

Global and China Wind Power Industry Report, 2008-2009

June 2009



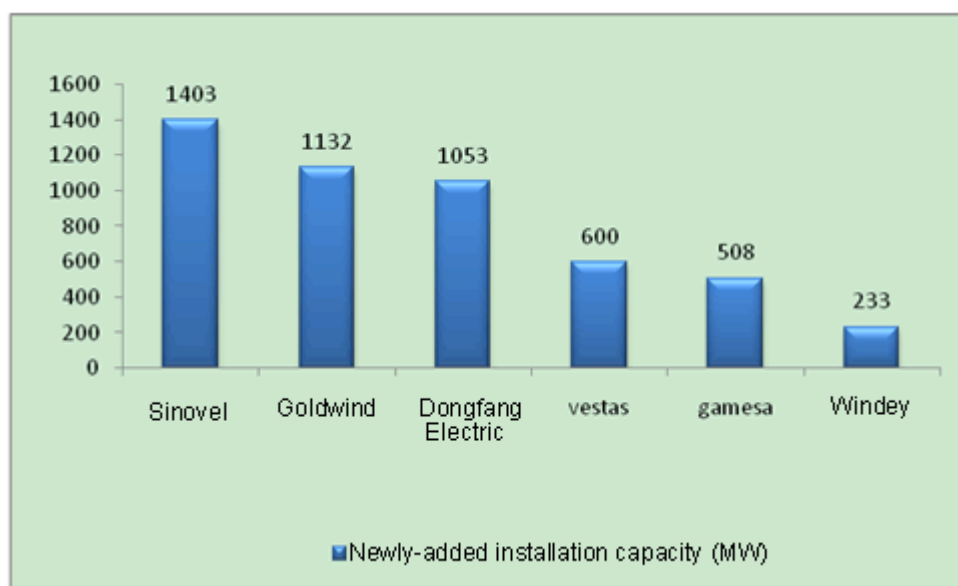
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4 China Wind Power Installation Industry

4.1 Market Overview

As of September 2008, there had been more than 50 Chinese wind turbine manufacturers. However, there were only several manufacturers that had mass produced megawatt-level wind power generator sets, such as Goldwind, DHI-DCW Group Co., Ltd and Dongfang Turbine Co., Ltd.

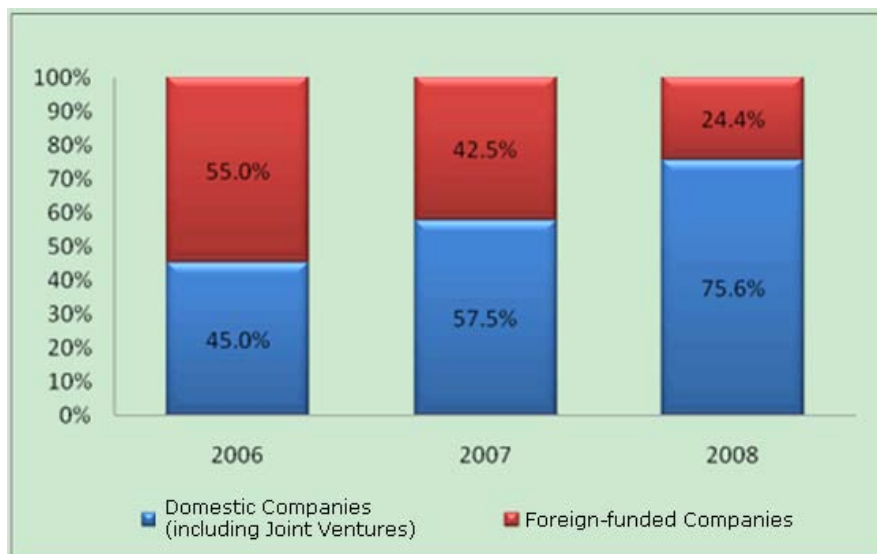
China's Top 5 Manufacturers by Newly-added Wind Power Installed Capacity, 2008



Source: Chinese Wind Energy Association

In 2008, wind turbine manufacturers in China could be mainly divided into two groups of domestic manufacturers (also including joint-ventures) and foreign manufacturers. In 2008, the products by domestic manufacturers (including joint-ventures) accounted for 75.6%. Sinovel took the largest market shares, occupying about 22.5% of newly-added installed capacity and 29.7% of total products by domestic manufacturers (including joint-ventures). The products by foreign manufacturers accounted for 24.4%, of which Danish Vestas took the largest market share, occupying about 9.6% of newly-added installed capacity and 39.3% of total products by foreign manufacturers.

