



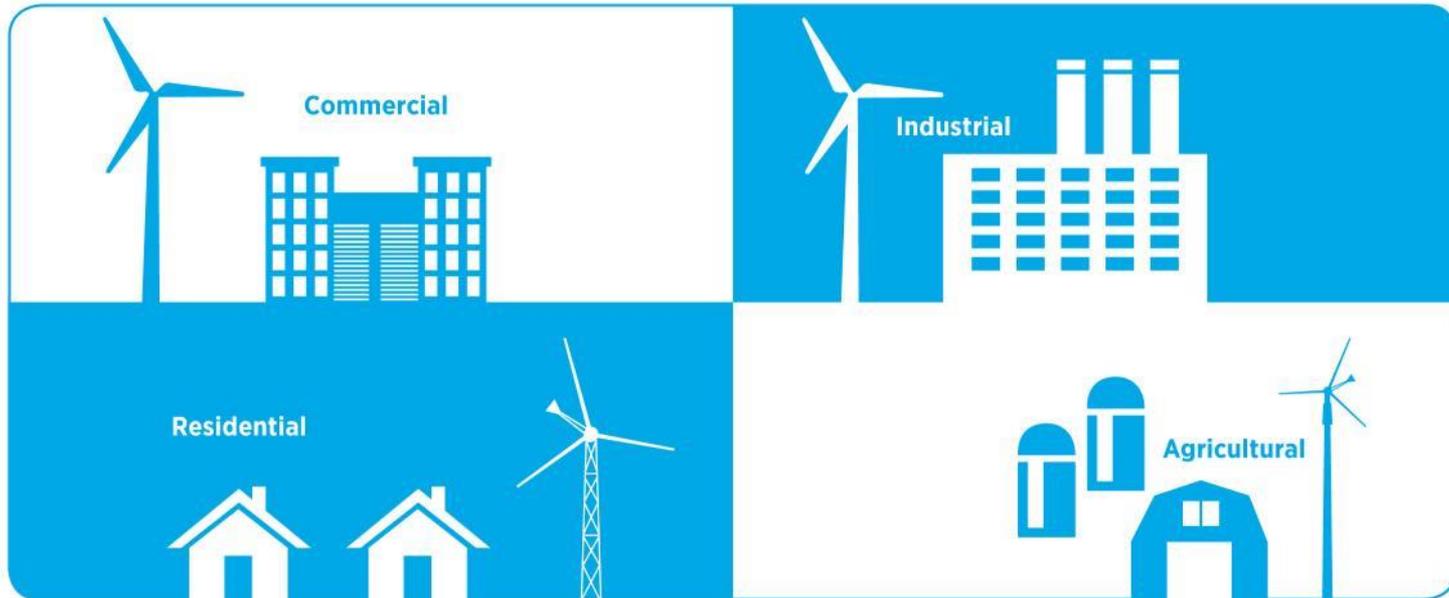
Roger Dixon / Skylands Renewable Energy

2015 Distributed Wind Market Report

Alice Orrell
Nik Foster, Juliet Homer, Scott Morris

