



WIND POWERS AMERICA

THIRD QUARTER 2020 MARKET REPORT



THIRD QUARTER HIGHLIGHTS



Third Quarter Highlights

2020 Wind Project Installations

- The U.S. wind industry installed 1,934 MW of new wind power capacity in the third quarter of 2020, the highest third quarter on record. For the first nine months of the year the industry commissioned 6,309 MW, a 72% increase over the first three quarters of 2019.
- Project owners commissioned 10 new projects across 9 states in the third quarter. Texas led with 687 MW installed, followed by Colorado (496 MW), Illinois (200 MW), Iowa (168 MW), and Indiana (147 MW).
- There are now 111,808 MW of operating wind power capacity in the United States, with over 60,000 wind turbines operating across 41 states and two U.S. territories.

Wind Capacity Under Construction and in Advanced Development

- Projects totaling 43,575 MW were under construction (24,355 MW) or in advanced development (19,220 MW) at the end of September.
- Projects totaling 972 MW started construction in the third quarter and 1,448 MW entered advanced development.
- There are currently 12 states with over 1,000 MW under construction or in advanced development. Federal waters host 21% of the total development pipeline, followed by Texas (15%), Wyoming (10%), Oklahoma (8%), and New Mexico (6%).

Wind Power Procurement Activity

- Project developers and power purchasers reported 743 MW of new PPAs in the third quarter, bringing PPA activity through September to 4,866 MW.
- Corporate PPA activity picked up again, with five companies announcing wind power contracts totaling 689 MW.

Turbine Technology Trends

- GE Renewable Energy continues to lead turbine installations in 2020, capturing 60% of the market through September. Vestas ranks second with 27%, followed by Siemens Gamesa Renewable Energy with 10% and Nordex USA with 2%.
- Average turbine capacities continue to increase, with 27% of turbines installed in the first nine months of the year rated over 3 MW, including the third project to start operating 4 MW class turbines.
- The majority of land-based projects in the pipeline that have reported turbine models are using turbines with a nameplate capacity between 2 MW and 2.9 MW, while 33% have selected turbines rated 3 MW or higher.

