leveraging our comprehensive technologies and services, we intend to select key overseas markets including certain European countries (such as Germany, Italy, France, Belgium, Spain, Czech Republic), the U.S. and Brazil to formulate our expansion plans.

Our environmental protection and energy conservation solutions business is expected to target countries and markets where, similar to China, coal-fired power is the main source of energy, including the U.S. and certain Southeast Asian countries. Our renewable energy equipment manufacturing and services business is expected to target countries and markets which support the development of renewable energy through governmental policies and incentives, including certain South American countries, the U.S. and certain European countries, such as Germany and Spain. We intend to build an international sales network and to construct overseas manufacturing bases to explore international business opportunities, and to enter into strategic partnerships with local operators in certain overseas markets to jointly develop our international business.

OUR BUSINESSES

Our businesses principally fall within two segments:

- *Environmental protection and energy conservation solutions*, which primarily involves developing, providing and operating a spectrum of services in relation to the pollution control and upgrading of coal-fired power plants; and
- *Renewable energy equipment manufacturing and services*, which includes R&D, manufacturing and sale of equipment in the wind and solar power industries, and the provision of services to wind farms and solar power plants.

ENVIRONMENTAL PROTECTION AND ENERGY CONSERVATION SOLUTIONS

We are the largest provider of environmental protection and energy conservation solutions in the coal-fired power industry of the PRC. Under our environmental protection and energy conservation solutions business segment, we provide a wide array of innovative technologies and services which aim to reduce the pollution emissions, and improve the efficiency, of our customers' operations. Our businesses under this segment are subdivided into two subsegments, (1) environmental protection solutions, and (2) energy conservation solutions, and are characterized by stable growth and strong potential for further growth. Revenue attributed to this segment was RMB3,531.4 million, RMB3,469.0 million, RMB3,813.7 million and RMB1,993.9 million for the years 2008, 2009 and 2010 and for the six months ended June 30, 2011, respectively. We believe that the revenue and profit contribution of this segment will continue to grow in light of policy support from the PRC Government.

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The table below summarizes the key service categories, business models and products and technologies of our environmental protection and energy conservation solutions business segment:

	Key Service Categories	Major Business Model	Key Products/ Technologies/ Features
Environmental protection solutions	SO ₂ emissions reduction	<ul style="list-style-type: none"> ➤ EPC ➤ Concession 	<ul style="list-style-type: none"> ● Limestone-gypsum wet FGD ● Sea water FGD ● Ammonia desulfurization ● Organic amine desulfurization ● Dry gas desulfurization with circulating fluidized bed (CFB)
	NOx emissions reduction	<ul style="list-style-type: none"> ➤ EPC ➤ External sales of catalysts ➤ Sales of low-NOx burner 	<ul style="list-style-type: none"> ● SCR ● SNCR ● Low-NOx combustion
	Ash removal		<ul style="list-style-type: none"> ● Ash removal system with filter bag
	Water treatment	<ul style="list-style-type: none"> ➤ EPC ➤ BOT 	<ul style="list-style-type: none"> ● Water treatment for power plants ● Reclaimed water reuse ● Municipal wastewater treatment ● Industrial water treatment ● Seawater desalinization
	Air cooling system	<ul style="list-style-type: none"> ➤ EPC 	<ul style="list-style-type: none"> ● Direct air cooling systems ● Indirect air cooling systems
	Other	<ul style="list-style-type: none"> ➤ EPC 	<ul style="list-style-type: none"> ● Air cooling dry type slag disposal system
Energy conservation solutions	Plasma-assisted coal combustion	<ul style="list-style-type: none"> ➤ Equipment sales ➤ EPC ➤ EMC 	<ul style="list-style-type: none"> ● Plasma ignition combustion stabilization technology ● Plasma oil-free coal-fired power plant system
	Steam turbine flow passage retrofitting	<ul style="list-style-type: none"> ➤ EPC ➤ EMC 	<ul style="list-style-type: none"> ● Steam turbine flow passage retrofitting services ● Steam turbine retrofit EMC
	Waste heat recovery	<ul style="list-style-type: none"> ➤ EPC ➤ EMC 	<ul style="list-style-type: none"> ● Absorption heat pump ● Low-temperature economizer
	Other	<ul style="list-style-type: none"> ➤ EPC 	<ul style="list-style-type: none"> ● DCS ● SIS ● MIS/EAM/ERP ● Fieldbus

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Our market reputation in the environmental protection and energy conservation solutions business is built on our continued efforts to help our customers comply with mandatory pollution control requirements and increase their operational and economic efficiency. In providing our environmental protection and energy conservation services, we apply many world-leading technologies. In addition, we have made significant contributions to the development of the industry in the PRC by leading the evolution of technologies and the reduction of production costs.

We have developed and employed a broad range of business models in order to meet the needs of clients with a variety of operational or business conditions and concerns.

Environmental Protection Solutions

We are the largest environmental protection solutions provider to the coal-fired power industry in the PRC and are among the service providers with the longest operating history. During the past twenty years, we have provided coal-fired power plants with a broad range of environmental protection services which help to reduce pollution emissions and to facilitate compliance with the PRC national requirements. We recorded revenues of approximately RMB2,958.4 million, RMB2,751.5 million, RMB3,093.6 million and RMB1,721.5 million, respectively, for the years 2008, 2009 and 2010 and the six months ended June 30, 2011 under this business, representing approximately 74.6%, 51.5%, 28.1% and 25.4% of our total revenues, respectively. The percentage of revenues from our environmental protection solutions business as a proportion of our total revenue decreased during the Track Record Period due to the increased revenue contribution of our wind power products and services business.

SO₂ emissions reduction

We provide SO₂ emissions control and desulfurization services through our subsidiary, Longyuan Environmental. From 2005 to 2010, we consistently ranked first in terms of cumulative installed capacity and contracted capacity of desulfurization appliances, according to the survey of the desulfurization industry published by China Electricity Council and commissioned by NDRC. Over that period, we also finished the largest number of desulfurization projects with a capacity of at least one million kW. With experience from over 100 EPC projects and 26 desulfurization concession projects, we have accumulated knowledge and expertise, and have a team of professional technicians experienced in all aspects of the FGD process from the design, installation and testing of appliances and relevant facilities to equipment procurement and construction.

Our desulfurization business is conducted primarily through EPC projects and concession model-based projects. During the Track Record Period, we designed and constructed many projects which are milestones in the industry, including:

- in 1998, in collaboration with a Germany partner, we constructed three desulfurization projects in Beijing, Hangzhou and Chongqing, which were among the first commercial desulfurization projects in China;
- we constructed the Shijingshan #4 desulfurization equipped facility (石景山4號脫硫裝置), which commenced operations in 2002, and the Huangtai #7

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desulfurization appliance (黃台7號脫硫裝置), which commenced operations in 2003, which were the first 200 MW and 300 MW respectively desulfurization equipped facilities to commence operations in China;

- in 2009, we constructed the largest single unit capacity seawater desulfurization project, Huaneng Haimen Power Plant (華能海門電廠), which had 1,036 MW single unit capacity;
- in 2009, we constructed the first seawater desulfurization concession project in China, phase II of the Zhoushan Langxi Power Plant (舟山朗熹電廠二期); and
- we are among the first Chinese desulfurization service providers to enter into direct engagement with companies outside of China to construct wet-method desulfurization projects. In October 2006 we signed a contract with Hong Kong Lamma Power Station for its desulfurization equipment retrofitting project (2 x 350 MW + 1 x 250 MW); the first unit commenced operations in June 2009 and was the first operating desulfurization project constructed outside of China by a Chinese company.

EPC Projects. We have extensive experience in designing and constructing desulfurization EPC projects. As of September 30, 2011, our cumulative installed capacity and cumulative contracted capacity of desulfurization EPC projects was 88,242 MW and 108,539 MW, respectively. Cumulative installed capacity and cumulative contracted capacity refer to the cumulative capacity of the desulfurization facility installed and contracted for by our customers respectively. Under our EPC business model, we design, manufacture and install environmental protection and energy conservation equipment and construct relevant facilities in coal-fired power plants. Under this business model, we are in charge of the project design, procurement of the equipment, construction, training and testing through the transfer of the project, and are responsible for the quality of the project. Under the EPC business model we expect to receive payments by stages of the project. Upon completion of a project under the EPC model our customers pay us for the design and installation services and take immediate ownership of the equipment. The average gross margin of our desulfurization EPC projects during the Track Record Period was around 13.5%.

The following table sets out information regarding capacity of our desulfurization EPC projects during the period indicated:

	Year ended December 31,			Six months ended June 30,	Nine months ended September 30,
	2008	2009	2010	2011	2011
Newly contracted desulfurization capacity under EPC (RMB million)	2,964	938	804	141 ⁽¹⁾	N/A
— Newly installed	2,926	923	724	141	N/A
— Retrofit	38	15	80	0	N/A
Newly contracted desulfurization capacity under EPC (MW)	24,400	9,360	16,835	1,550 ⁽¹⁾	3,350
— Newly installed	22,400	8,160	7,295	1,550	2,150
— Retrofit	2,000	1,200	9,540	0	1,200

Note:

(1) During the same period, our desulfurization concession operations had grown substantially.

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Concession Operations. Aside from the conventional EPC business model, we also provide desulfurization services through the concession business model. We are the largest desulfurization concession service provider in the PRC in terms of cumulative installed capacity, with a market share of 32.3% as of June 30, 2011. Concession is an emerging business model in the desulfurization industry in the PRC. Under the concession business model, the desulfurization service provider constructs and owns the desulfurization equipment and operates and maintains the desulfurization business as an operator. The duration of the concession contract is the same as the remaining life cycle of the respective power plant, which is typically expected to be 20 years or more at the beginning of the concession operation. The standard designed life of a coal-fired power plant is approximately 30 years. Because the concession holder is also the operator of the desulfurization operations, under the concession business model, its revenues are comprised mainly of (i) on-grid tariff subsidies of RMB1.5 cents per kWh (including VAT) for the electricity generated by the power plant and (ii) sales proceeds of the by-products of the desulfurization process. For further information, see the section entitled “Industry Overview” of this prospectus. The average gross profit margin of our desulfurization concession operations during the Track Record Period was around 13.1%.

As one of seven companies qualified to provide desulfurization services via the concession business model pursuant to the Notice of Pilot Plan of Concession of Fossil-Fired Power Plant Flue Gas Desulfurization (《關於開展火電廠煙氣脫硫特許經營試點工作的通知》) (the “**Pilot Plan**”) jointly promulgated by the NDRC and the Ministry of Environmental Protection, in 2008 we commenced our desulfurization concession operation and carried out a large number of concession projects. GD Power Datong No.2 Power Station Unit No.7 and Unit No.8 desulfurization projects, which were constructed by us, were the first to commence operations among all desulfurization concession projects under the Pilot Plan. As of September 30, 2011, the cumulative contracted capacity of our desulfurization concession operations was 22,630 MW for a total of 26 projects, among which 20 projects had commenced operations with a cumulative contracted capacity of 17,430 MW while 6 were under construction with a cumulative contracted capacity of 5,200 MW. In 2009, we constructed the first seawater desulfurization concession project in China, Zhoushan Langxi Power Plant phase II (舟山朗熹電廠二期). Our research project, Management of Desulfurization Concession Projects for the Purpose of Improving Competitiveness (以提升企業競爭力為目標的脫硫項目特許經營管理), was awarded the First Place Management Achievement Innovation Award (管理成果創新一等獎) by China Electricity Council. Our strong historical financial performance equips us with a solid foundation to invest in concession projects. Furthermore, our in-depth knowledge of the management and operation of power plants equips us with the necessary know-how as an operator and collaborator with the power plant during the long duration of concession contracts. In addition to leveraging the business model, we possess advanced FGD technologies which produce valuable by-products such as ammonium sulphate nitrate produced from ammonia desulfurization, which is a raw material used in making fertilizer, and sulfuric acid produced from organic amine-assisted desulfurization. We started to generate revenues attributable to sales proceeds of these by-products from 2010 and such sales proceeds were approximately RMB5.1 million and RMB4.4 million for the year 2010 and the six months ended June 30, 2011, respectively.

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The following table sets forth capacity information of our desulfurization concession operations during the period indicated:

	Year ended December 31,			Six months ended June 30,	Nine months ended September 30,
	2008	2009	2010	2011	2011
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2011</u>
Newly contracted desulfurization capacity (MW)	4,380	3,090	7,600	7,560	7,560

The following table sets forth asset information of our desulfurization concession operation during the period indicated:

	At December 31,			At June 30,	At September 30,
	2008	2009	2010	2011	2011
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2011</u>
Desulfurization concession operation assets ⁽¹⁾ (RMB millions)	222.9	453.8	1,188.0	1,783.8	1,769.1
Desulfurization concession operation cumulative installed capacity (MW)	2,520	3,780	7,910	12,630	12,630

Note:

(1) These figures represent the net book value of desulfurization assets as set forth in the relevant concession agreements.

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In addition, in March 2010, December 2010, November 2009 and January 2010, we entered into non-binding memoranda of understanding with each of GD Power, Guodian Northeast Power Co., Ltd. (國電東北電力有限公司), Guodian North Power Co., Ltd. (國電華北電力有限公司) and Guodian Jiangsu Power Co., Ltd. (國電江蘇電力有限公司), all of whom are our Connected Persons, in respect of mutual cooperation in desulfurization concession operations. According to such memoranda of understanding, we may acquire from GD Power and Guodian North Power Co., Ltd. all of their desulfurization units in operation or in construction with a unit capacity of 300 MW or above and may acquire a selection of Guodian Jiangsu Power Co., Ltd.'s desulfurization units. The purchase price is to be based on the asset valuation report prepared by a third-party valuer. Under these memoranda of understanding, GD Power, Guodian Northeast Power Co., Ltd., Guodian North Power Co., Ltd. and Guodian Jiangsu Power Co., Ltd. also each agreed in principle that we may construct and operate all their newly-built desulfurization facilities with a unit capacity of 300 MW or above. After entering into such memoranda of understanding, we have already entered into desulfurization concession agreements with a total capacity of 10,950 MW. The following table sets forth details of these concession agreements.

<u>Project</u>	<u>Capacity (MW)</u>	<u>Amount of consideration (RMB'000,000)</u>	<u>Operation commencement date</u>	<u>Year/Period in which asset was recognized</u>
GD Power				
Power Plant A	2×330 + 4×330	355.7	February 2010	2010
Power Plant B	2×600	329.5	January 2010	2010
Power Plant C	2×330	105.0	November 2010	Pending
	3,840			
Guodian North Power Co., Ltd.				
Power Plant D	2×330	N/A ⁽¹⁾	November 2009	2010
Power Plant E	2×330	180.0	February 2010	1H 2011
Power Plant F	2×330	94.0	December 2010	Pending
Power Plant G	2×300	130.0	November 2010	1H 2011
Power Plant H	2×330	N/A ⁽¹⁾	Under construction	Pending
Power Plant I	2×600	N/A ⁽¹⁾	Under construction	Pending
	4,440			
Guodian Northeast Power Co., Ltd.				
Power Plant J	2×200	N/A ⁽¹⁾	April 2011	Pending
	400			
Guodian Jiangsu Power Co., Ltd.				
Power Plant K	2×135	N/A ⁽¹⁾	August 2009	2010
Power Plant L	2×1000	N/A ⁽¹⁾	May 2011	1H 2011
	2,270			
Total	10,950			

Notes:

(1) Amount of consideration is not applicable because we constructed the newly-built desulfurization facilities at our own cost.

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We have developed a variety of FGD processes which are suitable for power plants with different operating conditions:

Technology	Features
Limestone-gypsum WFGD	<ul style="list-style-type: none"> ➢ Widest application and most mature technology; ➢ By-product gypsum is a usable construction material; ➢ Our Longyuan Wet FGD Process Integrated Technology (龍源濕法煙氣脫硫集成技術) is a combination of a number of technologies, 14 of which are the subject of patents in the PRC; ➢ The Longyuan limestone-gypsum WFGD process and appliance won the Second Prize of the Chinese Electric Technology Award (中國電力科學技術獎二等獎) and the Chairman's Award of Outstanding Environmental Protection Appliances (中國優秀環境保護裝置會長獎); and ➢ The appliances which utilize this technology constitute nearly 90% of our desulfurization appliances installed and contracted, measured by accumulated capacity during the Track Record Period.
Seawater FGD	<ul style="list-style-type: none"> ➢ Suitable for power plants located at coastal areas with easy access to seawater; ➢ No absorbent, desulfurization by-product or secondary pollution; ➢ We have constructed a total of 34 seawater desulfurization units since 2004, with a cumulative capacity of 15,609 MW and a market share of more than 90% in the seawater desulfurization industry; ➢ In 2009, we constructed the largest seawater desulfurization project, measured by single unit capacity, Huaneng Haimen Power Plant (華能海門電廠), which has 4 units with a capacity of 1,036 MW; ➢ In 2009, we constructed the first seawater desulfurization concession project, Zhoushan Langxi Power Plant phase II (舟山朗熹電廠二期); ➢ We have undertaken an 863 Program for seawater desulfurization technology and developed 11 proprietary seawater desulfurization technologies; and ➢ In 2009, 2010 and 2011, we entered into contracts for three large-scale overseas seawater desulfurization projects, namely, Sri Lanka Puttalam Power Station (3x300 MW) seawater desulfurization project; Philippines Mariveles (2x300 MW) seawater desulfurization project and Cambodia (2x135 MW) seawater desulfurization project.
Ammonia desulfurization	<ul style="list-style-type: none"> ➢ Producing by-product ammonium sulfate, which can be used as a nitrogenous fertilizer; ➢ Suitable for power plants located in dry areas such as the three Northeast Provinces; ➢ We are among the first Chinese companies to develop the ammonia desulfurization method and apply it in commercial production; and ➢ In 2010, we built one of the largest ammonia desulfurization projects in the PRC in terms of capacity, Guodian Suqian Thermal Power Station (國電宿遷熱電廠).

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Technology	Features
Organic amine-assisted desulfurization	<ul style="list-style-type: none"> ➤ High desulfurization efficiency; low investment and unit FGD expense; ➤ Sulphuric acid by-product, an industrial material in high demand in some areas in the PRC; and ➤ Suitable for power plants using high sulfur coal as fuel.
Dry gas desulfurization with circulating fluidized bed (CFB)	<ul style="list-style-type: none"> ➤ Suitable for small to medium sized power plants; and ➤ Suitable for power plants located in dry areas such as the northeastern region of the PRC.

NOx emissions reduction

We are engaged in the NOx emissions reduction business. Based on the newly installed capacity during the six months ended June 30, 2011, we are the largest SCR denitrification service provider in the PRC. We mainly provide our NOx emissions reduction services through (1) Longyuan Environmental for SCR and SNCR flue gas denitrification services, and (2) Longyuan Technology for low-NOx combustion services. SCR is a post-combustion method which addresses NOx emissions after their formation; SNCR and low-NOx combustion are combustion control methods which prevent the formation of NOx emissions during the combustion stage.

We believe we are one of very few companies in the PRC with the capacity to provide NOx emissions reduction services utilizing leading technologies in both combustion control and post-combustion and which also have the capacity for independent commercial production of the catalyst used in SCR. On September 22, 2011, the NDRC announced new emissions standards for all power plants nationwide which substantially lowered the NOx emissions limit, which standards will be effective on January 1, 2012. In light of new government policies beneficial to the NOx control service industry, we anticipate that the relevant market will develop rapidly during the next five years, with a market size of approximately 853GW for SCR and 424GW (including both new installed and retrofit markets) for low-NOx combustion.

SCR

We provide selective catalytic reduction, or SCR, which is the most commonly-used post-combustion denitrification method, world-wide. SCR converts NOx with the aid of a catalyst introduced into Nitrogen gas and water. SCR is likely to also become the mainstream post-combustion denitrification method in the PRC because of its high reliability, use of advanced technology and high NOx removal efficiency. We were among the first domestic companies to introduce this cutting-edge SCR technology into China and also pioneered many projects. For example, Longyuan Environmental was the EP contractor for the first denitrification project for a million kW level power plant in the PRC, Huaneng Yuhuan Power Station (華能玉環電廠), which is located in Yuhuan, Zhejiang Province. This project is anticipated to reduce over 10,000 tons of NOx emissions per year with our denitrification equipment. In 2008, we constructed the first million kW level denitrification project in the PRC, Beilun (北侖), a 2x1,000 MW project. We developed our proprietary Longyuan flue gas denitrification technologies and were awarded with three patents in the PRC. We own a laboratory to examine and focus on the flue gas denitrification pneumatic flow field and upon

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large scale denitrification appliance production. The laboratory associated with Jiangsu Longyuan is equipped with advanced testing methods.