Pacific Northwest National Laboratory
September 28, 2016
PNNL-SA-120748

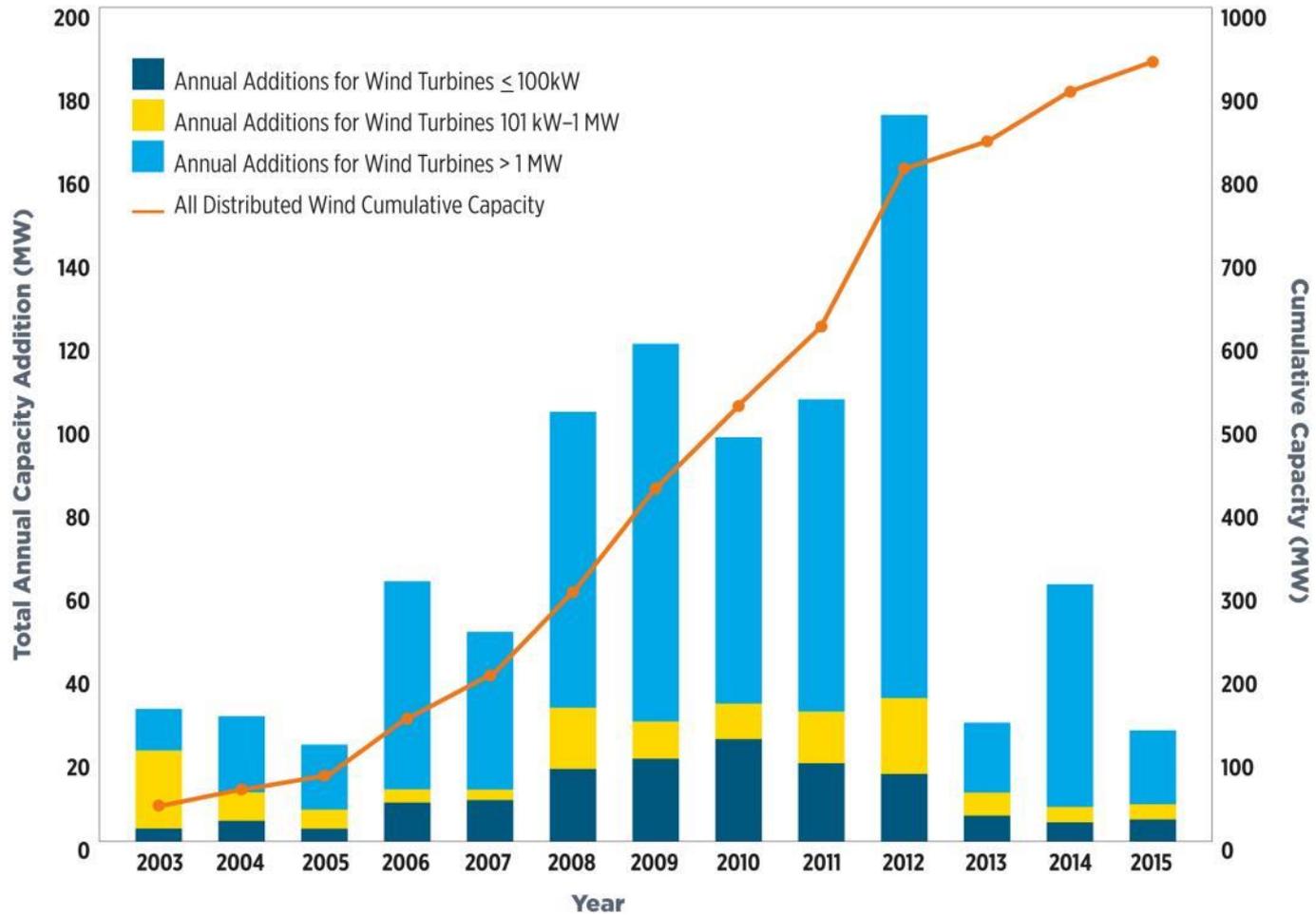
What is Distributed Wind?