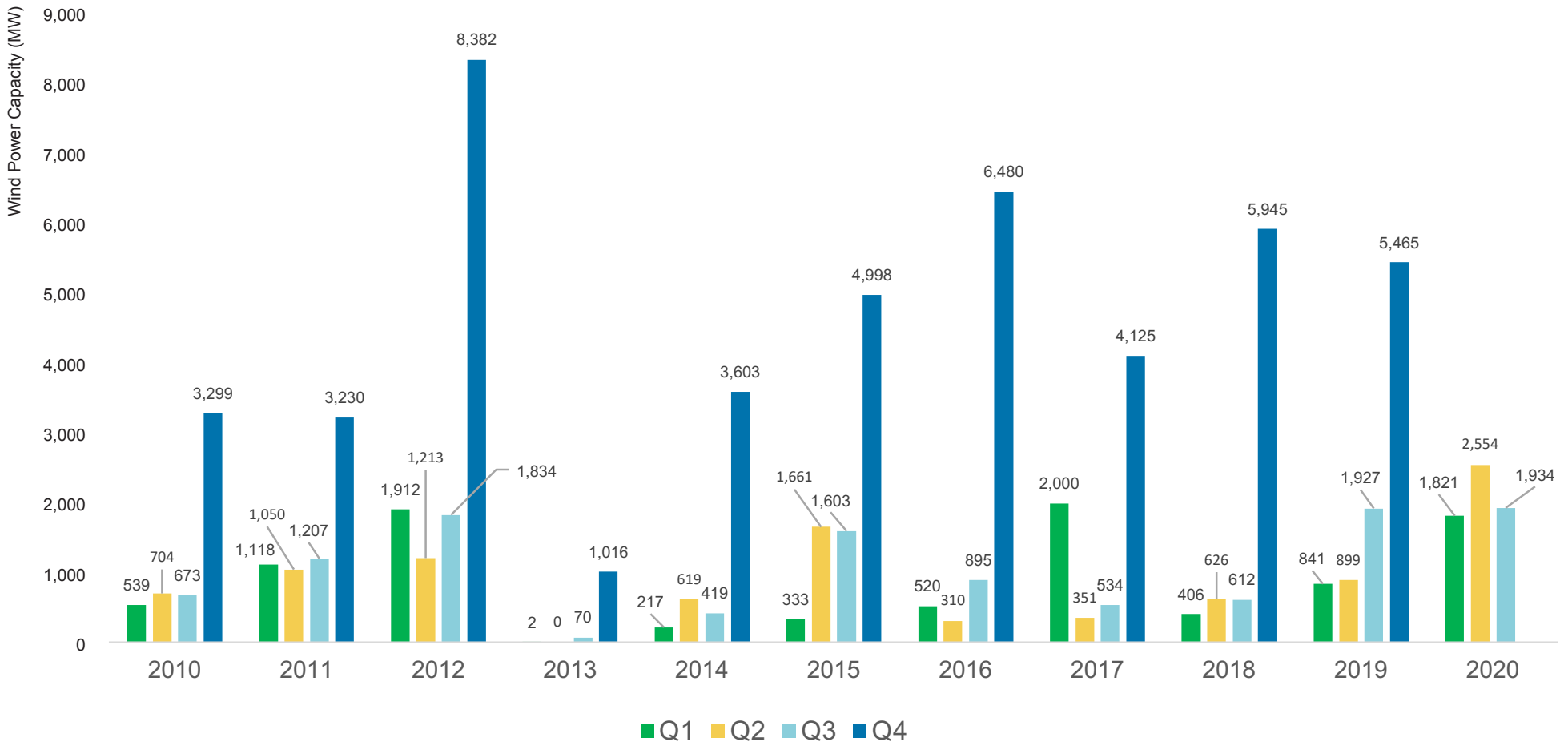


U.S. WIND POWER CAPACITY GROWTH



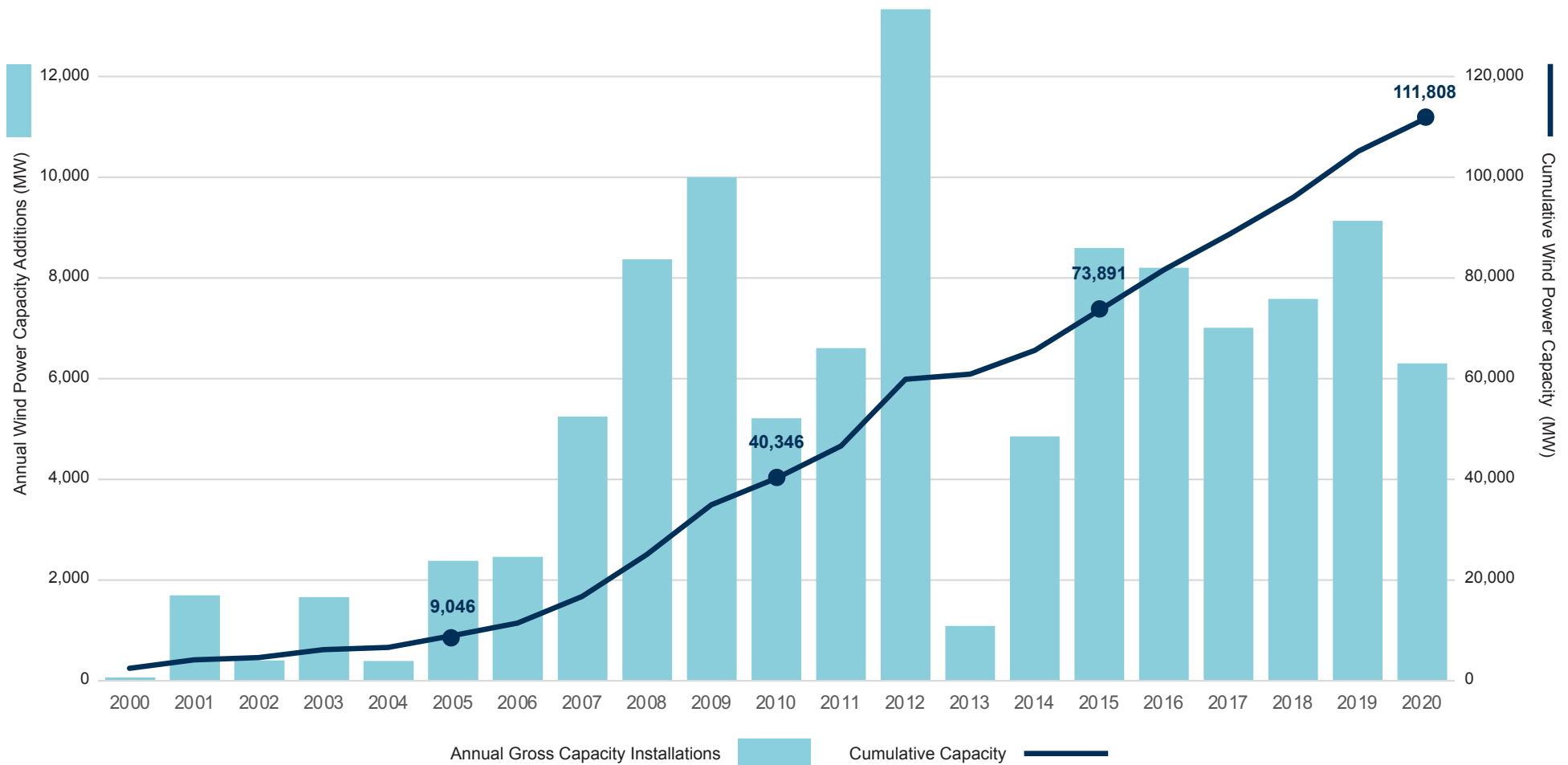
Quarterly U.S. Wind Power Capacity Installations

- The U.S. wind industry commissioned 1,934 MW of wind power capacity in the third quarter of 2020, the highest third quarter on record.
- Wind capacity additions were up 72% in the nine months of 2020 compared to the same period last year. In fact, 2020 is currently on pace to set the record for capacity installations.



