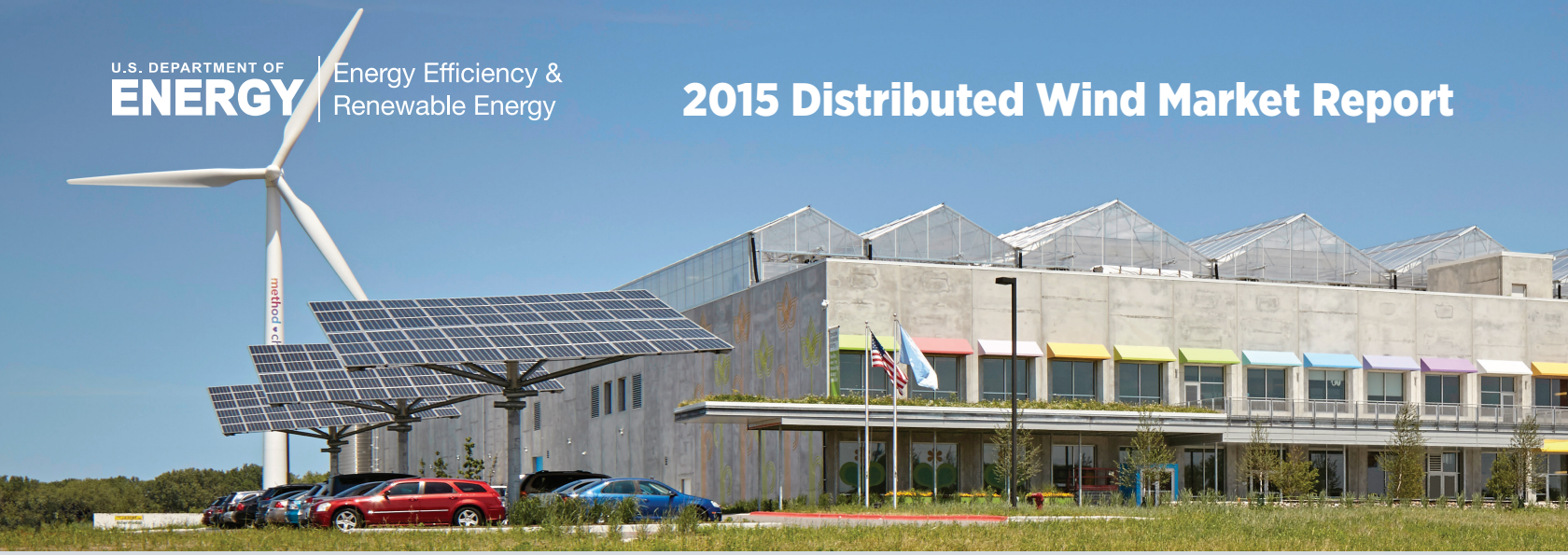
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

2015 Distributed Wind Market Report



Wind turbines in distributed applications are found in all 50 states, Puerto Rico, and the U.S. Virgin Islands to provide energy locally, either serving on-site electricity needs or a local grid. Distributed wind is defined by the wind project's location relative to end-use and power-distribution infrastructure, rather than turbine or project size. This refurbished NEG Micon 600-kW wind turbine provides about 30% of the energy used at the Method Manufacturing Plant in Chicago, Illinois. *Photo Credit: Patsy McEnroe Photography*

U.S. Distributed Wind Capacity Continues to Grow

Distributed wind cumulative capacity now totals 934 MW from over 75,000 turbines. In 2015, 28 states added 28 MW of new distributed wind capacity, representing just over 1,700 turbines and a $102 million investment.

