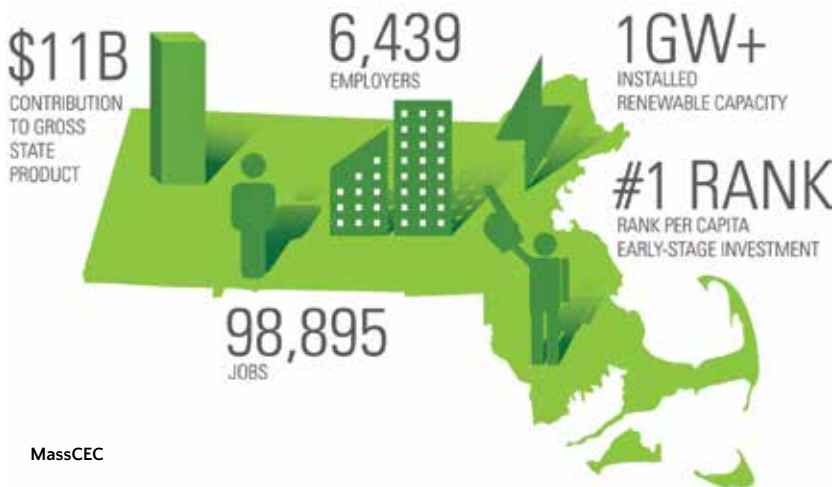


DIRECTION

Policy • Advocacy • Business • Finance • Legal • Environment • International

MASSACHUSETTS CLEAN ENERGY INDUSTRY GROWS BY DOUBLE DIGITS FOR FOURTH YEAR



clean energy is an \$11 billion industry in Massachusetts and represents 2.5 percent of the Commonwealth's gross state product. The report also found that clean energy jobs represent 3.3 percent of the overall workforce in the state with three quarters of workers earning more than \$50,000 per year.

The clean energy industry is employing residents of every county in Massachusetts and has grown over the past year in each of the state's regions, with the largest growth coming in northeastern Massachusetts (16.8 percent) and central Massachusetts (13.6 percent).

"With five years of consistent job growth, the clean energy sector is an economic engine that is putting Massachusetts on the map for global leadership in clean energy," said Northeast Clean Energy Council (NECEC) President Peter Rothstein. "Private sector innovation and investment combined with public sector leadership on forward-thinking clean energy policies are continuing to prove to be a strong formula to drive the flourishing of this industry."

Massachusetts Clean Energy Center (MassCEC) Interim CEO Stephen Pike recently announced the results of the 2015 Massachusetts Clean Energy Industry Report, which found that the Massachusetts clean energy sector has grown by double digits for the fourth consecutive year and now employs 98,895 workers at 6,439 employers across the Commonwealth.

The report finds that clean energy employment grew by 11.9 percent between 2014 and 2015 — the largest

increase of any year since MassCEC began collecting data in 2010. In total, the number of clean energy jobs in Massachusetts has increased by 64 percent since 2010.

"With steady job growth over the past five years, the Massachusetts clean energy industry is robust," Pike said. "The clean energy sector is fueling small businesses and paying workers high wages across the state from Beverly to Pittsfield."

The report, prepared for MassCEC by BW Research Partnership, found that

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As clean energy jobs have grown, so has the installation of clean energy technologies across the Commonwealth. In July, Massachusetts passed 1 GW of installed renewable energy capacity, which is enough to power more than 152,000 average Massachusetts homes annually.

“The Clean Energy Industry Report demonstrates the Commonwealth’s commitment to foster and encourage innovative ideas and technologies while creating a strong job market within the state,” said Energy and Environmental Affairs (EEA) Secretary Matthew Beaton. “The Commonwealth will continue to leverage the state’s robust, cutting-edge clean energy sector with Massachusetts’ world-class universities and research institutions to work to balance and diversify the state’s energy portfolio while positioning Massachusetts to achieve our greenhouse gas reduction goals.”

According to Tom Pincince, president and CEO of Digital Lumens, “clean technology has

moved from being adjacent to the traditional hardware, software, and networking communities to being an integral and high-growth part of the technology landscape in Massachusetts in the last decade.”

The report also found Massachusetts to be the national leader in early-stage clean energy investment. Massachusetts companies attracted more than twice the amount of early-stage investment per capita than second-place California. Overall, public and private investment in the industry exceeded \$549 million.

“Massachusetts’ forward-thinking policies have helped develop the market for highly efficient, clean energy combined heat and power within the state,” said Lee Vardakas, president of Aegis Energy Services, Inc. “We in western Massachusetts have benefited from the state’s innovative approach to clean energy and have been able to continue expanding our business with double-digit growth year-over-year. This has led to an increase in employment and has benefited the

local businesses that support our manufacturing in the area.”

