

American Wind Energy Association

U.S. Wind Industry Fourth Quarter 2014 Market Report

A product of AWEA Data Services

Released January 28, 2015

In the fourth quarter of 2014, the American wind energy industry installed 3,600 megawatts (MW). In total during 2014, 4,854 megawatts (MW) were installed, nearly five times more than the industry installed in 2013. The U.S. now has an installed wind capacity of 65,879 MW.

There are over 12,700 MW of wind currently under construction, with more than 3,300 MW of power purchase agreements signed in 2014.



Table of Contents

Key Takeaways	3
U.S. Annual and Cumulative Wind Power Capacity Growth	4
U.S. Wind Power Capacity Installations, by State	5
U.S. Wind Power Capacity Installations, by Quarter	6
U.S. Wind Power Capacity Installations, Top States	7
Wind Power Capacity Under Construction	8
Map of Wind Power Capacity Under Construction	9
Power Offtake Status for Near-Term Projects	Full Version Only
Market Breakdown: Turbine Activity	Full Version Only
Utility-Scale Wind Projects Completed in 2014	12
Map of Projects Online & Under Construction in 2014	15
Map of Wind Capacity Activity by Region in 2014	Full Version Only
Wind Power Projects Under Construction	Full Version Only
New Power Purchase Agreements	Full Version Only
Map of Power Purchase Agreements	Full Version Only

Key Takeaways

2014 Wind Project Installations

- In the fourth quarter of 2014, the U.S. wind industry installed 1,789 turbines, totaling 3,600 megawatts (MW). These turbines were installed across 32 projects in 14 different states. The most wind capacity was installed in Texas (1,122 MW), followed by Oklahoma (648 MW), Iowa (511 MW), Washington (267 MW), and Colorado (261 MW).
- In 2014, the U.S. wind industry installed 4,854 MW and 2,500 turbines. This is nearly five times more than the wind industry installed in 2013, but still lags behind installation numbers from recent years. The average turbine was 1.83 MW and 80% of installed turbines had a rotor diameter of 100m or greater. More information breaking down average project characteristics will be available in the AWEA U.S. Wind Industry Annual Market Report coming out in April 2015.
- In 2014, turbines were installed across 51 projects in 19 different states. The most wind capacity was installed in Texas (1,811 MW), followed by Oklahoma (648 MW), Iowa (511 MW), Michigan (368 MW), and Nebraska (277 MW).
- There are now 65,879 MW of installed wind capacity in the United States and over 48,000 wind turbines.

