



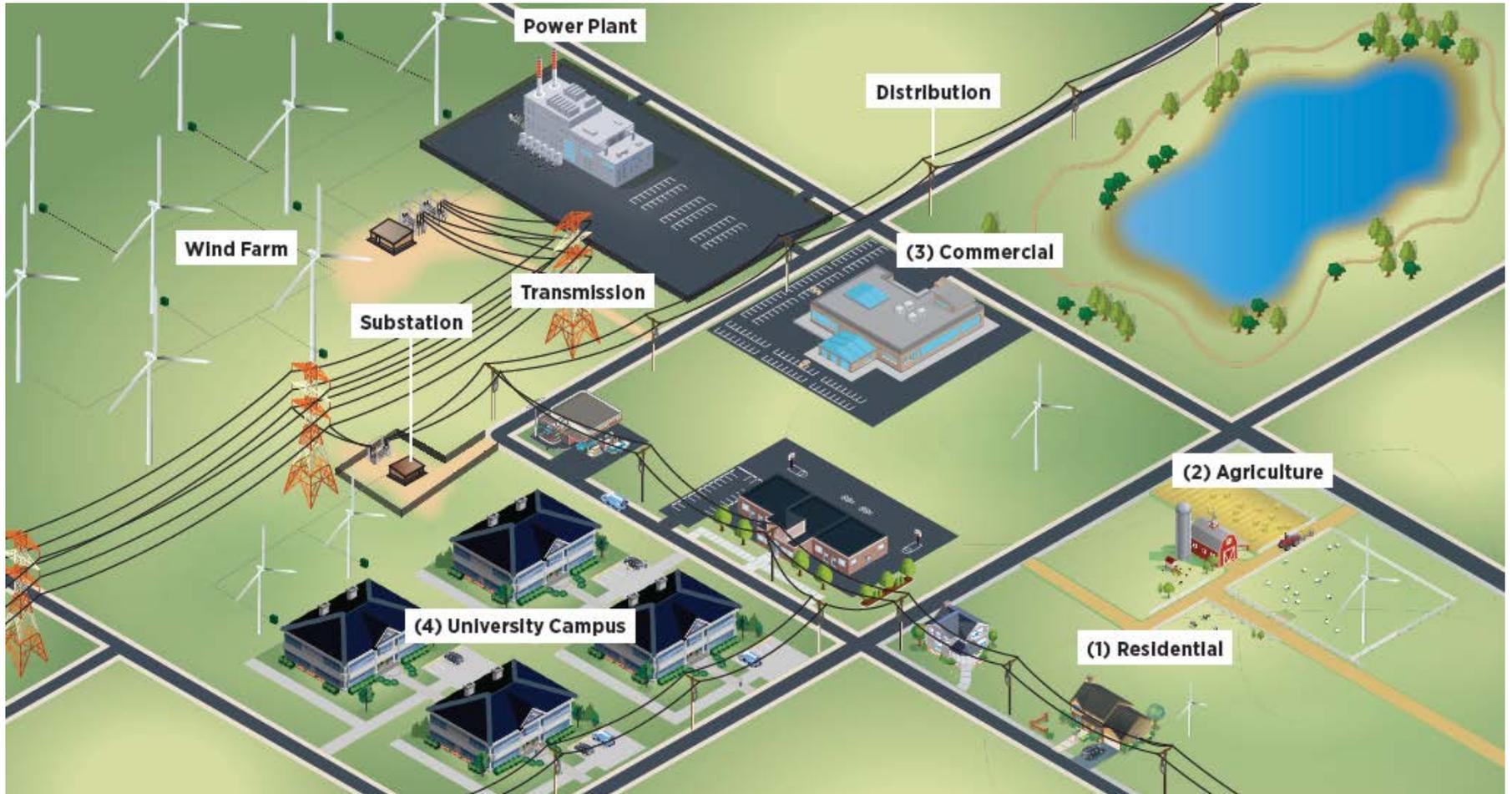
Aegis Renewable Energy, Waitsfield, Vermont

2014 Distributed Wind Market Report

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What is Distributed Wind?



