2025 Annual Market Report

Definitions

Advanced development: Projects not under construction, but with a PPA, firm equipment order, or moving forward with plans to be placed under utility ownership as of the end of the most recent quarter. For offshore wind, advanced development consists of projects that have secured offtake or have had successful bids in response to a state solicitation even if final offtake negotiations have not concluded.

Capacity: Project nameplate capacity. Unless otherwise stated, ACP reports capacity in MW-ac.

Clean power: For the purposes of this report, clean power includes land-based wind, offshore wind, utility-scale solar, and battery storage technology.

Decommissioned: Project is offline and is no longer delivering power to the grid on a permanent basis. Physical removal of equipment is not a requirement.

Duration: The amount of time, in hours, a battery can discharge its power capacity before depleting its energy capacity. For example, a 2 MW battery that has 4 MWh of energy capacity has a duration of 2 hours.

Full repowering: Full decommissioning of a utility-scale project. The original equipment is physically removed from the project site and replaced with new utility-scale equipment.

Inverter Loading Ratio (ILR): The ratio of installed DC capacity to the inverter's AC power rating. Also known as the DC-to-AC ratio.

Online: Project has reached commercial operation and is delivering electricity to the ultimate point of delivery.

Partial repowering, nacelle replacement: Complete replacement of a utility-scale wind turbine's nacelle, rotor, and blades. The tower and foundation are retained.

Partial repowering, major retrofit: Complete replacement of a utility-scale wind turbine's rotor and blades, along with the replacement of at least one major component within the nacelle, typically the gearbox or the generator.

Pipeline: Projects either under construction or in advanced development.

Repowered: Full or partial equipment replacement. Currently only wind repowering activity is tracked, but ACP will expand repowering activity tracked as the market progresses.

Under construction: Construction team has begun work on the ground at the project site. For offshore wind, under construction is defined as in-ocean construction.

Acronyms

AC	Alternating Current
C&I	Commercial & Industrial
CAISO	California ISO
DC	Direct Current
ERCOT	Electric Reliability Council of Texas
GW	Gigawatts
GWh	Gigawatt hours
ILR	Inverter Loading Ratio
IOU	Investor-Owned Utility
ISO	Independent System Operator
MISO	Midcontinent Independent System Operator
MW	Megawatts
MWh	Megawatt hours
NE-ISO	New England ISO
NYISO	New York ISO
OEM	Original Equipment Manufacturer
PJM	Pennsylvania-New Jersey-Maryland Interconnection
PPA	Power Purchase Agreement
RTO	Regional Transmission Organizations
SPP	Southwest Power Pool

Introduction

INTRODUCTION

Letter from the CEO

In every conversation I have with developers, policymakers, and industry leaders, one thing comes through clearly: the clean power story playing out across the country looks nothing like the debate unfolding in Washington. On the ground, clean power is not a political argument. It is a pay check. It is a tax base. It is a landowner's lease payment and a county's new fire truck. The data in this report confirms what those communities already know: this industry is woven into the economic life of the country, and it is growing fast.

In 2025, the clean power industry invested a record $79 billion in new projects—over $23 billion in Texas alone. Utility-scale solar, wind, and storage accounted for more than 90 percent of all new generating capacity connected to the American electricity system.

Too much of the conversation in Washington or on TV still treats clean power as something on the horizon. The reality on the ground looks nothing like that. Wind and utility-scale solar generated 17 percent of all U.S. electricity last year. In the Central United States that figure was 40 percent. Clean power is not a political debate. It is infrastructure that tens of millions of Americans rely on every time they turn on a light.

The clean power industry directly employs nearly 440,000 Americans, with each job supporting two to three more in the surrounding economy. Landowners received $3.2 billion in lease payments last year—income that is keeping farms and ranches intact across generations. State and local governments collected roughly $3 billion in tax revenue from clean power projects, funding the schools and services that hold towns together. Clean power projects now operate in nearly every congressional district in the country.

The American public understands that we need all sources of domestic power. A recent survey found that 83 percent of voters—and 75 percent of Trump supporters—agree that solar energy should play a greater role in strengthening the nation's energy supply.

With electricity demand surging at a pace we have not seen in a generation, the country will need every megawatt it can build. Clean power, paired with storage, stands ready to meet this moment. ACP will continue working with policymakers across the spectrum to streamline siting and permitting, strengthen grid reliability, and lower energy prices.

The pages that follow tell the story of a record year. But the story I am most proud of is the one unfolding in the communities where this industry lives. Clean energy is not a political argument. It is the power our nation depends on.

Jason Grumet
Chief Executive Officer
American Clean Power Association

America's Clean Power Progress in 2025

HOMEGROWN U.S. POWER MEETING RISING ENERGY DEMAND

50 GW
Total Clean Power Added

Over **90%** of all new U.S. power capacity

$79 billion in investment

27 GW
Utility-Scale Solar

16 GW
Energy Storage

7 GW
Land-Based Wind

>1 GW
Offshore Wind

Total Clean Power Installed (Cumulative)