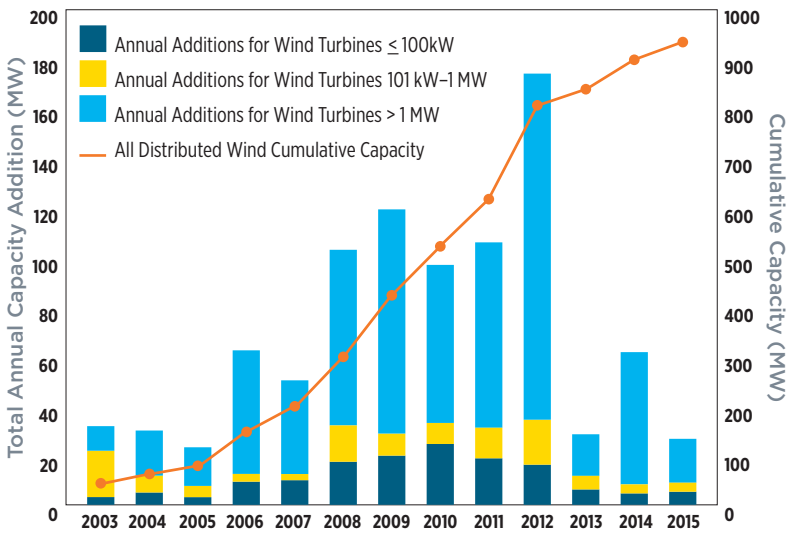
U.S. Small Wind Manufacturers Double Exports to 21.5 MW

In 2015, U.S. manufacturers dominated domestic sales of small wind turbines (up through 100 kW) and doubled exports from 2014 to 2015. Between 2012 and 2015, U.S.-based small wind turbine manufacturers accounted for a combined $310 million in small wind turbine export sales.

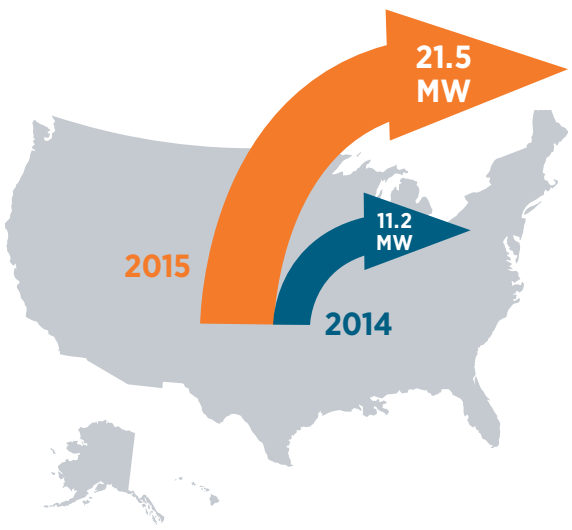
Distributed Wind Supports U.S. Industry

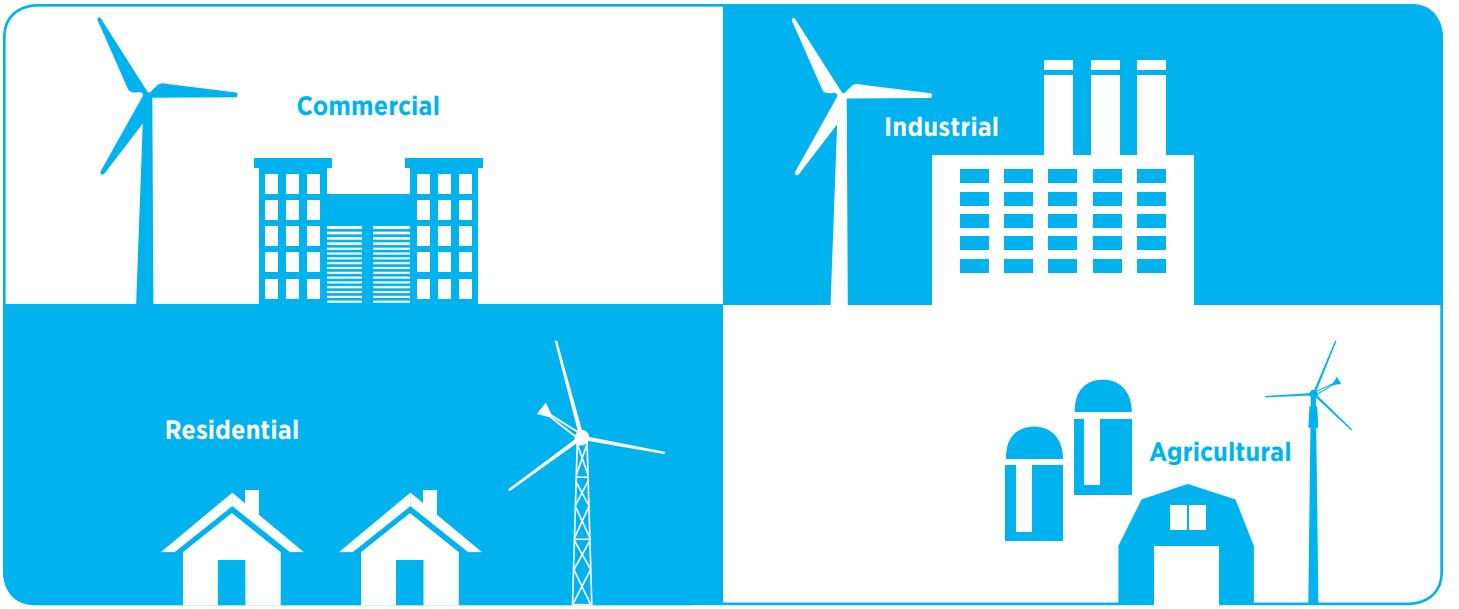
More businesses are using distributed wind to power their operations. Some 2015 examples include a 600-kW turbine installed at the Method Manufacturing Plant in Chicago, Illinois; 7.5 MW of distributed wind installed to support Whirlpool Corporation and Ball Corporation plants in Findlay, Ohio; and an 850-kW turbine installed at the Stafford County Flour Mills in Hudson, Kansas.