Revenues from our denitrification business are primarily generated from EPC projects and from sales of catalysts used in the application of SCR. As of September 30, 2011, our cumulative installed capacity and cumulative contracted capacity of denitrification EPC projects was 17,100 MW and 41,325 MW, respectively. The average gross margin of our denitrification EPC projects during the Track Record Period was 14.6%.

The following table sets forth information on the capacity of our SCR denitrification EPC projects during the period indicated:

	Year ended December 31,			Six months ended June 30,	Nine months ended September 30,
	2008	2009	2010	2011	2011
Newly contracted denitrification capacity under EPC (RMB million)	448	398	1,229	414	N/A
—Newly installed	448	398	1,229	414	N/A
—Retrofit	0	0	0	0	N/A
Newly contracted denitrification capacity under EPC (MW)	5,120	7,630	14,930	5,385	6,705
—Newly installed	5,120	7,630	14,930	5,385	5,385
—Retrofit	0	0	0	0	1,320

In addition to applying SCR, we are also one of the first companies in China with the technology to design and manufacture catalysts used in SCR. Longyuan Environmental's SCR catalysts were named "The Innovative Product with the Best Investment Value" (最具投資價值自主創新產品) by the China Enterprises Valuation Council (中國企業評價協會). Catalysts are the key element of the SCR system. The design and selection of the particular catalysts used depends on the conditions and components of the flue gas. In addition to our use of our own catalysts in-house in denitrification appliances, our external sales of catalysts generates revenue for our denitrification businesses. Because SCR is a commonly used method for denitrification in the PRC, and catalysts typically have a useful life of three years, the consumption of catalysts is significant in volume. We currently have an annual catalyst production capacity of 8,000m³. In 2010, approximately 50% of the catalysts we manufactured were supplied to our own denitrification business; the rest were for external sales. We started to generate revenue from sales of SCR catalysts in 2009. Revenue generated from sales of catalysts was approximately RMB55.7 million, RMB99.3 million, and RMB65.5 million for the years 2009, 2010 and for the six months ended June 30, 2011, respectively. We realized external sales of catalysts of 1,813m³, 2,885m³ and 2,145m³ for the years 2009, 2010 and for the six months ended June 30, 2011 respectively. We intend to expand catalyst production capacity in the future.

In November 2011, the NDRC announced a new subsidy of RMB0.8 cent per kWh for denitrification which became effective in a selection of 14 PRC provinces starting from December 1, 2011. However, unlike desulfurization, no pilot plan regarding the denitrification

concession business has been promulgated by the PRC Government. Ahead of the formal issuance of such a government policy, we have been actively preparing for denitrification concession operations. We have entered into negotiations and have reached a non-binding memorandum of understanding with Jintang Power Generation Co., Ltd. (金堂發電有限公司) for a 2 x 600 MW denitrification concession operations contract. The Jintang project is intended to support the 863 Program SCR Catalysts Raw Material and Process Research and Illustration (“SCR 脫硝催化劑原材料和工藝研究與示範”), and is scheduled to commence construction in 2011 and operations in 2012. We are prepared to further develop our denitrification services under the concession business model once the policy on denitrification concession operations is in place. We believe that we will have a competitive advantage in the denitrification business because of our capacity to provide both low-NOx combustion technologies and post-combustion NOx reduction technologies, as well as our capacity to design and manufacture in-house catalysts used in SCR.

SNCR

We also provide SNCR denitrification services, based on a denitrification method used in the boiler and which can be used together with low-NOx combustion methods or SCR methods to effectively control formation of, and to remove, NOx in the boiler. We have completed the Ligang Power Station (利港電廠) 4x600 MW project, are constructing 300 MW power generation units and are exploring new market opportunities in this area.

Low-NOx combustion methods

NOx emissions control in China is primarily achieved through combustion control. The low-NOx combustion method is a method of combustion control which improves the combustion conditions in the boiler and prevents and reduces the amount of NOx formed during the combustion process. Our subsidiary, Longyuan Technology, a company listed on the SME Board of the Shenzhen Stock Exchange, has independently developed the “plasma ignition and dual-scale low-NOx combustion technology” (“等離子體雙尺度低氮燃燒技術”) whereby plasma ignition technology and low-NOx technology supplement each other. The plasma ignition and dual-scale low-NOx combustion system can be applied to a broad range of grades of coal and effectively reduces the NOx emissions of coal-fired boilers. Longyuan Technology has achieved sales and marketing results in promoting this low-NOx combustion technology. It has applied the technology to dozens of power generation units in many power stations, including in the markets of the Pearl River Delta, Yangtze River Delta and Jingjintang (Beijing-Tianjin-Tangshan) regions. Furthermore, Longyuan Technology also developed the “extra low-NOx plasma ignition coal power high efficiency combustion technology” (“超低NOx等離子體煤粉高效燃燒技術”). The new technology substantially reduces the amount of NOx emissions and resolves the remaining conflict present with the current technology, the tradeoff between the reduction of NOx emissions and combustion efficiency. Longyuan Technology developed the “new swirl chamber low-NOx combustion technology” (“新型旋流燃燒器低氮燃燒技術”) which further expands the scope of application for low-NOx combustion technologies and prepares us for further development of the denitrification market. We intend to apply solutions combining the low-NOx combustion technology and SNCR technology to optimize cost-effectiveness and obtain additional market share in the denitrification industry.

Ash removal

We provide our ash removal services with low-pressure rotary pulse filter bags which use our patented technology. Ash removal, part of our integrated services offered to power plants, complements our other emissions control technologies and forms synergies with our desulfurization and denitrification services. Historically, our business model for ash removal services was EPC services. We also commenced external sales of filter bags used in ash removal services in August 2011. We have accumulated significant experience in the design, installation, commissioning, maintenance and management of ash removal systems of power plant boilers, and successfully finished many projects in several large power plants in the PRC. We possess advanced technologies in ash removal systems. Our ash removal system has received the State Excellent Environmental Protection Device Innovation Prize (國家優秀環境保護裝置創新獎) and the National (Type A) Key Environmental Protection Know-how License (國家(A類)重點環境保護實用技術證書). Our production base of filter bags located in Lishui, Jiangsu commenced production in July 2011. It has a production capacity of 1.5 million m² cloth used in making filter bags, which is capable of servicing power generating units with a total capacity of approximately 10,000 MW. We estimate that approximately half of our filter bags will be used in our ash removal EPC services and the rest for external sales. Rotary pulse bag precipitators, protected by a national patent, are designed to treat the flue gas produced at the rear part of the boilers of thermal power plants. They have a large filtration surface area, good ash deprivation effects, low maintenance requirements and low operation costs. They are more cost-effective, as compared with other ash removal technologies, assuming that the volume is the same, and have been successfully applied to large-sized coal-fired power plant boilers in the PRC. As the newly promulgated *Power Plant Air Pollutants Emission Standards* (《火電廠大氣污染物排放標準》) have tightened ash emissions standards for power plants to 30 mg/m³, we anticipate that newly built power plants and existing power plants installed with non-compliant ash removal appliances will need to install or upgrade to more efficient appliances, such as our filter bag ash removal appliance.

Water treatment

Our water treatment services are primarily focused on (i) water treatment for power plants, (ii) reclaimed water reuse services, (iii) municipal wastewater treatment, (iv) industrial wastewater treatment and (v) seawater desalinization. We possess a range of technologies in water treatment which have been applied broadly in our projects. We believe that our ability to provide water treatment services to power plants is an important part of our integrated solution of services to the power industry. Our business models pursuant to which we carry out our water treatment business are primarily acting as the water treatment general contractor (EPC) and BOT. Our water treatment business is carried out primarily by our subsidiary, Lucency. We also independently developed the PVDF hollow ultra filtration fiber membrane (“PVDF 超(微)濾中空纖維超濾膜”), which is widely used in the treatment of wastewater, reclaimed water and tap water.

We have developed a series of biological and membrane technologies for water treatment, which are broadly applied in water treatment projects in municipal wastewater, industrial wastewater and seawater desalinization. We also have proprietary technologies, including MBR, MBBR wastewater treatment technology, BAF+lime water treatment technology, full membrane water treatment technology and dual-membrane seawater

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desalinization technology, which are suitable for different customers and various water treatment projects.

Water treatment for power plants. We have designed and constructed more than 80 water treatment projects for power plants, including treatment for reclaimed water reuse, boiler water supply, refined treatment of condensed water, desulfurization wastewater treatment, recycled water chemical treatment, zero-emission and comprehensive water use systems. We pioneered use of advanced digitized water treatment management systems in the PRC's water treatment industry to create an innovative water treatment model for power plants, the water island concept, which utilizes water tier by tier and a single water source repetitively for multiple purposes. It increases the water utilization rate and reduces wastewater emissions, effectively decreasing the volume of water used by the power plant.

Reclaimed water reuse. We are experienced in wastewater recovery and reuse, and have developed our own proprietary technologies. We have experience in designing and constructing dozens of reclaimed water reuse projects and have completed many milestone projects in the PRC. We constructed the largest power plant MBR process in Asia at the time, the Hohhot Jinqiao Power Plant (呼和浩特金橋電廠) reclaimed water island project, which processes approximately 30,000 tons of reclaimed water per day. In 2008, we finished the largest power plant reclaimed water reuse project in the PRC at the time, the Kangping Power Plant (康平電廠) recycled water treatment project, which processes approximately 86,000 tons of water per day.

Municipal wastewater treatment. In the municipal wastewater treatment area, we possess proprietary technologies, including MBR, MBBR and A-A-O wastewater treatment technologies, extensive project experience and an established market reputation. In order to further develop our business, we aim to, and have begun to, acquire assets of wastewater treatment plants, retrofit and upgrade water treatment plants and to acquire equity in wastewater treatment businesses. The Taiyuan River Northwest Wastewater Treatment Plant (太原河西北污水處理廠) project, built by us, has a processing capacity of 160,000 tons of water per day. Dalian Development Zone Sewage Management Co., Ltd. (大連開發區排水管理有限公司), in which we recently made an equity investment, has a processing capacity of 80,000 tons of water per day.

Industrial water treatment. We provide water treatment services to industries and businesses other than coal-fired power plants, including the metallurgical industry, petroleum and gasoline industry, coal chemical industry and the iron and steel industry. We have already constructed more than 20 industrial wastewater treatment projects for such non-power plant related industries.

Seawater desalinization. As part of our seawater desalinization business, we leverage power plants as energy centers, and apply advanced dual-membrane technology to create an innovative operating model of cogeneration of electricity, heat and water. By doing so, we are able to reduce the investment and operation costs for desalinization projects, and provide water for consumption and use in manufacturing, while at the same time resolving water resource issues faced by power plants. To date, desalinization projects constructed by us which are in operation process have an aggregate processing capacity of 230,000 tons of water per day.

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We utilize a variety of business models to provide our water treatment services, including EPC and BOT. We have extensive experience in water treatment EPC projects and relevant equipment supply and technical services. We also aim to leverage our financial and management capacities and further develop our water treatment investment business, which may be in the form of BOT or equity investments. Our subsidiary specializing in the water treatment business, Lucency, has acquired wastewater businesses and reclaimed water reuse operations in Liaoning and Shanxi, and is actively exploring other targets in this market. Our decision of whether to acquire the water treatment businesses or to enter into BOT arrangement in relation to the water treatment facilities will be based on the estimated profitability of the relevant water treatment business or the BOT project. For a comparison between the EPC and BOT business models, see “— Business Models” of this section.

Air cooling system

Our associate, Longyuan Cooling, specializes in the design and supply of air cooled condensers for the power industry. It is one of the leading air cooling system solutions providers in the PRC, and a domestic company with EPC capacity in the industry. We own 60% of the capital stock of Longyuan Cooling. However, according to the articles of association of Longyuan Cooling, the Group does not have control over certain material operating and financial matters of Longyuan Cooling as those matters are subject to approval by three-fourths of the directors but the Company only has rights to appoint four out of seven directors. As a result, the financial results of Longyuan Cooling cannot be consolidated into that of the Group. An air cooling system is a system to dissipate heat from generators. It works by making the object to be cooled have a larger surface area or have an increased flow of air over its surface, or both. Its major benefit is to decrease consumption of water, which is especially beneficial in areas with limited water resources. Longyuan Cooling is an integrated air cooling system service provider, with a dedicated R&D team, and provides services ranging from thermal and structural engineering design, construction and start-up services to manufacturing of key heat exchanger components. Longyuan Cooling was awarded the “Golden Bridge Prize” (金橋獎) by the China Technology Market Association (中國技術市場協會) in December 2007, being one of only two companies receiving this award in the power industry, for its outstanding technology development. Longyuan Cooling is also actively expanding its international market share.

Other

Slag disposal. Our environmental protection solutions business also covers solid waste treatment, and is currently focused on slag disposal. We provide air cooling dry slag disposal systems via our subsidiary, Longyuan Environmental. Such systems are integrated with boiler bottom ash collection, air cooling and treatment mechanisms. We use dry bottom ash removal technology to provide our slag disposal services, which apply technical advancements to improve energy conservation, water conservation and environmental protection effects. It also recovers the latent heat of the coal slag and improves the heat efficiency of the boiler and reduces operational expenses by reducing power consumption.

Energy Conservation Solutions

We are engaged in the development of certain energy conservation technologies and the provision of services applying such technologies to coal-fired power plants. Leveraging

our advanced technology and comprehensive capabilities as an integrated system solutions provider in the energy conservation industry, aside from the traditional EPC business model, we also provide energy conservation solutions through energy management contracts, or EMC, a business model which recently emerged in the PRC. According to Frost & Sullivan, we are the largest power plant EMC service provider and the largest steam turbine retrofit EMC service provider, based on the contract value, as in 2010.

Our energy conservation solutions business has great synergies with our environmental protection services business, which we believe will further strengthen our market status as a leading provider of integrated environmental protection and energy conservation solutions. During the years 2008, 2009 and 2010 and the six months ended June 30, 2011, we recorded revenues generated from this sub-segment of RMB573.0 million, RMB717.5 million, RMB720.1 million and RMB272.4 million, respectively, representing 14.4%, 13.4%, 6.6% and 4.0% of our total revenues, respectively.

Plasma ignition combustion stabilization (PICS) system and plasma oil-free coal-fired power plant system

We were the first company in the world to apply plasma-assisted coal combustion technology in mass production and currently lead the market in this line of business. We have a dominant market position in applying plasma-assisted coal combustion technology and have a market share of more than 93% in the PRC in 2010. We provide patented plasma-assisted coal combustion technologies and relevant services through our subsidiary, Longyuan Technology. Longyuan Technology's "pulverized coal plasma oil-free ignition and combustion stabilization technology" ("煤粉鍋爐等離子體無燃油點火及穩燃技術") has won many national awards in the PRC, including the National Science and Technology Advancement Second Prize (國家科學技術進步二等獎), China Patent Gold Award (中國專利金獎), National Energy Administration Technology Advancement First Prize (國家能源局科技進步一等獎) and the China Power Science and Technology First Prize (中國電力科學技術一等獎). The plasma-assisted coal combustion technologies are used primarily in the following two categories of our products and services:

- Plasma ignition combustion stabilization (PICS) systems; and
- Plasma oil-free coal-fired power plant systems.

Plasma ignition combustion stabilization (PICS) system. As of September 30, 2011, approximately 600 power generation units have applied our PICS technology. The capacities of such units range from 50 MW to 1,000 MW and the total capacity of such units has already reached 256 GW. Plasma ignition is completely different from traditional fuel-gun ignition. Plasma ignition involves applying electrical voltage to an atomized fuel stream prior to the fuel's combustion. Among its advantages are fuel-savings, and environmental protection and safety compared to a fuel-gun ignition. Plasma ignition uses pulverized coal, which can save a substantial amount of high-quality fuel otherwise needed for ignition of the coal-fired power plant. The operating cost of the plasma ignition equipment is typically 10.0% to 20.0% of the cost of fuel-assisted ignition equipment in a conventional power plant, calculated based on the amount of fuel used per year. Furthermore, plasma-assisted ignition is cleaner than fuel-gun ignition. With plasma ignition technology, the black smoke pollution problem of coal-fired power plants, caused by incomplete burning during the fuel ignition process, may be eliminated.

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The combination of PICS technology and dual-scale combustion technology is one of the solutions to the low combustion efficiency problem of boilers, frequently caused by the application of other low-NOx combustion technologies. By applying this technology to boilers, both low-NOx emissions and stabilize combustion of boilers can be achieved at the same time. See the section entitled “NOx emissions reduction” within this section.

Because of the various benefits, PICS technology has already been successfully applied to a broad range of power plants, including ones using lignite, bituminous and lean coal. The Guidelines on Designing and Operating Plasma Ignition Systems (《等離子體點火系統設計與運行導則》) drafted by Longyuan Technology was approved by the National Energy Administration on May 1, 2010 and officially published on October 1, 2010 as the power industry standard. Plasma ignition appliances have been encouraged by the PRC government because of their advantages in environmental protection, energy conservation and energy efficiency improvement. To further develop our market, we also develop ignition technology for inferior coal based on the PICS technology. We utilized our experiences in designing and constructing ignition systems for more than 500 boilers to re-design the plasma combustion chamber and further improve its functions. We have already produced a small quantity of ignition technology products for inferior coal and are conducting real-time testing at certain power plants.

Plasma oil-free coal-fired power plant system. We have also developed the plasma oil-free system solutions for coal-fired power plants and have successfully applied the same to a number of coal-fired power plants in the PRC. As of September 30, 2011, we had provided more than 24 power plants with plasma oil-free coal-fired power plant systems with a cumulative capacity of 19,220 MW. Plasma oil-free coal-fired power plant system services include the design and installation of plasma-assisted ignition and combustion systems for coal-fired power plants which no longer have fuel-related appliances and facilities such as oil tank and fuel transportation systems. A plasma oil-free coal-fired power plant relies wholly on plasma-assisted ignition systems to start and stabilize the combustion of coal during their entire operation life span. The plasma oil-free coal-fired power plant system has significant costs-saving benefits for power plants which are already in operation. In addition, for a new power plant, using plasma-assisted ignition technology could recover the capital investment within the construction period, calculated based on the costs of fuel saved. In addition, new plants may save the infrastructure expenses of a fuel-based system, such as the fuel tank. The power plants which make a complete replacement of plasma ignition system for the fuel system could reduce or eliminate fire accidents associated with fuel systems. The Guodian Group, in response to the national policy of energy structure adjustment, required that all newly built power plants within the Guodian Group install plasma oil-free coal-fired power plant systems starting from 2011. If oil-free power plant systems become the industry standard, the market for plasma ignition appliances will be likely to grow substantially.

Steam turbine flow passage retrofitting

We provide steam turbine flow passage retrofitting services which increase the efficiency and safety level of steam turbines utilized in power plants. This service involves the design of the flow passage system of the steam turbine to improve the flow efficiency of the steam in the passage thereby increasing the efficiency and operational safety of the turbine and the generator. We have proprietary steam turbine flow passage retrofitting technologies

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applicable to different types of steam turbines. One of our research programs, 300 MW import-type steam turbine flow passage retrofitting development and application (300 MW 引進型汽輪機通流改造技術開發與應用), was included in the 2008 National High Technology Industry Development Program Plan and Investment Plan of the PRC (2008 年度國家高技術產業發展項目計劃和投資計劃). We provide this service via our subsidiary, Longwei. Steam turbine flow passage retrofitting is also one of the main services included in our EMC services. Based on the contract value in 2010, we ranked as the largest steam turbine retrofit EMC service provider in the PRC.

Waste heat recovery

Our waste heat recovery service utilizes advanced absorption heat pump technologies and a low-temperature economizer to help power plants utilize waste heat efficiently. The absorption heat pump absorbs heat from the gases generated from the generator in the power plant and transfer such heat to the water used in the heating system. The low-temperature economizer helps to reduce the waste energy and utilizes the waste heat carried by flue gas emitted from the power plant. It saves energy consumption of the power generation unit without affecting the power generated. We carry out the waste heat recovery services through our subsidiary, Longyuan Technology.