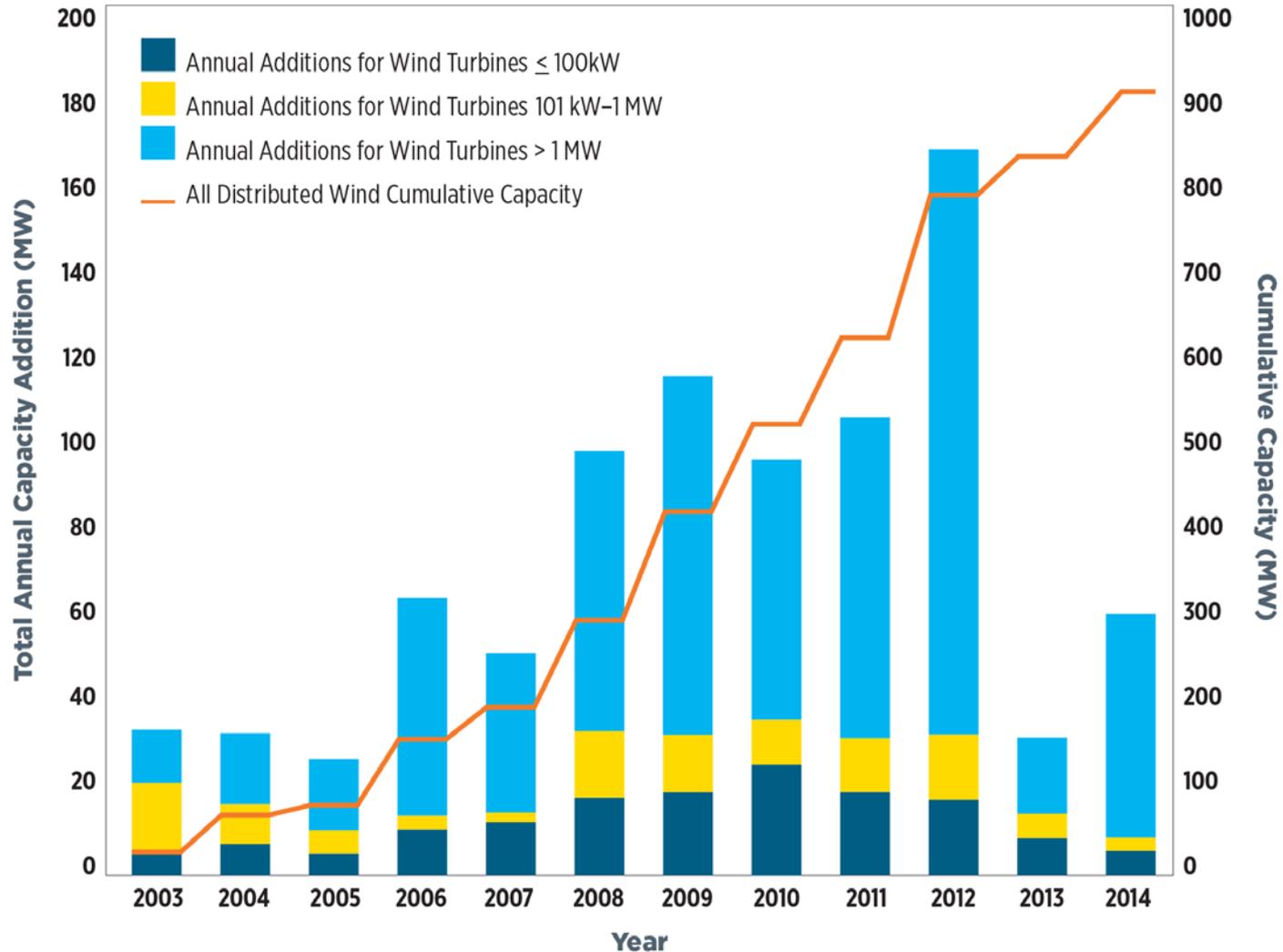
Graphic: NREL / David Schulz

- Prepared for U.S. DOE's Energy Efficiency & Renewable Energy Office's Wind and Water Power Technologies Office
 - Available at <http://www.energy.gov/2014-wind-market-report>
- Covers small wind (up through 100 kW), mid-sized (101 kW- 1 MW) and turbines greater than 1 MW in distributed applications
- Data sources and methodology included in report
- Thank you to all those who provided review, and other contributions!