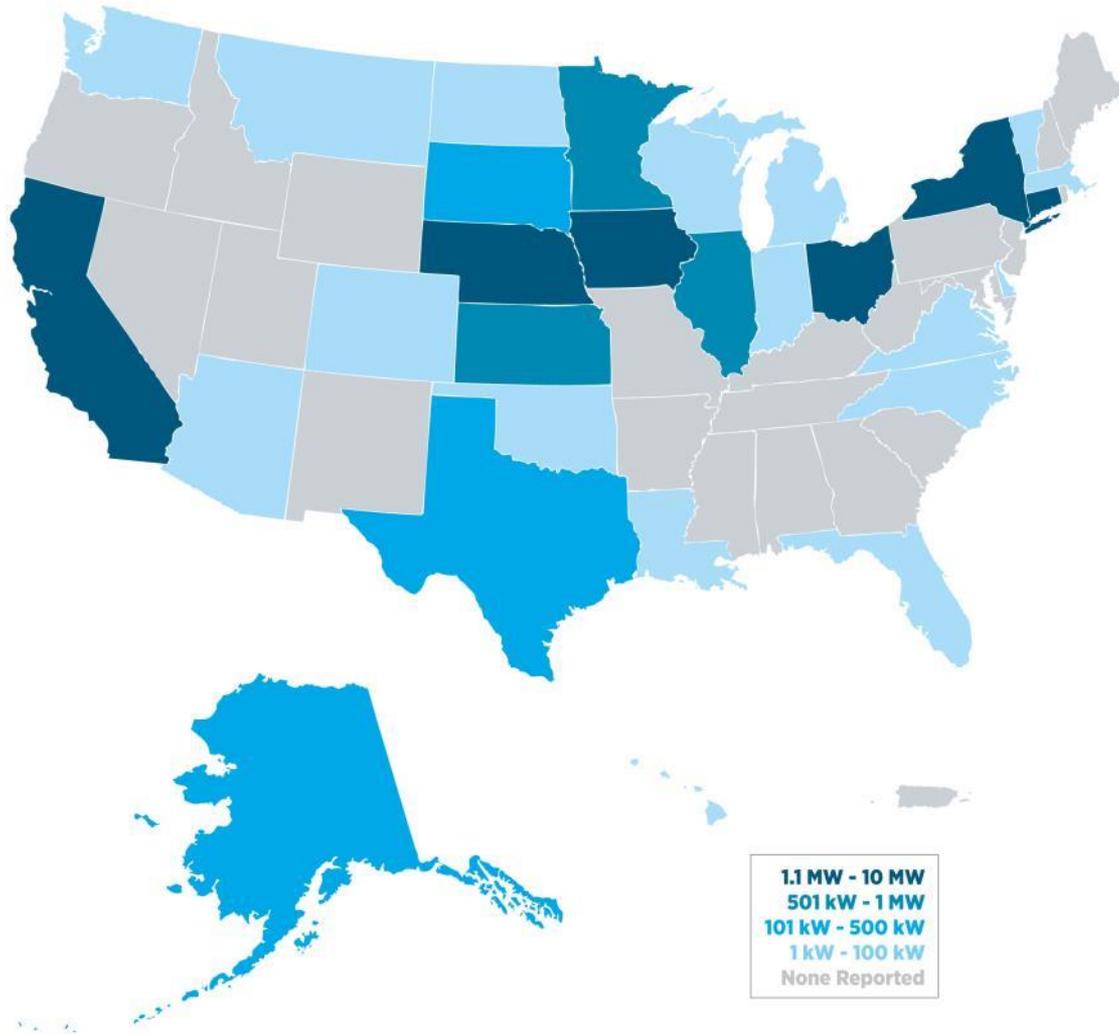
- Prepared for U.S. DOE's Energy Efficiency & Renewable Energy Office's Wind Energy Technologies Office
 - Available at <http://www.energy.gov/2015-wind-market-report>
- Covers small wind (up through 100 kW), mid-size (101 kW- 1 MW) and turbines greater than 1 MW in distributed applications
- Data sources and methodology included in report
- Thank you to all those who provided, input, review, and other contributions!