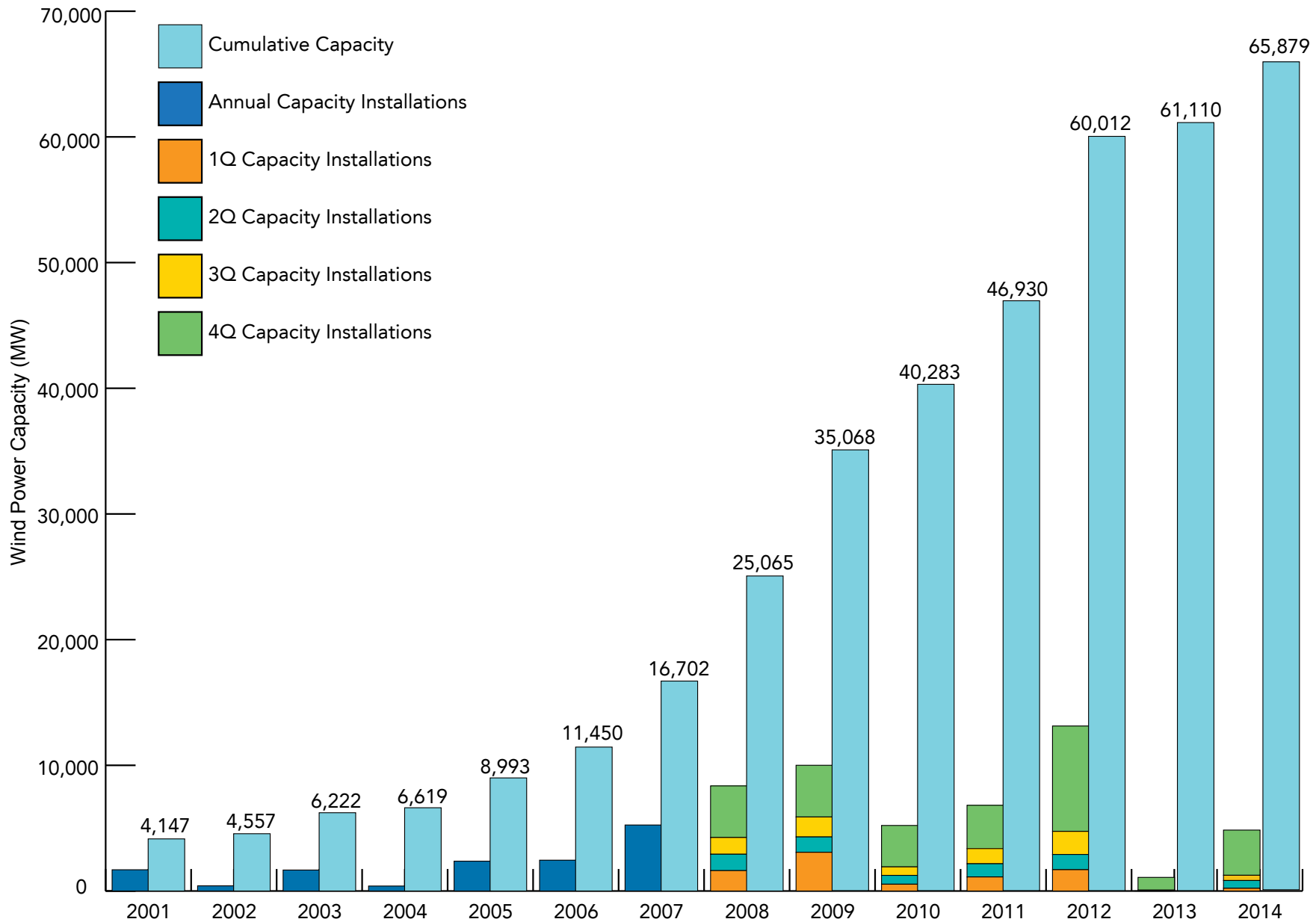
Wind Power Construction Activity

- By the end of 2014, wind project developers reported more than 12,700 MW of wind capacity under construction across 98 projects in 23 states.
- The majority of wind construction activity continues to be focused within Texas (> 7,500 MW). There are 680 MW under construction in New Mexico, over 670 MW under construction in Kansas, 548 MW under construction in Iowa, and over 535 MW under construction in North Dakota.

Wind Power Purchase Agreements and Corporate Purchasers

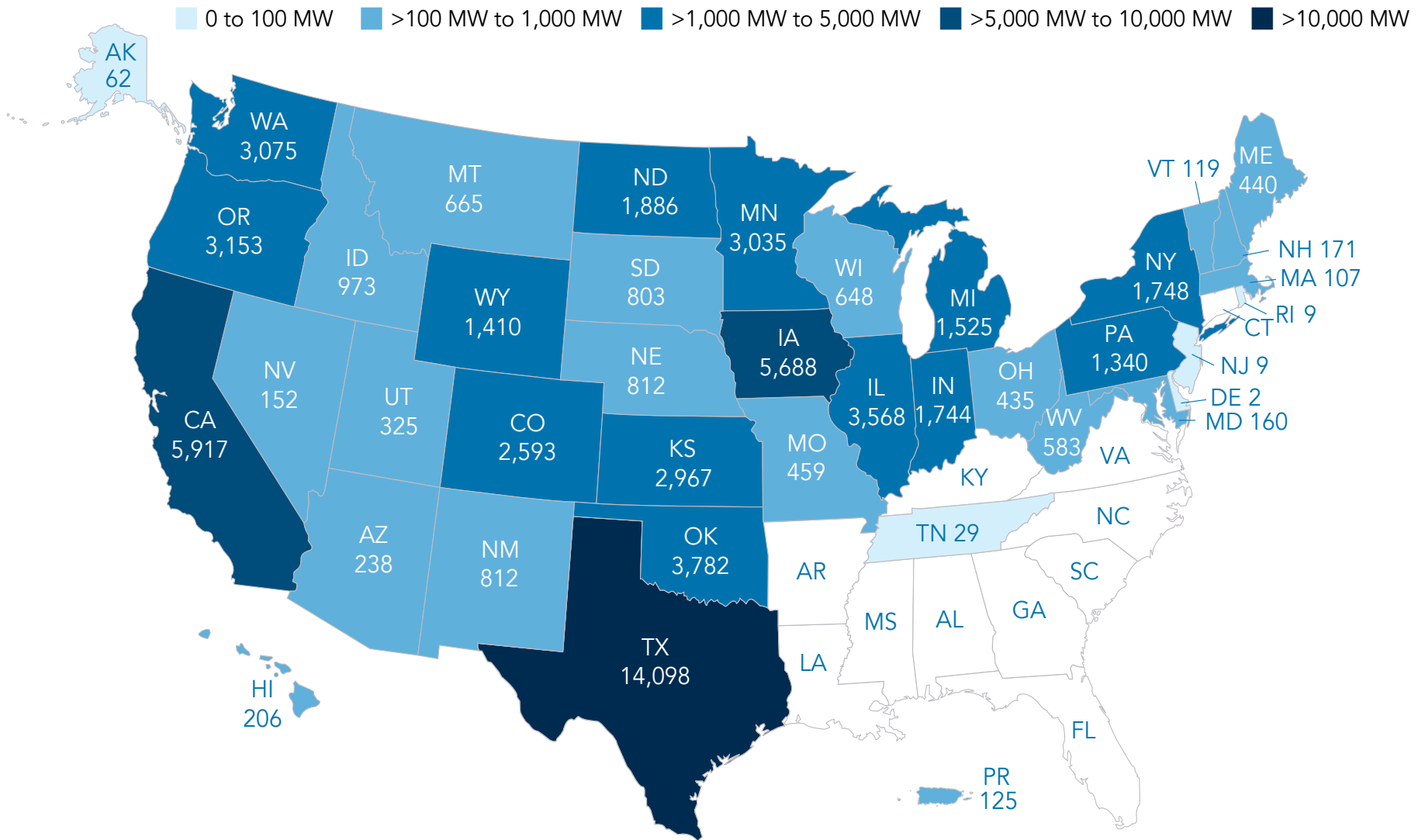
- Utilities continue signing power purchase agreements (PPAs) for wind power. Over 3,300 MW of new wind PPAs were announced in 2014, building on the roughly 8,000 MW of power purchase agreements signed during 2013.
- Among the 11,300 MW of PPAs announced during 2013-2014, approximately 5,000 MW have not yet started physical construction.
- Corporate purchasers continue to invest in wind energy. In the fourth quarter, Amazon signed a PPA for an Indiana wind project, joining investments from Yahoo!, Walmart, Google, Microsoft, IKEA and Mars earlier in 2013-14.