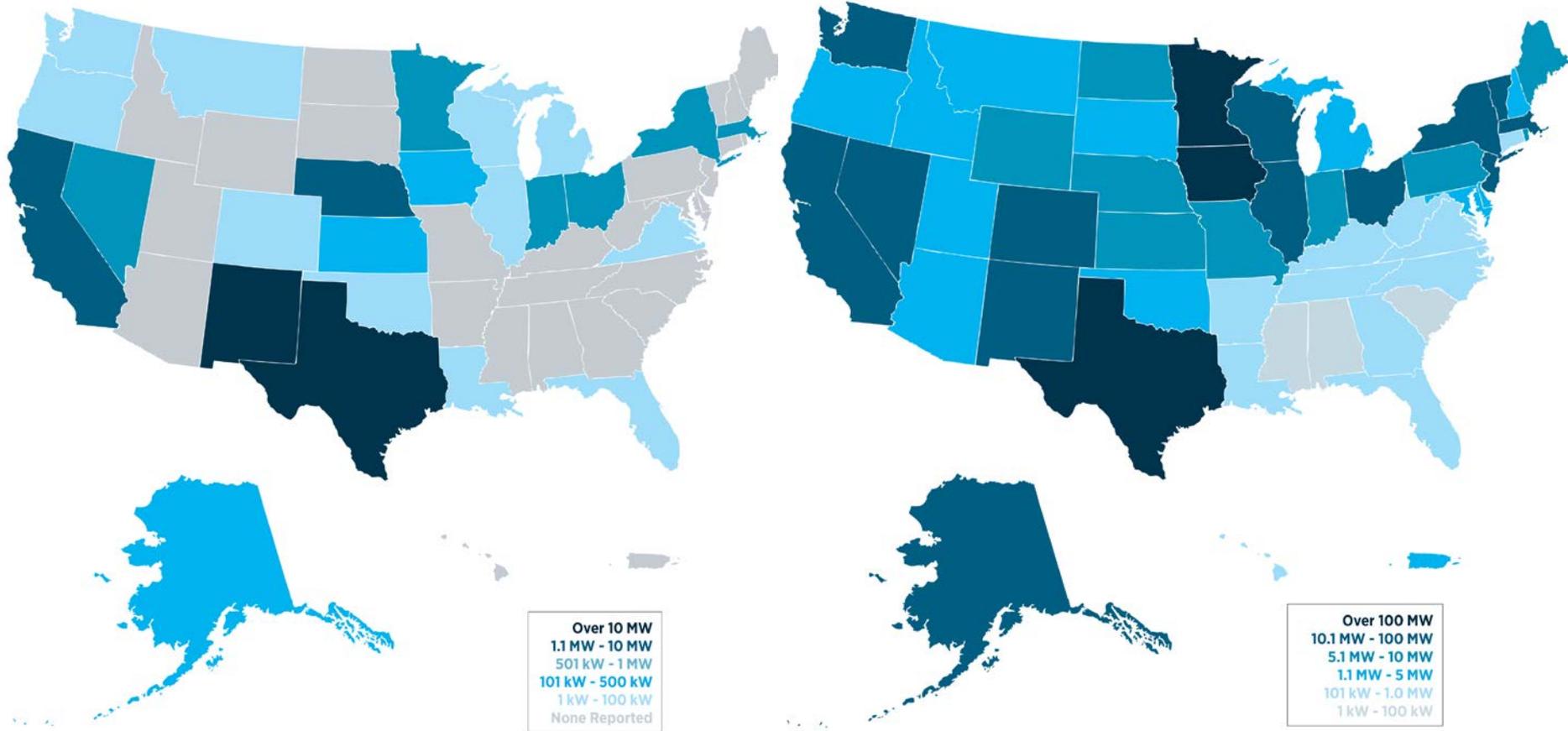


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Cumulative Installed Capacity Nearing 1 GW