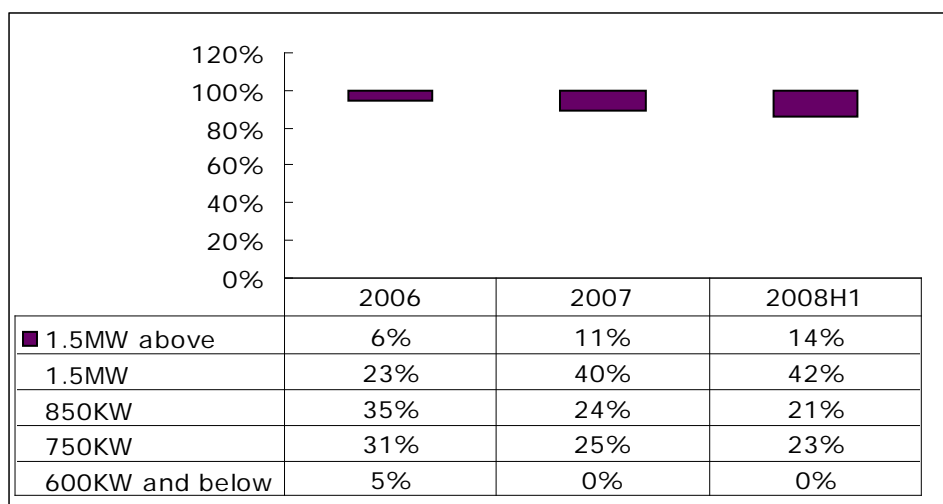
Market Shares of Domestic Companies (including Joint Ventures) and Foreign-funded Companies by Newly-added Wind Power Installed Capacity in China, 2006-2008



Source: Chinese Wind Energy Association

By the first half of 2008, 1.5MW had been the mainstream wind turbine type in China, accounting for 42% of market share, followed by 750kW type, taking 23% of market share; mature technology and mass production of MW type of domestic companies and a series of preferential policies issued by the government contributed to this result.

Market Share Distribution of Newly-increased Wind Turbine Generators in China, 2006- H1, 2008



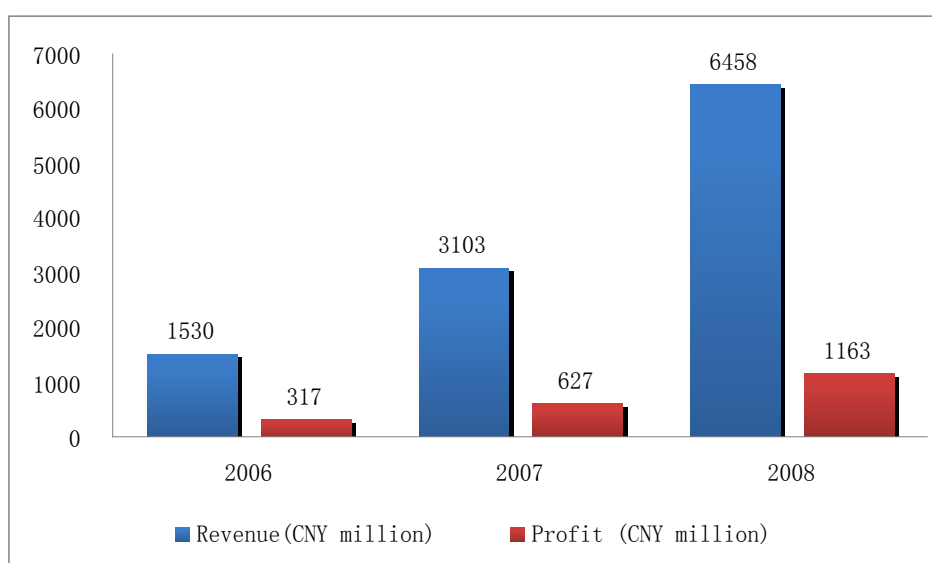
Source: ResearchInChina

4.3.4 Goldwind

Goldwind is the largest wind turbine manufacturer in China. In 2008, its newly-added wind power installed capacity accounted for 18.12% in China, ranking 2nd.

In 2008, Goldwind's operating revenues increased by RMB 3354.7838 million to RMB 6457.8097 million, up by 108.11% from a year earlier. Goldwind's operating profits increased by RMB 532.5942 million to RMB 1142.6165 million, up by 87.31% from a year earlier. Furthermore, Goldwind's net profits increased by RMB 402.0810 million to RMB 1036.7975 million, up by 63.35% from a year earlier.