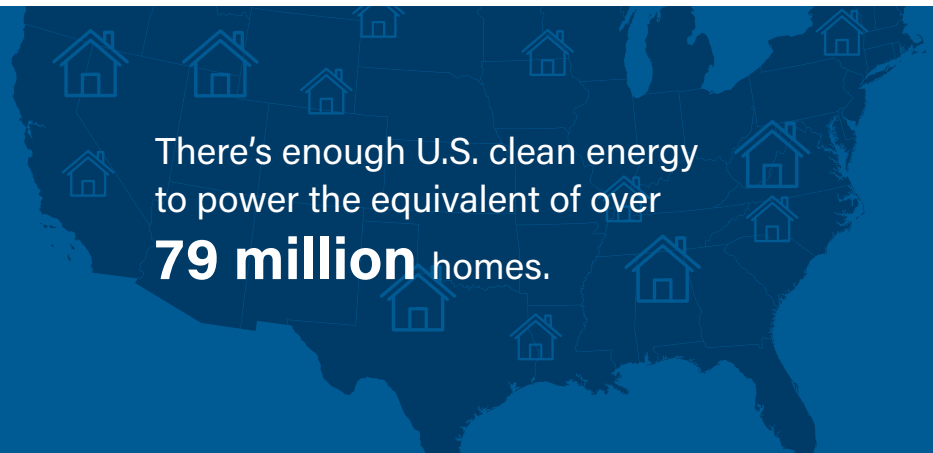
363 GW
Total Clean Power

161 GW
Land-Based Wind

157 GW
Utility-Scale Solar

45 GW
Energy Storage

174 MW
Offshore Wind



There's enough U.S. clean energy to power the equivalent of over **79 million** homes.

Operational clean power capacity is present in **all U.S. states** as well as DC and Puerto Rico, powering American homes and businesses.

AMERICAN CLEAN POWER

INTRODUCTION

Top Clean Power Trends of 2025

Annual clean power deployments surpassed 50 GW for the first time in 2025

With over 50 GW of new capacity added to the grid in 2025, clean energy technologies accounted for over 90% of all U.S. power additions during the year. Cumulative operational clean power capacity rose to 363 GW, enough to power over 79 million homes. Operational utility-scale wind and solar generated nearly 17% of all electricity in the U.S. in 2025, up from just 10% in 2020.

Industry invested $79 billion in new projects in 2025, supporting 1.4 million jobs

The clean power industry invested a record $79 billion in new projects in 2025. Through tax and land lease payments, clean power provided around $6 billion annually to communities, supporting public schools, fire departments, and other vital community services. Additionally, over 1.4 million jobs are supported by the clean power industry, and 437,000 Americans are employed directly. When looking at the larger economic impact, the clean power industry contributed $150 billion to the nation's economy in 2025, similar in size to New Mexico's GDP.

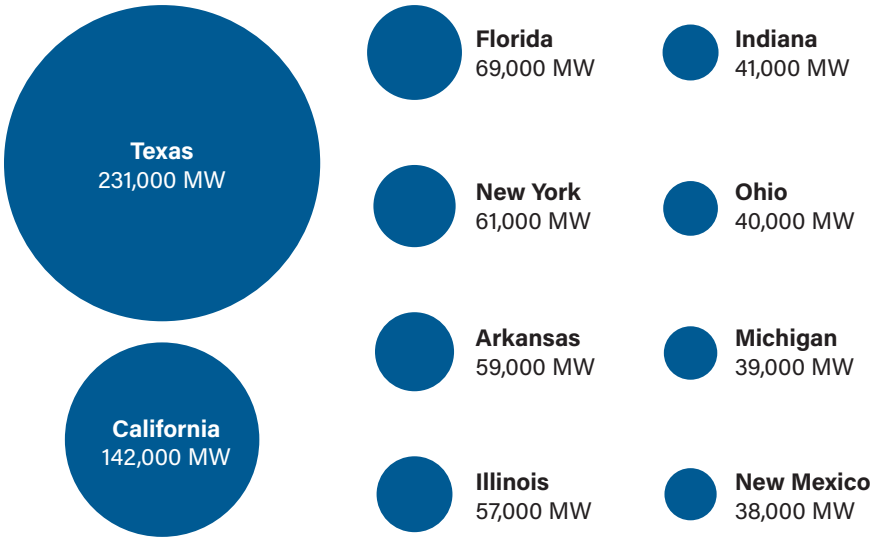
Wholesale electricity rates rose sharply in 2025, but price spikes landed softer for high-renewables markets

The national average wholesale electricity price jumped 41% year-over-year, increasing across six of the seven ISO/RTOs. The general increase in average wholesale prices across the nation came from higher natural gas prices throughout 2025 and demand spikes during extreme weather events. Markets with high renewable penetration saw greater insulation from high-cost natural gas during high demand periods.

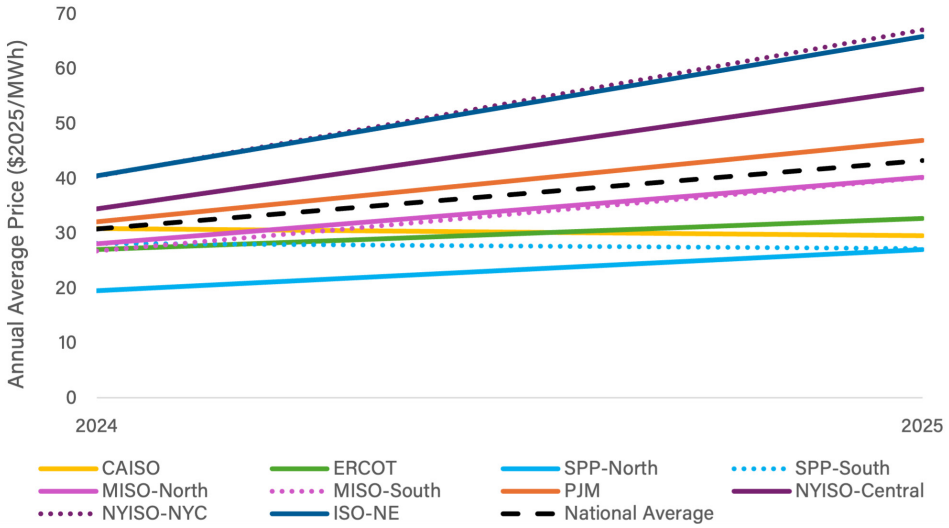
Expecting continued strong annual clean power deployments in 2026

Consultant forecasts anticipate between 46-62 GW of clean power installations for the coming year, accounting for around 90% of all new power additions. With current pipeline capacity, operational battery storage will surpass 50 GW in the coming year, while utility-scale solar will overtake land-based wind as the majority clean power technology in operation.