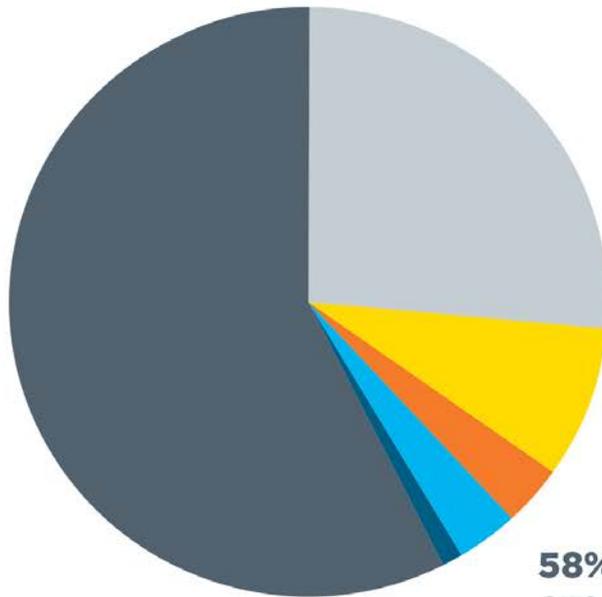
Capacity Additions by State



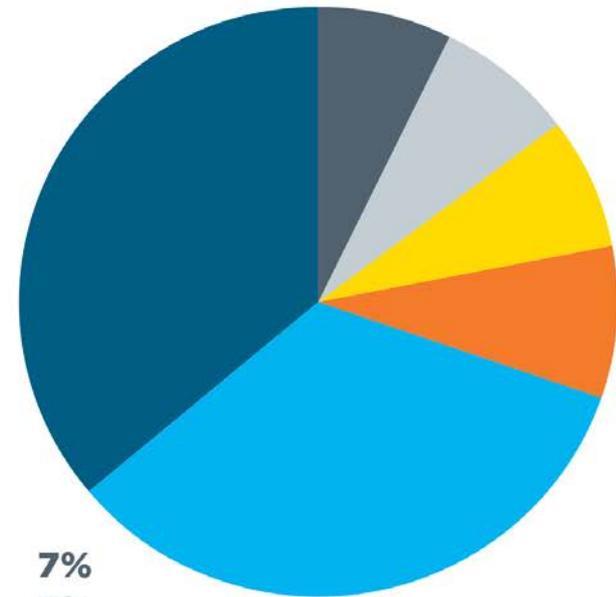
U.S. Distributed Wind Capacity Additions; 2014

