Global and China Wind Turbine Industry Report, 2016-2020

Description: In 2015, global new installed wind power capacity reached 63.01GW, up 22.41% YoY, refreshing new installed wind power capacity records again. China continues to lead the global wind power market with new installed capacity of 30.75GW in 2015 and the first worldwide ranking for six consecutive years.

The wind power market will continue to be buoyant during the 13th Five-Year Plan period (2016-2020). The global total installed wind power capacity is expected to surpass 700GW by 2020, of which, China will reach around 250GW.

Large-scale wind power is the development trend of wind power technology in recent years. China's new per-unit power of wind turbine has been on the rise since 2000, hitting 1,837kW in 2015, more than three times as much as that in 2000. Concerning China's new installed wind power capacity in 2015, 1.5MW and 2MW wind turbines were predominant with a combined 84% share, of which, 2MW wind turbine outperformed 1.5MW wind turbine for the first time and accounted for 50%.

Development of offshore wind power growing at a steady pace is expected to accelerate in the future. In 2015, China's new grid-connected capacity of offshore wind power was recorded at 360.5MW, occupying 10.7% of the global total. China's total installed grid-connected capacity of offshore wind power is planned to hit 30GW by 2020, while the cumulative actual installed capacity was merely 1GW in 2015. Given this, the offshore wind power construction will be greatly sped up.

To solve the wind turbine suspension problem, distributed wind power generation will be the first choice in the future. There has been a phased saturation for large-scale wind power development in Northwest, Northeast and North China, where the wind turbine suspension problem is increasingly severe.

In 2015, wind turbine suspension volume reached a peak i.e. 33.9 billion kWh in five years, registering an average suspension rate of 15%. To improve the situation, the government has proposed the priority development of distributed wind power during the 13th Five-Year Plan period. According to the plan, the installed distributed wind power capacity will be 25GW by 2020 and 70GW by 2050.

The report covers the followings:

- Global wind energy resources, installed wind power capacity and structure, wind power development in major countries, corporate competition, etc.;
- China's installed wind power capacity and structure, offshore wind power, exports, corporate competition, etc.;
- Market status of wind turbine parts (e.g. blade, gearbox, tower, converter, generator, bearing) as well as operation of key players;
- Wind energy resources, wind power development mode, construction achievements, main developers, etc.;
- Operation, R&D, etc. of 5 global and 10 Chinese wind turbine companies.

With global new installed capacity of 7.8GW, Goldwind Science & Technology Co., Ltd. became the world's largest wind turbine manufacturer in 2015, followed successively by Vestas, GE, Siemens and Gamesa. In June 2016, Siemens announced the signing of a binding agreement with Gamesa on merging wind power business of both sides (including Siemens Wind Power Services). Affected by this, the global wind turbine market structure will be changed in 2016.

In addition to Goldwind Science & Technology, there were 8 Chinese players reporting new installed wind power capacity of over 1MW in 2015, namely United Power, Envision Energy, Mingyang Wind Power, CSIC (Chongqing) HaizhuangWindpower Equipment, Shanghai Electric, XEMC Windpower, DongfangElectric Corporation and Zhejiang Windey, in succession.

Furthermore, wind-turbine parts companies in China have good supply capability.

In terms of wind power blade, China has possessed the 1.5MW wind blade R&D and production capacity, which will increase gradually to 3MW, 5MW and even more; representative firms include AVIC HuitengWindpower Equipment Co., Ltd., Shanghai FRP Research Institute Co., Ltd., Lianyungang
With respect to wind power gearbox, Nanjing High Accurate Drive Equipment Manufacturing Group Co., Ltd. (NGC) as a leader in China and even in the world registers a share of 60% domestically and 23% globally. In the aspect of wind power converter, foreign brands like ABB, Converteam and Emerson take the leading position; however, Sungrow Power Supply, Hopewind Electric, Shanghai Hi-tech Control System Co., Ltd. (HITE) and other local firms are rising.
4.6.2 Key Players