We entered into our first absorption heat pump waste heat recovery EPC contract with Guodian Datong Power Co., Ltd. (國電電力大同發電有限責任公司), our Connected Person, in December 2010, with a contract value of approximately RMB160 million. As of the Latest Practicable Date, we had undertaken three absorption heat pump waste heat recovery EPC projects. The table below sets out information on these three waste heat recovery EPC projects.

<u>Name of customer</u>	<u>Heating area</u>	<u>Scheduled project completion date</u>
Guodian Datong Power Co., Ltd. (國電電力大同發電有限責任公司)	1000×10 ⁴ m ²	April 2011
Guodian Changzhi Thermal Power Plant (國電長治熱電廠)	480×10 ⁴ m ²	December 2011
Guodian Inner Mongolia Dongsheng Thermal Power Co., Ltd. (國電內蒙古東勝熱電有限公司)	1050×10 ⁴ m ²	May 2012

In addition to the above, we are also in the process of negotiating two new waste heat recovery EPC projects with a total heating area of 1400×10⁴m². We expect that relevant definitive contracts will be entered into between us and the clients in 2012.

Others

Automatic control systems solutions for power plants. We provide power plants with automatic control systems solutions, which primarily comprise (i) distributed control systems, or DCS, (ii) supervisory information systems at the plant level, or SIS, (iii) MIS/EAM/ERP, the power station information management systems and services, and (iv) fieldbus and other control systems which aim to increase the level of automatic control of power plants and to increase operational efficiency. We believe that our provision of automatic control system solutions for power plants is of strategic importance as it is an important tool in assisting power plants to improve efficiency and upgrade their operating systems.

Our associate, Beijing Guodian Zhishen Control Technology Co., Ltd. (北京國電智深控制技術有限公司) (“**Guodian Zhishen**”), provides DCS products and services.

Guodian Zhishen has a competitive advantage in the power station digital control systems industry in the PRC. We own 46.85% of the shares in Guodian Zhishen. It has development and manufacturing technologies used in large-scale automatic control systems and has developed DCS systems of which it has proprietary intellectual property rights. It is also the first Chinese company whose DCS systems were applied to 600 MW supercritical power generators. Guodian Zhishen has undertaken five research projects at the national level, including the Supercritical Power Generator Comprehensive Automatic System Industrialization Project (超臨界火力發電機組綜合自動化系統產業化項目) and Localization of Distributed Control System for Large-scale Coal-fired Power Plants (大型火電機組分散控制系統本地化項目). In addition, Guodian Zhishen has been granted many awards at the provincial/ministerial level, including the Chinese Power Science and Technology First Prize (中國電力科學技術一等獎) and China Mechanics Industry Science and Technology First and Second Prizes (中國機械工業科學技術一等獎、二等獎).

SIS integrate and share information on technology, management and production at the plant level to achieve higher levels of productivity and management effectiveness. It is crucial in realizing the automatic control of power plants, helping to improve energy conservation during power generation and assisting with equipment maintenance and the comprehensive management of power plants. MIS/EAM/ERP information management systems and services provide integrated management and operating system solutions for power companies, achieving the digitalization of the production management and operation of power plants. We also developed a fieldbus system and proprietary fieldbus equipment management system, VeScon-AMS, which reduces the use of power cable by our customers, improves the economics of design and construction and makes testing and maintenance more convenient. It also generates and provides more information than conventional control systems and provides a technical foundation for the diagnosis and prediction of system defaults.

Energy management contract (EMC)

The energy management contract, or EMC, is a new business model to increase efficiency and reduce operational costs for power plants. Given our capabilities as an integrated solutions provider in the energy conservation industry, we have a competitive advantage in applying this business model. We are the largest EMC service provider in the PRC's power industry and the largest steam turbine retrofit EMC service provider in terms of contract value in 2010, according to Frost & Sullivan.

Under the EMC business model, power companies may achieve energy conservation without an up-front capital commitment. It could be viewed as a partnership between the power company customer and the energy service company, which is responsible for carrying out the energy conservation project in order to achieve a specified energy conservation target. To encourage the development of the EMC industry, in 2010 the PRC Government issued a series of regulations, including the Opinions on Accelerating the Development of Energy Management Contract to Facilitate the Energy Conservation Industry (《關於加快推行合同能源管理促進節能服務產業發展的意見》), the Interim Measures on Financial Incentive Funds for Energy Management Contract Projects (《合同能源管理項目獎勵資金管理辦法》) and Notice on VAT, Operation Tax and Enterprise Income Taxation for Promoting Energy Conservation Industry (《關於促進節能服務產業發展增值稅、營業稅和企業所得稅政策問題的通知》). These regulations aim to encourage the development of qualified energy service companies with

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incentives, including tax incentives, interest rebates and financial incentives linked to reduced coal consumption. The scale and profitability of EMC projects are closely linked to the capacities of the energy service companies in technology, policy and finance. We have subsidiaries which specialize in technologies relating to boilers, steam turbines, thermal control and variable frequency drives, which are relevant to power plants. Therefore we are able to provide “one-stop shop” for energy conservation retrofit technical support to power plants.

As an EMC service provider, we first analyze and assess a power plant’s equipment operation status and attempt to understand every equipment’s energy consumption status, such as coal consumption by power generating units, thermal efficiency of the boiler, steam turbine heat consumption and electricity utilization ratios of the power plant. We then conduct an analysis to identify the equipment which underperforms, tailor a retrofit solution suitable for the customer’s specific situation and implement the retrofit plan with our technologies, allowing the power generating unit to achieve energy conservation and cost savings. The services we provide under the EMC business model primarily comprise retrofitting combustion systems for power generating units, steam turbine flow passages, low-temperature economizers and variable frequency speed swirling mechanisms, comprehensive boiler retrofits and expanding capacities of the power generating units.

Our research project, Integrated and Professional Energy Conservation Retrofit Management (“集約化、專業化的節能改造管理”), was awarded the Management Product Innovation First Prize (管理成果創新一等獎) by the China Electricity Council. We are also applying for special incentive funds designated by the PRC Government for EMC projects. We intend to further develop our EMC business in the chemistry and metallurgical industries, and use profit-sharing based on energy conservation results as the primary revenue generation model in the future. Please see “— Business Models” for additional information.

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As of September 30, 2011, we have undertaken 14 power plant EMC projects, which have an aggregated fuel conservation target of above 260,000 tons of standard coal per year. The table below sets out information on some of our EMC projects:

Name of customer	Targeted fuel conservation per year	Contract duration (years)	Contract expiration date ⁽¹⁾	Scheduled project completion date ⁽²⁾
Jiangxi Xinyu Electricity Co., Ltd. (江西新餘發電有限責任公司)	70,000 tons standard coal	5	January 2013	June 2008
Guodian Yangzonghai Electricity Co., Ltd. (國電陽宗海發電有限公司)	34,000 tons standard coal	5	July 2015	November 2010
Guodian Shanxi Taiyuan First Thermal Power Plant (山西太原第一熱電廠)	40,000 tons standard coal	5	September 2015	February 2011
Guodian Taiyi Electricity Co., Ltd. (國電太一發電有限責任公司)	40,000 tons standard coal	5	September 2015	February 2011
Guodian Minquan Electricity Co., Ltd. (國電民權發電有限公司)	12,000 tons standard coal	8	June 2019	May 2012
Inner Mongolia Zhunda Power Plant (內蒙古準大發電廠)				
Phase I	18,000 tons standard coal	5	July 2015	May 2010
Phase II	6,000 tons standard coal	5	September 2016	December 2011
Inner Mongolia Xilin Thermal Power Plant (內蒙古錫林熱電廠)				
Phase I	18,000 tons standard coal	5	July 2015	July 2010
Phase II	4,000 tons standard coal	5	October 2016	December 2011
Inner Mongolia WuSitai Thermal Power Plant (內蒙古烏斯太熱電廠)	4,500 tons standard coal	5	October 2016	December 2011
Inner Mongolia Xinfeng Thermal Power Plant (內蒙古新豐熱電廠)				
Phase I	15,000 tons standard coal	5	July 2015	January 2011
Phase II	8,000 tons standard coal	5	October 2016	September 2011

Notes:

- (1) The expiration date refers to the date when the last payment is due to us.
- (2) The project completion date refers to the date when the construction under the EMC contract is expected to be completed. The forthcoming completion date is based on the best estimate of the Company.

Memoranda of understanding

We have entered into a non-binding memorandum of understanding with an associate of the Guodian Group in relation to a new large-scale EMC project, which is expected to conserve 20,000 tons of standard coal each year for the customer, and have agreed in principle on the pricing structure basis for the project. We expect that the relevant definitive agreement will be entered into by the first half of 2012.

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We also have entered into a non-binding memorandum of understanding with an associate of the Guodian Group in relation to another new large-scale EMC project, which is expected to conserve 120,000 tons of standard coal each year for the customer. We expect that the relevant definitive agreement will be entered into in 2012.

Furthermore, we are finalizing our negotiations with an associate of the Guodian Group in relation to a new EMC project, although no legally binding agreement has been entered into. This project is expected to conserve 15,000 tons of standard coal each year for the customer and relevant construction is expected to be completed in 2012.

Business Models

In our environmental protection and energy conservation solutions segment, we enter into contracts with power producers for the provision of our services based on four major business models: EPC, concession operations, BOT and EMC. We use a variety of business models in an effort to take advantage of certain favorable government policies, or to comply with general market practices or customers' requests.

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The following table sets forth our revenues and the percentage of total revenue attributable to each business model for the Track Record Period:

	2008		2009		2010		Six months ended June 30, 2011	
	RMB millions	% of total revenue	RMB millions	% of total revenue	RMB millions	% of total revenue	RMB millions	% of total revenue
EPC of SO ₂ emissions reduction in environmental protection solutions sub-segment	2,443.5	61.6%	1,910.0	35.7%	1,329.9	12.1%	718.0	10.6%
EPC of NO _x emissions reduction in environmental protection solutions sub-segment	51.4	1.3%	238.6	4.5%	337.5	3.1%	291.8	4.3%
EPC of water treatment in environmental protection solutions sub-segment	230.3	5.8%	146.2	2.7%	272.7	2.5%	85.0	1.3%
EPC of others in environmental protection solutions sub-segment	21.1	0.5%	14.5	0.3%	77.2	0.7%	20.9	0.3%
EPC in energy conservation solutions sub-segment	3.1	0.1%	14.1	0.3%	10.6	0.1%	140.4	2.1%
Concession operations in environmental protection solutions sub-segment	28.9	0.7%	131.8	2.5%	475.2	4.3%	385.6	5.7%
BOT (including BOT construction and BOT operation) in environmental protection solutions sub-segment	10.9	0.3%	151.8	2.8%	280.9	2.6%	21.7	0.3%
EMC in energy conservation solutions sub-segment	30.3	0.8%	4.7	0.1%	178.8	1.6%	—	—

Engineering, procurement and construction (EPC)

EPC business model is used mainly in our SO₂ emissions reduction, NO_x emissions reduction, water treatment and energy conservation businesses. Under this business model, we are responsible for the design and construction of a project, and we manage the project during its development and construction stages, and we transfer and deliver the finished project to the client upon its completion. As with typical EPC arrangements, we are paid based on the completion of each phase of the project as specified in the project contract and title to the project facilities and equipment, as well as operational responsibility for the project, passes to the power producer upon settlement of the final completion payment. We also enter into variations of the EPC model, such as EP (equipment design and procurement), PC (procurement and construction), P (procurement) and E and partial P (design and procurement of certain key equipment).

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The following tables set forth certain information relating to our EPC projects in the environmental protection and energy conservation solutions segment for the period indicated:

EPC of SO₂ emissions reduction in environmental protection sub-segment

	2008	2009	2010	Six months ended June 30, 2011	Nine months ended September 30, 2011
Number of projects completed	34	62	79	96	96
Number of outstanding projects	66	59	60	45	45

EPC of NO_x emissions reduction in environmental protection sub-segment

	2008	2009	2010	Six months ended June 30, 2011	Nine months ended September 30, 2011
Number of projects completed	3	8	8	11	17
Number of outstanding projects	6	9	22	26	34

EPC of water treatment in environmental protection sub-segment

	2008	2009	2010	Six months ended June 30, 2011	Nine months ended September 30, 2011
Number of projects completed	11	5	6	9	10
Number of outstanding projects	5	4	11	4	7

EPC in energy conservation service sub-segment

	2008	2009	2010	Six months ended June 30, 2011	Nine months ended September 30, 2011
Number of projects completed	94	138	119	31	49
Number of outstanding projects	121	112	114	122	141

Concession operations

The concession operations business model is used in our SO₂ emissions reduction business. Under this business model, we construct at our own cost, and hold title to, the contracted project facilities and equipment, and have operational responsibility for these facilities and equipment until the end of the concession period (which is timed to coincide with the end of the life cycle of the relevant power plant to which the project relates). Unlike projects under the EPC model, we do not receive revenues from the power producer based on construction completion or for other services, such as design and construction. Revenues from such projects include on-grid tariff subsidies on a per kilowatt hour basis for power generated by the power plant to which the project relates, and sales of byproducts produced during the concession period. During the duration of the concession operation, we are responsible for maintaining and operating the desulfurization equipment and ensuring that SO₂ emissions of the relevant power plant are within the prescribed parameters. If as a result of our mistakes, the amount of SO₂ emissions from the relevant power plant exceeds the statutory limit and causes fines or fees, we must indemnify the power plant for such fines or fees. During the Track Record Period, we have not been subject to any fines or fees for exceeding the statutory limit on SO₂ emissions.

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The useful life of desulfurization assets is not limited by the duration of the concession arrangement. At the expiration of the concession arrangement, (i) if so requested by the power plant, we will, at our own cost, remove the desulfurization equipment from the power plant, which will be owned and disposed of by us as we so elect; or (ii) upon mutual agreement, we will transfer the ownership of the relevant desulfurization facilities to the power plant, at a price determined based on a valuation of the residual value of the desulfurization facilities. The power plant has the right to terminate the concession operation before the expiration date if we abandon the concession operation or commit a material violation of our obligations under the agreement.

If the power plant continues operation upon expiry of its original designed life cycle, we have the right to opt to extend the concession operation until the earlier of (i) the date when the power generation unit is demolished; (ii) the date when we remove our desulfurization facilities (upon a one-year prior notice to the power plant).

The following table sets forth certain information relating to our concession service projects for the period indicated:

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Six months ended June 30, 2011</u>	<u>Nine months ended September 30, 2011</u>
Number of projects in operation	1	2	6	11	11
Revenues (RMB millions)	28.9	131.8	475.2	385.6	N/A

Build, operate and transfer (BOT)

The BOT business model is used in our water treatment business model. Under the BOT business model, we are responsible for the construction of an asset such as water treatment facilities, with partial or whole financing by us. We own, operate and maintain the asset during a duration pre-defined in the contract, which is typically 20 to 30 years, and are entitled to collect revenues generated from the asset during the term of the contract. At the end of the specified duration, we transfer the ownership and operational responsibilities of the asset to the client. Our revenues under water treatment BOT projects are mainly comprised of monthly fees, calculated based on treatment volume, from the local government with respect to municipal wastewater treatment. The fees we receive for the provision of water treatment services under our BOT contracts typically include a guaranteed tariff based on a guaranteed minimum treatment volume together with an additional tariff for wastewater treated in excess of the minimum volume. Such tariff rates are pre-determined at the time we enter into the project agreement with the local government.

	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>Six months ended June 30, 2011</u>	<u>Nine months ended September 30, 2011</u>
Number of projects completed ⁽¹⁾	1	1	2	2	2
Number of outstanding projects	1	2	1	1	1
Revenues (including BOT construction and operation) (RMB millions)	10.9	151.8	280.9	21.7	N/A
Revenues not recognized as at end of financial period (RMB millions)	415.8	271.1	8.5	—	N/A

Note:

(1) Refer to projects construction of which were completed during the period specified.

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The fluctuations in our BOT revenues are principally attributable to fluctuations in the number and stage of completion of our BOT projects in each period. Our BOT revenues generally comprise both BOT construction revenue and revenues from the operation of completed projects. Construction revenue attributable to our BOT projects is recognized based on the percentage of completion method, and comprises the portion of the construction costs for each BOT project that is payable by the customer under the relevant BOT arrangements. For the years ended December 31, 2008, 2009 and 2010 and the six months ended June 30, 2011, construction revenue attributable to our BOT projects represented approximately 46.6%, 95.3%, 93.4% and 38.9% of our total BOT revenues, respectively. In 2008, we commenced our BOT business; the number of such projects, therefore, was small. In 2009, however, we won bids for a few new BOT projects, one of which was our Taiyuan water treatment project. We began constructing these projects in 2009 and such construction activities continued in 2010; we therefore recorded relatively large amounts of revenues in these two years. During the first half of 2011, however, we did not have major BOT project construction, and therefore recorded a relatively small amount of such revenue.

Energy management contract (EMC)

The EMC business model is used in our energy conservation business. Under the EMC model, we design and construct an energy conservation project relating to a particular power plant, based on agreed specifications. The ownership and the operational responsibilities pass to the power producer after the project is completed and has passed an inspection conducted by the power producer. Under the EMC model, we develop a pricing structure for each contract and negotiate with a customer based on a number of factors, including (i) the sum of our costs and our targeted returns, (ii) the anticipated amount of our customer's cost savings based on the amount of fuel saved and (iii) the complexity of the project. Currently and historically, our revenues under the EMC business model do not directly link to the actual cost savings achieved by our clients. Instead of specifying a profit-sharing ratio in the contracts, we and our clients agree to a fixed contract price based on the aforesaid pricing factors and payments are made by the client to us over the duration of the contract. Typically, once the energy conservation project is completed and inspection passed, pursuant to the agreed pricing structure, we receive payments for the duration of the contract, which typically ranges from five to eight years. We also guarantee specified levels of energy conservation costs. If the project fails to pass inspection or fails to reach the guaranteed parameters, our client has the right to seek damages from us for breach of contract. During the Track Record Period, we did not have any incident where any of our EMC customers sought damages from us for breach of contract. The period for which we guarantee specified parameters under our EMC projects is typically the shorter of (i) one year from the date of various sub-projects passing the initial inspection and (ii) 18 months (in some cases 24 months) upon the EMC project's passing inspection.

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The following table sets forth certain information relating to our EMC projects for the period indicated:

	2008	2009	2010	Six months ended June 30, 2011	Nine months ended September 30, 2011
Number of projects completed	1	0	5	1	3
Number of outstanding projects	0	1	1	12	11
Revenues (RMB millions)	30.3	4.7	178.8	—	N/A
Revenues not recognized as at end of financial period (RMB millions)	183.5	178.8	—	—	N/A

For details of fluctuations in our EMC revenues, please see the section headed “Financial Information—Consolidated Results of Operations—Six Months Ended June 30, 2011 Compared to Six Months Ended June 30, 2010—Energy Conservation Solutions Sub-segment”, “Financial Information—Consolidated Results of Operations—2010 Compared to 2009—Energy Conservation Solutions Sub-segment” and “Financial Information—Consolidated Results of Operations—2009 Compared to 2008—Energy Conservation Solutions Sub-segment”.