Top States, Clean Power Direct Jobs



Average Wholesale Electricity Rates by ISO/RTO



Top Clean Power Trends of 2025

Battery storage, the breakout technology of 2025

Battery storage not only had a record-breaking year in 2025 for new capacity additions, but also broke deployment records for every single quarter of the year. In total, 16 GW of new battery storage capacity came online, up 41% year-over-year. Over the past three years, battery storage quarterly installations have averaged a 54% growth rate. The rapid rate of deployments is matched by growth in the battery storage pipeline, which hit 46 GW by the end of the year.

Utility-scale solar continues strong build-out across the nation

Utility-scale solar added 27 GW of capacity to the grid during the year, marking the second-strongest year for installations. As solar deployments continue at a rapid pace, the expansion of solar into new markets across the nation also grows. Throughout 2025, four states (IN, KY, MO, and OK) nearly tripled operational utility-scale solar capacity, while Kansas more than quadrupled its operational portfolio.

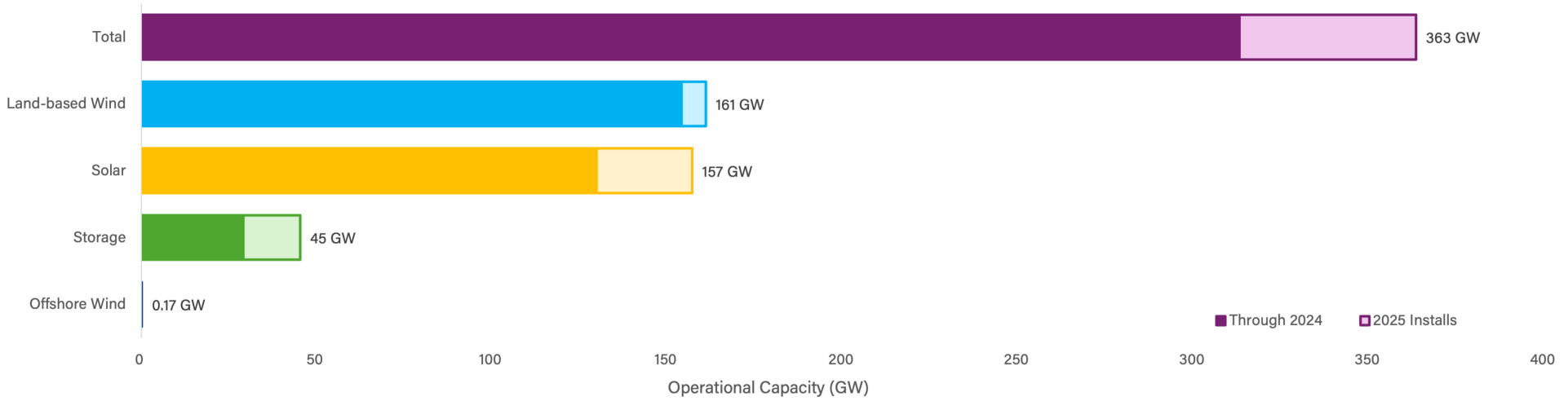
Land-based wind shows signs of recovery with nearly 7 GW added to the grid

The year ended with nearly 7 GW of land-based wind capacity installed, a 78% increase year-over-year. The almost double jump from 2024 marked the first year since 2020 that annual installations of land-based wind have increased. The land-based wind pipeline also showed signs of recovery, ending the year up 15% with 29 GW.

Offshore wind development persists, despite federal headwinds

The offshore wind industry faced increasingly persistent pressure from federal agencies throughout 2025, including stop-work orders for the projects under construction. Despite the regulatory and permitting challenges, the five offshore wind projects under construction continued progress, and the 174 MW of fully operational offshore wind capacity provided clean, consistent energy to the northeastern electricity grid at a time of rising demand.