U.S. Annual and Cumulative Wind Power Capacity Growth

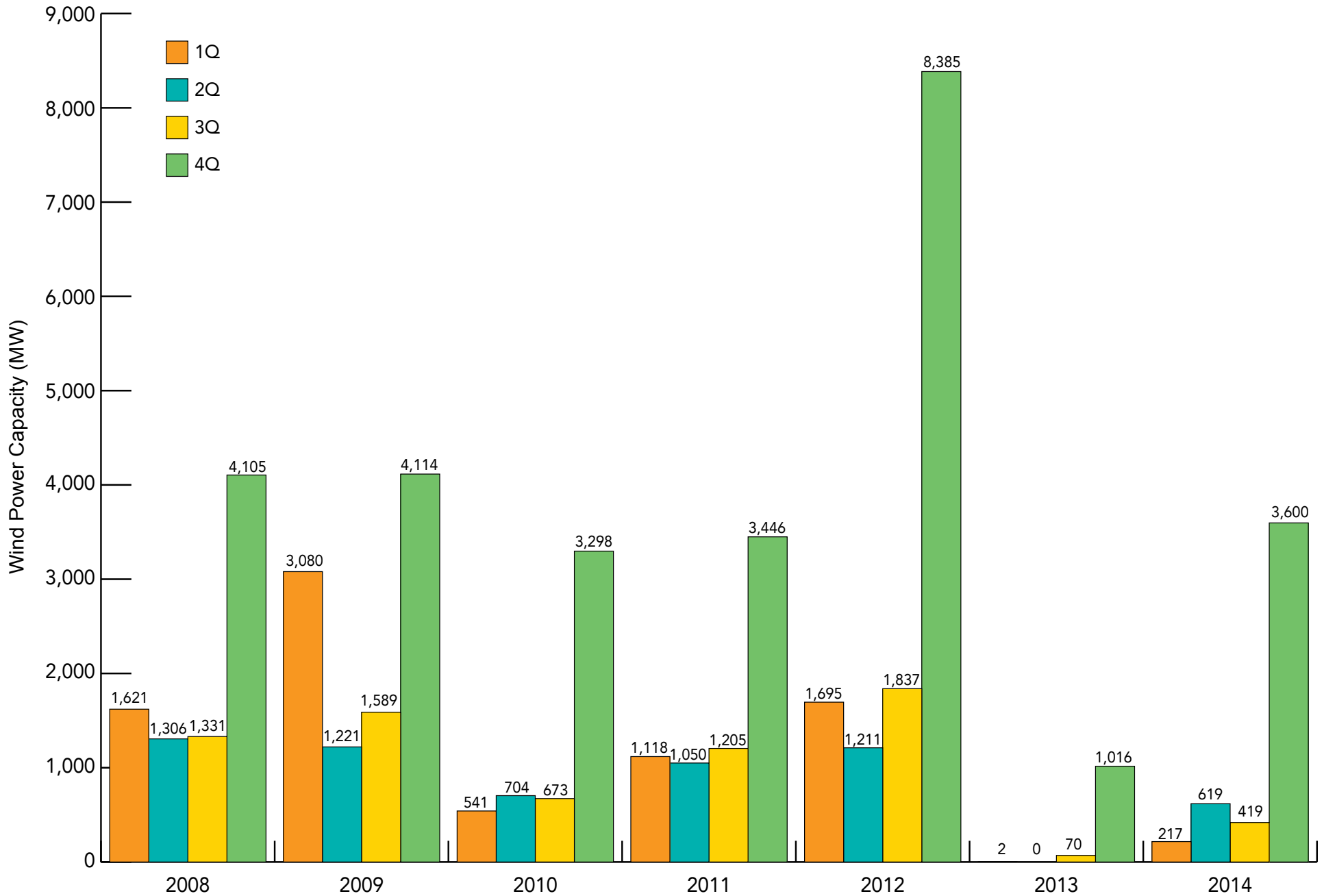


Note: Utility-scale wind capacity includes installations of wind turbines larger than 100-kW for the purpose of the AWEA U.S. Wind Industry Quarterly Market Reports. Annual capacity additions and cumulative capacity may not always add up due to decommissioned, uprated and repowered wind turbines. Wind capacity data for each year is continuously updated as information changes.

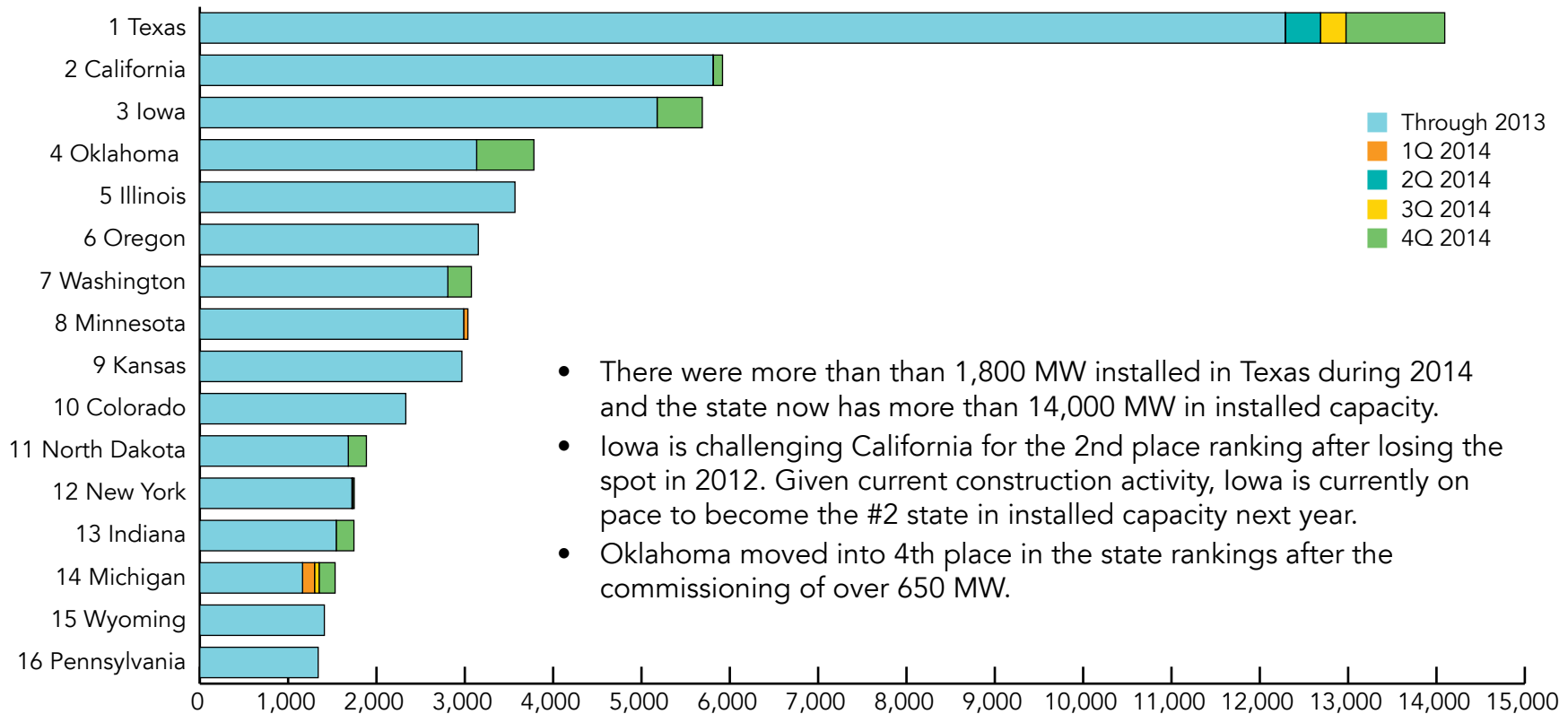
U.S. Wind Power Capacity Installations, by State



