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World Turbines

Industry Study with Forecasts for **2016 & 2021**

Study #3009 | March 2013 | \$6100 | 437 pages

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Wind turbines will continue to be the fastest growing turbine product type through 2016, but a much higher base of existing capacity will limit the growth rate to a more moderate level.

World demand to rise 6.4% annually through 2016

The world market for turbines and related products is forecast to rise 6.4 percent annually to nearly \$162 billion in 2016. This will represent a deceleration from the pace of the 2006-2011 period, primarily caused by a slowdown in sales of wind turbines. The global wind turbine market expanded sevenfold between 2001 and 2011 to become the single largest turbine product segment, overtaking turbine engines. Wind turbines will continue to be the fastest growing turbine product type through 2016, but a much higher base of existing capacity will limit the growth rate.

Demand for gas combustion turbines is expected to accelerate to a 7.3 percent annual growth rate through 2016. The market for gas turbines will benefit from a transition from coal to natural gas for electric power generation. In North America, the development of shale resources in the US has led to significantly lower gas prices in recent years, allowing gas-fired and combined-cycle plants to take on an expanded role in power generation. The continued transition away from coal will lead to increased investment in natural gas plants, spurring demand for gas turbines.

Demand growth in China to outpace US market

Between 2006 and 2011, the turbine market in China posted a 27 percent

World Turbine Product Demand (\$161.7 billion, 2016)



Wind Turbines	34%
Gas Combustion Turbines	14%
Steam & Hydraulic Turbines	9%
Turbine Engines	30%
Turbine Generators & Generator Sets	12%

annual growth rate, by far the fastest in the world. The largest of these gains occurred in the wind turbine market, which saw demand multiply by a factor of nearly 15. China has become the largest market for wind turbines in the world, accounting for 43 percent of existing global capacity in megawatt (MW) terms at year-end 2011. Through 2016, the fastest growth in turbine demand will occur in Australia, which is investing heavily in wind power in order to reduce its dependence on carbon. Strong increases in turbine sales are also expected throughout the rest of the Asia/Pacific region.

The US, which is the second largest national market for turbine products

behind China, will grow at an average pace through 2016, aided by an expanding market for gas turbines in power generation applications, continued healthy gains in demand for wind turbines, and an acceleration in new aircraft production. Mexico, fueled by increasing development of wind power, will be the second fastest growing market for turbine products worldwide. Western Europe will remain the slowest growing regional market, largely due to the maturity of its wind energy sector. However, the region still holds significant potential for offshore wind power, and gains in wind turbine demand will accelerate relative to the 2006-2011 pace.

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Sample Text, Table & Chart

ASIA/PACIFIC

Japan: Outlook & Suppliers

The market for turbines and related products in Japan is projected to reach \$10 billion in 2016, a significant increase from \$7 billion in 2011 period. Gains will be helped by the fact that Japan's electricity generation capacity is expected to increase in the wake of the 2011 Fukushima nuclear disaster. On-land turbine demand will be high for gas turbines. However, unless the government enacts policies for coal-fired plants, and the environmental impact of coal plants, turbine demand through 2016 will continue to see strong growth. The share of gas in Japan's generation mix rose substantially in 2011 and is expected to continue to grow going forward. Sales of gas turbines will benefit from the shift out of nuclear power.

The Japanese government has been actively promoting alternative energy sources such as wind power in order to adhere to Kyoto Protocol requirements and to reduce energy imports. In July 2012, a new feed-in tariff for wind came into effect, providing the highest rates supporting wind of any country in the world. Preventing even faster increases will be difficulties with grid access and the lack of suitable wind locations near the bulk of Japanese electricity demand. Japan's wind resources are greatest in the north and south of the country, while electricity demand is concentrated in the center. The harshness of Japanese weather is expected to have a mixed impact on wind turbine demand. A series of lightning strikes and high winds caused by typhoons have damaged existing wind turbines, providing opportunities for replacement. However, these events have also restricted installations in some areas and caused regulatory officials to re-examine turbine guidelines.

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TABLE VI-9

JAPAN: TURBINE PRODUCT SUPPLY & DEMAND
(million dollars)

Item	2001	2006	2011	2016	2021
Population (million persons)					127
\$ GDP/capita					47,000
Gross Domestic Product (bil 2010\$)					5,000
% GFI					10
Gross Fixed Investment (bil 2010\$)					1,000
\$ turbines/000\$ investment					10
Turbine Product Demand					
Turbines:					
Wind					
Gas Combustion					
Steam & Hydraulic					
Turbine Engines					
Turbine Generators/Generator Sets					
net exports					
Turbine Product Shipments					

SAMPLE
TABLE

CHART VIII-3

WORLD TURBINE-BASED AIRCRAFT ENGINE
MARKET SHARE BY COMPANY
(\$36.9 billion, 2011)