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Business Model Comparison

The following table sets forth the key characteristics of each business model:

	<u>Key Characteristics</u>	<u>Advantages</u>	<u>Disadvantages</u>
EPC	<ul style="list-style-type: none"> ● Project is transferred to power producer upon completion ● Revenues comprise construction payments made at specified stages ● The price charged under our EPC business model is not regulated by the government ● No operation of project after completion 	<ul style="list-style-type: none"> ● Less capital investment required as compared to concession operations and EMC business models ● Staged completion payments reduce project-related risks ● No operational risks 	<ul style="list-style-type: none"> ● Non-recurring revenue source ● Requires additional projects in order to maintain revenues ● The market growth of this service is primarily decided by the newly-installed power generation units which are required to install the relevant equipment for compliance with the law. Therefore, the market is highly dependent on the growth of the capacity of coal power industry, as retrofit market becomes limited once existing power plants finish upgrading the required equipment
Concession operations	<ul style="list-style-type: none"> ● Project is owned and operated as a business and is exposed to all risks associated with such ownership and operations ● Revenues comprise subsidies based on amount of power generated by the related power plant and sales of byproducts ● The standard of subsidies is regulated by the government and is currently set as RMB 0.015 per kWh. Please see “Regulations” of the prospectus for further information ● Requires substantial capital investment not offset by construction payments as in the EPC model 	<ul style="list-style-type: none"> ● Recurring revenue stream which stabilizes operational cash flow ● A service provider with strong management and financing capacity and extensive project experiences has a strong competitive advantage 	<ul style="list-style-type: none"> ● Revenues mainly comprise subsidies from the PRC Government and are subject to regulatory changes ● Subsidies are paid to power producer to transfer to concession operator and are therefore subject to associated payment risk ● Required to establish necessary resources for concession operations, including ancillary resources required for marketing and selling byproducts ● Operation cost of desulfuration is affected by the level of sulfur content of coal used by the power plant

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	<u>Key Characteristics</u>	<u>Advantages</u>	<u>Disadvantages</u>
BOT	<ul style="list-style-type: none"> ● A business model used in our water treatment projects ● The project company is granted the rights by the project owner to undertake the financing, design, construction, operations and maintenance of a wastewater treatment project by concession agreement, which the project company can charge a fee for during the concession period to cover our costs of investment, operations and maintenance as well as reasonable returns, and, upon expiration of the concession period, the relevant facilities will be transferred back to the project owner ● Revenue typically includes a guaranteed tariff based on a guaranteed minimum treatment volume together with an additional tariff for wastewater treated in excess of the minimum volume ● While the local government in general has the right to supervise the pricing for products and services relating to municipal public utilities, the price charged under our water treatment BOT business model is based on the negotiations between us and the local government. It is not regulated by the local government, which is our contracting party under the water treatment BOT projects ● Such tariff rates are pre-determined at the time the project agreement is 	<ul style="list-style-type: none"> ● Recurring revenue stream which stabilizes operational cash flow during the contract period which usually spans from 20 to 30 years ● Due to the long operation period, the project company has higher motivation to adopt advanced technologies to ensure stable effluent quality and maintain a low operation cost ● As environmental standards are becoming stricter, the project company has a better chance of coping with the enhanced requirements than the end-user due to its higher R&D capabilities to initiate and implement required technologies with lower costs 	<ul style="list-style-type: none"> ● The project company is exposed to financing risks as a large sum of capital is required at the start up of the project and only gets paid back after a long period ● Project is owned and operated as a business and the project company is exposed to all risks associated with such ownership and operations

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	Key Characteristics	Advantages	Disadvantages
	entered into with the local government and subject to adjustment by the local government with reference to factors such as interests rates and utility prices		
EMC	<ul style="list-style-type: none"> ● ESCO takes on initial capital investment ● ESCO's revenue is dependent on achieving the guaranteed energy conservation costs for the power plant ● Contract payments are to be made by the power plant to the ESCO over the course of the contract term which typically range from five to eight years ● ESCO's pricing is dependent on the energy costs that can be saved for the power plant. The price charged under our EMC business model is not regulated by the government 	<ul style="list-style-type: none"> ● Recurring contract payment which stabilizes operational cash flow during the contract period which usually spans from five to eight years ● A service provider with a comprehensive set of energy conservation technologies and strong financing capacity has a strong competitive advantage in the EMC market ● Operational risks are passed to the power producer after the project passes inspection upon construction completion 	<ul style="list-style-type: none"> ● The ESCO is exposed to financing risks as a large sum of capital is required at the start up of the project and only gets paid back after a long period ● Contract payments are to be received over the course of the contract period and therefore subject the ESCO to associated payment risk

The following table sets forth the revenue recognition policy of each business model:

Business Model	Revenue recognition
EPC in environmental protection sub-segment	Construction revenue from EPC contracts is recognized using the percentage of completion method.
EPC in energy conservation service sub-segment	Construction revenue from EPC contracts is recognized using the percentage of completion method.
Concession operations in environmental protection sub-segment	Revenue is recognized in the accounting period in which the rental income is earned.
EMC in energy conservation service sub-segment	Construction revenue from EMC is recognized using the percentage of completion method.
BOT (including BOT construction and BOT operation) in environmental protection sub-segment	BOT construction revenue is recognized using the percentage of completion method. BOT operation revenue is recognized upon the performance of water treatment services.

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The table below sets forth information on our outstanding projects in relation to our various business models as of June 30, 2011, the contracts for which have been entered into and part of whose revenues thereunder have been recognized by June 30, 2011.

<u>Business line</u>	<u>Number of outstanding projects (As of June 30, 2011)</u>	<u>Amount of contract value in relation to the outstanding projects (As of June 30, 2011)</u> (RMB millions)	<u>Recognized revenue (As of June 30, 2011)</u> (RMB millions)	<u>Unrecognized contract value (As of June 30, 2011)</u> (RMB millions)	<u>Remaining contract duration</u>
Desulfurization EPC	38	2,774.9	1,877.8	897.1	2011/10-2013
Denitrification EPC	27	2,027.0	495.7	1,531.3	2011/10-2013
Water treatment EPC	11	502.3	245.7	256.6	2011/07-2012
Ash removal EPC	6	123.7	61.4	62.3	2011/10-2012
Slag disposal EPC	9	68.9	5.5	63.4	2011/10-2012
Desulfurization concession operations	N/A ⁽¹⁾				
Waste heat recovery EPC	1	0.2	0.2	—	
Steam turbine retrofitting EPC	8	158.5	23.9	134.6	2011/9-2012

Note:

(1) Under desulfurization business model, we operate the desulfurization concession and recognize revenues in accordance with the amount of power generated by the power plant fitted with our desulfurization equipment.

R&D

Pollution Control and Resources Research Institution (污染控制與資源化研究所), built on the basis of the Guodian Group's New Energy Research Center (國電集團新能源研究院), is the primary platform for our key environmental protection and energy conservation technology research. We have made substantial progress in its preparation and construction. During the 12th Five-Year Plan Period, our R&D activities will primarily focus on the upgrade and expansion of flue gas desulfurization and flue gas denitrification technologies and technology reserves in other areas in the environmental protection industry, in order to explore new opportunities while reinforcing our core business.

We have participated in many national research projects in the PRC regarding flue gas emissions control, which is our core environmental protection business, and have achieved outstanding results. Two of the 11th Five-Year Plan 863 Programs undertaken by us have achieved significant breakthroughs. First, large-scale Coal-fired Power Plant Boiler Seawater Flue Gas Desulfurization Technology and Illustration (大型燃煤電站鍋爐海水煙氣脫硫技術與示範) passed the project assessment and evaluation stage, and we have also entered into a seawater desulfurization project contract in Sri Lanka, which prepares us for further exploration of our overseas market. Furthermore, the large-scale Coal-fired Power Plant Boiler Flue Gas Unified Desulfurization and Denitrification Technology and Illustration (大型燃煤電站鍋爐濕法煙氣脫硫脫硝一體化技術與示範) project is in its final stage, which may contribute to the significant reduction of flue gas control project construction costs and operational costs. Recently, we also undertook and participated in two new 863 Programs: The Impact of High Level Ash Content in Flue Gas on the Denitrification Catalysts Performance and Relevant Denitrification Project Illustration (我國高灰煙氣對

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催化劑性能影響研究及脫硝工程示範); and High-efficiency Denitrification Catalysts and Key Production Facilities Development and Manufacture (高效脫硝催化劑開發及關鍵生產設備的研製). Both of these projects are at the stage of preliminary studies and are anticipated to progress into the project illustration stage in 2012. The results of these research projects, and promotion of the same, may significantly reduce the cost of SCR flue gas denitrification appliance's construction and operation.

In addition to the above, we have undertaken 8 research projects within the Guodian Group, including Research on Integration of Flue Gas Desulfurization and Denitrification Towers of Power Plants (“火電廠煙氣脫硫煙塔合一技術的研究”); The Dual-Use of Limestone/MgO Tower Wet Flue Gas Desulfurization and The Recycling Technology of Byproduct Magnesium Sulfate (“石灰石/氧化鎂一塔兩用濕法煙氣脫硫及其副產物硫酸鎂回收技術酸鎂回收技術”); Research on Organic Ammonia Desulfurization Technology Large-scale Coal-fired Power Generating Unit (“大型燃煤機組有機胺法脫硫技術研究”) and Research on the Domestic Production of Titanium Dioxide, the Raw Material Used in SCR Denitrification of Coal-fired Power Plants (“燃煤電廠煙氣脫硝催化劑原材料—鈦白粉國產化研究”). This research aims at providing additional choices in terms of technologies for large-scale power plants at different geographic locations and with various operating conditions, and also focuses on resource recycling of desulfurization byproducts in order to increase our profit resources in our main businesses.

We are actively preparing to expand our technologies into other areas within the environmental protection industry. We undertook six research projects of the Guodian Group, including Large-scale Coal-fired Power Plant Flue Gas Mercury Removal Process and Key Material Development and Illustration (“大型燃煤電廠煙氣脫汞工藝與關鍵材料開發與示範”), Development of Municipal Heat Supply Network and Distributed Energy Sources Technology (“城市熱網及分布式能源技術開發”), Application of the Traditional Dehydration Process in the Lignite Conversion (“傳統乾燥工藝在褐煤提質中的技術升級與應用”), Research, System Integration and Project Illustration of New PVDF Hollow Fiber Membrane Module (“新型國產化PVDF中空纖維膜組器研發、系統集成及工程示範”), and Illustrative Project of 2x600 MW Units Large-scale Coal-fired Power Plants Ash Removal Filter Bag (“大型燃煤電站2×600MW機組袋式除塵器示範工程”). The objectives of these research projects are (i) to achieve technology upgrades through research on relevant products; including filter-bag ash removal and membrane modules; (ii) to increase the product quality, reduce production costs and industrial production of relevant products; (iii) to carry out large-scale research and eventually achieve the industrial production capacity of lignite conversion, based on current small-scale studies; (iv) in terms of distributed energy resources, to focus on the energy reserve technology and to complete testing of equipment construction during the 12th Five-Year Plan Period and to prepare for mass production; and (v) regarding mercury pollutant control, as our plan is in the preliminary stages, to undertake the research and selection of the type of technology in order to have a relevant technology reserve, to complete project illustration at the end of the 12th Five-Year Plan period.

We have formed the following strategic partnerships with a few universities and scientific research institutions:

- (i) We have entered into strategic cooperation framework agreements with the China Academy of Science (中國科學院) and Guodian Science and Technology Research Institute (國電科學技術研究院). The framework agreements are of an indefinite

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duration. Pursuant to these framework agreements, we are responsible for the project costs for any pilot projects to implement the technology jointly developed, while the cooperating institutions are responsible for the human resources costs. Furthermore, we agreed to have joint ownership of most intellectual property rights derived from technologies or innovations developed jointly by us and the institutions. For certain specific research projects or pilot projects, we and the institution will enter into further agreements.

- (ii) We have also entered into technology development agreements with Tsinghua University (清華大學), Zhejiang University (浙江大學), Beijing Science & Technology University (北京科技大學) and Wuhan University (武漢大學) for the development of specific technologies. Under these agreements, we are generally responsible for the research and development cost and fees, while the universities provide technical assistance and research support and undertake the research and development activities in order to achieve the targeted results. We and the universities will have joint ownership of the results of research and development, including any intellectual property rights derived from the projects.
- (iii) In addition, we recently have entered into a partnership agreement with Tsinghua University (清華大學) under which we formally joined the ongoing 863 Project Research on the Absorption Method of CO₂ Capture (“二氧化碳的吸收法捕集技術”) led by the Chemical Engineering Department of Tsinghua University. Under this agreement, we have joint ownership of the results of research and development, including any intellectual property rights derived from the research activities jointly undertaken by the parties. Furthermore, we and Tsinghua University have agreed to share, on an equal basis, all economic benefits derived from transferring or licensing technologies jointly owned by both parties.

After-Sales Services

We provide after-sales services to our customers as part of our environmental protection and energy conservation solutions business. Leveraging our network of subsidiaries carrying out desulfurization concession operations located in various provinces in the PRC, we have established an after-sales service network which provides after-sales services to our customers. Typically, we provide one-year after-sales services in relation to our EPC services, from the date on which our projects are completed. For our desulfurization concession and water treatment BOT businesses, we do not provide after-sale services as we are the operator of the projects. For our EMC services, we are responsible for the maintenance and repair of the equipment after our projects are completed and until the end of the terms of the contracts durations.

Sales and Marketing

During the Track Record Period, a substantial amount of our environmental protection and energy conservation business was conducted in the PRC. We intend to continue to focus on this market. Our specialized sales center has formed short-term and near-term targets and implements a sales strategy which focuses on close working relationships with key major customers and is supplemented by regional sales, based on detailed classification of

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customers and the integration of all resources within the company. This strategy aims to reduce costs, increase efficiency, improve brand visibility and satisfy customer demand. Based on our years of experience in market development of the power industry in the PRC, we have developed a sales method which specifically targets stable customers in the power industry (the five largest power groups and all local power companies). We integrate and utilize our resources and products, leverage customer confidence established by our historical performance and reputable products, in order to promote our other relevant products. We fully motivate our subsidiaries, and implement an information communication system which ensures smooth information flow from the bottom up and within the organization. To coordinate the sales of the headquarters and all branches and subsidiaries, the sales center communicates with all branches and subsidiaries periodically and encourages branches and subsidiaries to focus on regional sales under the sales strategy for the entire company.

We are also exploring markets overseas where coal-fired power contributes a significant portion of the total power generated, such as Southeast Asia and India, and are closely monitoring markets in Russia and its neighboring countries. We have formulated our overseas expansion strategies based on market research and analysis, with a particular focus on the average technical level of the local market and market competition. For example, we have exported our PICS equipment to South Korea, Indonesia, Taiwan and Russia and constructed or entered into contracts for desulfurization projects located in Hong Kong and Indonesia.

Most sales and marketing within our environmental protection and energy conservation solutions business segment is conducted via direct sales to the end-users of our services. The sales and marketing activities across the segment share great synergies. Our services typically have a similar target clientele because of the application and relevance to coal-fired power plants. Further, they supplement each other in developing new clusters of clients in the same geographic areas as many of our services require approvals from the same local governmental agencies. The synergies among the businesses under this segment allow us to share sales and marketing resources, including talent, customer contacts and relevant market information. Furthermore, most of the services that we provide have similar business models such as EPC or BOT, which share similar bidding processes, and we are able to transfer, replicate and apply our successful experiences in sales and marketing in areas in which we have a relatively long history of operation to those business areas in which we have recently entered.

Customers

Customers of our environmental protection and energy conservation solutions business are mainly power plants located in the PRC. We are also developing other industrial customers, such as manufacturers of chemicals, iron, steel and other industrial appliances which also face the challenge and regulatory requirements of environmental protection and energy conservation.

Suppliers

As we manufacture various appliances which are used in providing services under our environmental protection and energy conservation solutions segments, raw materials

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constitute a substantial part of our cost of operation. Due to the diversity of our products and services, we require a wide variety of raw materials and components for our operations, the most important of which are steel, steel-based products and non-ferrous metal materials. We generally have a diverse supplier base, and have long-term relationships with the majority of our suppliers. We have implemented a certification system to centralize purchasing from the certified suppliers which ensures a stable supply of quality raw materials while controlling cost. We believe that our supply arrangements are adequate and that there are no material constraints on the availability of the raw materials and components necessary for this segment of our business. We have not in the past been adversely affected by an inability to obtain raw materials and components.

RENEWABLE ENERGY EQUIPMENT MANUFACTURING AND SERVICES

Our renewable energy-related business segment is mainly comprised of (i) wind power products and services; and (ii) solar power products and services. Under this segment, we are primarily engaged in the development, manufacturing and sales of wind power and solar power generation equipment, and the provision of system solutions to wind farms and solar power plants. Our products are developed with advanced technology, as we primarily focus on technology upgrades and the development of system solutions services. For the three years ended December 31, 2008, 2009 and 2010 and six months ended June 30, 2011, we recorded revenue for this business segment of RMB33.5 million, RMB1,681.6 million, RMB7,060.7 million and RMB4,696.5 million, respectively. We believe that in light of the PRC Government's continued support for renewable energy, our revenues under this segment will continue to grow.

Wind Power Products and Services

We carry out our wind power products and services business primarily through our subsidiary, United Power. We develop, manufacture and sell our WTGs to our customers in the wind power industry. We believe that we have strong competitive advantages as a wind power solution provider because of our strategic control of the vertical value chain and our advanced technologies. We recorded revenue under this business of RMB33.5 million, RMB1,580.1 million, RMB5,807.6 million and RMB3,463.4 million, respectively, during years 2008, 2009 and 2010 and the six months ended June 30, 2011, representing 0.8%, 29.5% 52.8% and 51.1%, respectively, of our total revenues.

Recent years have been marked by significant growth of the wind power industry in China. The number and cumulative installed capacity of WTGs in the PRC by the end of 2010 increased to 34,485 MW and 44,733 MW, respectively, representing a year-on-year growth of 73.3% in terms of the cumulative installed capacity. According to the "Statistics of 2010 China Wind Power Installed Capacities" (《2010中國風電裝機容量統計》) published by the Chinese Wind Energy Association, 12,904 WTGs with a total capacity of 18,927.99 MW were newly installed in China in 2010, representing a growth of 37.1% compared with the total newly installed capacity in 2009. Our WTGs, with a total capacity of 1,643 MW, installed in 2010, contributed 8.7% to the total newly installed capacity in China, ranking us fourth among all WTG manufacturers to install new/additional capacity WTGs in the PRC. During the nine months ended September 30, 2011, the installed capacity of our WTGs was 1,605 MW in total.

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We were one of the first WTG manufacturers in the PRC to produce the 42-meter blade, which is suitable for low wind speed wind farms. We were also an early entrant, and have a relatively large market share, in the IEC III and IEC IV type wind farms market, which hold the biggest wind power potential in the PRC. Our 1.5 MW WTG was the first Chinese WTG to pass the LVRT test and our 1.5 MW double-fed WTG was the first Chinese WTG to pass the zero-voltage ride through test conducted by GL. We are also one of the PRC WTG manufacturers to have a full-power testing platform, which platform is equipped with the only National Key Laboratory of Wind Power Equipment and Control (風電設備及控制國家重點實驗室). Our 1.5 MW WTG Introducing and Re-innovating and Its Domestic Production Project (1.5兆瓦風力發電機組技術引進與再創新及其國產化項目) has been awarded the China Electricity Science and Technology Third Prize (電力科學技術獎三等獎) by the Chinese Society for Electrical Engineering (中國電機工程學會). Our UP77/UP82 WTG models were also awarded with the Beijing Science Council's (北京市科委) Beijing Independent Innovation Product Certificate (北京市自主創新產品證書). We are able to conduct in-house R&D and manufacturing of the core parts and components of WTGs, including blades and control systems to help ensure the quality of our WTGs and supplies for our WTG manufacturing. We are one of the few Chinese WTG manufacturers who have the capability to design and commercially manufacture 3.0 MW or larger and offshore WTGs. We also have access to experimental wind farms, which provide us with a platform to test new products and technologies before putting them into commercial production.

Despite being a relatively new market participant in the WTG manufacturing industry in the PRC, we have grown significantly in terms of production capacity, sales volume and market share during the Track Record Period. After producing the first WTG prototypes in 2007 at our Baoding production base, we sold 4 WTGs in the next year. The sales volume grew to 292.5 MW in 2009 and to 1,300.5 MW in 2010, representing a CAGR of 1,372.2% from 2008 to 2010. United Power ranked second in Deloitte's "High Technology and High Growth 50" competition in 2010 and ranked first among all wind power-related companies. We believe that we will further advance our market position by relying on our core technologies and expertise in the design and manufacture of WTGs.

Wind Power Products

Our primary wind power products during the Track Record Period consisted of a broad range of WTGs designed to adapt to a variety of operating conditions. We have developed a portfolio of WTGs, composed of 1.5 MW, 2.0 MW and 3.0 MW WTGs. We have developed a comprehensive portfolio of WTGs which are adaptable to, and suitable for, different geographical regions, climates, temperatures, high altitude, low wind velocity and coastal areas.

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The following table sets out the technical specifications of our 1.5 MW, 2.0 MW and 3.0 MW WTGs.