U.S. Wind Power Capacity Installations, by Quarter



U.S. Wind Power Capacity Installations, Top States



- There were more than 1,800 MW installed in Texas during 2014 and the state now has more than 14,000 MW in installed capacity.
- Iowa is challenging California for the 2nd place ranking after losing the spot in 2012. Given current construction activity, Iowa is currently on pace to become the #2 state in installed capacity next year.
- Oklahoma moved into 4th place in the state rankings after the commissioning of over 650 MW.

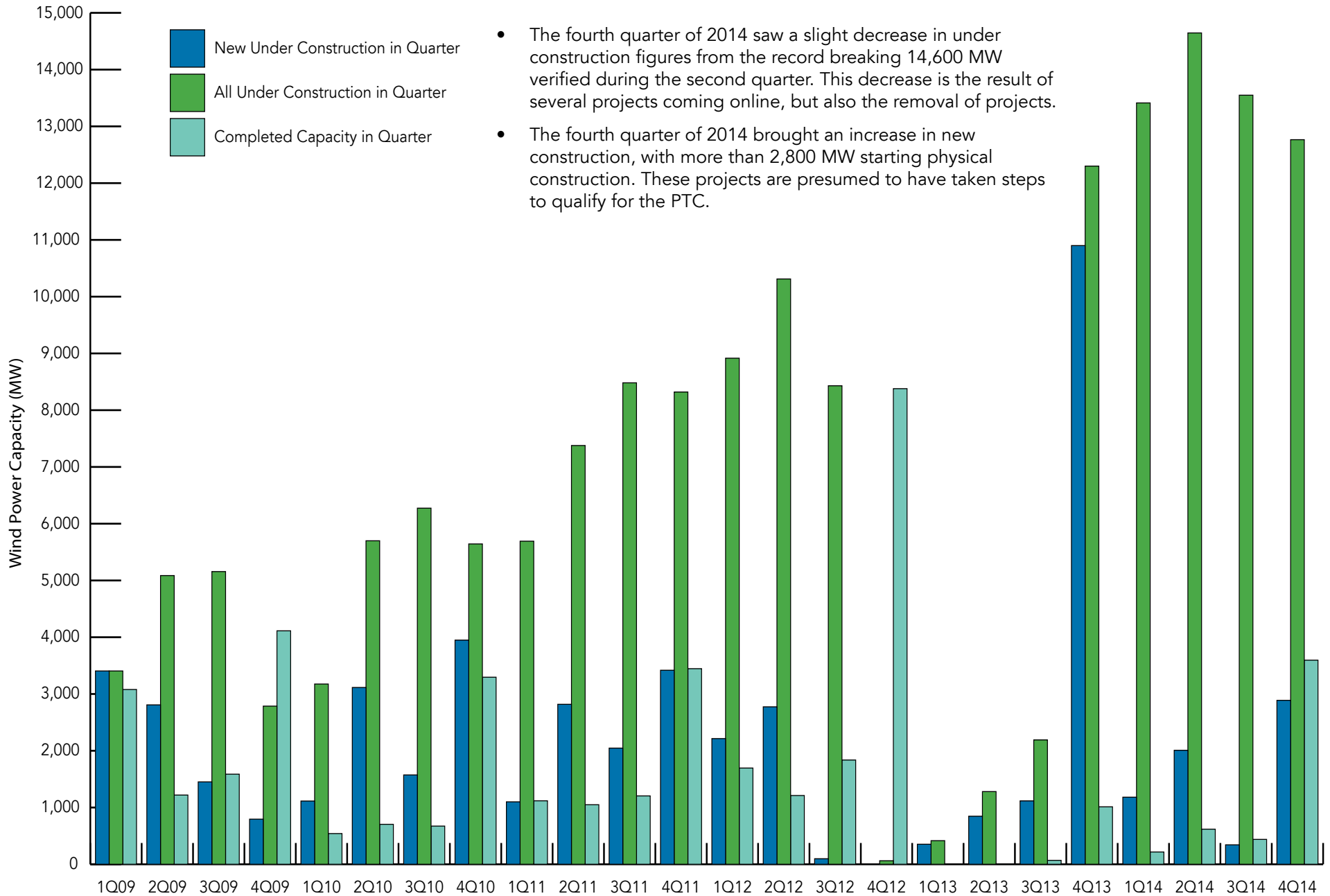
Top Five States with Wind Power Capacity Additions during the Fourth Quarter 2014