U.S. Annual and Cumulative Wind Power Capacity Growth

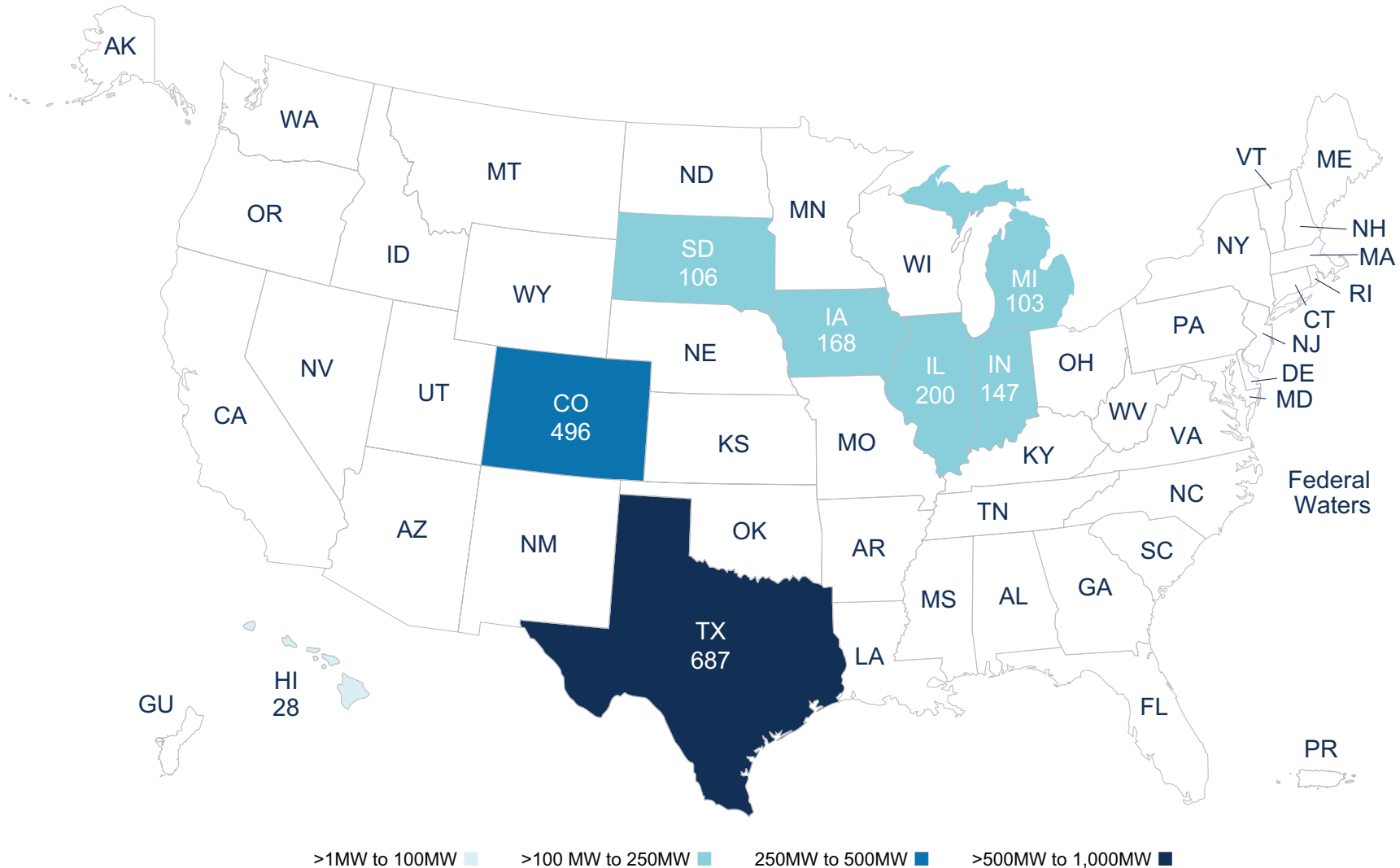
- There are now 111,808 MW of wind energy operating in the United States, with over 60,000 wind turbines spinning across 41 states and two U.S. territories.