U.S. Distributed Wind Capacity



U.S. Small Wind Exports





In contrast to energy generated at large wind farms, which is sent via transmission lines to distant end-users, distributed wind systems produce electricity consumed on site or locally. Distributed wind can provide energy for farms, homes, businesses, and manufacturing facilities. *Image credit: David Schulz/Melissa Lee*

Flat domestic activity and strong exports characterize 2015

The distributed wind market includes wind turbines and projects of many sizes. In 2015, U.S. distributed wind projects and sales encompassed 24 different wind turbine models ranging in size from 160 W to 2.85 MW from 15 suppliers.

Of the 8,598 MW of wind project installations in 2015 using turbines greater than 100 kW, 23.7 MW from 18 turbines were considered to be distributed wind projects. In 2014, this figure was 60 MW out of an overall 4,584 MW of wind capacity installed.

In 2015, 4.3 MW of small wind capacity was deployed in the United States, representing 1,695 units and a $21 million investment. This is slightly higher than in 2014 (3.7 MW deployed, about 1,600 units, and an approximately $20 million investment), but down from 2013 (5.6 MW deployed, about 2,700 units, and an approximately $26 million investment).

In 2015, U.S.-based small wind turbine manufacturers continued to focus on international markets as a source of revenue. Six manufacturers exported 21.5 MW with an estimated value of $122 million, primarily to Italy, the United Kingdom, and Japan. In 2014, 11.2 MW with an estimated value of $60 million was exported by seven U.S.-based small wind turbine manufacturers.

Italy, the United Kingdom, and Japan each fund a feed-in tariff program. Italy's feed-in tariff still supports wind energy; however, that support was significantly scaled back between 2012 and 2013 due to both dwindling fiscal resources and the success of the program. The United Kingdom's long-standing feed-in tariff program went through significant changes in late 2015 and early 2016, with rates dropping between 37 and 78% after being put on hold in early 2016. Finally, Japan's feed-in tariff program, created for renewable energy in 2012 to support energy diversification after the Fukushima Daiichi nuclear disaster in 2011, is still gaining traction. According to the Japan Small Wind Turbines Association, as of November 2015 Japan's program had approved 312 small wind projects totaling 4.6 MW.

Small wind turbine installed costs are trending downward. Based on small wind turbine manufacturers' reports, the overall capacity-weighted average installed cost of 1.6 MW of newly manufactured small wind turbines sold in the United States in 2015 was $5,760/kW. This compares to $6,230/kW in 2014 from 2.8 MW of sales and $6,940/kW in 2013 based on 5 MW of sales.

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FOR MORE INFORMATION, VISIT:
energy.gov/eere/wind/distributed-wind

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