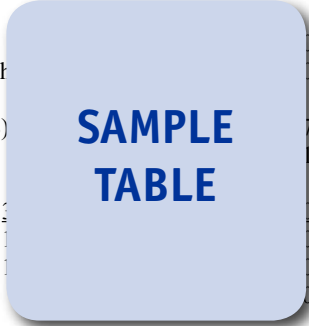
SAMPLE
CHART

Sample Profile, Table & Forecast

TABLE VI-10

JAPAN: TURBINE PRODUCT DEMAND BY APPLICATION
(million dollars)

Item	2001	2006	2011	2016	2021
Electric Power Generation (bil kWh) \$ power generation turbines/000 kWh					
Aerospace Equipment Shipments (bil \$) \$ aircraft engines/000\$ aerospace					
Turbine Product Demand					
Electric Power Generation					
Aircraft Engines					
Marine & Other					



COMPANY PROFILES

Sinovel Wind Group Company Limited
 Culture Building
 59 Zhongguar
 Haidian Dist
 China
 86-10-6251-5
 http://www.si

SAMPLE PROFILE

Revenues: \$
 Employment
 Key Products

Sinovel Wind is involved in the design, development, and production of large scale wind turbines for the renewable energy market. The Company completed an initial public offering in January 2011.

The Company is active in the world turbine industry via the manufacture of large scale wind turbines with output capacities of 1.5, 3.0, 5.0, and 6.0 megawatts (MW). These turbines are designed to adapt to various wind resources and environmental conditions, and are suitable for onshore, offshore, and intertidal applications. Additional features of Sinovel Wind's wind turbines include variable speed control properties, pitch regulated systems, and double fed inductive generators. In 2011, the wind turbine output capacity installed by the Company totaled 2,945 megawatts (MW). Furthermore, as of December 2011, Sinovel Wind had a total installed output capacity of 12,989 MW.

In China, Sinovel Wind's operations include facilities in Dalian, Liaoning; Yancheng, Jiangsu; Jiuquan, Gansu; and Baotou, Inner Mongolia that are involved in research, development, manufacturing, and other activities. In July 2012, the Company announced plans to

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"Shipments of turbine products from Japanese facilities are projected to increase 5.6 percent annually to \$5.9 billion in 2016, a substantial improvement from the 2006-2011 performance. However, gains in output will not be able to match the fast growth in domestic demand, leading the country to become a net importer of turbine products. Along with gains in domestic consumption, Japanese output will be stimulated by ..."

--Section VI, pg. 199

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OTHER STUDIES

Batteries

US demand for primary and secondary batteries is expected to grow 4.2 percent per year to \$17.1 billion in 2017. Lithium batteries will offer the best growth opportunities in both the rechargeable and primary battery segments. Secondary batteries will continue to supplant primary batteries as high-drain electronic devices increase in popularity. This study analyzes the \$13.9 billion US battery industry, with forecasts for 2017 and 2022 by product and market. The study also reviews battery technology, evaluates company market share and profiles industry players.

#3075 November 2013 \$5300

World Electric Transmission & Distribution Equipment

Global demand for electric transmission and distribution (T&D) equipment will rise 6.7 percent annually to \$177 billion in 2017. The Asia/Pacific region, led by China, will continue to post the fastest gains. In North America and Western Europe, advances will be driven by the increasing proliferation of renewable energy projects. This study analyzes the \$127 billion world electric T&D equipment industry, with forecasts for 2017 and 2022 by market, product, world region and for 20 countries. The study also evaluates company market share and profiles industry players.

#3071 September 2013 \$5900

World Electric Motors

World demand for electric motors is projected to increase 6.5 percent per year to \$122.5 billion in 2017. The Asia/Pacific region will be the largest source of market growth through 2017. Demand for AC motors will outpace DC types. Motor vehicles and heating and cooling equipment will be the fastest growing markets. This study analyzes the \$89.4 billion world electric motor industry, with forecasts for 2017 and 2022 by product, market, world region, and for 30 countries. The study also evaluates company market share and profiles industry players.

#3055 October 2013 \$6100

Batteries in China

Demand for batteries in China is forecast to increase 13.0 percent annually to 259 billion yuan in 2016. Secondary batteries will outpace primary types, led by the fast-growing rechargeable lithium batteries segment. The primary battery market will remain dominant, supported by the supplantation of zinc-carbon/chloride batteries by alkaline types. This study analyzes the 141 billion yuan battery industry in China, with forecasts for 2016 and 2021 by type and market. The study also evaluates company market share and profiles industry participants.

#3030 June 2013 \$5300

Electric Motors

US demand for electric motors will increase at an accelerated rate of 4.6 percent annually through 2017 to \$14.4 billion. AC motors will remain the largest segment while hermetic motors will grow the fastest. The heating and cooling equipment market will provide the best growth opportunities. Integral horsepower motors will outpace fractional horsepower types. This study analyzes the \$11.5 billion US electric motors industry, with forecasts for 2017 and 2022 by type and market. The study also evaluates company market share and profiles industry players.

#3007 March 2013 \$4900

About The Freedonia Group

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