Note: There are now 109,919 MW of wind energy operating in the United States, with over 60,000 wind turbines spinning across 41 states and two U.S. territories

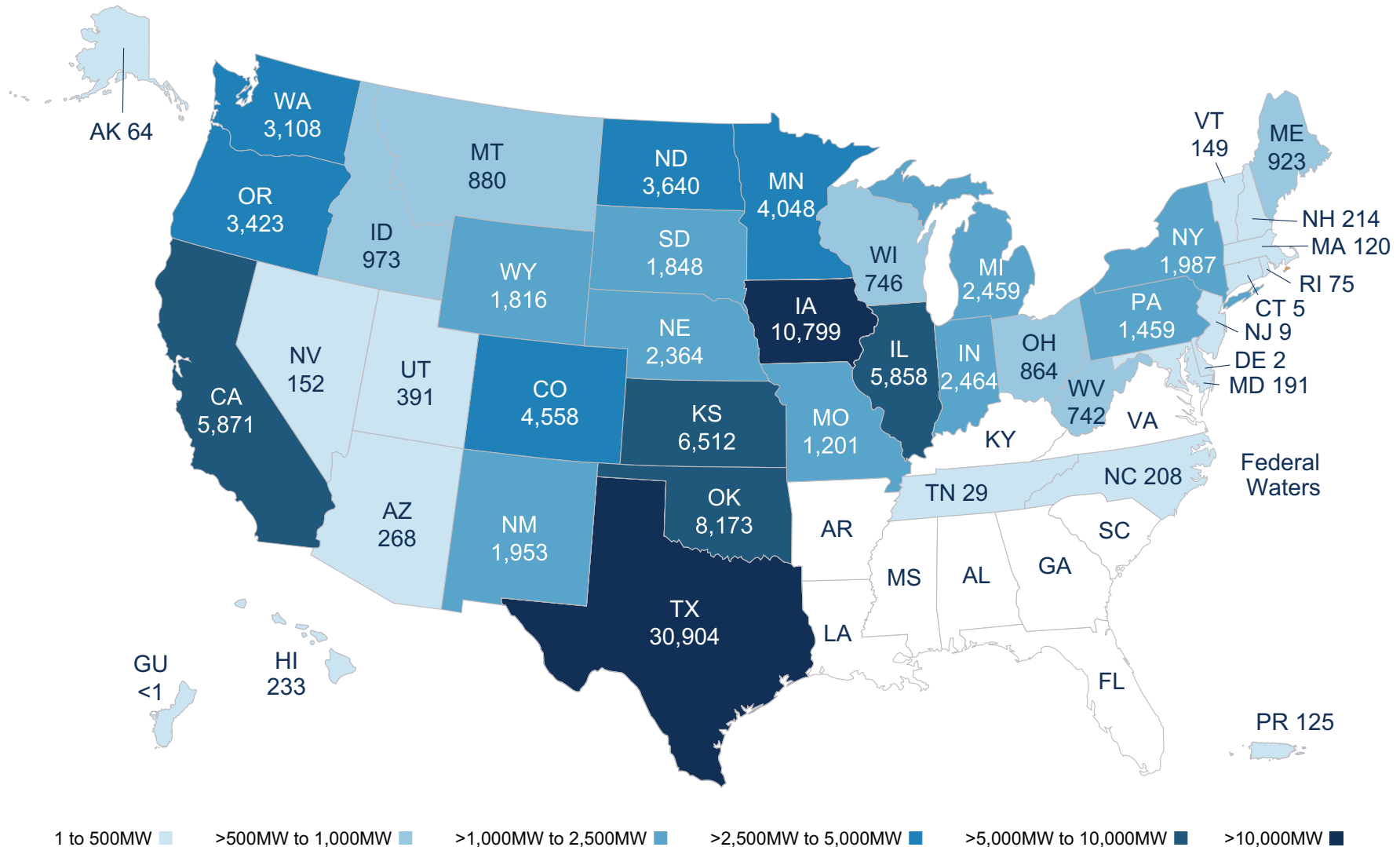
Wind Power Capacity Installations in 3Q 2020

- Developers installed 10 new wind projects, totaling 1,934 MW across 8 states during the third quarter of 2020.
- Texas led with 687 MW installed, followed by Colorado (496 MW), Illinois (200 MW), Iowa (168 MW), and Indiana (147 MW).
- Year-to-date the industry has added 36 projects across 16 states totaling 6,309 MW. Texas leads installations for the year (2,037 MW), followed by Colorado (795 MW) and Iowa (637 MW).



