Over 107 GW of operating wind power

- Nearly 60,000 wind turbines across the U.S.
- 2019 was third strongest year for wind power capacity additions
- Installed wind power capacity has tripled in 10 years
- 10% CAGR—operational wind power capacity growth over past decade

Source: Wind Powers America First Quarter 2020 Report
Wind captured 39% of utility-scale power additions in 2019.

**Annual Power Capacity Additions**

- U.S. electric sector added 23,292 MW of new electricity generating capacity in 2019:
  - Wind: 9,137 MW
  - Natural gas: 8,398 MW
  - Solar: 5,328 MW
- All renewable energy sources captured 57% of new capacity additions over the last five years.
- Wind captured 39% of utility-scale power installations in 2019.

Wind #1 source of new capacity in Midwest, Plains, and Texas

Regional Power Capacity Additions 2015-2019

Top 10 Wind States

- Texas 29,407 MW
- Iowa 10,664 MW
- Oklahoma 8,173 MW
- Kansas 6,128 MW
- California 5,942 MW
- Illinois 5,659 MW
- Minnesota 3,843 MW
- Colorado 3,762 MW
- North Dakota 3,640 MW
- Oregon 3,423 MW

Source: Wind Powers America First Quarter 2020 Report
Texas and Iowa led 2019 installations

- Texas and Iowa added more wind capacity in 2019 than any other year
- South Dakota added 506 MW, growing its wind power by 50%

Wind is now America’s #1 renewable energy source
Generated 300 TWh of electricity—7.2% of 2019 generation

- Wind energy surpassed hydro in 2019 to become the largest source of renewable electricity in the country
- 6 states generated more than 20% of their electricity from wind power in 2019
- Iowa and Kansas generated more electricity from wind turbines than any other technology
- 21 states produced at least 5% of their generation from wind energy in 2019

WIND GROWTH CONTINUES
Over 44 GW Under Construction or in Advanced Development

Source: Wind Powers America First Quarter 2020 Report
COST REDUCTIONS

Wind costs downs 70% in last decade

Unsubsidized Wind LCOE

70% Decrease

$0 $50 $100 $150 $200
$0 $50 $100 $150 $200


Wind LCOE Range Wind LCOE Median

LCOE Comparison

Wind is one of the lowest cost sources of new power in most U.S. markets

Source: Lazard’s Levelized Cost of Energy Analysis 13.0
COMPETITIVE POWER

Wind increasingly competitive with existing generation

Source: Lazard’s Levelized Cost of Energy Analysis 13.0
POLICY DRIVERS

State renewable portfolio standards and clean energy standards

Source: AWEA
32 GW of land-based and offshore wind added to queues in 2019

- 16 GW of land-based and 16 GW of offshore wind capacity entered interconnection queues in 2019
- Total 141 GW of wind capacity in queues led by SPP with 48 GW
- SPP has most wind capacity in the queue with 48 GW, followed by PJM
- More solar in interconnection queues than any other technology at 201 GW
ENABLING INFRASTRUCTURE

Eight transmission projects enabling wind power completed in 2019

- 8 wind-enabling transmission projects completed in 2019: MISO, ISO-NE, ERCOT, Colorado
- Transmission needed to transport wind energy from remote areas to load centers
- Critical to approve and build transmission projects currently in development
- Near-term transmission projects in development could support tens of thousands of MWs of additional wind capacity
MORE TRANSMISSION WILL BE NEEDED
High upgrade costs, especially between regions, can hinder development.

MISO West Risks Becoming ‘Dead Zone,’ Stakeholders Warn

November 12, 2020
By Amanda Durish Cook

MISO stakeholders sounded alarm bells this week, saying another round of prohibitively expensive system upgrades would render the RTO's West planning region a "dead zone" for new generation.

MISO West — which includes Minnesota, Iowa, parts of the Dakotas and western Wisconsin — is again facing high system upgrade costs for interconnection hopefuls, this time from SPP studies of generator interconnections, or affected-system studies, along the seams.

SPP's draft studies of a 2017 cycle of generation projects in MISO West recommend about $500 million of upgrades for 250 MW of projects.

Ameren cancels 157 MW wind project, citing transmission upgrade costs

By Catherine Morehouse
Published July 30, 2019

Dive Brief:

- Ameren Missouri on Thursday cancelled development of a 157 MW wind project, citing "unacceptably high" transmission upgrade costs.

- The utility reached a mutual agreement with developer EDF Renewables to terminate the project, noting it didn't want to push those costs on to ratepayers. The two originally announced the project last October.

RAIL RIGHTS-OF-WAY CAN HELP CONNECT WIND TO MARKET

Class 1 Railroads traverse high-quality wind areas, including regional seams.

Source: National Renewable Energy Laboratory; U.S. Dep’t of Transportation.
Past Quarterly and Annual Market Reports:
www.awea.org/marketreports

WindIQ
http://www.awea.org/windiq
windiq.awea.org

Additional Analysis Available:
State RPS Market Assessment, Corporate Purchasers,
Property Tax Treatment, and More

Questions or Feedback?
E-mail stats@awea.org