

WINTERGREEN RESEARCH, INC.

**Utility Scale Wind Turbines Market Shares, Strategies, and
Forecasts, Worldwide, 2010 to 2016**

**Utility Grade Wind Turbines Provide Electricity at Competitive
Prices**



Picture by Susie Eustis

MOUNTAINS OF OPPORTUNITY

OPPORTUNITY ABOUNDS

**WinterGreen Research, Inc.
Lexington, Massachusetts**

www.wintergreenresearch.com

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CHECK OUT THESE KEY TOPICS

Wind Markets
Energy sector
Wind Turbine Financial Orders
Wind Turbines
Wind Blades
Wind Farms
On-Shore Turbine Market Forecast
Offshore Wind Turbines Market Forecasts
Wind Generated Electricity
Challenges For Offshore Wind Farms
Storage to Accommodate Variable Nature of Wind Power
Wind Energy Storage
Cost Of Wind Integration
Turbine Blade
Wind Turbine Hybrid Natural Gas Systems
Wind Turbine Hybrid Solar Energy Systems
Benefits of Wind Power for Utilities
Rotor Area
Wind Speed
Wind Turbine Metal Components
Wind Turbine Forged Parts
Wind Turbine Cast Parts
Wind Turbine Machined Parts
Wind Turbine Blade Technology
Wind Turbine Smart Controls
Wind Turbine Stealth Research
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National Energy Offshore Wind Power

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Turbines Hybrid Gas-Wind Turbine System

Wind Turbine Works
Wind Turbine Density Of Air
Wind Turbine Rotor Area
Wind Turbine Wind Speed
Wind Turbine Metal Components
Wind Turbine Forged Parts
Wind Turbine Cast Parts
Wind Turbine Machined Parts
Wind Turbine Nacelle Housing
Wind Turbine Yaw System
Wind Turbine Generator
Wind Turbine Gear Box
Wind Turbine Pitch System
Wind Turbine Power Converter
Wind Turbine Transformer
Wind Turbine Brake System
Wind Turbine Rotor Hub
Wind Turbine Rotor Blades
Wind Turbine Tower

q

Utility Scale Wind Turbine Capability

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Wind Turbine Market Forecasts

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Utility Scale Wind Turbine Market Shares, Strategies, and Forecasts, Worldwide, 2010-2016

LEXINGTON, Massachusetts (August 2, 2010) – WinterGreen Research announces that it has a new study on Utility Scale Wind Turbine Market Strategy, Market Shares, and Market Forecasts. The 2010 study has 269 pages, 83 tables and figures. Worldwide markets are poised to achieve significant growth as wind electricity generation has reached cost parity with fossil fuels and demand for more electricity generation is coming with the increased use of electric vehicles.

According to Susan Eustis, the lead author of the study, “the use of utility scale wind generators represents an emerging high growth market. New technologies have increased the efficiency of wind based electricity generation and of systems installations both onshore and off shore. The evolution of hydrogen campus fuel cell systems will introduce electricity storage that makes the wind generation systems even more cost efficient. Thin film battery storage of electricity in the electric vehicles and in hardened cases on the ground will increase the efficiency and consistency of wind generated electricity delivery”.

The wind turbine renewable energy accounted for 62% (17 GW) of the new electricity generation capacity installed in the European Union (EU) in 2009. Rural economic development has had a focus on wind generated electricity. Wind turbines contribute to energy price stability. Wind generated energy helps address global climate change.

Every energy technology is supported by federal governments. Wind energy is gaining increasing recognition that a higher proportion of subsidies are needed as leaders begin to realize the need for a sustainable energy policy. The visibility into the oil drilling companies brought by the BP oil spill has had what promises to be a long term impact on the market.

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The availability of hydrogen storage and electricity generation in the form of stationary fuel cells that work in campus and substation environments is going to impact wind generated electricity. Hydrogen turns out to be a good way to store excess electricity generated by wind.

The US the government accountability office (GAO) looked at federal incentives for electricity between Fiscal Year (FY) 2002 and FY 2007 and noticed that tax expenditures largely go to fossil fuels. About \$13.7 billion was provided to fossil fuels and \$2.8 billion to renewables. With the BP oil spill in the Gulf of Mexico, this policy ratio is likely to change, tilting more toward renewable energy. Wind is the most economically viable of the renewable energy sources.

Wind power systems have proved that they can readily be accommodated into existing fossil fuel and nuclear electric system operations reliably and economically. Wind Turbines are achieving combination with natural gas systems to create a hybrid unit that operates continuously. The natural gas generator uses the wind turbines grid systems to create an efficiently operating unit. Similar designs are evolving as hybrid wind turbines that operate in combination with solar energy systems.