Operational Wind Power Capacity, by State

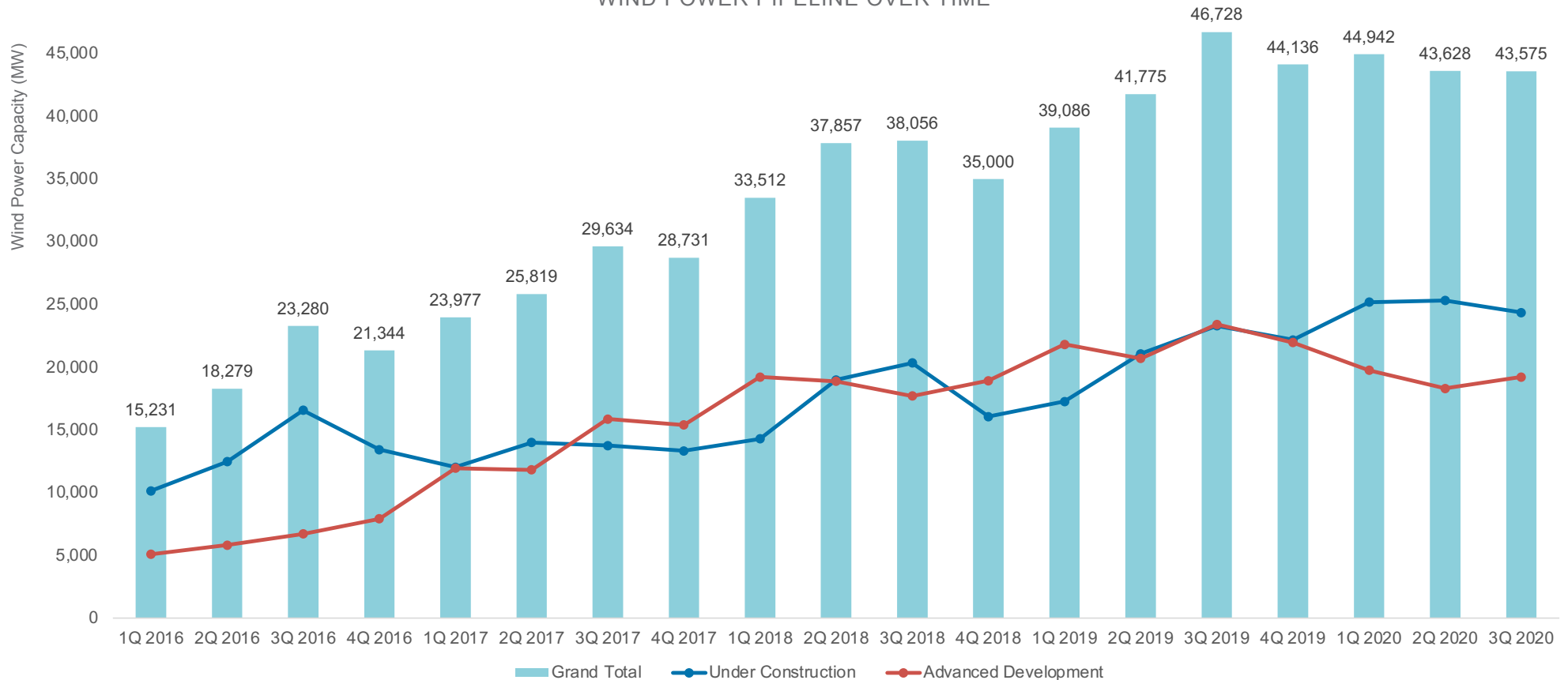
- The addition of Aviator Wind (525 MW) allows Texas to claim the largest, single-phase wind project in the country. Colorado's Cheyenne Ridge (496 MW), also placed-in-service this quarter, is the second largest, single-phase wind project.
- In state rankings, Indiana jumped two spots to 12th position, while Nebraska fell to 14th place.
- Currently, 20 states have over 1,000 MW of installed capacity.