5 Development and Construction of Wind Farms
5.1 Wind Energy Resources and Utilization
5.1.1 Resource Distribution
5.1.2 Wind Power Feed-in Metering
5.1.3 Wind Power Feed-in Tariff
5.2 Wind Power Development and Construction
5.2.1 Wind Power Development Mode
5.2.2 Development and Construction Achievements
5.2.3 Development and Construction Scheme 2016
5.3 Wind Power Developers

6 Global Wind Turbine Companies
6.1 Vestas
6.1.1 Profile
6.1.2 Operation
6.1.3 Wind Power Business in China
6.2 GE
6.2.1 Profile
6.2.2 Operation
6.2.3 Wind Power Business in China
6.3 Siemens
6.3.1 Profile
6.3.2 Operation
6.3.3 Wind Power Business in China
6.4 Gamesa
6.4.1 Profile
6.4.2 Operation
6.4.3 Wind Power Business in China
6.5 Enercon
6.5.1 Profile
6.5.2 Operation

7 Chinese Wind Turbine Companies
7.1 Goldwind Science & Technology
7.1.1 Profile
7.1.2 Operation
7.2 Sinovel Wind Group
7.2.1 Profile
7.2.2 Operation
7.3 United Power
7.3.1 Profile
7.3.2 Operation
7.4 Dongfang Electric Corporation
7.4.1 Profile
7.4.2 Operation
7.5 Mingyang Wind Power
7.5.1 Profile
7.5.2 Operation
7.6 Shanghai Electric
7.6.1 Profile
7.6.2 Operation
7.7 XEMC Windpower
7.7.1 Profile
7.7.2 Operation
7.8 Envision Energy
7.8.1 Profile
7.8.2 Operation
7.9 CSIC (Chongqing) Haizhuang Windpower Equipment
7.9.1 Profile
7.9.2 Operation
7.10 Zhejiang Windey
7.10.1 Profile
7.10.2 Operation