The Massachusetts Clean Energy Industry Report, primarily based on survey data gathered directly from clean energy employers in Massachusetts, is an in-depth breakdown of clean energy deployment, gross state product, employment, investment data and innovation, classified by technology sector, and geographic region. The report’s methodology has been replicated in the following 10 states: California, Florida, Illinois, Iowa, Missouri, Ohio, Pennsylvania, Rhode Island, Tennessee, and Vermont.

State energy officials announced the results of the 2015 Massachusetts Clean Energy Industry Report at events at Groom Energy in Beverly and the South Middlesex Opportunity Council’s Green Jobs Academy in Worcester. ↴

— Source: MassCEC

For more information, go to www.masscec.com.

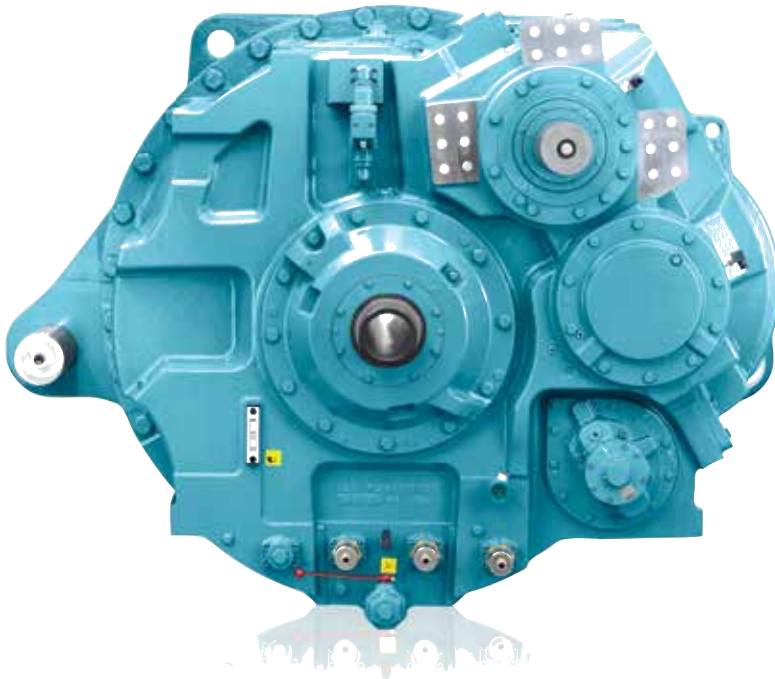
ZF ACQUIRES INDUSTRIAL GEARS AND WIND TURBINE GEARBOX SEGMENT FROM BOSCH REXROTH

ZF has officially taken over the industrial gears and wind turbine gearbox business from Bosch Rexroth AG. Approximately 1,200 employees at the Witten, Beijing, and Lake Zurich, Illinois, locations will join the technology company. The various product lines will be brought together in the new ZF Industrial Gears business unit based in Witten, Germany. The company is also strengthening its wind turbine gearbox business.

“With the newly created Industrial Gears business unit, we intend to get things moving on a large scale,” said ZF Chief Executive Officer Dr. Stefan Sommer. “We are extending our portfolio with large transmissions for industrial applications and mobile machinery to tunnel drilling machines and 600-ton mining excavators. The product range will also be extended in the Wind Power Technology business unit with gearboxes for turbines generating up to 8 MW.”

With the transaction, ZF is taking over the two production locations of Bosch Rexroth AG in Witten (North Rhine Westphalia, Germany) with almost 900 employees and in Beijing with approximately 300 employees, as well as the service location in Lake Zurich with 15 employees.

Two newly founded companies will be added to the Industrial Gears business unit as ZF Industrieantriebe Witten GmbH and ZF Powertrain Systems (Beijing) Co., Ltd. Witten is the headquarters for the business unit, which is not only home to administration and production, but also to the development and sales departments for large gearbox technologies, including industrial gears and wind turbine gearboxes. Witten is also the production location of ZF’s existing wind power technology business unit that is headquartered in Lommel, Belgium. At the Beijing location, gearboxes for ZF’s wind power segment are being produced, and as a result, the company is further



ZF

extending its presence in the important wind gearbox market in China.

ZF appointed Christoph Kainzbauer, an experienced manager in the field of large gearbox technology, to head up the Industrial Gears business unit. He was previously responsible for

global sales of Bosch Rexroth's large gearbox segment. The new business unit includes product lines for transmissions for mining applications and large construction machinery, transmissions for offshore and marine applications, transmissions for

industrial plants and equipment, and for cableways.