Wind Power Capacity Under Construction or in Advanced Development

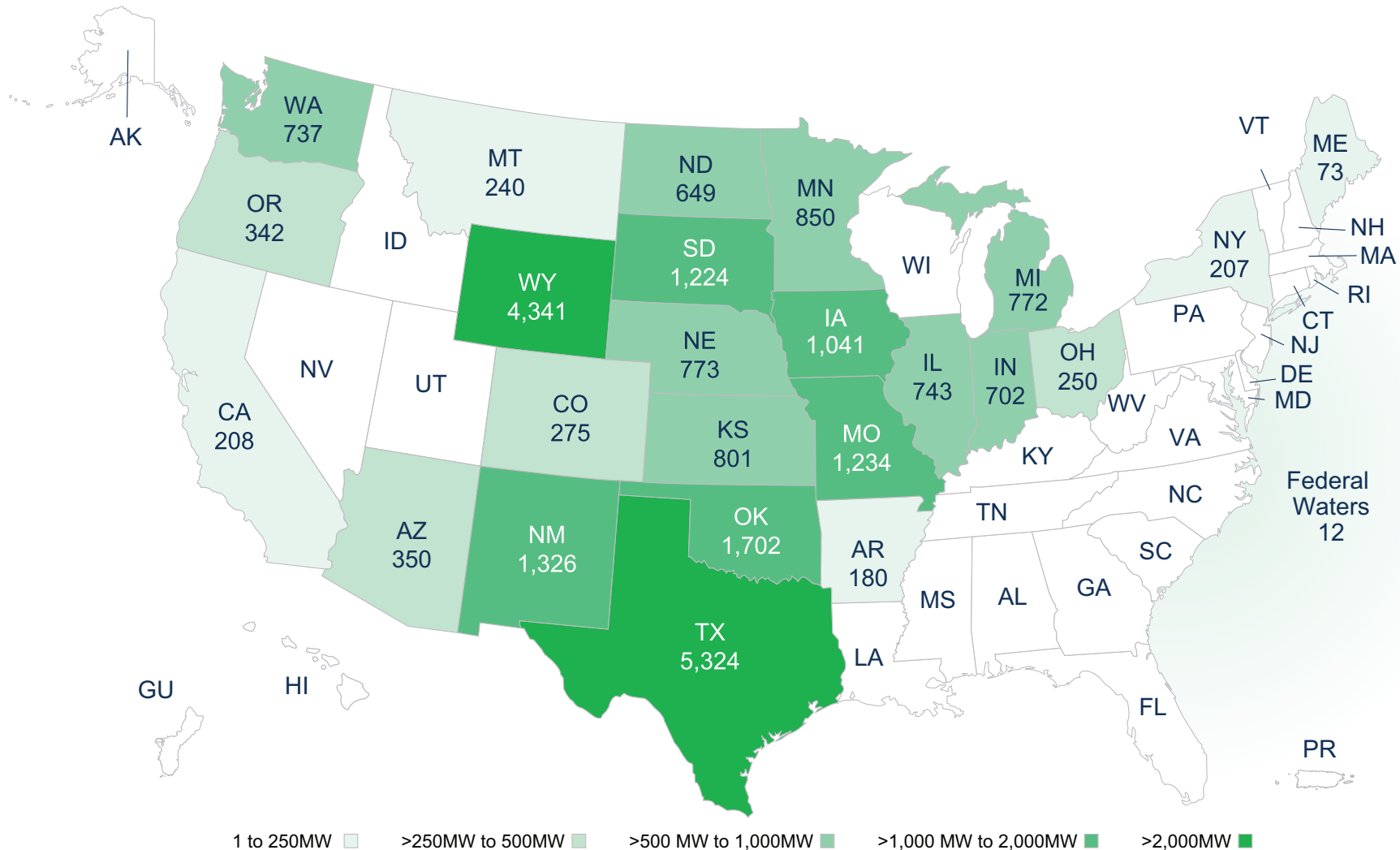
- At the end of September 2020, there were 43,575 MW of wind power capacity in the near-term pipeline, including 24,355 MW under construction and 19,220 MW in advanced development. The total pipeline is essentially flat from the previous quarter.
- Despite disruptions from COVID-19, project developers announced 2,420 MW in combined new development activity in the third quarter of 2020, with projects totaling 972 MW starting construction and an additional 1,448 MW entering advanced development.
- Developers continue to report challenges raising tax equity for projects in development. Tax equity supply is reported to be tight, due to economic uncertainty, tighter lending standards, and more limited capital allocations. AWEA is pursuing direct pay provisions to alleviate this constraint.

WIND POWER PIPELINE OVER TIME



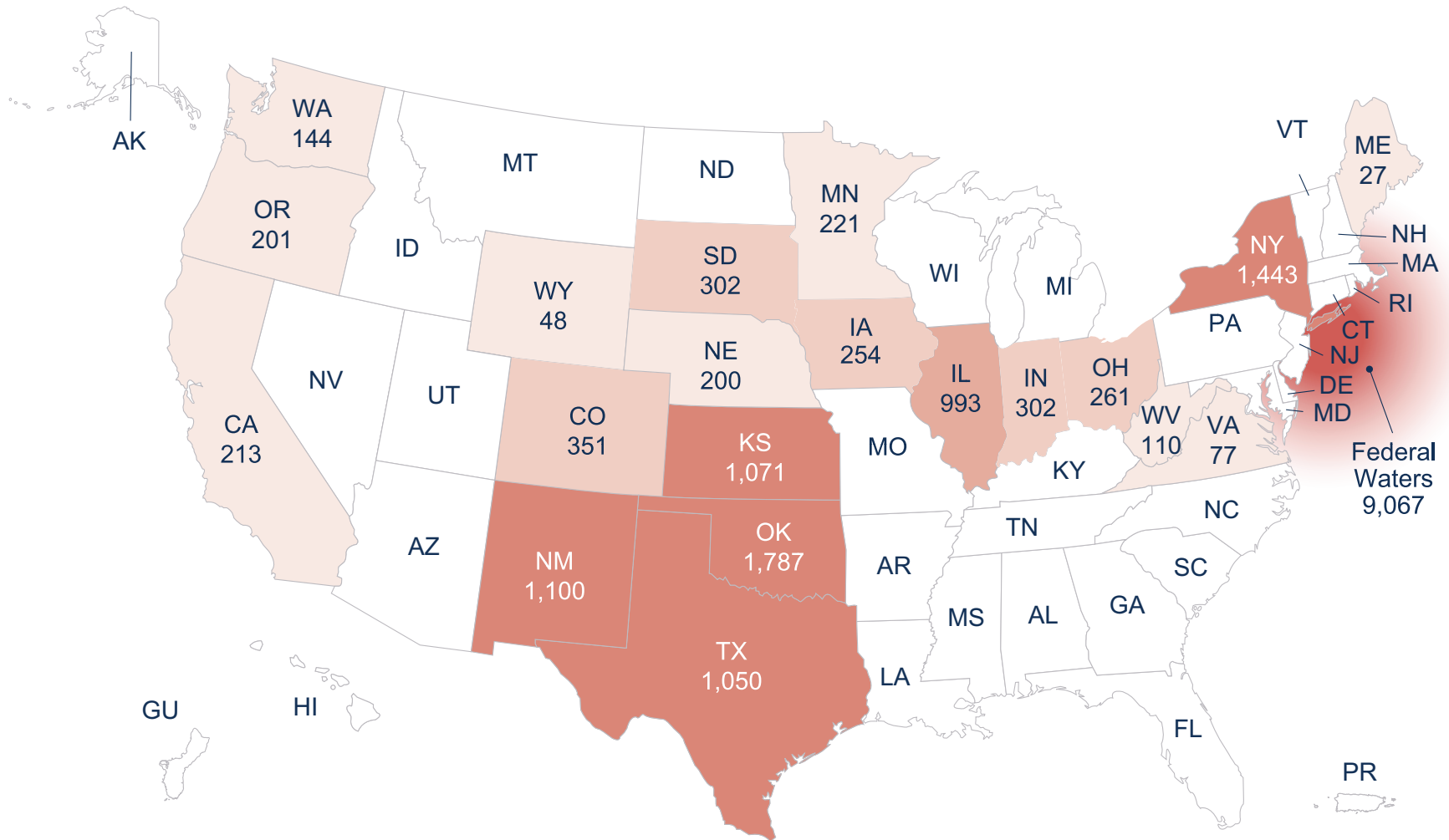
Wind Power Capacity Under Construction, by State