8 Summary and Forecast
8.1 Market
8.1.1 Global
8.1.2 China
8.2 Enterprise
8.2.1 Global
8.2.2 China

List of Charts

- Wind Turbine Structure
- Typical Wind Turbine Parts Structure and Cost
- Comparison between Double-Fed Wind Turbines and Permanent-Magnet Direct-Drive Wind Turbines
- Wind Power Industry Chain
- Wind Farm Construction Cost Composition
- Distribution of Global Wind Energy Resources
- Distribution of Wind Resources in Global Coastal Areas
- Investment in Global Wind Power Generation Projects and YoY Growth, 2010-2020E
- Global Wind Power Generation and Structure, 2009-2020E
- Global New Installed Capacity, 2001-2020E
- Global Total Installed Capacity, 2001-2020E
- Global Installed Wind Power Capacity (by Region), 2014-2015
- Top10 Countries by New Installed Wind Power Capacity, 2015
- Top10 Countries by Total Installed Wind Power Capacity, 2015
- Global Total Installed Offshore Wind Power Capacity, 2011-2020E
- Installed Offshore Wind Power Capacity in Major Countries, 2015
- Germany's Installed Onshore Wind Power Capacity, 2015
- Germany's New and Total Installed Onshore Wind Power Capacity, 1992-2015
- Germany's Installed Onshore Wind Power Capacity (by Region), 2015
- Germany's Installed Offshore Wind Power Capacity, 2015
- Application and Composition of Limits for Offshore Wind Power Integration in Germany at the End of 2015
- Distribution of Offshore Wind Power Projects in Germany by the End of 2015
- Spain's New Installed Wind Power Capacity, 1990-2015
- Spain's Total Installed Wind Power Capacity, 2005-2015
- Spain's Total Installed Capacity (by Region), 2015
- Spain's Total Installed Capacity (by Company), 2015
- Structure of U.S. Installed New Energy Capacity (by Energy Type), 2015
- U.S. Installed Wind Power Capacity (by Quarter), 2009-2016
- U.S. New and Total Installed Wind Power Capacity, 1999-2016
- U.S. Total Installed Wind Power Capacity (by Region) as of 2016Q1
- Distribution of Wind Power Related Manufacturers in the U.S., 2015
- U.S. Wind Power Projects under Construction as of 2016Q1
- Distribution of Proposed Wind Power Projects in the U.S. as of 2016Q1
- Wind Power Share in Denmark's Electricity Consumption, 2005-2015
- Denmark's Total Installed Wind Power Capacity, 2005-2015
- UK's Total Installed Wind Power Capacity, 2009-2015
- UK's Installed Wind Power Capacity as of May 2016
- Top10 Market Share of Global Wind Power Manufacturers (by Increment)
- Top10 Wind Turbine Suppliers in the Five Parts of the World (by Increment), 2015
- TOP10 Offshore Wind Turbine Suppliers in the World, 2015
- Policies on China Wind Power Industry, 2014-2016
- Targets for Wind Power Development in China, 2050
- Targets and Layout for Wind Power Development in Main Areas of China, 2050
- China's New and Total Installed Wind Power Capacity, 2005-2020E
- China's New and Total Installed Wind Power Integration Capacity, 2011-2020E
- China's New Installed Wind Power Capacity (by Province/City), 2015
- China's Total Installed Wind Power Capacity (by Province/City), 2015
- China's New Installed Wind Turbine Capacity by Different Powers, 2015
- Distribution of HRV Electric's Wind Power Converter Projects
- Demand for Wind Power Bearings in China, 2009-2015
- Major Wind Power Bearing Producers in China
- TIMKEN's Business Layout in China
- Revenue and Net Income of Tianma Bearing Group, 2008-2015
- Wind Power Density Distribution on 70-Meter-High Land of China
- Average Wind Power Density Distribution on 5-20-Meter-Deep and 100-Meter-High Offshore of China
- China's Wind Power Feed-in Metering and Structure, 2011-2016
- Wind Turbine Suspension Volume and Rate in China, 2011-2016
- Assessment Form for Guaranteed Minimum Purchased Annual Utilization Hours in Key Wind Power Areas of China, 2016
- China's Onshore Wind Power Feed-in Tariffs (Benchmark Prices), 2016 & 2018
- China's Offshore Wind Power Feed-in Tariffs (Benchmark Prices), 2016
- Approval and Construction of 10 Large Wind Power Bases in China at the End of 2014
- Construction Progress of Distributed Wind Power Projects in China at the End of 2014
- Progress of Chinese Offshore Wind Power Projects (Development Scheme 2014-2016) by the End of July 2015
- Revenue and Net Income of Vestas, 2009-2015
- Handling Orders and Stock of Vestas (by Region), 2015
- Global Wind Turbine Delivery of Vestas as of Dec 31, 2015
- GE's Revenue, 2013-2016
- Siemens' Revenue and Net Income, FY2014-FY2016
- Siemens' Revenue and Profits from Wind Power and Renewables, FY2014-FY2016
- Gamesa's Share in Global Wind Turbine Market, 2015
- Gamesa's Revenue and Net Income, 2014-2016
- Structure of Gamesa's New Orders (by Region), 2014-2015
- Enercon's Share in Global and German Markets, 2015
- Revenue and Gross Margin of Goldwind Science & Technology (by Product), 2015
- Installed Wind Farm Capacity of Goldwind Science & Technology, 2010-2015
- Revenue and Net Income of Sinovel Wind Group, 2009-2015
- Production Bases of United Power
- Revenue and Net Income of Dongfang Electric Corporation, 2009-2016
- Operating Revenue and Net Income of Mingyang Wind Power, 2010-2016
- Output of Mingyang Wind Power, 2014-2015
- Revenue and Net Income of Shanghai Electric, 2009-2016
- Wind Power Bases of Shanghai Electric, 2016
- Events of XEMC Windpower, 2010-2016
- Global Business Layout of Envision Energy
- Development History of Zhejiang Windey
- Global and China's Total Installed Wind Power Capacity, 2015-2020E
- Global and China's Total Installed Offshore Wind Power Capacity, 2015-2020E

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