Goldwind Operation Revenue, 2006-2008



Source: ResearchInChina

In 2008, the structure of products by Goldwind had largely changed; and industrialization of 1.5MW-series wind power generator sets had made breakthroughs to realize mass production in 2008. Furthermore, the mainstream products developed from single 750KW generator sets to both 750KW and 1.5MW generator sets. In 2008, Goldwind produced 1471 units of 750KW generator sets and 370 units of 1.5MW generator sets; and the supporting spare parts supply chain system, technology support system, quality assurance system and after-sales service system were also more and more sound.

In 2008, Goldwind signed a supply contract with Cuba ENERGOIMPORT Co. to supply 6 units of 750KW generator sets, and delivered in December, realizing revenues of RMB 33.2237 million.

In 2008, Goldwind run the improvement of 1.5MW-series generator sets, and also engaged in R&D of 2.5MW, 3.0MW and 5.0MW generator sets.

In 2008, new orders for Goldwind reached 1532.25MW, of which 804.75MW was for 750KW generator sets, and 727.50MW was for 1.5MW generator sets. As of the end of 2008, Goldwind held pending orders of 1541.25MW, of which 170.25MW was for 750KW generator sets, and 1371MW was for 1.5MW generator sets. Except existing orders, Goldwind also won in the bid for 811.50MW of 10 million-kilowatt-level wind power base project, laying favorable market grounds for sustainable development in next two years.

Goldwind's prime business is the production and sales of wind power generator sets. During the reporting period, sales revenues from wind power generator sets accounted for 93.46% of total operating revenues.

Goldwind Operation by Industry, 2008 (Unit: CNY10,000)

Source: Annual Fiscal Report of Goldwind

In 2008, 1.5MW-series generator sets by Goldwind had realized mass production, and its sales had increased by 462.17% from a year earlier. Meanwhile, prime operating profit margin of 1.5MW generator sets had increased by 2.54%, mainly because reduced exchange rate in the second half of 2008 had reduced the cost of imported spare parts for 1.5MW generator sets. Besides, after mass production of 1.5MW generator sets in 2008, the manufacturing expense per unit also declined.

In 2008, prime operating profit margin of 750KW generator sets by Goldwind had declined from a year earlier, mainly because unit price of 750KW generator sets slightly decreased in 2008 from a year earlier, and price of raw materials had largely increased in the first year of 2008 which had brought a certain cost pressure.

Goldwind Operation by Product, 2008 (Unit: CNY10,000)

Source: Annual Fiscal Report of Goldwind

In 2006-2008, the structure of products by Goldwind was in flux. In 2006, its sales focused on 750KW wind turbines with a few 600KW wind turbines; in 2007, its sales focused on 750KW wind turbines with a few 1.5MW wind turbines; in 2008, 1.5MW wind turbines realized mass production, and its sales revenues accounted for 45.31% of total wind turbine sales revenues. And gross profit margin of 1.5MW wind turbines was lower than that of 750KW wind turbines, so gross profit margin of wind power generator sets slightly declined in 2008.

Goldwind Gross Profit Margin Change, 2006-2008

Source: Annual Fiscal Report of Goldwind

As of 2008, Goldwind had cultivated a relatively sound spare parts supply chain in China, and spare parts required by Goldwind were all supplied in the light of technology standards put forward by Goldwind. Except that a few components needed to be imported, such as megawatt-level blades, headstocks, arresters and hydraulic pressure component, other spare parts had realized indigenous production. Obviously, the localization rate was higher than those foreign counterparts, taking a privileged status in competition.

Manufacturers of Goldwind Parts

Blade	LM/Zhong Hang Huiteng Wind Power Equipment Co., Ltd. /Sinoma Science & Technology (Suzhou) Co., Ltd / Lianyungang Zhongfu Lianzhong Composites Group Co. Ltd.
Gearbox	—
Spindle (bearing, coupling)	Spindle: Jiangyin Jixin Machinery Co., Ltd.; Bearing:SKF/FAG
Generator	Stator: Zhuzhou Electric Motor Co., Ltd./Yongji Electric Motor Co., Ltd.; Rotor: Goldwind
Yaw system	Xuzhou Rothe Erde/ Chung Yuet precision Luoyang Bearing Co., Ltd. /Zhejiang Tianma Bearing Co., Ltd.
Central monitoring system	Goldwind
Electric control system	Software: Goldwind; Electrical Cabinet: Siemens
Wheel hub	Hub: Jiangyin Jixin Machinery Co., Ltd.; Variable-Propeller Bearing: Xuzhou Rothe Erde / Zhejiang Tianma Bearing Co., Ltd.; Variable- Propeller Transmission: FREQCON

Source: ResearchInChina

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