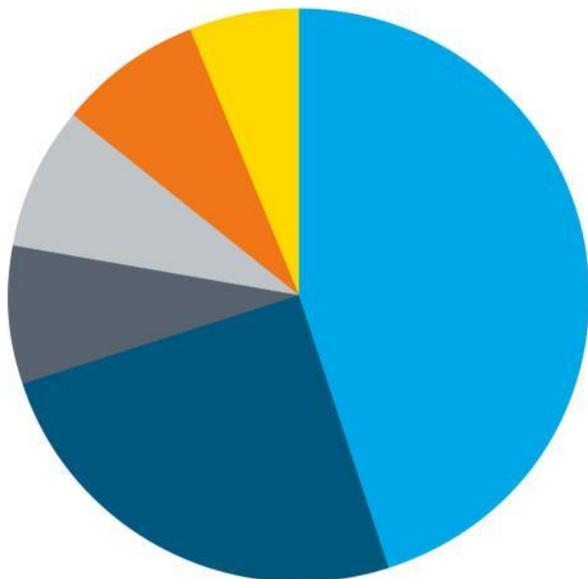
Cumulative Capacity



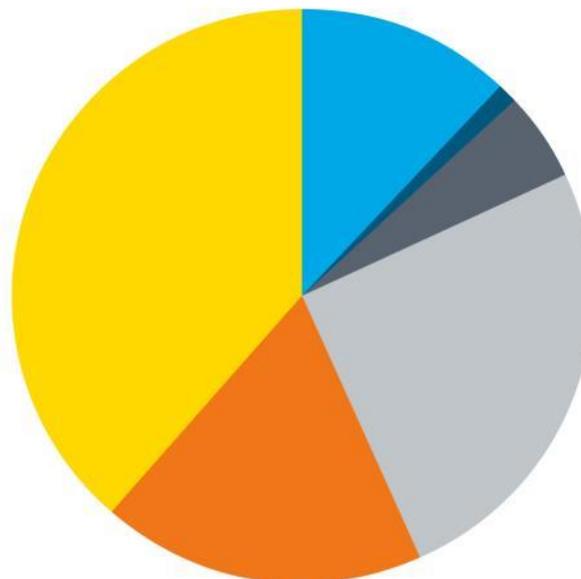
Capacity Additions by State