Operational Clean Power Capacity by Year Added



Clean Power Economic Impact

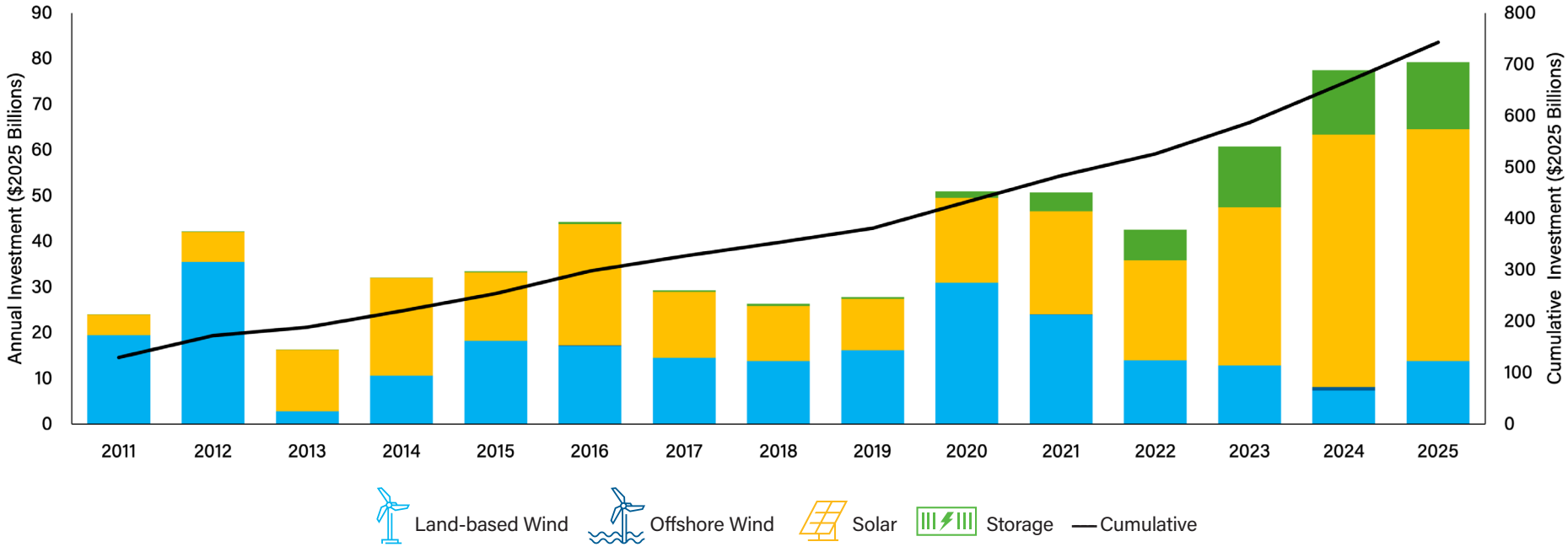
CLEAN POWER ECONOMIC IMPACT

Investment in American Innovation

The clean power industry invested a record $79 billion in new projects in 2025, with online projects generating over $6B in local taxes and land lease payments

- Investing in clean power is a potent catalyst for economic growth throughout the United States, particularly in rural communities.
- Clean power investments generate over $6 billion annually in state and local taxes and land lease payment revenues, directly impacting the surrounding communities.
- Total investment in online clean power technologies reached a new milestone, surpassing $700B for a total of $743B invested by the end of 2025. Of that land-based wind and utility-scale solar represent 47% and 45%, respectively.
- For the fourth straight year solar dominated the annual investment numbers, representing $51B of the total $79B invested in 2025 alone.
- Utility-scale battery storage investment continues to climb, reaching almost $15B in investment from projects that came online in 2025 and accounting for over $56B cumulatively.
- In 2025, the clean power industry invested almost $14 billion in land-based wind projects across the country, an increase of 87% compared to 2024.

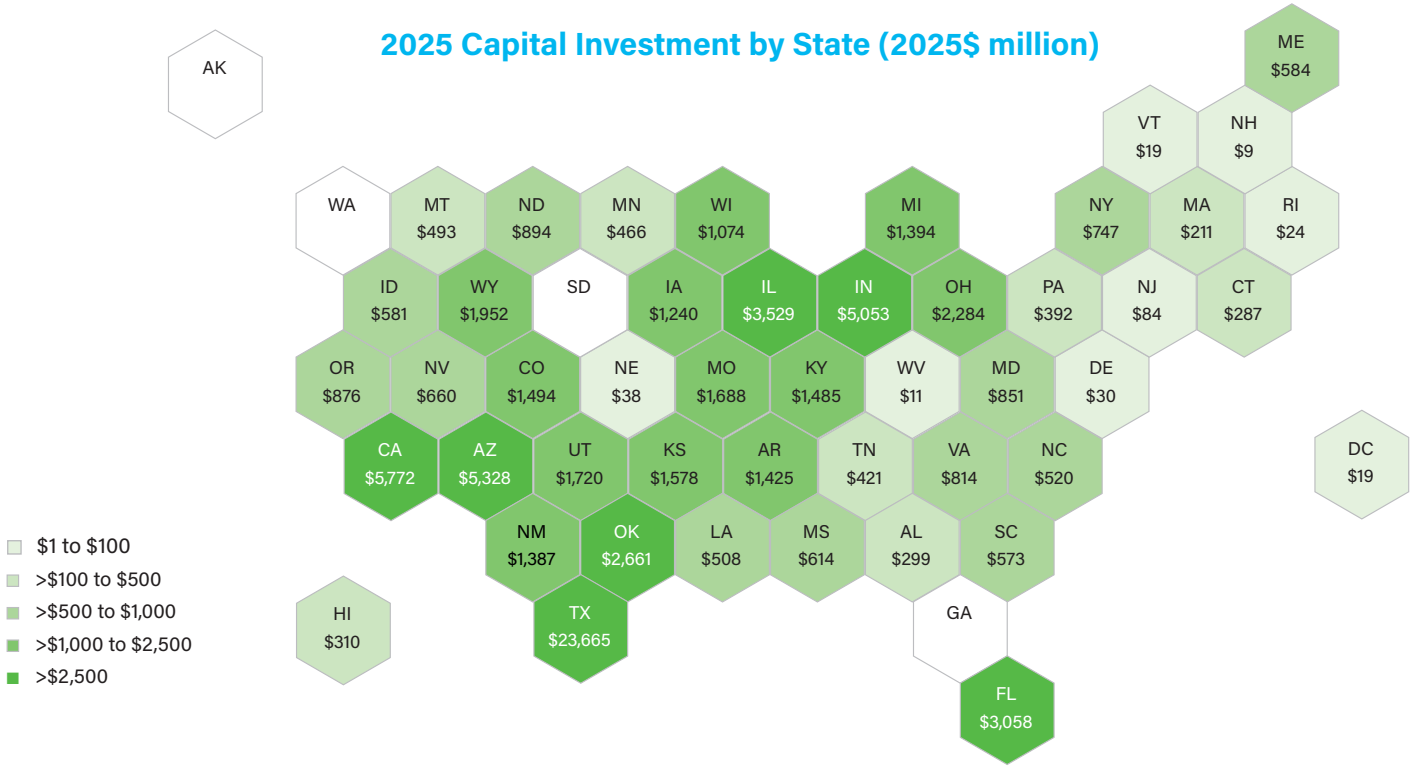
Annual Clean Power Investment by Technology