<u>Product Category</u>	<u>WTG Model</u>	<u>Turbine Rotor Diameter (meter)</u>	<u>Height (meter)</u>	<u>Suitable Wind Farm (IEC Type)</u>	<u>Designed availability Rate⁽¹⁾</u>
1.5 MW	UP1500-77	77	65/75	IIA /IIA+	95%
	UP1500-82	82	65	IIIA /IIIA+	95%
			80		95%
	UP1500-86	86	75	IIIB- /IVB	95%
2.0 MW			80		95%
	UP2000-96-CC/NC-3A	96.4		IIIA	95%
3.0 MW	UP3000-100	100	90	IIA	95%

Note:

(1) This only reflects the designed availability rate and the actual availability rate is more than 98.0%.

The sales records of our primary WTG products during the Track Record Period are set forth below:

<u>Product Category</u>	<u>Capacity Sold (MW)</u>			
	<u>Year ended December 31,</u>			<u>Six months ended June 30,</u>
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
1.5 MW	6	292.5	1,300.5	907.5

Our revenue generated from sales of 1.5 WM WTGs was RMB33.5 million, RMB1,580.1 million, RMB5,683.6 million and RMB3,632.6 million for the three years ended December 31, 2008, 2009, 2010 and the six months ended June 30, 2011, respectively.

Information regarding the contracted orders and successful bids of our WTGs as of October 31, 2011 is set forth below.

<u>Product Category</u>	<u>As of October 31, 2011</u>					
	<u>1.5 MW</u>		<u>2.0 MW</u>		<u>3.0 MW</u>	
	<u>Total volume (unit)</u>	<u>Total capacity (MW)</u>	<u>Total volume (unit)</u>	<u>Total capacity (MW)</u>	<u>Total volume (unit)</u>	<u>Total capacity (MW)</u>
Cumulative orders	2,964	4,446	24	48	25	75
Successful bids (orders to be made)	521	782	81	162	18	54

Based on our market trend research, our R&D of the next generation WTG products has been focused on:

- 2.0 MW and 3.0 MW WTGs:
 - completed the design and production of prototypes,
 - achieved successful grid connection, and
 - participated in and won bids;
- 6.0 MW WTGs: completed the design and production of prototypes;

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- 12.0 MW WTGs: currently under development; and
- offshore WTGs:
 - 1.5 MW, 3.0 MW and 6.0 MW WTGs: completed the design and production of a series of offshore WTG prototypes, and
 - In particular, UP1500-82 WTG was installed in Rudong (如東) of Jiangsu Province and successfully connected to the grid, preparing us to commence commercial production of offshore WTGs in the near future. In addition, our 3.0 MW WTGs have been installed in Shandong Weifang (濰坊) and some of the WTGs are in the stage of on-grid connection testing.

During the Track Record Period, we have won bids for 2.0 MW and 3.0 MW WTGs. Our 3.0 MW WTGs started generating revenues from the third quarter of 2011. We anticipate that our 2.0 MW WTGs will start generating revenues in 2012.

WTG design and development

We are one of the PRC WTG manufacturers who have the capability to develop WTGs. Our product development has been focused on double-fed variable speed MW-level WTGs. Our direct-drive WTGs and WTG with new types of generators, such as fluid coupling synchronous generators, are also currently under development. We believe that entering into the WTG manufacturing market in 2007 has given us a competitive advantage by allowing us to start production of MW-level WTGs and to employ developed and advanced technologies without undergoing production facility and technology upgrades for MW-level WTGs. United Power has, from the beginning, introduced and utilized world-leading WTG technology through joint development with Aerodyn and conducted research based upon the same, thereby forming its own integrated technology innovation system with many proprietary intellectual property rights. See “Industry Overview—The Wind Turbine Manufacturing Industry.”

During our product design and development process, we evaluate and consider the characteristics and actual conditions of wind resources in the PRC. As a result, our products are capable of meeting the requirements of a broad range of wind farms because they are designed to adapt to varying natural conditions. For example, UP1500-86 WTG is a low wind speed and long-blade WTG with a blade size of 42 meters which was designed and developed by United Power specifically for IIIB- and IVB wind farms in China. In addition, our large-blade WTG design may be well suited to address the trend for future wind power development reaching into areas with inferior wind power conditions, including the ability to better adapt to local wind power conditions. This provides us a potential competitive advantage in marketing to the local wind farms.

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Series design

Based on the specific conditions for which they are designed, our WTGs can be divided into the following series design types:

<u>Type</u>	<u>Features</u>
Cold-state type	— WTGs suitable for wind farms with sub-zero temperature environments of between minus 20 to minus 40 degree Celsius
Offshore type	— WTGs designed for offshore wind farms, with a C5M outer surface protection class that are able to start and work in high salinity and high humidity environments
High altitude type	— WTGs suitable for wind farms located in high altitude areas and that are able to start and work in areas with altitudes of up to 4,000 meters
Anti-sandstorm type	— WTGs suitable for wind farms located in areas with sandstorms, especially drought-prone areas with wind dust storms, such as Inner Mongolia in the northern PRC
60Hz export type	— WTGs designed for export with a grid frequency of 60Hz, meeting the requirements of utility frequency in overseas markets, such as the U.S.
Low wind speed type	— WTGs designed for IEC III and IEC IV wind farms in the PRC, and which feature long blades

Based on the series designs listed above, we have been diversifying and have been expanding our product portfolio to customize our WTG models with different features from which our customers may choose.

Advanced design concepts and technologies

In developing our products, we have been following a number of principles which we believe have increased the efficiency and reliability of our WTGs:

LVRT capacity. Along with the growing cumulative installed capacity of wind power and the special conditions of wind resources in the PRC, in certain parts of the PRC, wind power's impact on the security of power grid operations is greater than ever. Accordingly, the demand on the WTGs' grid-friendly capability is increasingly stringent. Among others, LVRT is an important technology to ensure the safety and stability of the operation of wind farms. Our 1.5 MW WTG was the first PRC WTG to pass the LVRT test.

Low wind speed and long blades. The wing design of our blades has been specifically made to account for certain wind resource features in the PRC. Compared to similar products, our blade has a larger wind sweeping area and lower designed wind speed, thereby increasing approximately 10.0% the power generated each year and significantly reducing the power generation cost per kWh for wind farms. We were among the first WTG manufacturers in the PRC to produce the 42-meter blade, which is suitable for low wind speed wind farms. We were also an early entrant, and have a relatively large market share, in the IEC III and IEC IV type of wind farms, which have the biggest wind power potential in China. We therefore believe that we have a competitive advantage in this market.

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Full test before delivery. We conduct full tests of each of our WTGs before delivery in order to ensure the quality and reliability of the WTG. We are one of the PRC WTG manufacturers to have a full-power testing platform for WTGs. The full-power testing platform is used to (i) apply a comprehensive test to the key parts and components of the WTG, including the gearbox, generator, converter and control system, in order to ensure the product quality; (ii) verify formulas used in WTG design, technology and control systems and facilitate use of technologies; (iii) function as a platform for continuous R&D and performing testing functions of new parts and components; and (iv) function as a platform for performing system testing and training testing and maintenance technicians.

Anti-lightning. The anti-lightning function of our WTGs is designed in accordance with IEC61024, IEC61400-24 standards and GL2003 certified standards. We lay copper wires in the shell of the entire body of the WTG to form an equipotential bonding anti-lightning system. All of our WTGs use anti-lightning protection mechanisms which have been tested by severe stormy weather in actual operations.

Low temperature design. We developed a special design for low temperature operations. Such design has been tested in sandstorm and complex operation conditions.

Advanced electric control system. We use advanced electric control systems based on open-source and standardized hardware and software. Our wind power control system is based on the Beckhoff Industrial Controller, TwinCAT automation software and bus terminal technology, and helps lower maintenance costs.

Integrated supervision and management systems. We have intellectual property rights in our wind farm central supervision and distant supervision systems for which we invented equipment maintenance and operation assistance central supervision systems (i.e. the audio and video system solutions). The systems, based on the actual operating conditions of wind farms, provide supplemental supervision of WTG operations through data collection from the WTG's SCADA systems. With the systems, we are able to implement distant video supervision by installing video facilities, environmental fire-drill supervision by installing various sensors, and integrated wind farm supervision and management by monitoring parameters of the distribution box, in order to effectively supervise the entire operating environment, and secure stable and safe operation of the WTG system.

Experimental wind farm. We own an experimental wind farm that facilitates the collection of large quantities of data on wind farm operations. Such data and materials may be used in development of new WTG models and upgrading technology and enabling us to initiate design of new products, improve current products, study on-grid connection technologies and anticipate customer demand.

Production

Production facilities

We currently operate three production bases, which are located in Baoding of Hebei Province, Lianyungang of Jiangsu Province and Chifeng of Inner Mongolia. We also have comprehensive production facilities for certain key parts and components for WTG production. All our production bases for WTGs produce blades. Our production facilities

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located in Baotou, Inner Mongolia and Yixing, Jiangsu produce gearboxes and generators, respectively. We also have production facilities located in Hebei and Baoding, where we produce variable pitch systems and converters.

Our production facilities have significantly expanded since the establishment of our subsidiary, United Power. Our first production base in Baoding finished construction and produced our first WTG prototype in 2007 and commenced commercial production in 2008. Thereafter, our second production base in Lianyungang and third production base in Chifeng began commercial production in 2009 and 2010, respectively. As of June 30, 2011, the total gross floor area of our production bases was 1,130,868 m². As of September 30, 2011, our total production capacity was 2,500 units of WTGs, of which 1,000 are from Baoding, 900 from Lianyungang and 600 from Chifeng. Among our total production capacities, the total production capacity for 1.5 MW WTG is 2,200 units. All our production bases which manufacture 1.5 MW may manufacture 2.0 MW WTGs, with no impact on the production capacity. We also have the production capacity of 300 units of 3.0 MW WTGs at our production base in Lianyungang. Upon completion of construction of our new production facility in Changchun, expected in 2012, we anticipate that the total production capacity will increase to 2,900 units. The following table sets out certain basic information relating to each of our production facilities as of September 30, 2011:

Production base	Product	Designed production capacity ⁽⁸⁾	Actual production capacity ⁽⁸⁾⁽⁹⁾	Actual production capacity utilization rate (%) ⁽¹⁰⁾				Category/ Model
				2008	2009	2010	2011 (January to September)	
Baoding ⁽¹⁾	WTG	600	1,000	10.0	68.0	90.0	74.7	1.5 MW/2.0 MW
	Blade	600	1,000	10.0	33.2	76.2	60.8	UP77/82/86
Lianyungang ⁽²⁾	WTG	600	900	—	8.9	65.8	36.7	1.5 MW/2.0 MW/3.0 MW
	Blade	600	900	—	0.9	52.8	43.5	UP77/82/86/100
Chifeng ⁽³⁾	WTG	400	600	—	—	26.3	54.8	1.5 MW/2.0 MW
	Blade	400	600	—	—	33.7	73.0	UP77/82/86
Changchun ⁽⁴⁾	WTG	400	Under construction	—	—	—	—	
Baotou ⁽⁵⁾	Gearbox	400	400	—	—	—	2.5	1.5 MW/2.0 MW
Yixing ⁽⁶⁾	Generator	1,000	1,200	—	—	—	34.6	1.5 MW/2.0 MW
Baoding	Converter	2,000	2,000	—	1.7	11.3	40	
Hebei ⁽⁷⁾	Variable pitch system	1,000	2,000	—	—	41.7	57.6	

Notes:

- (1) Production capacity for WTG fully released.
- (2) Production capacity for 3 MW wind turbine at 200 units annually.
- (3) Full production capability expected to be released within 2011.
- (4) Construction expected to be completed in 2012.
- (5) Commercial production commenced in May 2011.
- (6) Commercial production commenced in 2011 and the full production capacity expected to be released within in 2012.
- (7) Commercial production commenced in 2010.
- (8) The designed production capacity and actual production capacity are measured by unit for WTGs, gearboxes, generators and converters or by set for blades and variable pitch systems.
- (9) Designed annual production capacity is a conservative estimate. Actual production capacity may exceed designed capacity due to measures to optimize the production process, including (i) increasing the efficiency and skill level of our workers; (ii) optimizing the production layout and improving efficiency of production steps; and (iii) arranging additional shifts of workers during peak production time. Notwithstanding that our actual production capacity may exceed our designed capacity, during the Track Record Period, we have not experienced any accident or production safety issues at our production bases that may have a material adverse effect on our financial condition, results of operation, reputation, business activities, or future prospects.

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(10) Actual production capacity utilization rate is calculated using the formula below:

$$\text{Actual production capacity utilization rate} = \frac{\text{Yield}}{\text{Actual production capacity}} \times 100\%$$

Yield refers to the actual production volume during the period specified. As yield is affected by market conditions, the actual production capacity utilization ratio may fluctuate in accordance with the purchase orders we receive during a certain period. In particular, because the WTG business is seasonal in nature, to match our WTG delivery schedule, we generally manufacture more WTGs during the second half of a calendar year. Therefore, our yield and respective actual production capacity utilization rate of WTGs during the first half of each year are generally lower than that in the second half of such year. In addition, our production base in Chifeng only commenced commercial production in the second half of 2010 and therefore its actual production capacity utilization rate for 2010 does not represent what it could be for a full calendar year. Further, after we commenced producing WTGs in Chifeng in 2010, we assigned some of our purchase orders to the Chifeng base, as opposed to the Baoding base, because Chifeng is closer to the wind farms compared to Baoding.

Production planning

We plan our overall annual production at the beginning of the year based on the orders we receive and the estimated market conditions, including the anticipated newly installed capacity of our target markets and our anticipated market share. We have some flexibility to adjust our annual production plan during operation based on the actual market conditions, such as actual orders received, changes to placed orders and the movement of the market.

Key parts and components

We believe that the ability to control the supply chain of key parts and components is crucial to our competitive advantage over other WTG suppliers. We are one of the few WTG manufacturers in the PRC who have the capability and technologies to design and manufacture certain key parts and components of WTGs. We believe this capability will further advance our market position in developing the next generation of WTGs, reduce reliance on external suppliers, enhance quality and dependability and increase cost efficiency of our production. In addition, this capability also improves our ability to provide maintenance and repair services.

Blades

Blades are a critical part of the WTG, capturing the wind energy. Our in-house blade manufacturing has the capacity to satisfy the demand of our WTG manufacturing business.

Electric Control System

The electric control system is a vital part of the WTG, and controls the operation of the WTG, ensuring that the operating parameters are within designed ranges. Further, control technology is of strategic importance in the development of next generation WTGs because its reliability and performance directly affects the efficiency of the WTGs. Our control system is comprised of a master control system, converter system and variable pitch system.

Longyuan Electrical, one of our subsidiaries, is an internal supplier of converters to United Power. The production base of Longyuan Electrical is in the vicinity of our Baoding production base and therefore is relatively accessible. The value of converters purchased from Longyuan Electrical by United Power was approximately RMB87.8 million and RMB94.0 million for the year 2010 and for the six months ended June 30, 2011, respectively.

Variable pitch control systems are an important component for control and protection mechanisms of MW-level WTGs. Pitch control systems monitor and adjust the inclination

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angle of the blades and thus control the rotation speed of the blades. At lower wind speeds, the pitching system leads to an acceleration of the hub rotation speed, while at higher speeds, blade pitch control reduces the wind load on the blades and structure of the tower. Huadian Tianren currently has an annual production capacity of 2,000 units of variable pitch systems with a scope of application ranging from 1.5 MW to 6.0 MW for onshore and offshore WTGs.

Generator

Generators play an important role in a WTG in converting mechanical energy into electrical energy. To ensure a quality and reliable supply of generators, we operate our generator manufacturing base in Yixing, which commenced commercial production in 2011. Furthermore, to meet the needs of our increasing production capacity of WTGs, we plan to expand our Yixing generator production base.

Gearbox

Gearboxes are an important part in WTGs as they convert the low speed incoming rotation to a high speed rotation suitable for generating electricity. We have established a gearbox production base in Baotou which was designed to produce 400 gearboxes per year and commenced commercial production in May 2011. In addition, we have stable relationships with multiple gearbox suppliers to mitigate any shortage of gearboxes.

Quality control

Quality has always been our priority. Our quality control system controls each stage of our operations, including the signing of the sales contract, product development and design, setting of product quality standards, supplier management and review, assembly, transportation and packaging of WTGs, installation and ramp-up during the wind farm project construction process and after-sales operation and maintenance services.

We have received a large number of certifications in relation to our quality control system. In February 2010, we passed the quality system authentication by Lloyds Register of Shipping (an international institution specialized in authentication and certification for products in various industries, including but not limited to, the WTG manufacturing industry) which certified that our quality control system met international standards in relation to, among other things, product research and design, manufacturing process, testing and engineering service. In product research and design, we implemented certification requirements at each and every step of our design process, to be handled by the China Classification Society (中國船級社) (a prestigious PRC institution specialized in the authentication and certification of products in various industries, including but not limited to, the WTG manufacturing industry) and China General Certification Center (北京鑒衡認證中心). Furthermore, we passed C-Design Assessment conducted by Germanischer Lloyd, a world-renowned certification authority of WTG, which indicated that our overall design and quality met the standards of international advanced WTG models.

We implement quality control measures to ensure the quality of our suppliers. First, we implement and require qualification authentication systems for and from all of our suppliers. The qualification authentication system requires the potential suppliers to submit their qualification credentials which will be evaluated and assessed by our supplier assessment

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committee. Upon approval of the supplier assessment committee, potential suppliers that satisfy our quality standard are listed on our list of approved suppliers. Each approved supplier on the list is reviewed and re-assessed on an annual basis. Furthermore, additional quality control measures are in place for our long-term suppliers and major suppliers. For long-term suppliers, we assign specific engineers to monitor the quality of their products. As for our major suppliers, aside from assigning specific engineers, we also evaluate their overall product quality on a semi-annual basis. Further, all goods purchased from our suppliers are inspected and approved prior to being used in our products, to ensure that all the raw materials, parts and components we use for our products are of satisfactory quality.

Furthermore, we have implemented a number of quality control measures regarding our production process. First, we have established an inspection system for our production process, and have developed a system of accountability for each member of staff to strengthen our process control capacity. Our inspection system assigns specific responsibilities of various steps in the production process to each member of staff and requires written records and proper documentation for the process and result of the inspection. Second, each product is assigned with an identification number to ease the tracking of a particular product for inspection. Third, we also have a set of working guidelines and regulations to standardize manufacturing operations and to ensure proper recording of our manufacturing process. Fourth, each of our on-site members of staff must have obtained necessary qualifications and received comprehensive training prior to commencement of his or her work. Fifth, we implement a comprehensive control regime in the testing stage, which requires sufficiently experienced testing personnel, advanced testing equipment and refined testing methods.

United Power has established a quality control department specifically for the purpose of facilitating and monitoring the implementation of all the above quality control measures. Written records throughout the manufacturing process are reviewed regularly by the quality control department to ensure compliance with the established procedures and guidelines. Approval of the quality control department is required at various stages of the production process without which production is not allowed to proceed. The quality control department also compiles written records which may then be archived.

Sales and marketing

In our WTG business, we have a dedicated sales team actively engaged in client relationship development. Our sales and marketing team is staffed with professionals who have experience and knowledge of the wind power industry. We began diversifying our sales and marketing channels in 2010 in an effort to increase our WTG sales. We currently have three means by which we conduct our sales and marketing: (i) direct sales, (ii) sales through agents and (iii) sales through partners. Our agents typically do not take purchasing risks, while our partners typically take such risks. Typically, our agents are responsible for finding end-users of our products and we directly enter into sales contracts with the end-users. Our agents do not take the risks in the event that our end-users do not make payments to us. As to providing WTGs and warranties, we are responsible to the end-users rather than to our agents. With respect to our partners, on the other hand, we enter into sales contracts directly with these partners. Our partners make payments to us, and take payment risks, irrespective of the conduct of our end-users. For providing WTGs and warranties, we are directly responsible to our partners. Sales through either our agents or partners assist us to increase

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our sales. For the six months ended June 30, 2011, we made approximately 46%, 26% and 28% of our WTG sales through direct sales, agents and partners, respectively. In 2010, we made approximately 72%, 5% and 23% of our WTG sales through direct sales, agents and partners, respectively. Some of our products and services are provided via direct sales to our customers, including wind farm developers and operators. Through the efforts of our sales and marketing team, we also directly participate in the bidding process for the procurement of WTG products and related services. We have established relationships with reputable agents in the wind power market who represent us in target markets, such as overseas markets to facilitate sales of our WTG products and services. In 2011, United Power established a subsidiary in the U.S., which primarily engages in sales of “United Power” WTGs, consulting services to project development, EPC general contracting and maintenance of wind farms in the U.S. During the Track Record Period, our revenue generated from overseas was insignificant.