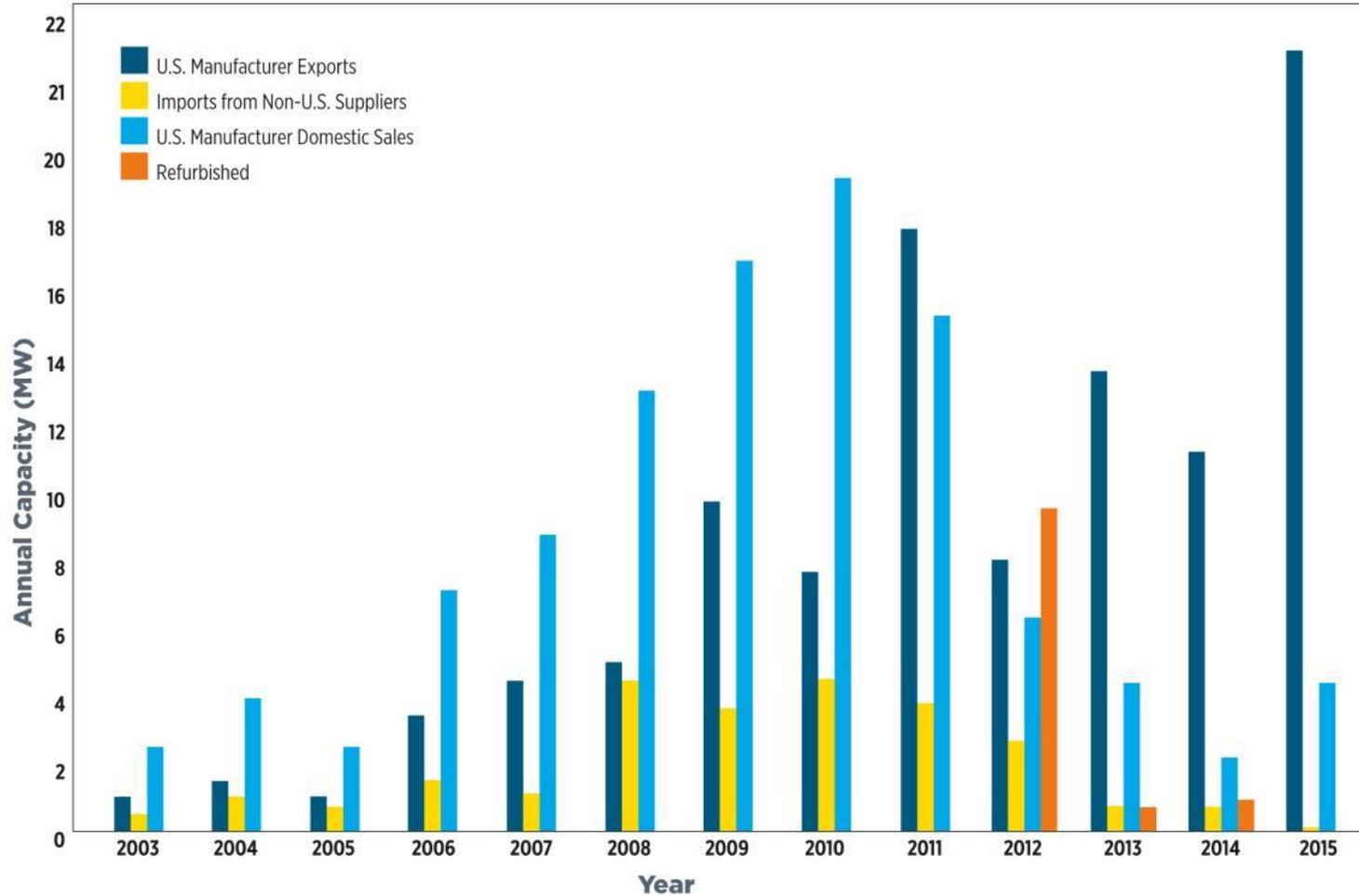
Number of Projects



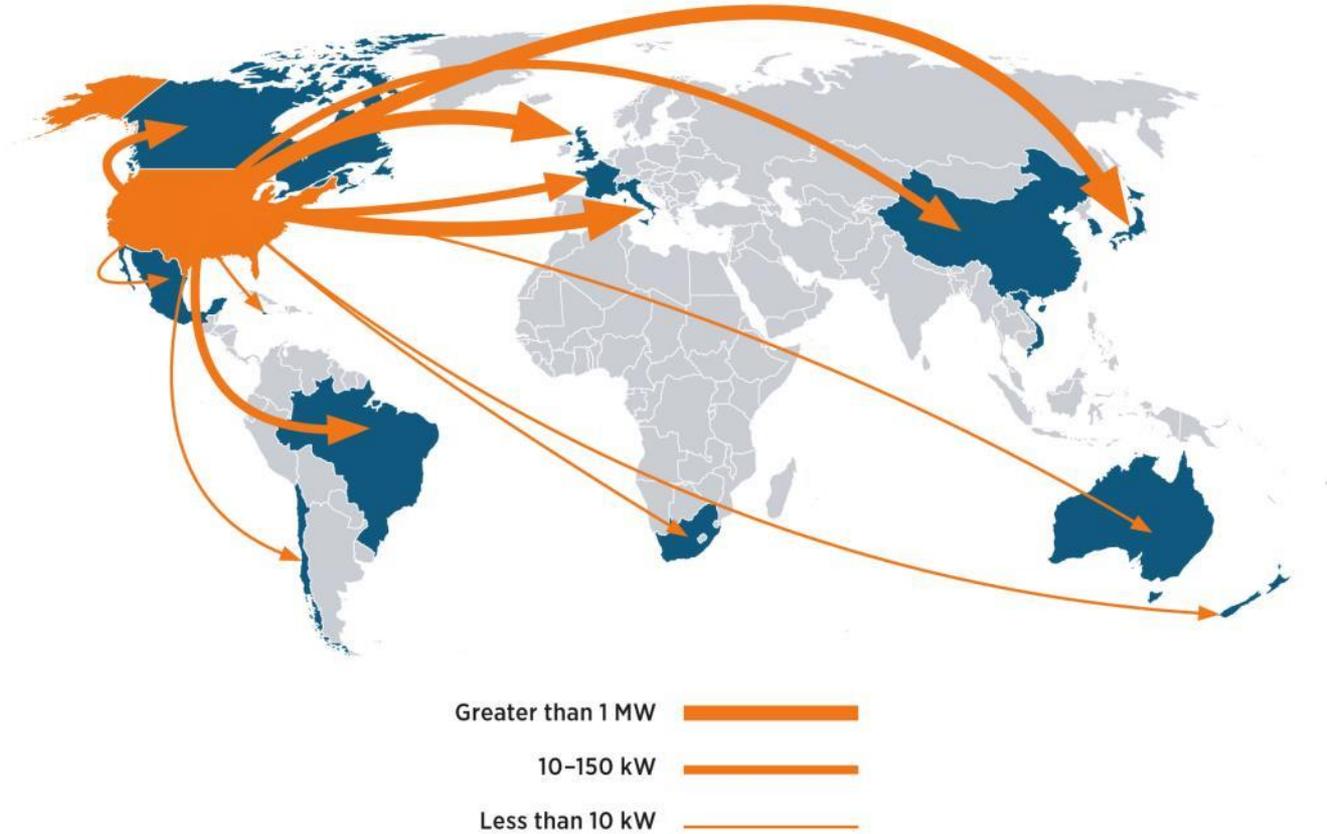
Capacity of Projects