Capital Investment by State in 2025

Texas led with over $24 billion in clean power project investment in 2025, followed by California and Arizona at over $5 billion each

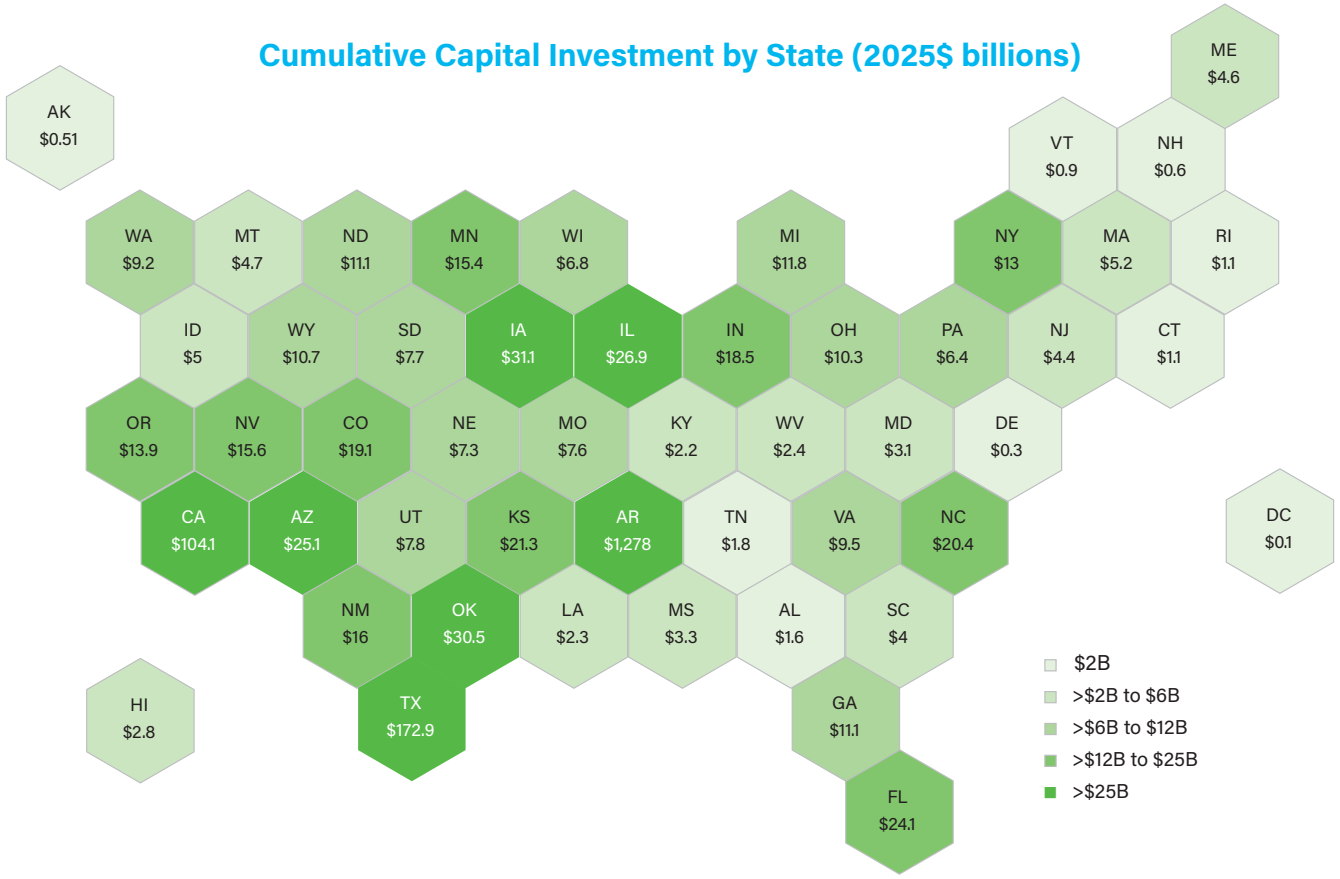
- Texas dominated in 2025 with over $24 billion in clean power project investment, accounting for over 30% of project investment nationwide.
- Texas also attracted the most investments per technology: $3.4B for land-based wind, $14.2B for utility-scale solar, and $6B for battery storage.
- California ranked second in clean power investment in 2025, with $5.7 billion in total investments. They had the second highest investment in battery storage at $2.8B.
- Arizona rounds out the top three, with $5.3B invested in 2025, driven by the third highest amount of solar at $3.2B as well as $2.2B in storage.
- Indiana attracted $4.4B of investment in solar projects, more than every other state except for Texas.
- Wyoming ($1.9B) and Oklahoma ($1.5B) attracted the second and third most investments in wind projects, respectively.
- Relative to the size of each state's economy (gross state product) Wyoming and North Dakota had the highest share of capital investment at 3.7% and 1.1% respectively.
- Investments in clean energy projects were about one percent of the state economies of Indiana, New Mexico , and Oklahoma.