"We see ideal future opportunities for the industrial technology division, especially in wind power technology," said Wilhelm Rehm, who is responsible for corporate materials management and industrial technology on the ZF management board. "Strengthening ZF's non-automotive segment is an important objective of our long-term corporate strategy. We are supplementing our industrial technology portfolio optimally while also opening up access to new markets and customer groups."

The two companies have agreed not to disclose the purchase price. In 2014, Bosch Rexroth generated sales of approximately £300 million with the large gearbox business. In the same year, ZF generated roughly 12 percent of its group sales with the industrial technology division in which the company bundles its off-road activities. This figure should rise over the long term. ↵

— Source: ZF

For more information, go to www.zf.com.

GAMESA AND CFE SIGN AGREEMENT FOR WIND ENERGY PROJECTS IN MEXICO

Gamesa and the Mexican Electricity Board (the CFE for its acronym in Spanish) have signed a memorandum of understanding (MoU) for the fostering of wind power generation in Mexico by means of the co-development of wind energy projects.

The MoU was signed by Hipólito Suárez, Gamesa's managing director for Mexico and Latin America, and Benjamín Granados, director of project finance at the CFE. The signing ceremony was attended by Gamesa's Business CEO, Xabier Etxebarria, and the managing director of the CFE, Dr. Enrique Ochoa.

The two companies have pledged to search for ways to encourage technological, industrial, and supply chain development in the sector in Mexico and to champion research, development, and innovation in the renewable energy field. The MoU also contemplates the possibility of the CFE studying opportunities for participating in wind projects in which Gamesa has a stake in other Latin American markets and the U.S. In addition, the MoU will promote the extension of best practices in wind farm operations, maintenance, and control.

Construction of a Tower Factory in Mexico

Against the backdrop of this agreement and with the aim of contributing to the sector's technological and industrial development in Mexico, Gamesa, the leading OEM in this market, is planning to build a wind tower factory through Windar Renovables, the joint venture with the Daniel Alonso Group.

The factory will be located in Puerto Altamira, in the state of Tamaulipas, a high-potential wind region. Stretching 75,000 m², the center will have enough capacity to manufacture 500 MW per year for the Mexican,

U.S., and Central American markets. The construction work was scheduled to begin in December 2015, and the factory should be up and running by the end of 2016.

Gamesa is also planning to step up the renewable energy training and research activities it already carries out in Mexico through the existing Gamesa University located in Juchitán where local people specialize in operations and maintenance tasks.

“This MoU with the CFE highlights Gamesa’s commitment to the Mexican market where, in addition to developing and on-selling wind farms, it supplies, installs, and services wind turbines,” Suárez said. “Execution of this agreement will lead to the creation of hundreds of jobs in the tower manufacturing area and by nurturing a local supply chain capable of manufacturing major parts not only for the Mexican market, but also for the U.S.”



Wind farm in Mexico with Gamesa's WTG installed

Since it began doing business in Mexico in 1999, Gamesa has been active in its capacity as an OEM, having installed over 1,700 MW and, as a wind farm developer, with more than 700

MW complete and a sizeable pipeline at various stages of development. ↘

— Source: Gamesa

For more information, go to www.gamesacor.com.

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PILOT HILL WIND PROJECT CLOSES FINANCING FROM GE AND METLIFE



EDF Renewable Energy's 175-MW Pilot Hill wind project located in Kankakee and Iroquois counties in Illinois has closed structured equity financing from GE Energy Financial Services and MetLife, Inc.

Pilot Hill Wind Project, which has achieved commercial operations and is located approximately 60 miles southwest of Chicago, will power 100 percent of the energy needs of Microsoft Corporation's Chicago data center. Microsoft has committed to purchase the output under a 20-year power purchase agreement (PPA). This is Microsoft's second and largest wind energy deal, demonstrating its commitment to a neutral carbon footprint.

"Pilot Hill serves as another example of EDF Renewable Energy's strategy to develop renewable energy projects with first-tier equipment suppliers and contractors, and then invite the investment from longstanding financial partners," said Jim Peters, vice president of project finance for EDF Renewable Energy. "EDF Renewables will manage the wind project and bring our expertise in operations and maintenance through EDF Renewables' services to optimize long-term investment profitability."

"Investing in Pilot Hill contributes to the growth of EDF Renewable Energy, an important worldwide GE customer, builds on strong commercial interest in the renewable energy sector, and helps Microsoft meet its environmental goals,"

said Kevin Walsh, managing director and head of renewable energy at GE Energy Financial Services.

Pilot Hill comprises 91 GE 1.7-100 and 12 GE 1.85-87 wind turbines. GE Energy Financial Services holds a portfolio of approximately 14 GW of wind power projects in operation or under construction and plans to continue to invest over \$1 billion annually in renewable energy projects worldwide, including projects that utilize GE's wind turbine technology.