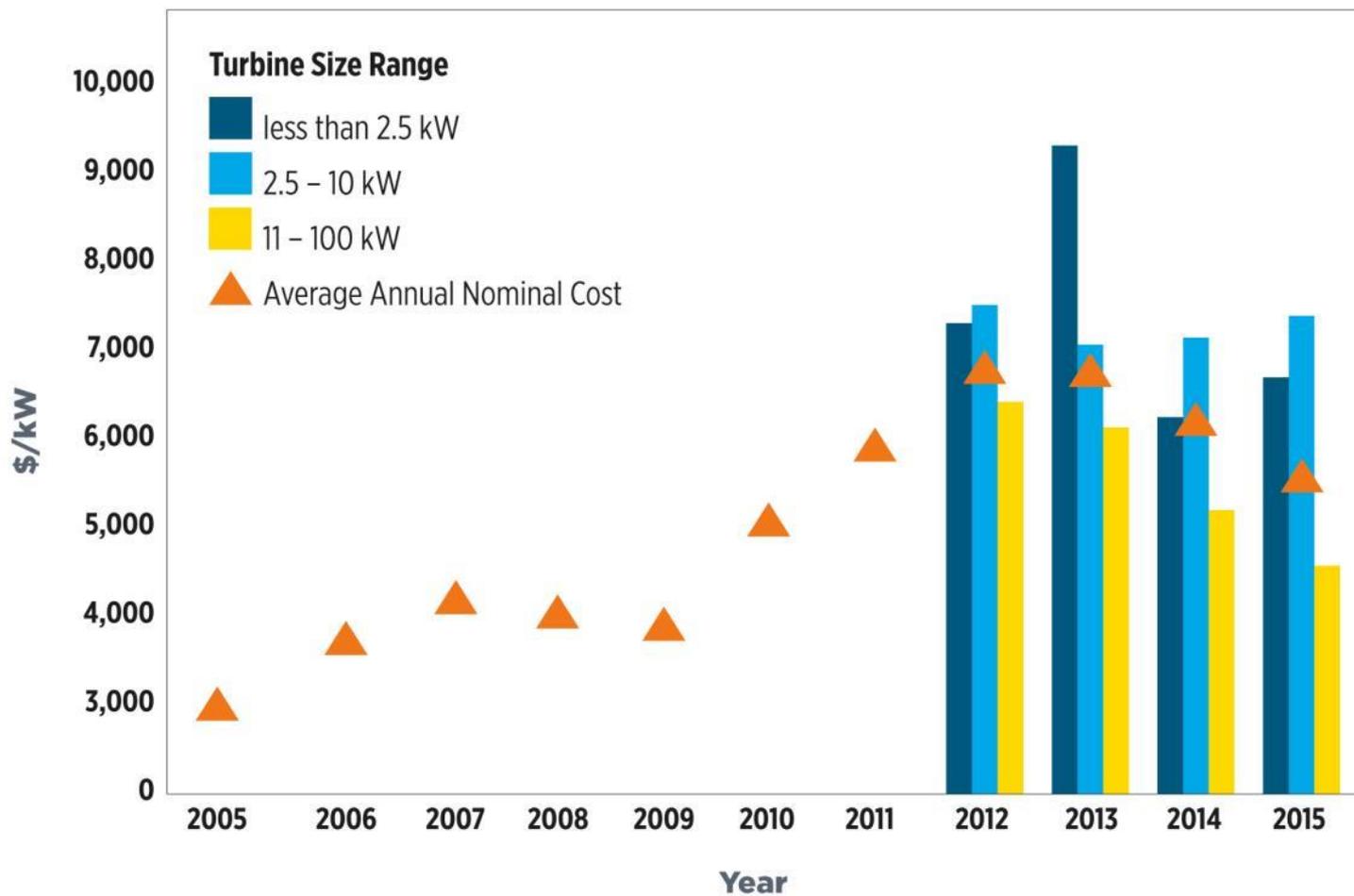
46%	Agricultural	12%
24%	Residential	1%
8%	Government	5%
8%	Institutional	24%
9%	Commercial	20%
5%	Industrial	37%