Cumulative Capital Investment by State

Texas leads with nearly $173 billion in clean power project invested by the end of 2025 followed by California at $104 billion

- Texas' robust mix of land-based wind, utility-scale storage, and battery storage place it at the top of total cumulative investment in clean power. The state's clean power installations represents 23% of total investment.
- Texas has the most investments for land-based wind at $92B. Iowa and Oklahoma have the next highest investment in wind at over $29B each.
- California ranked second in cumulative clean power investment. Additionally, the state has the highest investment in both solar and storage at $67B and $21B, respectively.
- Texas accounts for the second-highest amount of solar and storage investment at $62B and $18B.
- Iowa rounds out the top three of total investments at $31B, representing 4% of all domestic investment.

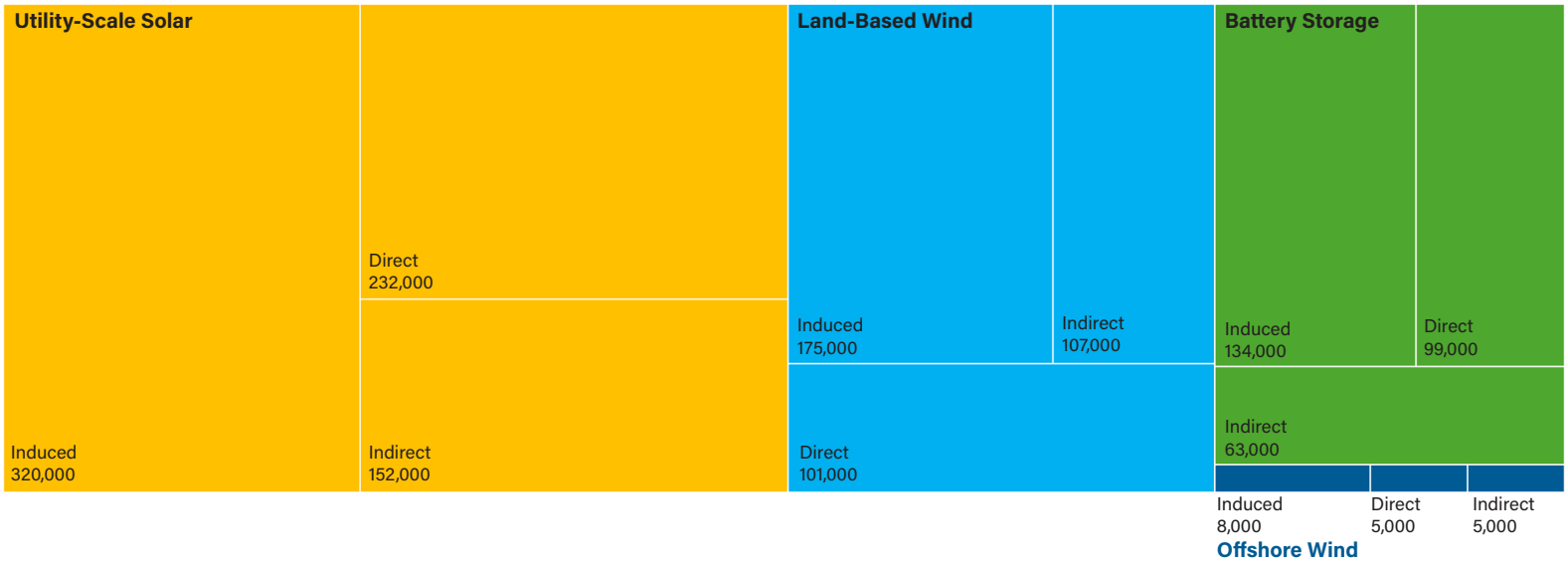


Clean Power Supports Additional Jobs in Upstream and Downstream Activities

The U.S. clean power industry supports over 1.4 millions jobs nationwide

- The clean energy industry contribute 437,000 direct jobs spread across all 50 states, including project development, construction, operations, maintenance, and manufacturing.
- The complete job picture shows the clean power industry supporting 1.4 million jobs, including 703,000 solar jobs, 383,000 land-based wind jobs, 296,000 battery storage jobs, and 18,000 offshore wind jobs.
- In a highly intricate economy like the U.S., economic activities from the clean power industry ripple through other industries, households, and the government sector. **For every job directly employed in clean power, it supports an estimated 2.8 jobs in wind, 2.4 jobs in offshore wind, and 2.0 jobs in battery storage and solar.**
- An estimated 326,000 jobs indirectly supported through the supply chain—people who provide materials, equipment, and services the industry relies on. On top of that, the spending by these workers and companies helps create 637,000 more induced jobs—like teachers, restaurant staff, healthcare workers, and others whose work is supported by the money flowing into local communities.
- Overall, for every worker directly employed in clean power, the industry supports 0.7 jobs in upstream (supply chain) activities and 1.5 jobs resulting from additional economic activity driven by spending from wages earned by workers.