Customers

The majority of our sales are derived from the PRC domestic market. Our customers are primarily operators of large wind farms and EPC general contractors, in addition to other investors in the wind power industry. The EPC general contractors may serve wind farms which are owned by the Guodian Group and its subsidiaries, providing them with design, engineering, procurement and constructions services. We have established and maintained stable relationships with our customers. We are among a small number of Chinese WTG manufacturers who have exported their WTGs to overseas markets. Our revenue derived from our overseas sales was RMB866,886 during the six months ended June 30, 2011. In July 2011, we sold six WTGs to a customer in the United States.

Suppliers

We have established good relationships with our suppliers. We have a centralized procurement policy for all key parts and components of the WTGs as well as raw materials for manufacture of our WTGs. Our subsidiary, United Power, is responsible for all procurement covered by such policy. All of our production bases or manufacturing subsidiaries engaged in the manufacture of WTGs report to United Power for their procurement needs. United Power negotiates with and selects suppliers, makes annual and monthly procurement plans and signs non-binding memoranda of understanding for strategic cooperation with suppliers. Subsequently, in accordance with procurement plans, subsidiaries deliver orders and payments directly to the respective suppliers who deliver goods to the subsidiaries.

In order to better manage our suppliers, we have implemented a certification system for all potential suppliers. For volume suppliers, we designate specific supplier quality engineers to work closely with them to ensure quality control. We also conduct assessments every six months to examine product quality, processes and quality control systems.

Product warranties

We provide comprehensive product warranties for our WTGs, and all sales contracts contain warranty clauses. The warranty service period under our sales contracts is typically 24 months from the date on which the preliminary inspection certificate is issued. Since 2009, we have established and maintained warranty provisions for the total maintenance and repair

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expense and costs of our WTGs during the warranty period. The policy is that United Power and all its subsidiaries contribute 3% of the sales proceeds (before tax) of the WTGs to the warranty provisions. The following table sets forth the movement of provisions for our WTG product warranty during the Track Record Period.

	Year ended December 31,			Six months ended June 30,
	2008	2009	2010	2011
	<i>RMB millions</i>	<i>RMB millions</i>	<i>RMB millions</i>	<i>RMB millions</i>
At January 1	—	1.0	47.1	217.4
Additional provisions made	1.0	46.1	173.4	105.6
Provisions utilized	—	—	(3.1)	(3.1)
At the end of the year/period	<u>1.0</u>	<u>47.1</u>	<u>217.4</u>	<u>319.9</u>

After-sales services

We have established a specific institution under United Power, the Guodian Wind Power Equipment Testing Institution (國電風電設備調試所) (“**Testing Institution**”), which is responsible for, among other things, providing after-sales services to our customers. The Testing Institution has after-sales service teams consisting of experienced technical staff. As of September 30, 2011, the Testing Institution had more than 750 technicians responsible for the installation and maintenance of WTGs and wind farms. Prior to September 30, 2011, the Testing Institution had served 105 wind farms located in 17 provinces, installed 2,515 WTGs, connected 1,805 WTGs to the grid and maintained and repaired 1,354 WTGs.

For renewable energy industries like the wind power industry, system testing, installation and maintenance services require a high level of technical expertise. We have allocated significant resources to training our technicians and have established a comprehensive training program which emphasizes both theoretical knowledge and practical know-how. All new staff are required to undergo a five-month training program which starts with in-class safety and quality training and theoretical studies for two months and continues with three-month on-site training at our assembly facilities. We also arrange for specific training with the suppliers from time to time, which helps ensure the comprehensive and up-to-date knowledge of our technicians. Our goal for after-sales services is “Zero Distance. Zero Accidents. Zero Complaints”, which is supported by our well-developed network of spare-part storage facilities and service centers. During the Track Record Period, we did not experience any product safety issues or customer complaints that had a material adverse effect on our financial condition, results of operation, business activities. We believe our comprehensive and well-defined network of spare-part storage facilities enables us to timely perform spare-part replacements and therefore minimize the response time and loss to our customers which might otherwise be incurred due to the WTG down time. We also retain service teams in the vicinity of our spare-part storage facilities and proactively collect customer feedback.

Strong R&D capacity

We possess a strong R&D capacity which we believe is core and key to our competitiveness. We have the only National Key Laboratory for Wind Power Equipment and Control (風電設備及控制國家重點試驗室) approved by the Ministry of Science and Technology. The laboratory focuses on the research and development of wind power equipment and control

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systems. The goals of our laboratory are to solve the key technical problems common in the PRC wind power industry and to enhance our independent capability in technologies innovation. Our R&D activities and the customer feedback received during the after-sales services form strong synergies. Our Testing Institution has first-hand information from the actual operation of our products, which provides important guidelines for improving our products. Our Testing Institution is well-positioned to integrate the results of our R&D activities and the feedback received from customers or issues discovered during installation, testing and maintenance of our WTGs.

We currently have a team of approximately 500 people who focus on R&D of our wind power products and services. Our R&D team possesses considerable wind power industry experience and has established a uniquely effective technology development platform. We have a full-power testing platform. We also have proprietary technologies to design and manufacture key parts and components of our MW-level WTGs and WTG's including blades and electric control systems. With our continuous innovation and improvement of advanced technologies, we have accomplished significant achievements in WTG R&D. As a result, we believe our products and technologies will maintain a leading position in the PRC wind power industry. Our main innovations are in the areas of the design of our WTGs and the design and manufacture of core parts and components, such as blades, electric control systems, generators and converters, and our performance testing and inspection capabilities. Our recent research projects include research and study of various large-size WTGs, massive production technology, centralized control and distant supervision systems for wind farms, SCADA system development and application technology, integrated designing software of double-fed WTG generator and control systems, on-grid double-fed WTG full-power testing and functional assessment equipment and technology, grid-friendly WTG research and development and LVRT technology. Our future R&D projects primarily include research related to wind power control and on-grid connection technology, development of equipment for 6.0 MW or above offshore WTGs, green design and manufacture of wind power equipment, front-end variable-speed synchronous WTGs and research and development of large-scale energy reserve systems.

Wind Power Services

We strive to become a world-class provider of complete and integrated solutions for wind power. Leveraging our customer relationships and experience in the WTG business, we already operate in selected areas of the wind power services business and are actively exploring business opportunities in this field.

Post-construction maintenance services. We plan to provide post-construction maintenance and operation services. In recent years, China's wind power industry has flourished and the total installed capacity has increased rapidly. As a result, the number of wind turbines with expired warranty periods is significant and will increase each year. Consequently, the repair and maintenance service business of WTGs is expected to develop into an independent business segment with great economic potential. We have accumulated a considerable amount of repair and maintenance experience while providing after-sales services to our customers within the warranty period. We have already established a specialized WTG maintenance and operation center and plan to develop our business in this regard with the resources and experiences of our Testing Institution. We believe the quality of

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our services has already earned us a high reputation and has prepared us well to enter into the repair and maintenance market.

Wind farm operation services. Wind farm operation services are services relating to the operation of a wind farm provided to wind farm owners to ensure that at least minimum levels of utilization and amounts of power generated are achieved. Some of the target clients are wind farm owners who do not wish to engage in the daily management and maintenance of a wind farm for lack of experience or expertise. Other target clients are wind farm owners who have the experience but wish to outsource such operation and maintenance business to specialized service providers to bring down the costs of expansion. As we have the technology and control of the WTG supply chain, in providing maintenance and operation services, we plan to replace imported parts and components with PRC produced counterparts of comparable quality but lower costs, which we believe will further increase our profit margins.

Solar Power Products and Services

We carry out our business in relation to solar power equipment sales mainly through our subsidiary, GD Solar. Leveraging our design and manufacturing technology, and knowledge of the characteristics of different markets around the world, we utilize a combination of various business models to provide integrated services to our customers and have accumulated substantial experience in constructing solar power plants. Our solar equipment sales business generated revenues of RMB1,253.1 million and RMB1,233.1 million during 2010 and the six months ended June 30, 2011, which represents a contribution of 11.4% and 18.2% to our total revenues, respectively.

Solar power is one of the fastest-growing renewable energy industries. According to Solarbuzz, the world-wide solar power industry has an average CAGR of 43.0% since 1998 in terms of the newly installed capacity. In the last five years, this figure has further increased to 56.0%. The PRC Government recently promulgated a solar power on-grid connection tariff, encouraging the development of solar power stations. According to general market expectations this policy will contribute to the further development and construction of solar power stations and stimulate development of the entire PRC solar power industry. According to Solarbuzz, China's cumulative solar demand outcomes by 2015 will be 8.13GW (balanced energy scenario), 11.66GW (green world scenario) and 17.5GW (production led scenario). We believe that by employing our subsidiary, which focuses on integrated system services of solar power stations, and our advanced solar power products design and manufacturing technology, we are in a competitive market position to leverage the new business opportunities presented by the solar power industry in China and to further develop our business relating to solar power.

Solar power integrated system solutions services

We provide a range of value-added services and system solutions for players in the solar power industry, which is the primary driving force for the development of our solar power business. Integrated system solutions for solar power plants involves research related to solar power generating systems, feasibility studies, design of projects and EPC services. It is a technology-intensive industry. Our subsidiary, GD Solar, established a subsidiary in May 2010, Shanghai Guodian Solar Systems Technology (Shanghai) Co., Ltd. (“國電太陽能系統科技（上海）有限公司”) (“**GD Solar Shanghai**”), which is focused on the

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development of solar power integrated system solutions services. We have an early-entrant competitive advantage in the solar power services in the PRC market and in-depth related project experience. With the capability to provide solar power integrated system solutions, we have a competitive advantage in the solar power plant construction business. With our understanding of the power industry, we start with design concepts and provide a range of value-added services to our customers, from consulting on power station development at the preliminary stages to design, procurement and construction of solar power plants. Furthermore, because we possess technology and capabilities to design and manufacture various high-end solar cells and modules, we are in a unique and advantageous position to provide solar power integrated system solutions services. In particular, in contrast to competitors who primarily rely on sales of products to generate profits, we are striving to help our customers to achieve the lowest-possible costs per kWh, which has gained us market reputation and customer recognition.

Leveraging our expertise in the design and manufacture of solar modules and our established customer relationships with solar power station operators and investors, we plan to focus on the development of solar integrated system solutions services in emerging markets, including the PRC. We successfully completed the rooftop solar power system illustration project for the Finland pavilion at the World Expo 2010 Shanghai. As of September 30, 2011, we have undertaken 11 solar power plant system integration projects in China with an aggregate installed capacity of 151.5 MW, making us one of the largest solar power system integrated service providers in the PRC. Leveraging our technologies, we constructed a MW-level CPV cell power generation illustration project in Qinghai in 2011. The table below sets out the particulars of our system integration projects as of September 30, 2011.

<u>Location</u>	<u>Installed Capacity(MW) (Anticipated)</u>	<u>Type of Project</u>	<u>Current Status</u>
Inner Mongolia	5.0	Solar power station EPC	Completed
Ningxia	10.0	Solar power station EPC	Completed
Shaanxi	5.0	Solar power station EPC	Under construction
Gansu	10.0	Solar power station EPC	Under construction
Qinghai	15.0	Solar power station PC (procurement and construction)	Under construction
Qinghai	20.0	Solar power station EPC	Under construction
Qinghai	10.0	Solar power station EPC	Under construction
Jiangsu	6.5	Solar power station PC (procurement and construction)	Under construction
Ningxia	20.0	Solar power station EPC	Under construction
Inner Mongolia	10.0	Solar power station EPC	Under construction
Inner Mongolia	40.0	Solar power station EPC	Under construction

We have established a department specializing in preliminary-stage services under our subsidiary, GD Solar Shanghai. With our professional knowledge of the solar power resources in the PRC, industry background in the power industry and understanding of the “Golden Sun” solar industry standards in the PRC, we provide assistance and consulting to our customers during their tendering process for solar power station projects and also provide them with feasibility studies services. These types of services enable us to further diversify our portfolio of value-added services and to participate in our customers’ investment and

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development of solar power plants at a very early stage. In addition, we are able to introduce our power plant design concept and solar product portfolio selection into our customers' preliminary planning and therefore obtain customer resource and market opportunities, which provide a solid foundation for our provision of power station design, procurement and construction services at a later stage. To date, we have provided such services to solar power plant projects with the total installed capacity of approximately 100 MW.

Our product portfolio

Our current products primarily consist of crystalline silicon modules. As solar cells are the key components of solar modules, we are also conducting research on, and plan to manufacture various types of, the solar cells including thin-film cells, high efficiency solar cells and crystalline silicon cells, which are later assembled into solar modules after electric interconnection and lamination in a durable and weather-proof package. We believe that our products are distinguished from our competitors and provide strong support to our system integration services.

The table below summarizes the types of solar cells which we conduct research on and plan to manufacture:

<u>Solar Cell Type</u>	<u>Dimensions (mm x mm)</u>	<u>Conversion Efficiency (%)</u>	<u>Maximum Power (W)</u>	<u>Optimum Operation Voltage (V)</u>
Mono-crystalline silicon cell	156 x 156	17.8	4.24	0.528
Poly-crystalline silicon cell	156 x 156	16.4 –17.0	3.99	0.515
High efficiency solar cell	156 x 156	19.6	4.525	0.580
Thin-film cell	1,100 x 1,300	10.5	140	138.200

Crystalline silicon cells and modules. Crystalline silicon cells are made from specially processed silicon wafers and can convert sunlight into electricity through a process known as the photovoltaic effect. We currently have a production line of crystalline silicon cells with a designed annual production capacity of 180 MW. In September 2011, we completed crystalline silicon module production lines with a designed annual production capacity of 400 MW. Our process technologies have significantly improved our productivity and increased the efficiency of our raw material usage, both of which have lowered the cost per watt of our products.

Thin-film solar cells. We currently have a production line of thin-film solar cells with an annual production capacity of 60 MW. We expect this production line could manufacture transparent thin-film cells and thin-film cells with an improved conversion efficiency, which is expected to have advantages when applied in building-integrated photovoltaic systems. This production line is expected to commence commercial production in 2012.

High efficiency solar cells. We have a production line of high efficiency solar cells with an annual production capacity of 80 MW which is expected to commence commercial production in 2012. For the consideration of RMB1.6 million, we acquired two patents in respect of high-efficiency nanocrystalsilicon/crystalsilicon solar cell and manufacturing process from the Science Academy of China Postgraduate Institute (中國科學院研究生院) and employed the core research team members who devised such patents. Acquisition of such patents was completed on October 20, 2011 upon the issuance of the notice on the approval

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issued by the relevant PRC government authority, which authorized the name of the patentee to be changed to GD Solar.

In addition, we entered into an exclusive licensing agreement with Jusung Engineering Co., Ltd, a South Korean company, under which we obtained the rights to use its patented technology relating to manufacturing equipment used in production-line manufacturing of high efficiency solar cells within the PRC. Consideration for this exclusive license is US\$1.0 million, which will expire on June 30, 2016 unless renewed by mutual agreement of both parties.

Design and development

We continue to upgrade our core technologies in our solar cell and module design and development. We have the following R&D strategies:

CPV cell. We are in the process of constructing a high-efficiency CPV cell manufacturing facility and expect to commence commercial production by December 2012. We have employed a team of researchers with doctoral degrees who have international backgrounds and experiences, to research and develop proprietary solar cell technologies, the conversion efficiency of which is expected to exceed 40%. We anticipate that we will produce our first prototype by the end of 2012.

Solar power plant system integration technologies. We intend to engage GD Solar Shanghai to conduct research and to collect data on the best solutions in terms of choice of the type of solar cells, construction plans and improvement of efficiency for solar power stations in different locations where the solar resource conditions vary. In 2011, we entered into a contract to construct a MW-level CPV cell power generation illustration project, which will facilitate our collection of original data.

Production

Production facilities

Our production facilities for solar cells and solar modules are located in our production base at Yixing of Jiangsu Province, PRC. Construction of the entire production base is expected to be completed in 2012.

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The table below describes our primary production facilities:

Category	Type	Designed production capacity	Status	Utilization rate	Production commencement date
Module	Mono-crystalline/ Poly-crystalline silicon cell	400 MW	In production	30%	November 2010 ⁽¹⁾ and September 2011 ⁽²⁾
Thin-film cell	Amorphous Si/ Nano-crystalline	60 MW ⁽³⁾	In installation and testing	—	April 2012
High efficiency solar cell		80 MW	In installation and testing	—	April 2012
Crystalline cell		180 MW	In production and testing	—	April 2012

Notes:

- (1) For 200 MW production capacity.
- (2) For 200 MW production capacity.
- (3) Inclusive of 20 MW production capacity of BIPV cells.

Beginning in 2010, we have entered into outsourcing arrangements with third-party contractors for solar module production according to our technical specifications and other requirements. The total amount paid for our outsourcing arrangements in relation to our sales of modules for 2010 and the six months ended June 30, 2011 was approximately RMB128.0 million and RMB456.5 million, respectively. The revenue generated from outsourcing arrangements with third parties in relation to our sales of modules for 2010 and the six months ended June 30, 2011 was approximately RMB135.5 million and RMB456.0 million, respectively, representing approximately an 11% and 37% contribution to our revenue under the solar power products and services sub-segment, respectively. We believe outsourcing activities allow us to adjust our production capacity in response to fluctuating market demand and to minimize capital investment while maintaining high quality by applying our quality controls and standards to, and on, our contractors. We have also adopted a series of quality control systems with respect to the selection of third-party manufacturers to ensure the quality of our products. In particular, we require that qualified third-party manufacturers (1) provide ISO9001 quality management system certifications and product quality assurance certifications, (2) pass review by our audit committee set up for the selection of third-party manufacturers and (3) pass the pre-set benchmark of our score-based assessment system. Our measures to ensure the quality of products provided by third-party manufactures include (i) implementation of centralized quality standards applicable to all third-party manufacturers, (ii) close supervision of the quality of raw materials used by third-party manufacturers, (iii) regular on-site inspection conducted by our quality control officers at third-party manufacturers' production facilities, and (iv) compulsory five-year product quality warranties given by third-party manufacturers.

Production planning

Our production planning is primarily based on orders received and actual market conditions. We may also adjust our annual production plan on a rolling basis during the year. Future expansion plans of our production capacity will be formulated according to market conditions.

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Sales, marketing and customers

We sell our products and provide integrated solar power systems to solar power investors and operators both in the PRC and overseas, primarily through a team of professional sales and marketing personnel. Our sales and marketing strategy is to cater to different markets and to utilize diverse business models to satisfy the different needs of those markets. For example, the marketing and sale of our solar module will be focused on Germany, the U.S., Italy, France and Japan, which are expected to be the top five solar power markets in the world in the next five years. During the Track Record Period, our revenues generated from activities overseas were insignificant. China, as our local market and a fast-growing solar power market, will also become one of our key target markets for solar module sales. Our solar power plant construction services are primarily marketed through our subsidiary, Guodian Solar Shanghai. Leveraging our experience with solar cell and module production and sale, and established customer relationships with solar power investors and operators, we intend to further develop the solar power plant services in emerging markets, including China. We are also contemplating adopting a power station sales model, which would entail purchasing power plant projects from the developer at an early stage and undertaking project finance and investment and EPC construction with our technology, capital and industry value chain advantages, and eventually selling the power plant as an end product to the investor or power company. We also intend to further expand our solar power business by developing an integrated business model which combines development, design, construction and operation of the power station. We also actively participate in various international trade fairs and exhibits at which we aim to develop a new client base and promote our brand name.

TERMINATED BUSINESSES

To streamline our business operations, we disposed of our equity interests in several companies in connection with our reorganization before and after June 30, 2011. See “Our History, Reorganization and Corporate Structure—Reorganization”. Details of the material disposals are set out below:

Ningxia Solar. During the Track Record Period, Ningxia Solar is principally engaged in manufacturing and sales of polysilicon, with production facilities located in Shizuishan, Ningxia. The designed capacity of Ningxia Solar was 2,500 tons per annum. We transferred all our interest in Ningxia Solar to a Connected Person, GD Power, in August 2011, for a consideration of approximately RMB558.9 million, subject to an adjustment for gain/loss between the valuation basis date and acquisition/settlement date. Our management disposed of Ningxia Solar because of several factors, including (i) our strategic focus is on selected lines of our solar business which exclude the polysilicon business, (ii) our assessment of profitability of lines of our solar business and (iii) our efforts to minimize potential competition with our affiliates. Consideration for the transaction was based upon assessments of an independent valuator and on arms-length negotiations with the counterparty. We recorded a gain of approximately RMB15.8 million in connection with the disposal.