Cumulative U.S. Distributed Wind Capacity by State; 2003-2014

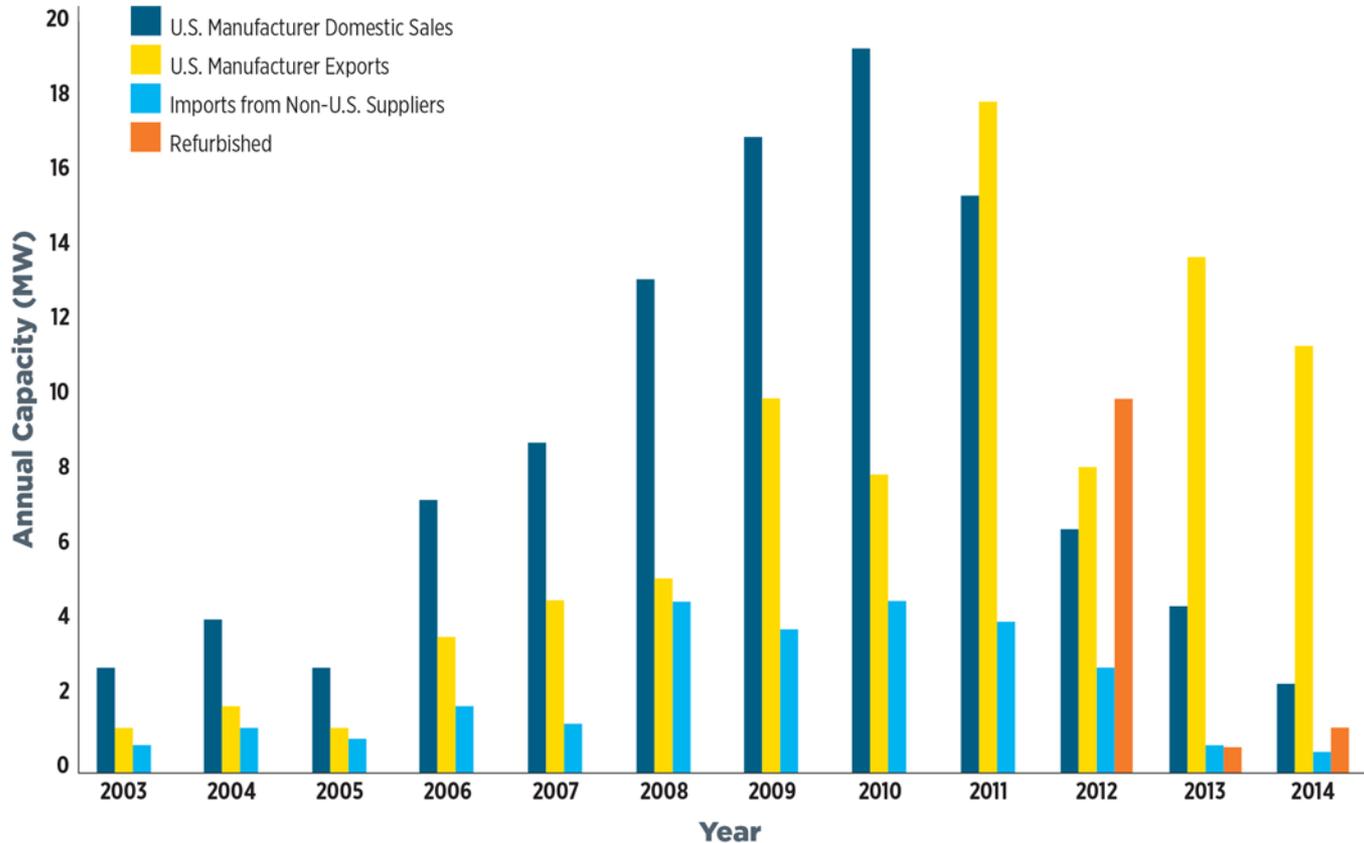
Capacity of Projects



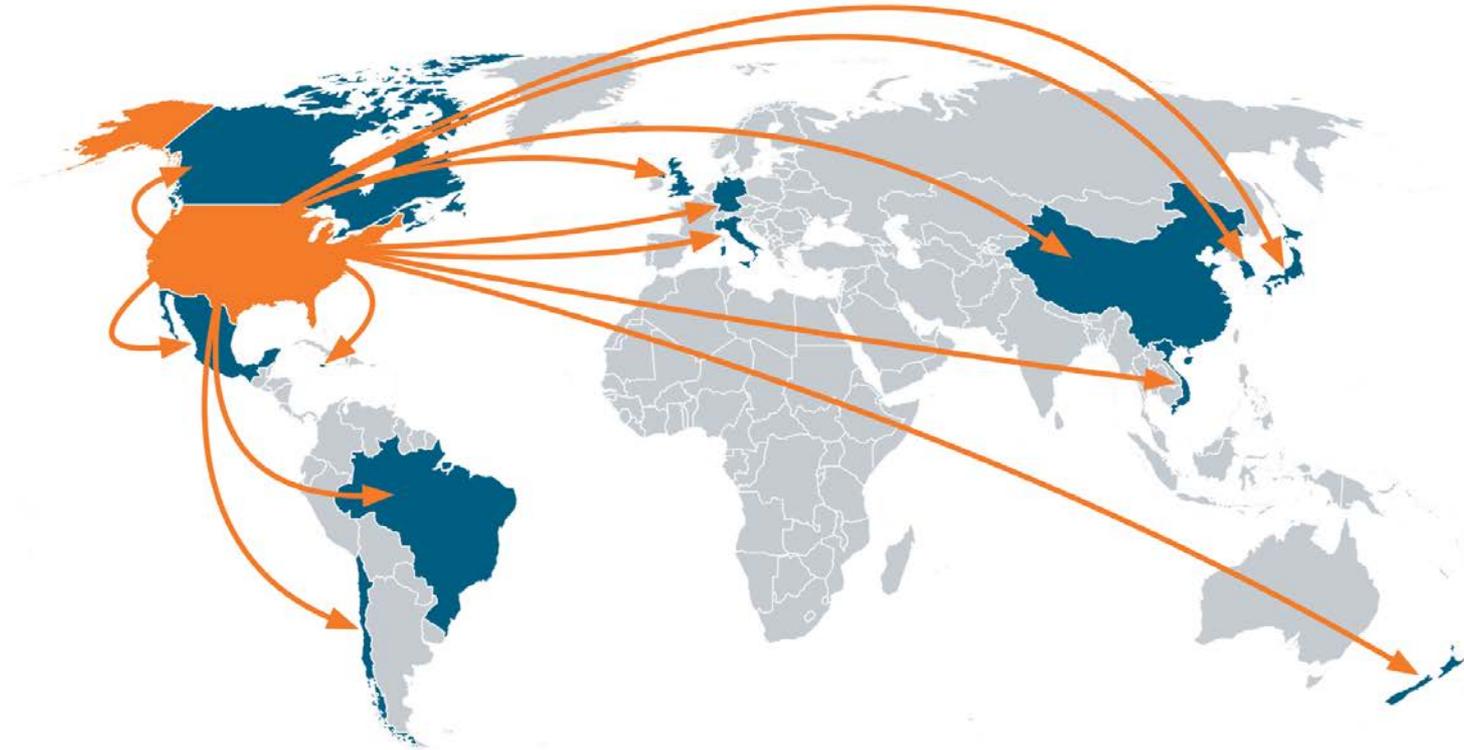
Number of Projects



58%	Institutional	7%
27%	Government	7%
8%	Industrial	7%
3%	Commercial	8%
3%	Agricultural	34%
1%	Residential	36%



- Over 1,600 small wind units installed in 2014
- Small wind sales declined from 5.7 MW in 2013 to 3.7 MW in 2014



- U.S. manufacturers exported to over 20 countries between 2012 and 2014- a \$60 million value in 2014 alone
- About 80% of U.S. manufacturer's small wind sales were exports

Size Range (kW)	Sample Size (kW)	# of Units	Average Cost (\$/kW)
Less than 2.5	1,145	3,864	8,200
2.5 – 10	2,557	358	7,200
11 – 100	4,024	95	6,000

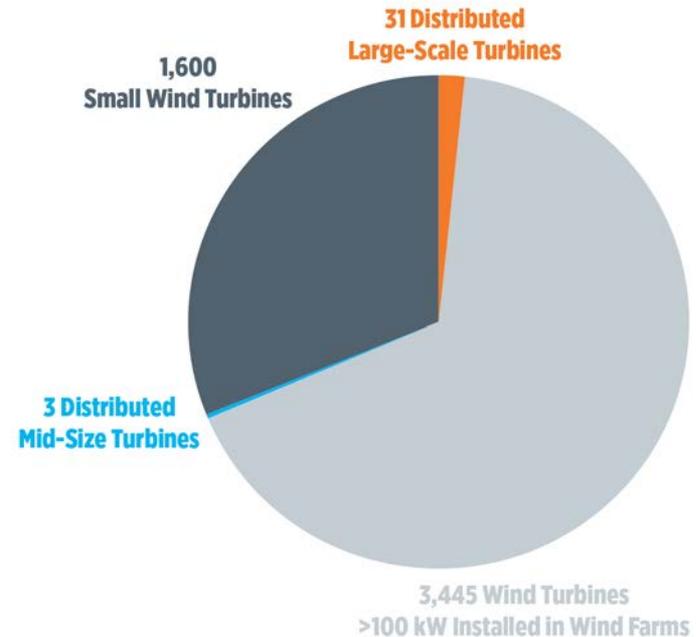
- Overall capacity-weighted average installed cost of 2.8 MW of newly manufactured small wind turbines sold in the United States in 2014 was \$6,230/kW, down from \$6,940/kW in 2013 based on 5 MW of sales.

Mid-Size

- 2.4 MW of installed capacity- down from 4.4 MW in 2013
- Applications include municipality, water treatment plant, industrial park
- Expect a few more turbines in 2015

Large

- 57.5 MW of capacity installed in 2014- almost tripling 2013 capacity
- Applications include brewery, casino, cities, National Nuclear Security Administration plant
- Large-scale wind trajectory mirrors utility-scale wind bump



- Incentives
 - 115 awards, \$20 million funding going to 14 states
 - ITC provides 30% credit against capital cost of project
 - 2014 USDA REAP grants totaled just over \$400,000 for 15 projects, compared to \$1.2 million in grants for 25 wind projects in 2013
 - State level funding important, but varied
- Wind Leasing
- Certifications
 - 13 small wind turbine models are fully certified to American Wind Energy Association Standard 9.1–2009 (July 2015)
- Soft Costs

- Distributed wind market still in flux
- Cost are declining
- Exports and soft costs impact growth of small sector
- 2015 Outlook
 - Expecting slight growth in mid-sized systems
 - Small scale could remain at current levels or decrease
 - Success of wind leasing model and new international markets could impact small sales



Credit: Roy Rakobitsch/Windsine

- <http://wind.energy.gov>
- <http://www.energy.gov/eere/wind/distributed-wind>
- Supporting Excel file data tables also available:
<http://energy.gov/eere/wind/downloads/2014-distributed-wind-market-report>

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