What is Distributed Wind?
The U.S. Department of Energy Wind Program defines distributed wind in terms of technology application based on the wind plant’s location relative to end-use and power distribution infrastructure, rather than turbine size. Wind systems are characterized as distributed based on their:

Proximity to End-Use: Wind turbines installed at or near the point of end-use for the purposes of meeting onsite load or supporting the operation of the distribution grid.

Point of Interconnection: Wind turbines connected on the customer side of the meter or directly to the distribution and micro grids.

During 2012, the overall U.S. distributed wind market increased by 62% from 2011 with 175 MW deployed, totaling nearly 3,800 wind turbines (Figure 2B) and representing more than $410 million in domestic investment.

Utility-scale wind turbines (above 1 MW) installed in distributed applications increased the most at 80%—from 76.5 MW in 2011 to 138 MW in 2012—followed by distributed “mid-size” wind turbines (101-1,000 kilowatts), which increased 49% from 12.4 MW in 2011 to 18.5 MW in 2012.

The U.S. market for small wind turbines (0.1-100 kilowatts) declined slightly from 2011 by 3% to 18.4 MW in 2012, representing $101 million in investment and nearly 3,700 units sold. Seven U.S.-based suppliers of newly-manufactured and refurbished small wind turbines—reconditioned equipment emerging from California wind farm repowering—reported sales greater than 1 MW, up from four suppliers in 2011.

The average installed cost of newly manufactured U.S. small wind turbines in 2012 was $6,960/kW, up 15% from 2011.

Domestic sales capacity from U.S. small wind suppliers accounted for an 86% share of the 2012 U.S. small wind market, up from 80% in 2011 (Figure 3). On a unit basis, U.S. suppliers claimed 91% of domestic small wind sales.

U.S. small wind turbine manufacturers exported 8 MW to foreign markets in 2012—primarily serving European feed-in tariffs, telecom and wind-diesel applications—representing 56% of newly manufactured U.S. small wind sales capacity. In terms of units, 55% of 2012 U.S. small wind turbines were exported, up from 41% in 2011.

Leading U.S.-based small wind turbine manufacturers continued favoring U.S. supply chain vendors for most of their turbine components, maintaining domestic content levels of 80-85%.

On a unit basis, small wind turbines comprised 35% of all 2012 U.S. wind installations and 95% of the distinct project locations.
The scope of the 2012 Market Report on U.S. Wind Technologies in Distributed Applications has been expanded from past years’ reports to include a finer breakdown of small wind statistics, more extensive statistics on mid-size turbines used in distributed applications, and new statistics on utility-scale turbines used in distributed applications. The full Market Report is expected to be published in Summer 2013 and available at wind.energy.gov/wind_dist_tech.html.

To further aid stakeholders in identifying the best financial environments for small wind and which existing and potential policy combinations have the most impact on improving project economics, the U.S. Department of Energy-funded Distributed Wind Policy Comparison Tool (windpolicytool.org) has been updated and enhanced.

Acknowledgments


For more information, visit:
wind.energy.gov/wind_dist_tech.html