Guodian Hainan. Guodian Hainan Real Estate Co., Ltd. operates a lodging business with a hotel located in Hainan. We entered into an equity transfer agreement on October 31, 2011 with Guodian Goods and Materials Group Co., Ltd., our affiliate, to dispose of our entire 25% equity interest in Guodian Hainan Real-Estate Co., Ltd. at a consideration of RMB201.2

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million. The consideration represented a slight premium over the total net asset value of Guodian Hainan Real-Estate Co. Ltd as evaluated by Zhonghe Asset Valuation Company Limited. Based on the carrying amount of Guodian Hainan Real Estate Co. Ltd as of September 30, 2011 and the consideration paid by us for the disposal, we expect to realize a gain of approximately RMB150.0 million reflecting the difference between the carrying cost of this investment and the consideration for the disposal. The disposal was completed on November 2, 2011.

Jintech. We transferred 40% shares of Guodian Jintech Solar Energy Technology (Yi Xing) Co., Ltd. (國電晶德太陽能科技(宜興)有限公司) (“**Jintech**”) held by us to an independent third party, Yixing Jialina Technology Company Limited (宜興市佳麗娜科技有限公司), in June 2011. Jintech is primarily engaged in solar products and module sales and located in Yixing, Jiangsu. Our management disposed of certain shares of Jintech because, among other things, (i) Jintech’s products cannot satisfy the needs of our downstream solar businesses and (ii) we differ from the other shareholders of Jintech in Jintech’s development strategies. Our consideration for the transaction was RMB146.6 million, which was based upon assessments of an independent valuator and on arms-length negotiations with the counterparty. We recorded a gain of approximately RMB17.2 million in connection with the disposal and retained 26.67% of the outstanding shares in Jintech as of the date of the disposal.

Guodian Youyi Biomass. We entered into an equity interest transfer agreement on January 7, 2011 with Guodian Northeast Power Co., Ltd., an associate of the Guodian Group, to transfer 100% of our equity interest in Guodian Youyi Biomass Power Generation Co., Ltd., a company engaged in the biomass project operation business, at a consideration of RMB44.3 million. The consideration was based on the net asset value of RMB44.3 million as evaluated by Beijing Liu He Zheng Xu Asset Valuation Company Limited (北京六合正旭資產評估有限責任公司). We recorded a gain of RMB16.8 million for the disposal. The transfer was completed in May 2011.

Guodian Jiansanjiang Qianjin Biomass. We entered into an equity interest transfer agreement on January 7, 2011 with Guodian Northeast Power Co., Ltd., an associate of the Guodian Group, to transfer 100% of our equity interest in Guodian Jiansanjiang Qianjin Biomass Power Generation Co., Ltd., a company engaged in the biomass project operation business, at a consideration of RMB34.3 million. The consideration was based on the net asset value of RMB34.3 million as evaluated by Beijing Liu He Zheng Xu Asset Valuation Company Limited. We recorded a gain of RMB22.8 million for the disposal. The transfer was completed in May 2011.

Guodian Shandong Jingneng Biomass. We entered into an equity interest transfer agreement on January 7, 2011 with Guodian Northeast Power Co., Ltd., an associate of the Guodian Group to transfer our entire 40% equity interest in Guodian Shandong Jingneng Biomass Power Generation Co., Ltd., a company engaged in the biomass project operation business, at a consideration of RMB2.4 million. The consideration was based on the net asset value of a negative of RMB20.6 million as evaluated by Beijing Liu He Zheng Xu Asset Valuation Company Limited. We recorded a loss of RMB3.1 million for the disposal. The transfer was completed in June 2011. We no longer own any equity interest in Shandong Jingneng Biomass Power Generation Co., Ltd. as of the completion of the disposal.

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Guodian Tangyuan Biomass. We entered into an equity interest transfer agreement on January 7, 2011 with Guodian Northeast Power Co., Ltd., an associate of the Guodian Group to transfer our entire 60% equity interest in Guodian Tangyuan Biomass Power Generation Co., Ltd., a company engaged in the biomass project operation business, at a consideration of RMB130.62 thousand. The consideration was based on the net asset value of RMB217.7 thousand as evaluated by Zhong Shui Asset Valuation Company Limited. We recorded a gain of RMB8.5 million for the disposal. The transfer was completed in June 2011.

Shandong Longyuan Environmental. We entered into an equity interest transfer agreement on June 29, 2011 with Guodian Shandong Power Generation Co., Ltd, an associate of the Guodian Group, to transfer our entire 75% equity interest in Shandong Longyuan Environmental Protection Co., Ltd. at a consideration of RMB15.9 million. The consideration was based on the net asset value of RMB21.2 million as evaluated by Zhonghe Asset Valuation Company Limited. We recorded a gain of RMB2.9 million for the disposal. The transfer was completed in the first half of 2011. We no longer own any equity interest in Shandong Longyuan Environmental Protection Co., Ltd. as of the completion of the disposal. The principal activities of Shandong Longyuan Environmental Protection Co., Ltd are consulting, sales, installation and testing of equipments of environmental protection technologies, renewable energy technologies and energy conservation technologies.

Beijing Guodian United Commercial. We entered into an equity interest transfer agreement on February 26, 2011 with Guodian Goods and Materials Group Co., Ltd., an associate of the Guodian Group, to transfer our entire 47% equity interest in Beijing Guodian United Commercial Network Co., Ltd. at a consideration of RMB15.6 million. The consideration was based on the net asset value of RMB33.2 million as evaluated by Zhongshui Asset Valuation Company Limited. We recorded a gain of RMB1.7 million for the disposal. The transfer was completed in August 2011. We no longer own any equity interest in Beijing Guodian United Commercial Network Co., Ltd. following the completion of the disposal. The principal activities of Beijing Guodian United Commercial Network Co., Ltd are an Internet information services business, R&D, technology transfer, consulting and training, database management and project tendering.

CUSTOMERS

The majority of our sales are derived from the PRC domestic market, and our customers are primarily large coal-fired power plants and other enterprises investing in renewable energy. With a broad product line-up and competitive advantages in the provision of services, we have established and have maintained long-term relationships with our customers.

In 2008, our five largest customers were the Guodian Group and its subsidiaries, Shandong Weiqiao Aluminium and Power Co., Ltd. (山東魏橋鋁電有限公司), Huaneng Power International, Inc. Dalian Power Station (華能國際電力股份有限公司大連電廠), Huaneng Power International, Inc. Haimen Power Station (華能國際電力股份有限公司海門電廠) and State Grid Energy Development Co., Ltd. Shentou No.2 Power Station (國網能源開發有限公司神頭第二發電廠), accounting for approximately 46.3%, 3.3%, 3.3%, 2.0% and 2.0% of our total revenue, respectively. In 2009, our five largest customers were the Guodian Group and its subsidiaries,

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Beijing International Power New Energy Co., Ltd. (北京國際電力新能源有限公司), Qinghuangdao Power Co., Ltd. (秦皇島發電有限公司), DIDA (UK) Limited, Huaneng Power International, Inc. and Dalian Power Station (華能國際電力股份有限公司大連電廠) accounting for approximately 56.5%, 4.8%, 2.5%, 1.8% and 1.7% of our total revenue, respectively. In 2010, our five largest customers were the Guodian Group and its subsidiaries, CITIC International Tendering Co., Ltd. (中信國際招標有限公司), CMC International Tendering Corp. (中機國際招標公司), Beijing Guodian Northern Power Engineering Co., Ltd. (北京國電華北電力工程有限公司) and DIDA (UK) Limited accounting for approximately 53.4%, 7.8%, 3.7%, 3.5% and 3.4% of our total revenue, respectively. For the six months ended on June 30 2011, our five largest customers were the Guodian Group and its subsidiaries, CMC International Tendering Corp. (中機國際招標公司), Anhui Electric Power Design Institute (安徽省電力設計院), Northern China Power Design Institute (華北電力設計院) and Xi'an Northeast Hydro Power Exploration and Design Group Co., Ltd. (西安西北水電勘測設計實業集團), accounting for approximately 59.1%, 4.9%, 3.8%, 2.8% and 2.8% of our total revenue, respectively. For each year of the Track Record Period ended December 31 and six months ended June 30, 2011, sales to our five largest customers accounted for approximately 56.9%, 67.3%, 71.8% and 73.4%, respectively, of our total revenue, while sales to our largest customer accounted for approximately 46.3%, 56.5%, 53.4% and 59.1%, respectively, of our total revenue.

Subsidiaries of the Guodian Group which are our customers include GD Power and Longyuan Power, both of which are our Connected Persons. As disclosed above and to the best of our knowledge, none of our Directors, Supervisors, or their respective associates or any Shareholder who, to our knowledge, holds more than 5% of our issued Shares, had any interest in any of our five largest customers during the Track Record Period.

SUPPLIERS

Supplies purchased for our environmental protection and energy conservation business mainly include steel necessary for our environmental protection and energy conservation equipment, steel products and nonferrous metal materials. Supplies purchased for our renewable energy business mainly include wind turbine components and solar power cell components.

In 2008, our five largest suppliers were Nanjing High Accuracy Drive Equipment Manufacturing Group Co., Ltd. (南京高精傳動設備製造有限公司), Beijing Fengye Electric Power Environmental Protection Co., Ltd. (北京峰業電力環保公司), Northern China Electric Power International Trade Corp. (華北電力國際經貿公司), Lust Green Energy Electrical System Shanghai Co., Ltd. (路斯特綠能電氣系統上海有限公司) and Shanghai Boiler Works (上海鍋爐廠), accounting for approximately 3.7%, 3.4%, 1.4%, 1.2% and 1.1% of our total purchases, respectively. In 2009, our five largest suppliers were Nanjing High Accuracy Drive Equipment Manufacturing Group Co., Ltd. (南京高精傳動設備製造有限公司), Beijing ABB Drive Systems Co., Ltd. (北京 ABB 電氣傳動系統有限公司), Lust Green Energy Electrical System Shanghai Co., Ltd. (路斯特綠能電氣系統上海有限公司), Xiangtan Electric Manufacturing Co., Ltd. (湘潭電機股份有限公司) and Nanjing High Speed Gear Manufacturing Co., Ltd (南京高速齒輪製造有限公司), accounting for approximately 15.4%, 5.2%, 3.7%, 3.1% and 2.6% of our total purchases, respectively. In 2010, our five largest suppliers were, Nanjing High Speed Gear Manufacturing Co., Ltd (南京高速齒輪製造有限公司), Beijing ABB Drive Systems Co., Ltd. (北京 ABB 電氣傳動系統有限公司), Xiangtan Electric Manufacturing Co., Ltd. (湘潭電機股份有限公司), Hexion Speciality Chemicals

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Management (Shanghai) Co., Ltd. (瀚森化工企業管理(上海)有限公司) and Chongqing Gearbox Co., Ltd. (重慶重齒風力發電機齒輪箱有限責任公司), accounting for approximately 11.3%, 3.7%, 3.4%, 2.1% and 1.3% of our total purchases, respectively. For the six months ended on June 30, 2011, our five largest suppliers were Nanjing High Speed Gear Manufacturing Co., Ltd. (南京高速齒輪製造有限公司), Lightway Green New Energy Co., Ltd. (光為綠色新能源有限公司), Nanjing Taijing Power Technology Co., Ltd. (南京泰晶能源科技有限公司), Xiangtan Electric Manufacturing Co., Ltd. (湘潭電機股份有限公司) and Hexion Speciality Chemicals Management (Shanghai) Co., Ltd. (瀚森化工企業管理(上海)有限公司), accounting for approximately 7.3%, 4.2%, 4.0%, 3.6% and 3.5% of our total purchases, respectively. For each year of the Track Record Period ended December 31, and the six months ended June 30, 2011, purchases from our five largest suppliers accounted for approximately 10.8%, 30.0%, 21.8% and 22.6%, respectively, of our total purchases, while purchases from our largest supplier accounted for approximately 3.7%, 15.4%, 11.3% and 7.3%, respectively, of our total purchases.

Typically, our five largest suppliers are suppliers of our renewable energy equipment manufacturing and services business with whom we have had relationships since 2008 or 2009, shortly after we commenced our renewable energy equipment manufacturing and services business.

To the best of our knowledge, none of our Directors, Supervisors, or their respective associates or any Shareholder who, to our knowledge, holds more than 5% of our issued Shares, had any interest in any of our five largest suppliers during the Track Record Period.

COMPETITION

We compete with both Chinese and foreign energy equipment manufacturers and solution services providers in the wind power and solar power industries as well as other Chinese environmental protection and energy conservation solutions services providers. Competition largely focuses on advancement of technology, quality and variety of services provided, and financial capacity.

With respect to the environmental protection and energy conservation solutions market in the coal-fired power industry in the PRC, we have maintained, and expect to continue to maintain, a leading position, particularly in respect of plasma-assisted ignition and combustion technology, denitrification and desulfurization. We face competition, in the environmental protection industry, primarily from domestic competitors such as China BOQI Environmental Technology Co., Ltd. (北京博奇電力科技有限公司), Fujian Longjing Co. Ltd. (福建龍淨環保股份有限公司) and China Huadian Engineering Co., Ltd. (中國華電工程(集團)有限公司).

With respect to the energy equipment and component manufacturing industry in China, we have maintained, and expect to continue to maintain, the overall leading position, particularly in respect of the R&D, manufacture and sale of MW-level WTGs, offshore WTGs and solar power system integration services. We face competition in the energy equipment and component manufacturing industry both from domestic competitors, such as Goldwind Science & Technology Co., Ltd., Sinovel Wind Group Co., Ltd. and Dongfang Turbine Co., Ltd., and from foreign enterprises, such as Vestas Wind System A/S, Enercon Services Inc. and Siemens Ltd.

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R&D

Overview

We have strong independent R&D capabilities. Our R&D team possesses considerable relevant industry experience and has established a well-structured technology development platform. Since our inception, we have been committed to developing new technologies and products, upgrading or improving existing technologies, meeting the changing market requirements and introducing advanced technologies into China. With our breadth of relevant industry experience, a deep understanding of power generators' needs in China, and through our continued innovation and improvement of advanced technologies, we have accomplished significant achievements in R&D. As a result, we believe our products and technologies will be able to maintain a leading position in the environmental protection and energy conservation solutions and renewable energy equipment manufacturing and services industries in the PRC.

The following table sets forth information about the amount that we spent on research and development activities during the Track Record Period.

	Year ended December 31,			Six months ended June 30,
	2008	2009	2010	2011
	<i>RMB millions</i>	<i>RMB millions</i>	<i>RMB millions</i>	<i>RMB millions</i>
R&D expenses included in administrative expenses				
Environmental Protection and Energy Conservation Solutions	15.2	17.2	34.5	8.5
Renewable Energy Equipment Manufacturing and Services	21.0	36.8	77.6	35.2
Others	0.7	3.3	2.4	0.8
	<u>36.9</u>	<u>57.3</u>	<u>114.5</u>	<u>44.5</u>
Capitalized development cost in intangible assets	<u>—</u>	<u>4.5</u>	<u>27.4</u>	<u>30.2</u>
Total	<u>36.9</u>	<u>61.8</u>	<u>141.9</u>	<u>74.7</u>

Through our R&D centers we manage a system, from design, research, development and testing to the commencement of production, and have succeeded in building an integrated R&D network.

Structure of Our R&D Network

We have established R&D centers in Beijing and Yantai, each staffed with specialized teams to carry out studies on specific technical topics, and which report directly to the Department of Technical Management at our headquarters in Beijing.

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As of September 30, 2011, our R&D and technical personnel consisted of 1,510 personnel, including more than 900 with a master's degree or higher degree and 20 experts who enjoy the State Council Special Allowance. The following table sets forth information about the number of our R&D and technical personnel under each of our business segments and their respective areas of expertise as of September 30, 2011.

<u>Segment</u>	<u>Number of Employees</u>	<u>Areas of Expertise</u>
Environmental protection and energy conservation solutions	848	thermal power, environmental engineering, electrical automation
Renewable energy equipment manufacturing and services	662	mechanical engineering, electronic engineering, materials science and engineering, polymer materials

Our R&D platform consists of (i) four research centers, including Guodian New Energy Research Institution Wind Power Equipment and Control Research Center (國電新能源研究院風電設備及控制研究所), Guodian New Energy Research Institution Combustion Technology Research Center (國電新能源研究院燃燒技術研究所), Guodian New Energy Research Institution Solar Power Technology Research Center (國電新能源研究院太陽能技術研究所) and Guodian New Energy Research Institution Pollution Control and Resources Reuse Control Center (國電新能源研究院污染控制及資源化控制研究所), (ii) four technology centers, namely Beijing Coal-fired Power Plants Flue Gas Treatment Project Technology Research Center (北京市火電廠煙氣淨化工程技術研究中心), which is at the national level, Beijing Wind Power Equipment Reliability Project Technology Research Center (北京市風電設備可靠性工程技術研究中心), Beijing Power Station Automatic Control Project Technology Research Center (北京市電站自動化工程技術研究中心), and Beijing Air Cooling System Technology Research Center (北京空冷技術研究中心) and (iii) three key laboratories, with specific focuses on wind power, plasma ignition combustion stabilization and tidal power generation. Our R&D addresses lignite conversion, oxygen-enriched combustion, CO₂ capture, titanium dioxide manufacture, catalysts for the coal chemical industry, cogeneration of air-cooling, heat and electricity, SCR catalysts, flue gas control technology, power plant control systems, air-cooling systems, large-capacity WTGs, special wind turbine generators, wind turbine generator control systems, high-performance solar power cells and tidal power. For R&D projects jointly undertaken by us with other parties, we typically have joint ownership of intellectual property rights derived from technologies or innovations developed thereunder and no additional payment needs to be made by us to the other parties for our utilization of such intellectual property rights.

Our R&D Mechanism

We have established effective R&D operations so that we can mobilize our various resources in connection with R&D projects related to our businesses. Each of our R&D centers is under the management of a single subsidiary which engages in the same industry. From the managing company, the R&D centers can gain external sources for design, research, development and testing.

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Participation in Developing National Standards

During the Track Record Period, we were inducted as a member of the National Power Industry Standardization Work Committee and played a leading role in drafting national environmental protection and energy conservation standards. We have been involved in many science and technology research and development programs, including:

Name of Program	Status
<i>Project carried out under the Ministry of Science and Technology (863 Programs):</i>	
Large-scale Coal-fired Power Plant Boiler Flue Gas Desulfurization Technology and Relevant Appliances Project (大型燃煤電站鍋爐煙氣脫硫技術及設備工程化);	Completed
Large-scale Coal-fired Power Plant Boiler Seawater Flue Gas Desulfurization Technology and Illustration (大型燃煤電站鍋爐海水煙氣脫硫技術與示範);	Completed
Large-scale Coal-fired Power Plant Boiler Flue Gas Unified Desulfurization and Denitrification Technology and Illustration (大型燃煤電站鍋爐濕法煙氣脫硫脫硝一體化技術與示範);	In progress
High-efficiency Denitrification Catalysts and Key Production Facilities Development and Manufacture (高效脫硝催化劑開發及關鍵生產設備的研製);	In progress
The Impact of High Level Ash Content in Flue Gas on the Denitrification Catalysts Performance and Relevant Denitrification Project Illustration (我國高灰煙氣對催化劑性能影響研究及脫硝工程示範);	In progress
Automatic Control System for Significant Projects in the Coal-fired Power Industry (火電行業重大工程自動化成套控制系統); and	In progress
Research on Absorption of CO ₂ Using Ammonia Method (胺化學吸收法CO ₂ 捕集技術的研究).	In progress
<i>Project carried out under the NDRC:</i>	
Imported-type 300 MW Steam Turbine Flow Passage Improvement Technology Development and Appliance Program (300 MW 引進型汽輪機通流改造技術開發與應用產業化項目);	Completed
Kangping Power Plant as Illustration for Plasma Oil-free Power Plant (康平電廠等離子無燃油示範);	Completed
Supercritical Power Generator Comprehensive Automatic System Industrialization Project (超臨界火力發電機組綜合自動化系統產業化項目); and	Completed
Localization of Distributed Control System for Large-scale Coal-fired Power Plants (大型火電機組分散控制系統本地化項目).	Completed

INTELLECTUAL PROPERTY

Intellectual property rights are essential to our business. In the PRC, we own 30 registered trademarks, 222 patents and 59 computer software copyrights. We continue to apply for new patent rights in the PRC for the products and technologies we develop, and are currently applying for 138 patents. Further, we own other intellectual property such as non-registered trade secrets, proprietary technologies, procedures and processes.