Electric vehicles provide a significant market thrust to the need for wind generated electricity. Electric vehicles will depend on curbside and garage based metered delivery of electricity. Electricity generated from renewable sources will replace gasoline in the future.

Utility scale wind turbine markets at \$35.6 billion in 2009 are anticipated to reach \$130 billion by 2016. The enormous size of the existing market gives a significant market thrust going forward, because the major vendors and their customers have access to capital markets. This access is needed to achieve the significant growth that will be achieved as wind and solar energy replace the fossil fuel industry. Only natural gas will compete with the renewable sources of energy for utilities as new capacity is put in place and aging existing facilities are retired, to be replaced with more modern facilities.

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Keywords: Wind Markets, Energy sector, Wind Turbine Financial Orders, Wind Turbines,,Wind Blades, Wind Farms, On-Shore Turbine Market Forecast, Offshore Wind Turbines Market Forecasts, Wind Genrated Eelectricity, Challenges For Offshore Wind Farms, Storage to Accomodate Variable Nature of Wind Power, Wind Energy Storage, Cost Of Wind Integration, Turbine Blade, Wind Turbine Hybrid Natural Gas Systems, Wind Turbine Hybrid Solar Energy Systems, Benefits of Wind Power for Utilities, Rotor Area, Wind Speed, Wind Turbine Metal Components, Wind Turbine Forged Parts, Wind Turbine Cast Parts, Wind Turbine Machined Parts, Wind Turbine Blade Technology, Wind Turbine Smart Controls, Wind Turbine Stealth Research, Wind Turbine Floating Foundations, National Energy Offshore Wind Power, Turbines Hybrid Gas-Wind Turbine System, Wind Turbine Works, Wind Turbine Density Of Air, Wind Turbine Rotor Area, Wind Turbine Wind Speed, Wind Turbine Metal Components, Wind Turbine Forged Parts, Wind Turbine Cast Parts, Wind Turbine Machined Parts, Wind Turbine Nacelle Housing, Wind Turbine Yaw System, Wind Turbine Generator, Wind Turbine Gear Box, Wind Turbine Pitch System, Wind Turbine Power Converter, Wind Turbine Transformer, Wind Turbine Brake System, Wind Turbine Rotor Hub, Wind Turbine Rotor Blades, Wind Turbine Tower, Utility Scale Wind Turbine Capability, www.wintergreenresearch.com, <http://wintergreenresearch.com/reports/WindTurbine.htm>, Wind Turbine Market Forecasts

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Utility Scale Wind Turbine Companies Profiled

Wind Turbine Market Leaders

5. Company Profiles

Vestas
Gamesa
Enercon GmbH
Suzlon / REpower
GE
Clipper Windpower
Siemens Wind Power A/S
Nordex AG
Acciona Energ A.S.A.
Sinovel
Entegry Wind Systems
Goldwind Science & Technology

Wind Turbine Market Participants

Qingdao Jintaida Industry&Trade Wind Turbine
Nextera
Wind Energy Solutions Bv Winwind Ltd.
Alaska Wind Turbine –
Blue Carbon Technology
Clipper Windpower Liberty Wind Turbine
CSIC Holdings / hz Windpower co., Ltd.

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Report Methodology

This is the 453rd report in a series of primary market research reports that provide forecasts in solar energy, robots, communications, telecommunications, the Internet, computer, software, telephone equipment, health equipment, and batteries to store energy. Automated process and significant growth potential are a priorities in topic selection. The project leaders take direct responsibility for writing and preparing each report. They have significant experience preparing industry studies. Forecasts are based on primary research and proprietary data bases.

The primary research is conducted by talking to customers, distributors and companies. The survey data is not enough to make accurate assessment of market size, so WinterGreen Research looks at the value of shipments and the average price to achieve market assessments. Our track record in achieving accuracy is unsurpassed in the industry. We are known for being able to develop accurate market shares and projections. This is our specialty.

The analyst process is concentrated on getting good market numbers. This process involves looking at the markets from several different perspectives, including vendor shipments. The interview process is an essential aspect as well. We do have a lot of granular analysis of the different shipments by vendor in the study and addenda prepared after the study was published if that is appropriate.

Forecasts reflect analysis of the market trends in the segment and related segments. Unit and dollar shipments are analyzed through consideration of dollar volume of each market participant in the segment. Installed base analysis and unit analysis is based on interviews and an information search. Market share analysis includes conversations with key customers of products, industry segment leaders, marketing directors, distributors, leading market participants, opinion leaders, and companies seeking to develop measurable market share.