State	Capacity, MW
Texas	1,122
Oklahoma	648
Iowa	511
Washington	267
Colorado	261

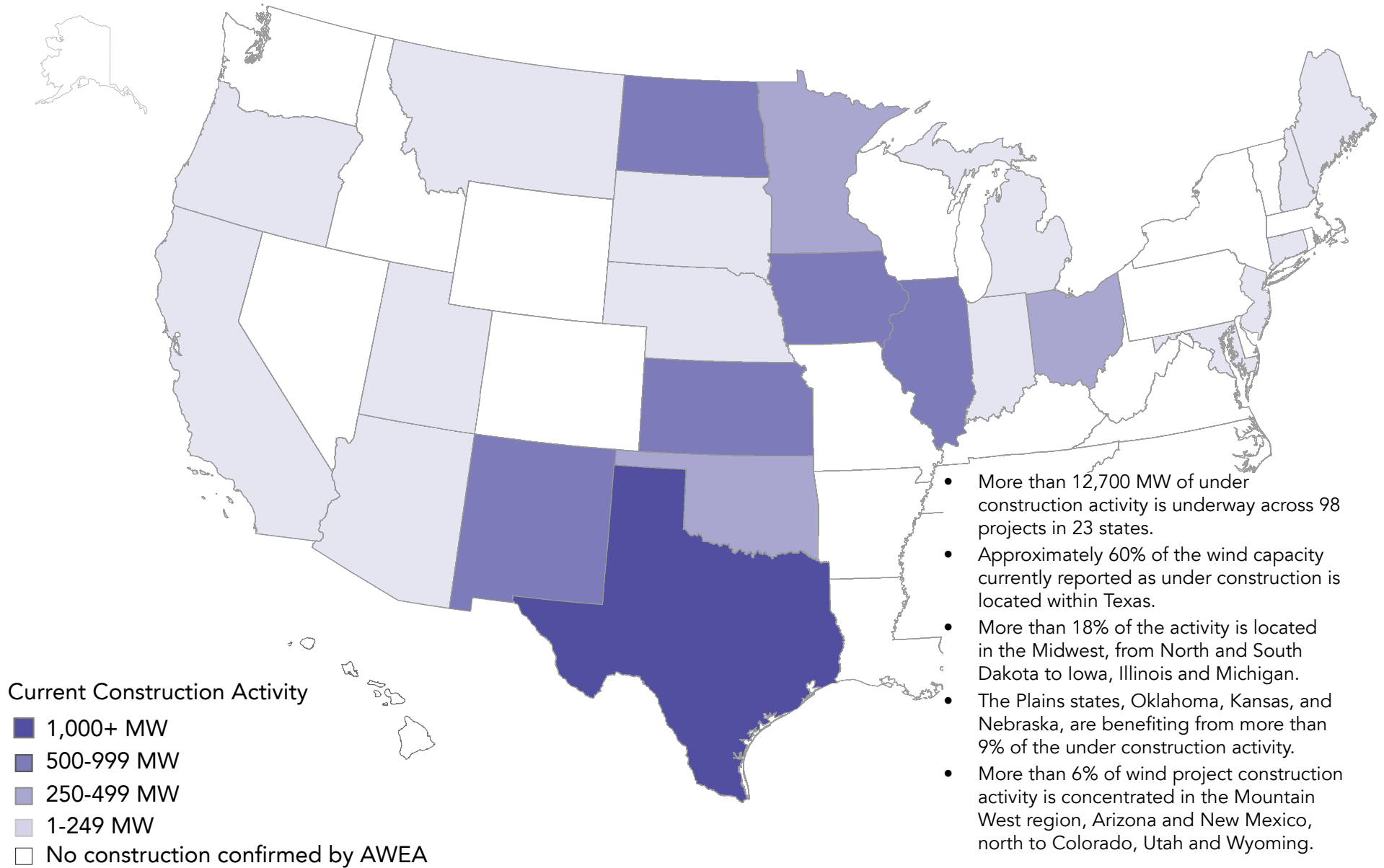
Top Five States for Cumulative Wind Power Capacity Additions during 2014

