

# **Direct Drive (Gearless) Wind Turbine Market, By Permanent Magnet (PMSG) & Electrically Excited (EESG) Generator Technology, Turbine Size/Capacity Range – Global Trends & Forecasts to 2017**

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## **Abstracts**

The direct drive (gearless) wind turbine is the low-speed generator that eliminates the need for a gearbox from the turbine's drive train. These turbines have advantages such as - these are lighter as compared to conventional turbine, these have significantly lower maintenance costs, and it is not needed to replace gearbox as these are gearless turbines. The most preferred direct drive wind turbine generator is the permanent magnet type generator, as it is lighter in weight and possesses high reliability for offshore applications.

This report on global direct drive wind turbine market covers all major regions i.e. Asia-Pacific, Europe, Americas, and Middle East and Africa. At country level, India, China, Germany U.K., U.S., Canada, and Brazil have also been covered. Asia-Pacific is identified as the largest market as well as the highest growing in the next five years among all regional markets. Europe is the second largest regional market after Asia-Pacific. However, the direct drive wind turbine is an emerging market and will grow by 15.2% annually over the period of next five years. In Asia-Pacific, China is the main growth contributor. Globally, China is also the largest country level market and thus its growth significantly affects the global market.

The report also estimates the new installations (in MW as well as in units) and revenues of the direct drive wind turbine market (in \$million), and its various submarkets with respect to four main regions - Americas, Europe, Asia-Pacific, and Middle East and Africa. The direct drive or gearless wind turbine market has also been segmented by turbine size (capacity range) i.e. turbines less than 1 MW, 1 MW - 3 MW, and more than

3 MW sizes. The turbine size ranging 1 MW - 3 MW has the highest market share. In this report, the global direct drive wind turbines market has also been segmented by generator technology. The electrically excited synchronous generator (EESG) and permanent magnet synchronous generator (PMSG) are the two types of direct drive generators currently in the market. The PMSG direct drive generator is expected to have highest share.

This report identifies factors which are currently driving the market growth. Gearbox failure and supportive regulatory environment are figured out to be the important market drivers which have a significant impact on market at present. The report also highlights the market restraints and burning issues. Off-shore potential has been identified as the major opportunity which is attracting all the direct drive wind turbine manufacturers.

Developments and strategies of top direct drive wind turbine manufacturers have been studied in order to distinguish winning imperatives. The report also profiles those companies and a typical profile includes company overview, direct drive products offered by the company, financials, recent developments, and strategy based on those developments. The companies which are included in this report are Avantis Energy Group, Enercon, Godecke Energy, Siemens Wind Power A/S, Emergya Wind Technologies B.V, GE Energy, Northern Power Systems, Goldwind Science & Technology Co. Ltd, Leitwind AG, Spain based M. Torres Olvega Industrial, S.A., ReGen Powertech Pvt. Ltd, etc.

## **Scope of the report**

The global DD wind turbine market is analyzed in terms of new installations (in units as well as MW), and revenues (in \$million) for all regions and respective major countries. Revenues from each geography and major country have been broken down by turbine capacity/size.

The direct drive wind turbine capacity/size ranges which have been identified and included in this study are:

Less than 1 MW

1 MW – 3 MW

More than 3 MW

The direct drive wind turbine technologies which have been identified and included in this study are:

Permanent magnet synchronous generator (PMSG) direct drive turbines

Electrically excited synchronous generator (EESG) direct drive turbines

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