"MetLife is proud to support efforts that drive sustainability, and we're pleased to be working with EDF and GE on the Pilot Hill Wind Project," said Steven J. Goulart, executive vice president and chief investment officer for MetLife, Inc. "The Pilot Hill Project aligns with MetLife's approach to investing for the long term and builds upon the \$3.5 billion we've invested in renewable energy projects."

According to U.S. Energy Environmental Protection Agency (EPA) methodology, Pilot Hill will avoid approximately 365,000 metric tons of greenhouse gas emissions per year, the equivalent of the annual emissions from approximately 77,000 passenger vehicles. ↴

— Source: MetLife

For more information, go to www.metlife.com or www.edf-re.com.

BLOOMBERG AND EDP RENEWABLES ANNOUNCE NEW YORK'S LARGEST CORPORATE RENEWABLE ENERGY PURCHASE

EDP Renewables, a global leader in the renewable energy sector and the world's fourth-largest wind energy producer, recently announced that it has signed a 20-year power purchase agreement with Bloomberg, the global business and financial information and news leader, for 20 MW of clean energy that will be used to offset the energy use of their New York offices.

Bloomberg has agreed to buy more than 25 percent of the energy generated by the Arkwright Summit Wind Project in Chautauqua County, New York, totaling 79 MW. The project is expected to avoid the emissions of more than 340,500 metric tons over 20 years, which is the equivalent of taking more than 71,000 cars off the road.

"We are extremely satisfied with this agreement," said João Manso Neto, CEO of EDP Renewables. "The fact that companies like Bloomberg are playing such an active part in renewable energy projects is a very clear indicator that the future lies in the generation of this type of energy. To be chosen as their partners confirms the confidence of the market and companies in our delivery capacity, experience, and know-how."

The project is located less than 30 miles from the retired BPU Jamestown Coal Plant, one of more than 205 U.S. coal-fired power plants that have been retired in the last five years as part of the Sierra Club's Beyond Coal campaign, in partnership with Bloomberg Philanthropies. Thanks to local, grassroots efforts, coal-fired power plants in the U.S. have been replaced with cleaner energy, driving down power sector emissions to its lowest level since 1994.

"This agreement will benefit our company financially, but it also reflects our commitment to sustainable business practices," said Michael R. Bloomberg, founder of Bloomberg LP. "This new wind farm that is just a short drive from a coal plant that Bloomberg Philanthropies helped phase out will bring more clean energy onto the grid and power about half of our New York operations, helping to make our company one of the greenest in the state."

The project is the largest corporate renewable energy purchase on record in New York state, and, coupled with previously announced renewable energy projects, Bloomberg will power 51 percent of its New York state energy needs from clean energy sources once the project is complete.

"Bloomberg is aggressively looking for clean energy projects that make good business sense and reduce costs, diversify energy supply, and have a positive environmental impact," said Curtis Ravenel, Bloomberg's global head of sustainable business and finance. "With this project, we're projecting to save more than \$10 million over the life of the 20-year agreement versus traditional utility prices and demonstrating how businesses can contribute to the climate challenge while improving the bottom line."

"Governor Andrew M. Cuomo has championed efforts to reduce greenhouse gas emissions and combat climate change by increasing the use of renewable energy in New York," said John B. Rhodes, president and CEO of New York State's Energy Research and Development Authority. "With our support, the development of the Arkwright Summit Wind Farm will

help ensure New York achieves its 50 percent by 2030 renewable energy goals. We commend Bloomberg LP and EDP Renewables North America for their commitment to securing a stable energy supply with long-term economic and environmental benefits to benefit all New Yorkers."

Bloomberg aims to source 35 percent of its energy from clean power sources and reduce absolute emissions 20 percent from its 2007 baseline by 2020.

"Bloomberg has become a leading corporate buyer of renewable energy," said Charles Esdaile, managing partner of Altenex, the firm that served as Bloomberg's exclusive adviser on this transaction. "This is the largest corporate purchase of wind energy on record in New York. By completing this transaction, Bloomberg and EDP have helped to pioneer the New York market for large-scale renewable energy purchases by corporate buyers."

Bloomberg is a founding member of the Business Renewables Center, a collaborative platform launched by the Rocky Mountain Institute. It aims to accelerate corporate renewable energy procurement and double U.S. capacity of wind and solar energy by 2025. Bloomberg is also a signatory of the Renewable Energy Buyers Principles, a set of six principles that articulate the needs of corporate renewable energy buyers.

Construction of the wind farm is targeted for completion in 2017. ↴

— Source: EDP Renewables

For more information, go to www.edpr.com.