State	Capacity, MW
Texas	1,811
Oklahoma	648
Iowa	511
Michigan	368
Nebraska	277

Wind Power Capacity Under Construction



Map of Wind Power Capacity Under Construction



Utility-Scale Wind Projects Completed in 2014

State	Project Name	Project Capacity, MW	Turbine OEM	Turbine Model	Project Developer	Project Owner	Power Purchaser
First Quarter 2014							
MA	LWSC Wind Turbine	0.60	RRB Energy	PS-600	Lynn Water & Sewer Commission	Lynn Water & Sewer Commission	Lynn Water & Sewer Commission
MI	Echo Wind Park	60.80	GE Energy	1.7-100	Detroit Edison	Detroit Edison	Detroit Edison
MI	Pheasant Run II	74.80	GE Energy	1.7-100	NextEra Energy Resources	NextEra Energy Resources	Detroit Edison
MN	Lakewinds	48.00	GE Energy	1.7-100	PRC/WWW	Rockland Capital, LLC	Undisclosed PPA
NM	Brahms Wind	18.80	Vestas V82	V82	BayWa r.e. Wind, LLC	BayWa r.e. Wind, LLC	Western Farmers Electric Coop
NY	Orangeville Wind	9.72	GE Energy	1.6-100	Invenergy	Invenergy	Quasi-Merchant (NYSERDA)
OH	Erie Industrial Park	0.90	PowerWind	PS-600	SUREnergy	SUREnergy	
TX	Reese	2.00	Gamesa	G114-2.0	Gamesa	Gamesa	
Second Quarter 2014							
MT	Fairfield Wind Farm	10.00	GE Energy	1.6-100, 1.7-100	Foundation Windpower	Foundation Windpower	NorthWestern Energy
MT	Two Dot	9.72	GE Energy	1.62-87	OwnEnergy	NJR Clean Energy Ventures	NorthWestern Energy
NE	Prairie Breeze	200.60	GE Energy	1.7-100	Invenergy	Invenergy	Omaha Public Power District
TX	Goldthwaite	7.50	GE Energy	2.5-120	Invenergy	Invenergy	Merchant (ERCOT)
TX	Panhandle Wind 1	218.30	GE Energy	1.85-87	Pattern Energy Group LP	Pattern Energy Group LP	Merchant Hedge (Citigroup)
TX	Pantex Renewable Energy Project	11.50	Siemens	SWT-2.3-101	Siemens	Siemens	NNSA & Pantex
Third Quarter 2014							
CA	Golden Acorn Casino	1.85	GE Energy	1.85-82.5	Foundation Windpower	Foundation Windpower	Golden Acorn Casino
MI	Echo Wind Park	51.20	GE Energy	1.6-100	Detroit Edison	Detroit Edison	Detroit Edison
NE	Broken Bow II	75.00	GE Energy	1.7-100	Sempra U.S. Gas & Power	Sempra U.S. Gas & Power	NPPD
NE	Valentine	1.85	GE Energy	1.85-87	Bluestem Energy Solutions	Bluestem Energy Solutions	City of Valentine
TX	Miami	288.60	GE Energy	1.85-87	Invenergy	Invenergy	Merchant Hedge (ERCOT)
Fourth Quarter 2014							
CA	Anheuser-Busch Fairfield	1.85	GE Energy	1.85-82.5	Foundation Windpower	Foundation Windpower	Anheuser-Busch Fairfield
CA	City of Soledad Water Reclamation Facility	1.85	GE Energy	1.85-82.5	Foundation Windpower	Foundation Windpower	City of Soledad Water Reclamation Facility