- Total construction activity spans 105 project phases in 24 states and one project in federal waters.
- Project developers started construction on 972 MW across 4 projects in 3 states throughout the third quarter, including the first project to use 5 MW class turbines.
- Texas saw the largest uptick in construction activity, with 561 MW starting construction. Illinois saw 212 MW start construction, followed by Indiana with 198 MW.
- On a regional basis, the Mountain West leads with 26% of total construction activity. The Midwest and Texas follow with 22% each of construction activity.



Wind Power Capacity in Advanced Development, by State

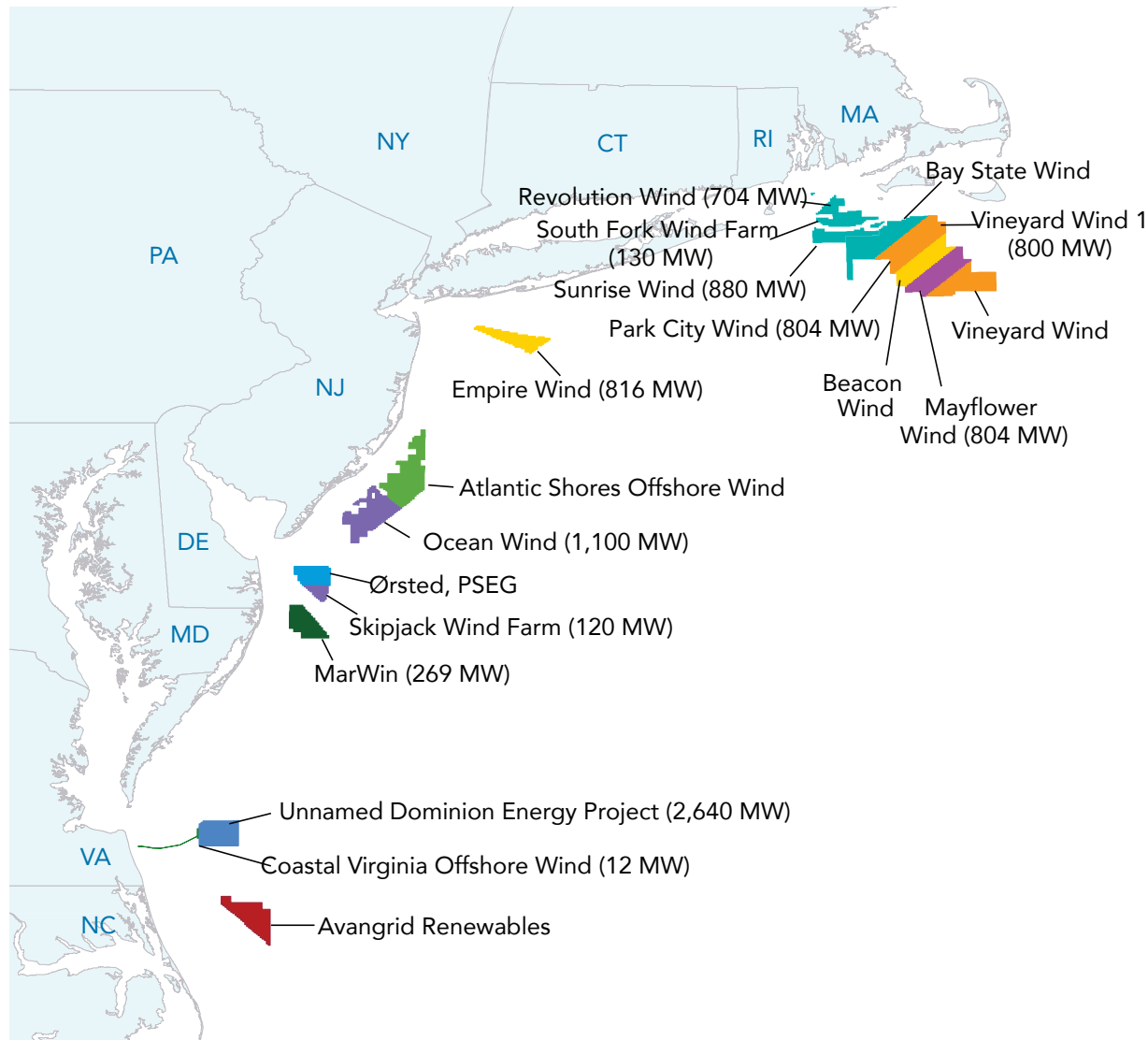
- Total advanced development activity spans 58 project phases in 20 states and 15 phases in federal waters.
- Project developers announced 1,448 MW of new advanced development activity in the third quarter, an 8% increase over new announcements made in the previous quarter.
- Kansas led in new announcements for the quarter, thanks to the 302 MW Irish Creek Wind project, followed by Illinois with 393 MW and Iowa with 254 MW.
- Federal waters currently host the largest share of total advanced development activity at the regional level with 47%, followed by Plains (17%), and Midwest (9%).