Electric Power Generation Employment Supported by Clean Power



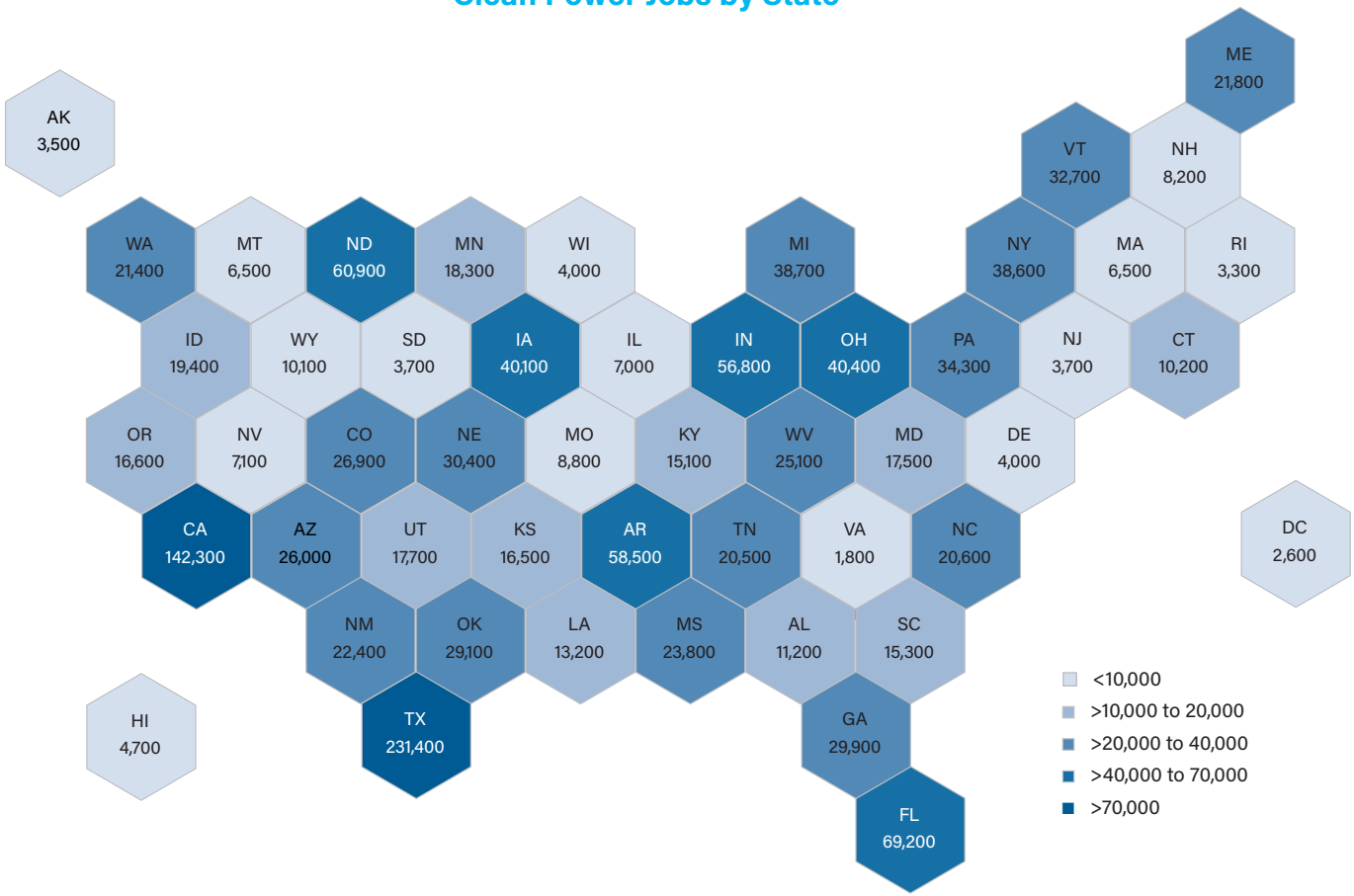
Note: These job figures are not related to the USEER jobs, which were headcounts for 2024. Rather, these are ACP's view of construction jobs for projects that were under construction or completed in 2025 plus O&M jobs associated with existing projects.

Clean Power Jobs by State

The top three states are home to over 31 percent of jobs supported by clean power

- Almost of a third of the clean energy jobs were supported by projects in Texas (231k), California (142k), and Florida (69k)
- The following states round out the top ten
  - New York – 61k
  - Arkansas – 59k
  - Illinois – 57k
  - Ohio – 40k
  - Indiana – 41k
  - Michigan – 39k
  - New Mexico – 38k

Clean Power Jobs by State



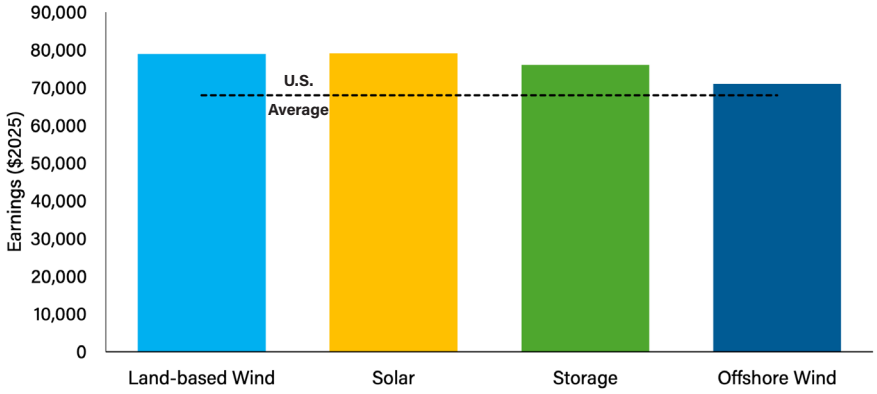
Note these include all indirect and induced jobs and assume some percentage of jobs done for a facility in one state are located in another state.