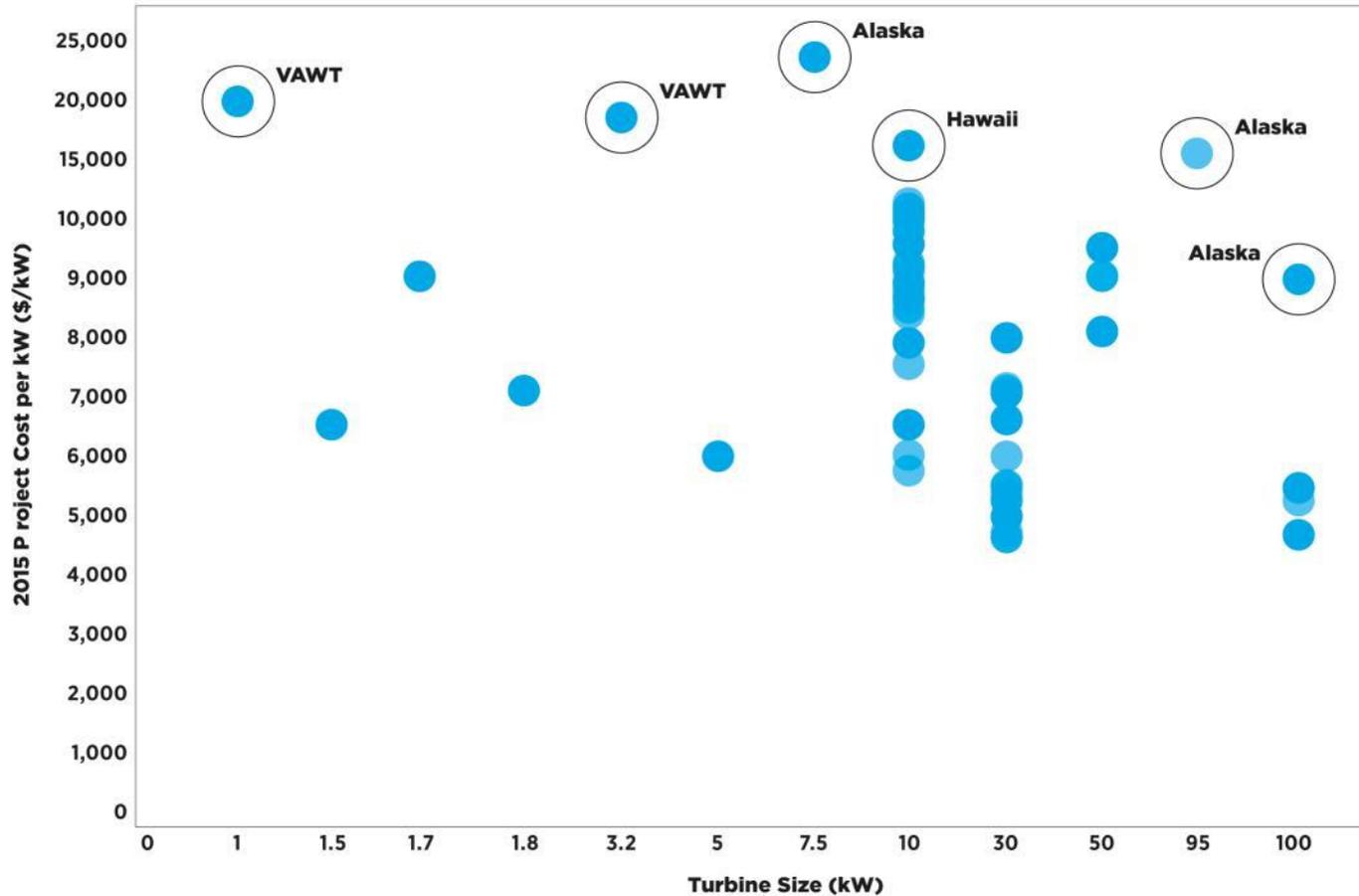
Small Wind Exports



Manufacturers' Reported Small Wind Installed Costs



Project-Specific Reported Small Wind Installed Costs



Mid-Size and Large Turbines

Patsy McEnroe Photography

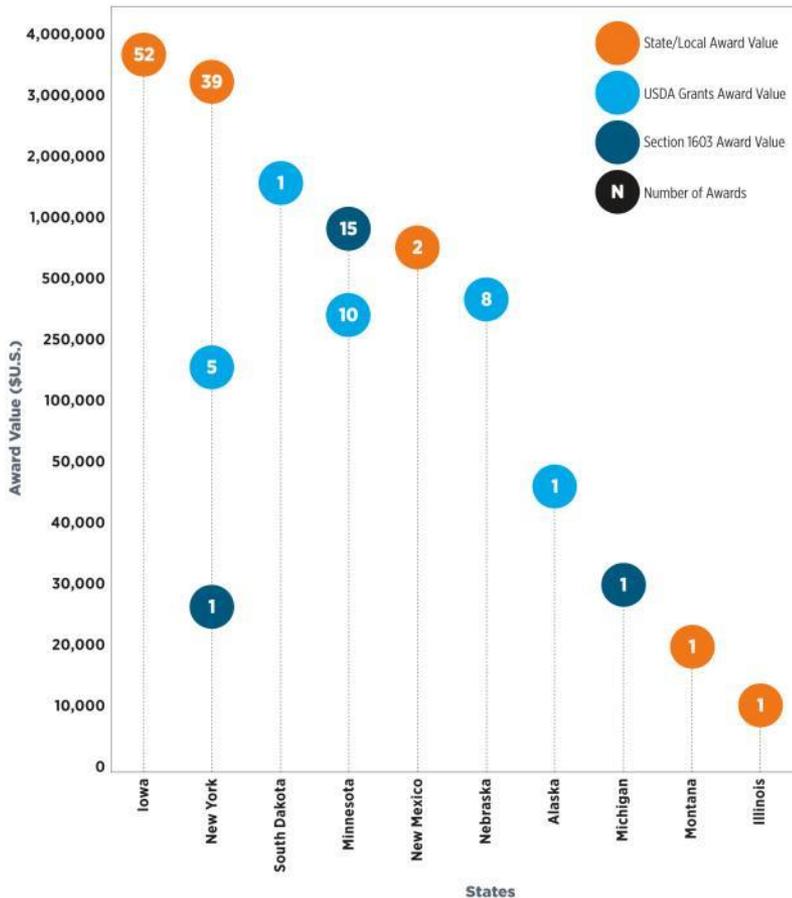


Terry Spradley



Lauren Powell / One Energy LLC

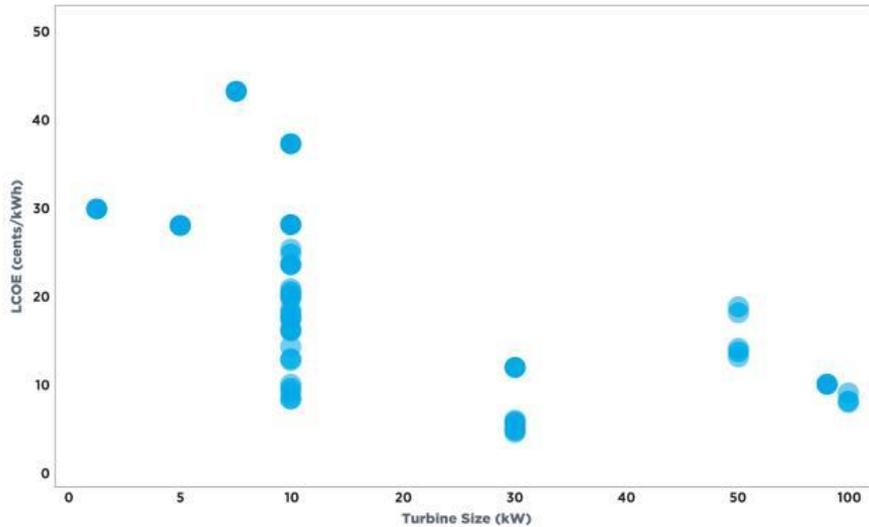
Incentive Awards by State



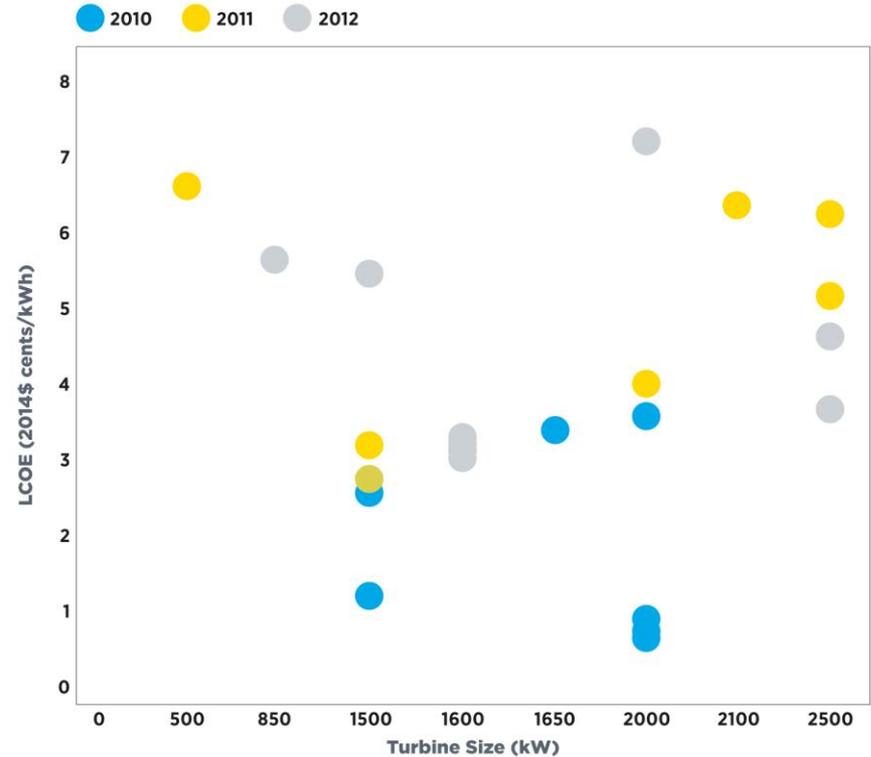
USDA REAP Grants



Levelized Costs of Energy



Projects installed in various years and locations using different turbine sizes achieve diverse LCOEs.



U.S. distributed wind market has been relatively flat for past three years.

- Impacts of ITC changes on small wind
 - Small wind certification requirement
 - Expiration of the Residential Renewable Energy Tax Credit for small wind
- Continued small wind exports
- Decrease in state (and utility) incentive funding
- Commercial & industrial (C&I) customers

Dennis Williams / Williams Power Systems



- <http://www.energy.gov/eere/wind/distributed-wind>
- Supporting Excel file data tables also available:
<http://energy.gov/eere/wind/downloads/2015-distributed-wind-market-report>
- New PNNL webpage:
<http://wind.pnnl.gov/distributedwind.asp>

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Courtesy of Jake West / Van Wall Energy