U.S. OFFSHORE WIND ENERGY ACTIVITY



Third Quarter U.S. Offshore Wind Energy Activity



- In July, EDPR and Engie announced they are creating a new joint venture for offshore wind called Ocean Winds, targeting the U.S., Europe, and select Asian markets.
- In September, oil giant BP announced it would acquire a 50% interest in Equinor's Empire Wind and Beacon Wind for \$1.1 billion and establish a strategic partnership for future U.S. offshore wind efforts.
- Diamond Offshore Wind, a subsidiary of the Mitsubishi Corporation, and RWE Renewables are joining the University of Maine to develop the University's floating offshore wind demonstration project, New England Aqua Ventus. The venture will invest \$100 million to build a floating platform to support a 10 to 12 MW turbine, expected to be completed in 2023.
- The two turbines of Dominion Energy's 12 MW Coastal Virginia Offshore Wind pilot project were installed in late June and completed reliability testing through September and October. The project will enter commercial service before the end of the year and will be the first offshore wind project to be installed in federal waters.
- Early in the third quarter, New York issued its second large offshore wind solicitation, seeking up to 2,500 MW of offshore wind.
- New Jersey followed in September with a second solicitation released seeking up to 2,400 MW of offshore wind capacity.
- To date, 13 offshore wind projects have secured offtake or won state solicitations and announced an anticipated year of operation. Developers plan to bring 9,100 MW of offshore wind online by 2026.

Offshore Wind Updates

State Offshore Wind Procurement

- States have established over 29,000 MW of offshore wind procurement targets to date through either legislation, conditional targets, or executive orders.
- In late July, New York issued its second offshore wind solicitation seeking up to 2,500 MW of offshore wind capacity.
- In September, New Jersey issued its second large-scale solicitation seeking up to 2,400 MW of offshore wind capacity.

Offshore Wind Power Under Construction or in Advanced Development

- Dominion Energy's two turbine, 12-megawatt Coastal Virginia Offshore Wind (CVOW) pilot project, located 27 miles off the coast of Virginia Beach, successfully completed reliability testing and is ready to enter commercial service.
- In addition to the commissioning of Dominion's 12 MW project off Virginia, there are now 9,100 MW of offshore wind capacity in advanced development
- The Ohio Power Siting Board in September issued a modified order approving permitting for the 20.7 MW Icebreaker Wind Project located in Lake Erie off Cleveland, Ohio. It originally was approved by the siting board in May, but with a condition that the project not operate at night from March 1 to November 1 as a protective measure for birds and bats. The developer sought a rehearing because this would have been disruptive to the project economics and the siting board removed the condition in a September meeting.
- Offshore developers have selected turbine models or announced preferred turbine supply agreements for eight projects totaling 6,386 MW.



AMERICAN WIND ENERGY ASSOCIATION


AWEA is the national trade association for the U.S. wind industry, the largest source of renewable energy in the country. We represent 1,000 member companies, 120,000 jobs in the U.S. economy, and a nationwide workforce located across all 50 states. AWEA serves as a powerful voice for how wind works for America. Members include global leaders in wind power and energy development, turbine manufacturing, and component and service suppliers. They gather each year at the Western Hemisphere's largest wind energy event, AWEA WINDPOWER Conference & Exhibition, next in Indianapolis, June 7-10, 2021. WINDPOWER 2021 will be housed within CLEANPOWER, the new exhibition hub for utility-scale renewable energy, bringing together wind power, solar power, and energy storage industries.

Visit www.awea.org to learn more about the enormous economic benefits wind power brings to America.

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