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Over 200 in depth interviews are conducted for each report with a broad range of key participants and industry leaders in the market segment. We establish accurate market forecasts based on economic and market conditions as a base. Use input/output ratios, flow charts, and other economic methods to quantify data. Use in-house analysts who meet stringent quality standards. Interviewing key industry participants, experts and end-users is a central part of the study. Our research includes access to large proprietary databases. Literature search includes analysis of trade publications, government reports, and corporate literature.

Findings and conclusions of this report are based on information gathered from industry sources, including manufacturers, distributors, partners, opinion leaders, and users. Interview data was combined with information gathered through an extensive review of internet and printed sources such as trade publications, trade associations, company literature, and online databases. The projections contained in this report are checked from top down and bottom up analysis to be sure there is congruence from that perspective.

The base year for analysis and projection is 2009. With 2009 and several years prior to that as a baseline, market projections were developed for 2010 through 2016. These projections are based on a combination of a consensus among the opinion leader contacts interviewed combined with understanding of the key market drivers and their impact from a historical and analytical perspective. The analytical methodologies used to generate the market estimates are based on penetration analyses, similar market analyses, and delta calculations to supplement independent and dependent variable analysis. All analyses are displaying selected descriptions of products and services.

This research includes referencde to an ROI model that is part of a series that provides IT systems financial planners access to information that supports analysis of all the numbers that impact management of a product launch or large and complex data center. The methodology used in the models relates to having a sophisticated analytical technique for understanding the impact of workload on processor consumption and cost.

WinterGreen Research has looked at the metrics and independent research to develop assumptions that reflect the actual anticipated usage and cost of systems. Comparative analyses reflect the input of these values into models.

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The variables and assumptions provided in the market research study and the ROI models are based on extensive experience in providing research to large enterprise organizations and data centers. The ROI models have lists of servers from different manufacturers, Systems z models from IBM, and labor costs by category around the world. This information has been developed from WinterGreen research proprietary data bases constructed as a result of preparing market research studies that address the software, energy, healthcare, telecommunications, and hardware businesses.

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ABOUT THE PRINCIPAL AUTHORS

ELLEN T. CURTISS, TECHNICAL DIRECTOR, CO-FOUNDER OF WINTERGREEN RESEARCH, CONDUCTS STRATEGIC AND MARKET ASSESSMENTS IN TECHNOLOGY-BASED INDUSTRIES. PREVIOUSLY SHE WAS A MEMBER OF THE STAFF OF ARTHUR D. LITTLE, INC., FOR 23 YEARS, MOST RECENTLY AS VICE PRESIDENT OF ARTHUR D. LITTLE DECISION RESOURCES, SPECIALIZING IN STRATEGIC PLANNING AND MARKET DEVELOPMENT SERVICES. SHE IS A GRADUATE OF BOSTON UNIVERSITY AND THE PROGRAM FOR MANAGEMENT DEVELOPMENT AT HARVARD GRADUATE SCHOOL OF BUSINESS ADMINISTRATION. SHE IS THE AUTHOR OF RECENT STUDIES ON WORLDWIDE TELECOMMUNICATIONS MARKETS, THE TOP TEN INTERNET EQUIPMENT COMPANIES, THE TOP TEN CONTRACT MANUFACTURING COMPANIES, AND THE TOP TEN TELECOMMUNICATIONS MARKET ANALYSIS AND FORECASTS.

SUSAN EUSTIS, PRESIDENT, CO-FOUNDER OF WINTERGREEN RESEARCH, HAS DONE RESEARCH IN COMMUNICATIONS AND COMPUTER MARKETS AND APPLICATIONS. SHE HOLDS SEVERAL PATENTS IN MICROCOMPUTING AND PARALLEL PROCESSING. SHE HAS THE ORIGINAL PATENTS IN ELECTRONIC VOTING MACHINES. SHE HAS NEW PATENT APPLICATIONS IN FORMAT VARYING, MULTIPROCESSING, AND ELECTRONIC VOTING. SHE IS THE AUTHOR OF RECENT STUDIES OF SOA MARKETING STRATEGIES, INTERNET EQUIPMENT, CLOUD COMPUTING, BIOMETRICS, A STUDY OF INTERNET EQUIPMENT, WORLDWIDE TELECOMMUNICATIONS EQUIPMENT, TOP TEN TELECOMMUNICATIONS, DIGITAL LOOP CARRIER, WEB HOSTING, WEB SERVICES, ENERGY MARKETS, ELECTRIC VEHICLES, THIN FILM BATTERIES, BUSINESS PROCESS MANAGEMENT, AND APPLICATION INTEGRATION MARKETS. MS. EUSTIS IS A GRADUATE OF BARNARD COLLEGE.

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