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We have taken the following measures to protect our intellectual property rights:

- Signing confidentiality agreements with suppliers to protect our trade secrets;
- Signing trade secret protection agreements with employees; and
- Implementing international registration and expanded-scope registration for our registered trademarks.

More information about our intellectual property rights (including pending patents and trademarks) is set out in the appendix entitled “Appendix IX—Statutory and General Information—3. Further information about the Business” to this prospectus. As of the Latest Practicable Date, no lawsuit has been brought against us, nor have we initiated any lawsuit for intellectual property rights infringement.

EMPLOYEES

As of September 30, 2011, we employed a total of 10,216 employees which were classified as follows:

<u>Competency</u>	<u>Number of Employees</u>	<u>Percentage of the total number of employees (%)</u>
R&D and technical	1,510	14.9
Production	6,050	59.2
Sales and marketing	505	4.9
Service	268	2.6
Management and other administration	1,652	16.2
Finance	231	2.2
Total	<u>10,216</u>	<u>100.0</u>

For each year during the Track Record Period and the six months ended June 30, 2011, our staff costs were approximately RMB303,844,000, RMB397,239,000 and RMB581,976,000 and RMB371,238,000, respectively.

We provide management personnel and employees with on-the-job education, training and other opportunities to improve their skills and knowledge. We sign individual employment agreements with our employees, covering, among other things, salaries, benefits, training, workplace safety and hygiene, confidentiality obligations relating to trade secrets and grounds for termination. The remuneration package of our employees includes salary, bonuses and allowances. Our employees also receive welfare benefits, including medical care, housing subsidies, retirement and other miscellaneous benefits.

Our employees are members of a trade union affiliated with the All-China Federation of Trade Unions. As of the Latest Practicable Date, we have not experienced any major labor dispute or other labor disturbances that have interfered with our operations, and our employee relations are favorable.

In accordance with applicable PRC regulations, we have made contributions to social insurance funds (including pension plans, medical insurance, work-related injury insurance,

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unemployment insurance and maternity insurance) and housing funds for our employees. Our PRC legal advisor has confirmed that during the Track Record Period, we complied with all statutory social insurance and housing fund obligations applicable to us under PRC laws in all material respects.

PRICING STRATEGIES

The table below sets forth information on our pricing strategies for our major products and services.

<u>Product / Service</u>	<u>Pricing Strategy</u>
Environmental protection	
Desulfurization and denitrification EPC	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total cost; 2. reasonable return; and 3. comparison with average market price
Desulfurization concession	<p><i>Governmental guidance price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. a benchmark tariff of 0.015 RMB per kWh; and 2. average sulfur content of the power plant consumes
Low-NOx combustion EPC	<p><i>Negotiate with specific customer</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; and 2. a reasonable return
Low-NOx burner	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
Water treatment BOT	<p><i>Market price and governmental guidance price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; 2. local utility price, which is a price approved by the relevant local government; 3. interest rate; and 4. a reasonable return
Water treatment EPC	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
Slag disposal services	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
Ash removal services	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. our total costs; 2. a reasonable return; and 3. comparison with average market price

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<u>Product / Service</u>	<u>Pricing Strategy</u>
Sales of SCR denitrification catalyst, filter bags and membrane used in water treatment	<i>Market price</i> The following considerations are taken into account: 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
Energy conservation	
Sales of plasma ignition stabilization combustion equipment	<i>Negotiation with specific customer</i> The following considerations are taken into account: 1. the anticipated amount of our customer's energy cost saving; and 2. our reasonable total costs plus a reasonable return
Plasma oil-free coal-fired power plant system services	<i>Negotiation with specific customer</i> The following considerations are taken into account: 1. the anticipated amount of our customer's energy cost saving; and 2. our reasonable total costs plus a reasonable return;
Waste heat recovery EPC	<i>Market price</i> The following considerations are taken into account: 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
Steam turbine retrofitting services	<i>Market price</i> The following considerations are taken into account: 1. our total costs; 2. a reasonable return; and 3. comparison with average market price
EMC	<i>Negotiation with specific customer</i> Our price is calculated based on the following considerations: 1. our reasonable total costs plus a reasonable return; and 2. the anticipated amount of our customer's energy cost saving
Wind power products and services	
Sales of WTGs	<i>Market price</i> The following considerations are taken into account: 1. our total cost; 2. a reasonable return; and 3. comparison with average market price
WTG repair and maintenance services	<i>Market price</i> The following considerations are taken into account: 1. our total cost; 2. a reasonable return; and 3. comparison with average market price
Solar power products and services	
Solar EPC	<i>Market price or negotiation with specific customer</i> The following considerations are taken into account: 1. our total cost; 2. comparison with average market price; and 3. cost of compliance with the relevant governmental policies or regulatory measures.

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Product / Service	Pricing Strategy
Sales of solar cells and modules	<p><i>Market price</i></p> <p>The following considerations are taken into account:</p> <ol style="list-style-type: none"> 1. calculation of our cost; 2. comparison with average market price; and 3. cost of compliance with the relevant governmental policies or regulatory measures.

WARRANTY PERIODS

The table below sets forth the warranty period of our products and services:

Business segment	Key products/ services	Warranty period
<i>Products</i>		
Environmental protection and energy conservation solutions segment	● SCR denitrification catalyst, filter bags and membrane used in water treatment	one year ⁽¹⁾
	● plasma ignition stabilization combustion equipment	one year
Renewable energy equipment manufacturing and services segment	● WTGs	two to five years ⁽²⁾
	● solar cells and modules	two years / seven years ⁽³⁾
<i>Services</i>		
Environmental protection and energy conservation solutions segment	● SO ₂ emissions reduction services, NOx emissions reduction services, ash removal services, water treatment services and slag disposal services	one to two year ⁽⁴⁾
	● plasma ignition stabilization combustion service	one year
	● steam turbine flow passage retrofitting services	two to five years ⁽⁵⁾
Renewable energy equipment manufacturing and services segment	● solar power station EPC service	two years

Notes:

- (1) The warranty period is one year and the technical service period is three years. We will be responsible for quality defects within the technical service period.
- (2) The warranty period is typically two years and in some cases up to five years, from the day on which the preliminary inspection certificate is issued.
- (3) The warranty period is two years for sales made to domestic PRC market and seven years for sales made to overseas markets.
- (4) The warranty period is typically one year and in some cases two years.
- (5) The warranty period is from the completion of the retrofitting project until the first major maintenance.

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CAPITAL EXPENDITURE PLANS

Our major capital expenditure plans for 2011 and 2012 are described below. We intend to fund the following projects through our operating cash flows, bank loans and the proceeds from the Global Offering. We may adjust the following plans in response to changes in market conditions, PRC Government policies, and other relevant factors.

- *Environmental protection solutions:* We plan to spend approximately RMB1,287.2 million and RMB2,930.0 million in 2011 and 2012, respectively, for this sub-segment. The relevant projects are as follows:
 - desulfurization concession projects, either through green-field construction or through asset purchases from companies under the Guodian Group, to be located in Xingyang, Jianbi, Fuzhou, Huaian and other parts of the PRC;
 - denitrification concession projects, either through green-field construction or through asset purchases from companies under the Guodian Group;
 - a waste water treatment project in Puyang and a municipal recycled water treatment project in Dalian;
 - an ultra-filtration membrane production project with a production capacity of 1 million m² per year;
 - a green-field BOT construction project for the water treatment business, with a 900,000 tons of water treatment capacity per day;
 - a filter bag project, to increase our filter bag production capacity in Jiangsu to 1.5 million m² per year; and
 - a denitrification catalyst project, to increase our denitrification catalyst production capacity in Jiangsu to 9,000 m² per year.
- *Energy conservation solutions:* We plan to spend approximately RMB29.8 million for 2011 for this sub-segment. The relevant project is as follows:
 - a plasma ignition combustion stabilization system project, to increase our plasma ignition combustion stabilization systems to 80 units.
- *Wind power products and services:* We plan to spend approximately RMB648.1 million and RMB840.0 million for 2011 and 2012, respectively, for this sub-segment. The relevant projects are as follows:
 - a gearbox production capacity project, to increase production capacity to 400 gearboxes per year in Baotou production base;
 - a WTG manufacturing center project, to increase production capacity to 400 WTGs per year in Changchun production base;

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- a testing wind farm project, to build new wind farms having a newly installed capacity of 99 MW;
- a project to construct facility buildings in Baoding and Yixing;
- a generator project, to increase production capacity to 1,200 generators in Yixing production base; and
- a converter and pitch system project, to increase production capacity of our 1.5 MW converters and 2 MW variable pitch control systems in Beijing.
- *Solar power products and services:* We plan to spend approximately RMB1,410.0 million and RMB440.0 million for 2011 and 2012, respectively, for this sub-segment. The relevant projects are as follows:
 - a module project, to build production lines to produce 400 MW per year of modules in Yixing;
 - a thin-film cell project, to build production lines to produce 60 MW per year of thin-film cells in Yixing; and
 - a high efficiency solar cell project, to build production lines to produce 80 MW per year of high efficiency solar in Yixing.
- *Others:* We plan to spend approximately RMB237.3 million and RMB300.0 million in 2011 and 2012, respectively, to build our sales and marketing channels and to use for products research and development.

SAFETY AND ENVIRONMENTAL PROTECTION

Safety and Labor Protection

We have taken measures to ensure compliance with applicable national, local and foreign laws and regulations concerning workspace safety. We have full-time safety management personnel responsible for supervising workplace safety and occupational health, hygiene and safety, as well as performing internal safety checks during the production process to minimize accidents, injuries and occupational diseases. Our PRC legal advisor has confirmed that we have satisfied all applicable requirements established by relevant PRC laws and regulations and have obtained all licenses necessary to perform work in our production bases during the Track Record Period.

In order to further strengthen workplace safety compliance policies, we plan to develop operational rules for employees, and dedicate more training resources to prevent mis-application of policies and practices in violation of relevant laws and regulations, and to prevent employees from violating our workplace safety policies and procedures. As of the Latest Practicable Date, we have not experienced any material workplace or industrial accidents.

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Environmental Protection

Our operations are currently subject to environmental laws and regulations relating to construction and operation of renewable energy generation facilities, noise control, air and water emissions, water and ground protection, hazardous substances and waste management.

As the industries in which we operate are not a major source of environmental pollution, we believe that the impact of our operations on the environment is minor and we have taken necessary internal environmental protection measures. Our cost of compliance with applicable environmental rules and regulations was approximately RMB5,000, RMB8,000, RMB31,000 and RMB150,000 for 2008, 2009, 2010 and the six months ended June 30, 2011, respectively. We estimate that our cost of compliance for 2011 will be approximately RMB500,000. Our PRC legal advisor has confirmed that we were in compliance with relevant environmental protection rules and regulations, not subject to any material fines or administrative actions involving non-compliance with any relevant regulations, and did not experience any material environmental pollution accident during the Track Record Period. We have adopted advanced technologies and equipment to prevent and minimize pollution and we have not experienced any material accident causing environmental pollution.

We will also maintain strict compliance with applicable local laws and regulations concerning health, safety and the environment in respect of our overseas operations. Before deciding to carry out business in foreign jurisdictions, we take into account our ability to comply with local laws. Our health, safety and environmental departments conduct regular inspection of and monitor compliance by our subsidiaries with related local health, safety and environmental laws and regulations of those foreign jurisdictions in which our overseas operations are located. Where necessary, we appoint local legal advisors to provide advice concerning relevant regulations. We obtained the ISO14001:2004 certification in December 2009.

INSURANCE

We have purchased insurance coverage for our main products, certain real properties, machinery and equipment, automobiles and other assets owned, operated or deemed important to us. The main kinds of insurance policies we have purchased and maintained include property all risks insurance, machinery breakdown insurance, all risks construction insurance and public liability insurance. As of the Last Practicable Date, our maximum insurance coverage is no less than RMB3.0 billion. We are also in the process of applying for additional insurance policies with a maximum insurance coverage of approximately RMB4.7 billion.

In accordance with industry practices in China, our own experience in operating our business, and the recommendations of insurance companies, the Directors believe that we have purchased sufficient insurance coverage. During the Track Record Period, we have not experienced any operational problems that may have a material adverse effect on our financial condition, results of operation, reputation, business activities, or future prospects, such as equipment failure or failure to meet standards, improper equipment operation or industrial accidents, nor any business interruptions as a result of fire, power outages, software

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or hardware malfunctions, flood, computer viruses or other events beyond our control. Please see the sections entitled “Risk Factors—Risks relating to our business—We are subject to the risk of product liability claims and in some cases may not have sufficient insurance coverage” and “Risk Factors—Risks relating to our business—Substantial damage to persons or loss of property may occur in the course of our production and construction processes”.

PROPERTIES

Owned Properties in the PRC

As of September 30, 2011, we owned, held or occupied 49 parcels of land with an aggregate site area of approximately 2,915,841 square meters, 255 buildings or units with an aggregate gross floor area of approximately 335,159 square meters in the PRC, as well as 63 buildings under construction with an anticipated aggregate gross floor area of approximately 386,439 square meters. The independent valuation expert valued the above-mentioned properties as of September 30, 2011. The letter and valuation report issued by the independent valuation expert are set out in the appendix entitled “Appendix IV—Property Valuation” to this prospectus.

Land use rights (excluding land for property under construction)

As of September 30, 2011, we occupied 30 parcels of land with an aggregate site area of approximately 1,837,106 square meters which are mainly used for production and office purposes in the PRC. Of these parcels of land, we have obtained land use rights certificates by way of public auctions for 27 parcels, which have a total site area of approximately 1,638,179 square meters and land use rights certificates by way of land allocation for 2 parcels, which have a total site area approximately 172,277 square meters. Our PRC legal advisor has confirmed that we have complied with relevant PRC laws and obtained all proper land use rights certificates for all the aforementioned land.

In addition, we are in the process of obtaining a land use right certificate by way of land allocation for one other parcel of land with a site area of 26,650 square meters, in connection with one of our water treatment projects. Our application for certification has been submitted to the provincial government where our water treatment project is located. The timing for obtaining the certificate is subject to approval of the government and therefore is beyond our control. Such parcel of land accounts for approximately 0.91% of the total area of the land used by us, and is immaterial to our business operations.

Land for property under construction

As of September 30, 2011, we had 19 parcels of land with an aggregate site area of approximately 1,078,735 square meters used as sites for construction projects. We have obtained land use rights certificates by way of public auctions for 7 parcels, which have a total site area of approximately 918,028 square meters and land use rights certificates by way of land allocation for one parcel, which has a site area of approximately 13,487 square meters. Our PRC legal advisor has confirmed that we have complied with relevant PRC laws and obtained proper land use right certificates for the aforementioned land.

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In addition, we are in the process of obtaining land use rights certificates for two other parcels of land with a total area of 89,128 square meters, one by way of public auctions and the other one by way of land allocation, in connection with one test wind farm project and one membrane material manufacturing project, both of which are under construction. The timing for obtaining the certificates is subject to the approval of the government. Such parcels of land account for approximately 3.06% of the total area of the land used by us.

Furthermore, as of the Latest Practicable Date, we have 9 parcels of land under construction with a total area of 58,038 square meters, for which we have obtained land use rights certificates by way of land allocation but still need to obtain approval from the local land authority permitting us to maintain the right to use such land parcels as allocated land.

Undertakings of the Guodian Group with respect to defective land

With regard to the land parcels described above for which we are currently seeking to retain the nature of allocated land or acquire certificates of land use right, the Guodian Group has undertaken to us that it will assist us in going through such formalities. The Guodian Group will indemnify us for any losses or claims suffered and any expenses or costs incurred by us due to defects in the ownership of land use rights in and to such land parcels.

Our PRC legal advisor has confirmed that the above covenants made by the Guodian Group are legal, valid and enforceable. Our PRC legal advisor has further confirmed that no material controversy or dispute exists in the ownership of the above-described defective land parcels, which account for a relatively small proportion of the gross area of the land parcels used by us. Therefore, we do not consider such defective land parcels crucial to the operation of our business.

Buildings (excluding buildings under construction)

As of September 30, 2011, we owned, held or occupied 255 buildings or units, for which we have obtained the building ownership certificates for 219 buildings or units, which have aggregate gross floor area of approximately 294,407 square meters. As of September 30, 2011, we were in the process of applying for the building ownership certificates for the other 36 buildings or units, which have aggregate gross floor area of approximately 40,752 square meters.

Buildings under construction

As of September 30, 2011, we had 63 buildings under construction, with an aggregate gross floor area of approximately 386,439 square meters. Our PRC legal advisor has confirmed that we had obtained proper construction licenses for 24 buildings under construction, with an aggregate gross floor area of approximately 243,506 square meters. As of the Latest Practicable Date, we are in the process of applying for the construction licenses for the other 39 buildings under construction, which have aggregate gross floor area of approximately 142,933 square meters.

Leased Properties in the PRC

As of September 30, 2011, we leased 45 buildings in the PRC, with an aggregate gross floor area of approximately 98,944 square meters, which are primarily used for

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production or as offices. Our PRC legal advisor has confirmed that the building ownership certificates of 33 leased properties, with an aggregate gross floor area of approximately 52,257 square meters, have been obtained, our lease agreements with the lessors have been duly signed and properly registered, and our leasing of the aforementioned properties complies with the requirement of the relevant laws and regulations and is legal and valid.

Among these leased buildings, as of September 30, 2011, the landlords of 12 buildings (the “**Defective Leased Buildings**”), with a total gross floor area of approximately 46,687 square meters, were in the process of applying for building ownership certificates. With respect to the Defective Leased Buildings, the landlords have already undertaken to us that they are the legal owner or lawful occupier of relevant properties and have the right to lease those properties to us. Our PRC legal advisor has confirmed that, with respect to the Defective Leased Buildings, there are no ownership disputes and we have received no written requests to have buildings demolished, and therefore it is not expected that the Company will be required to relocate the plant and equipment situated at the Defective Leased Buildings. Given that such Defective Leased Buildings represent approximately 11.9% of the total gross floor area of the properties we held and occupied and there are no ownership disputes and we have received no written requests to have relevant buildings demolished, the lack of relevant certificates for the Defective Leased Buildings will not materially and adversely affect our business operations.

With regard to the Defective Leased Buildings, the Guodian Group has undertaken to us that it will help us resolve any ownership disputes and it will indemnify us against all losses, claims, charges, or expenses arising from any disputes over the Defective Leased Buildings if the relevant landlord has not indemnified us within 60 days from the date of our request. Our PRC legal advisor has confirmed that the undertakings given by the Guodian Group are legally binding, valid and enforceable.

LEGAL PROCEEDINGS AND REGULATIONS

We may be involved in certain legal proceedings during the course of our business operations. Our Directors confirm that, during the Track Record Period and as of the Latest Practicable Date, there exist no pending or threatened litigation, arbitration or other legal proceedings that may have a material adverse effect on our financial condition, results of operation, or business activities.

Our PRC legal advisor and our Directors confirm that, during the Track Record Period and as of the Latest Practicable Date, we are in compliance with related laws and regulations, and have obtained licenses, approval documents and permits necessary for our products and the operation of our business in the PRC, the lack of which may have a material adverse effect on our financial condition, result of operation or business activities. Following the Listing, we will continue to use our best efforts to comply with the laws and regulations as applied by the relevant regulatory authorities in the PRC.

We are also engaged in operations in the U.S. and Hong Kong. Apart from PRC laws, we are also bound by the laws and regulations of these countries and regions as well as international treaties such as the Convention on International Sales of Goods. Our Directors confirm that we have obtained requisite licenses, permits and approvals, and complied with applicable laws and regulations in these overseas jurisdictions.