Utility-Scale Wind Projects Completed in 2014

State	Project Name	Project Capacity, MW	Turbine OEM	Turbine Model	Project Developer	Project Owner	Power Purchaser
CA	Rising Tree North	99.00	Vestas	V112	EDP Renewables North America LLC	EDP Renewables North America LLC	Pacific Gas & Electric (20 MW); Southern California Edison (80 MW)
CA	San Geronio Farms Wind Farm	0.50	Refurbished Vestas	V42	San Geronio Farms, Inc.	San Geronio Farms, Inc.	Southern California Edison
CA	Taylor Farms	1.85	GE Energy	1.85-82.5	Foundation Windpower	Foundation Windpower	Taylor Farms
CO	Limon III	200.60	GE Energy	1.7-100; 1.7-103	NextEra Energy Resources	NextEra Energy Resources	Xcel Energy
CO	Spring Canyon Expansion	60.00	GE Energy	1.7-100	Invenergy	Invenergy	Platte River Power Authority
IA	Lundgren	251.00	Siemens	SWT-2.3-108	EDF Renewable Energy	MidAmerican Energy Company	MidAmerican Energy Company
IA	Macksburg	119.65	Siemens	SWT-2.3-108	RPM Access Wind Development	MidAmerican Energy Company	MidAmerican Energy Company
IA	Wellsburg	140.76	Siemens	SWT-2.3-108	RPM Access Wind Development	MidAmerican Energy Company	MidAmerican Energy Company
IN	Headwaters	200.00	Vestas	V100-2.0	EDP Renewables North America LLC	EDP Renewables North America LLC	Indiana Michigan Power Co. (AEP)
IN	Winchester	0.85	Gamesa	G52-850	HTWN	HTWN	
MD	Fourmile Ridge	40.00	Nordex	N100/2500	Exelon Wind	Exelon Wind	Merchant (PJM)
ME	Saddleback Ridge	8.55	GE Energy	2.85-103	Patriot Renewables	Patriot Renewables	Undisclosed PPA
MI	Beebe 1B	50.40	Nordex	N117/2400	Exelon Wind	Exelon Wind	Municipal Utilities
MI	Big Turtle	20.00	Gamesa	G114-2.0	Heritage Sustainable Energy	Heritage Sustainable Energy	Detroit Edison
MI	Cross Winds Energy Park	110.98	GE Energy	1.7-100	Consumers Energy Co.	Consumers Energy Co.	Consumers Energy Co
ND	Bison Wind 4	204.80	Siemens	SWT-3.2-113	Minnesota Power	Minnesota Power	Minnesota Power
NM	Anderson Wind Project	14.95	Vestas	V100-2.0; V82	BayWa r.e. Wind, LLC	BayWa r.e. Wind, LLC	Western Farmers Electric Coop
NY	Marsh Hill	16.20	GE Energy	1.6-103	Invenergy	Invenergy	Quasi-Merchant (NYSERDA)
OK	Mammoth Plains	198.90	GE Energy	1.7-100	NextEra Energy Resources	NextEra Energy Resources	Xcel Energy
OK	Origin	150.00	Vestas	V100-2.0	RES Americas; TradeWind Energy	Enel Green Power North America	Arkansas Electric Cooperative Corp.
OK	Seiling	198.90	GE Energy	1.7-100	NextEra Energy Resources	NextEra Energy Resources	Public Service Co of Oklahoma
OK	Seiling 2	100.30	GE Energy	1.7-100	NextEra Energy Resources	NextEra Energy Resources	Golden Spread Electric Cooperative

Utility-Scale Wind Projects Completed in 2014

State	Project Name	Project Capacity, MW	Turbine OEM	Turbine Model	Project Developer	Project Owner	Power Purchaser
SD	Oak Tree	19.50	GE Energy	1.85-87	Oak Tree Energy	Oak Tree Energy	Northwestern Energy
TX	Grandview I	211.22	GE Energy	1.7-100	E.ON Climate & Renewables	E.ON Climate & Renewables (50%); GE Energy Financial Services (50%)	Merchant Hedge (ERCOT)
TX	Hereford 1	199.90	GE Energy; Vestas	1.85-87; V100-2.0	Lincoln Renewable Energy	EDF Renewable Energy	Merchant Hedge (ERCOT)
TX	Palo Duro	249.90	GE Energy	1.7-100	Bordas	NextEra Energy Resources	Xcel Energy
TX	Panhandle Wind 2	181.70	Siemens	SWT-2.3-108	Pattern Energy	Pattern Energy	Merchant Hedge (ERCOT)
TX	Stephens Ranch I	211.22	GE Energy	1.7-100	Wind Tex Energy and Mesa Power	Starwood Energy	Merchant Hedge (ERCOT)
TX	Windthorst-2	68.00	Siemens	SWT-2.3-108	OwnEnergy	BlackRock	Merchant Hedge (ERCOT)
WA	Tucannon River	266.80	Siemens	SWT-2.3-108	Portland General Electric	Portland General Electric	Portland General Electric

For more information on AWEA market analysis, please visit www.awea.org/marketreports where you can access older versions of the Quarterly Market Reports and see the latest Annual Market Report.

The AWEA U.S. Wind Industry Fourth Quarter 2014 Market Report can be accessed at www.awea.org/4Q2014

For a spreadsheet with underlying data or with any corrections, please contact Emily Williams at ewilliams@awea.org