Clean Power Creates Well Paying Jobs

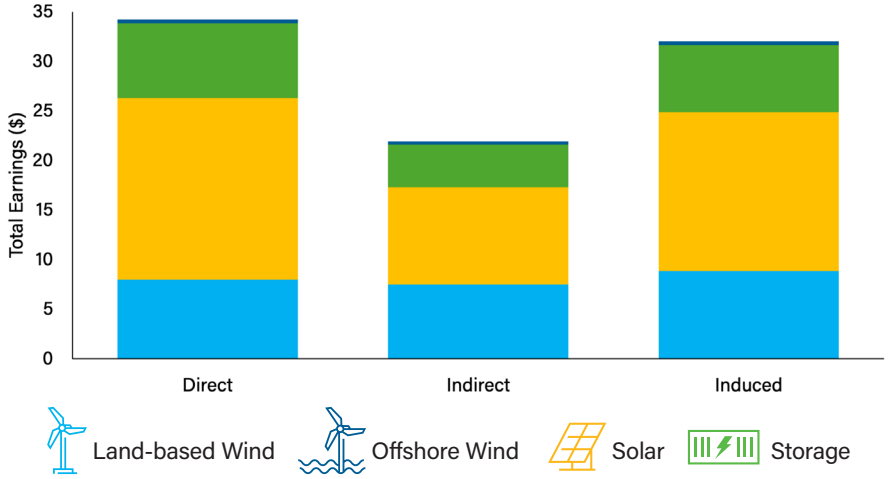
Direct workers in the clean energy industry earn a higher wage the average of all private industry and government workers

- Earnings are essentially the paychecks workers bring home or what self-employed people make. It includes not just wages, but the benefits employers pay to workers. It also includes workers' personal contribution to health insurance and Social Security contributions.
- Workers directly employed in clean power earned $78,230 on average in 2025, higher than the mean wage of all private industries and government workers ($67,920).[1]
- In total, all workers directly employed in the clean power industry earned over $34B. Those employed indirectly through the upstream supply chain effects earned $22B. Economic activities from the changes in spending by these workers resulted in $32B in induced earnings.
- Of the total $88B in clean power earnings in 2025, solar contributed half at $44B, followed by land-based wind at $24B, battery storage at $19B, and offshore wind at $1B.
- The $34B in direct clean power earnings is more than the total wages and salaries earned in metals manufacturing ($33B), oil and gas extraction ($26 billion), and wood products manufacturing ($26B) industries.[2]

Average Clean Power Direct Earnings per Employee



Total Earnings in 2025 across Clean Power in Billions



1 Source: Bureau of Labor Statistics, Occupational Employment and Wage Statistics, May 2024. May 2024 was the most recently available version

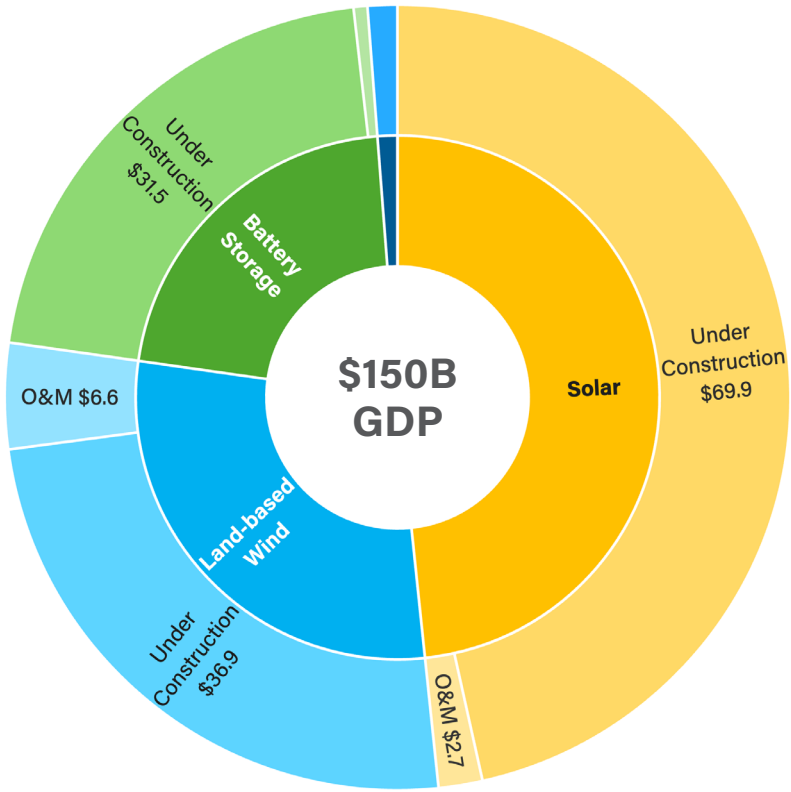
2 Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 6.3D. Wages and Salaries by Industry

Clean Power Drives U.S. Economic Growth

The U.S. clean power industry contributed $150 billion to the nation's economy in 2025, similar in size to New Mexico's GDP

- Clean power contributed over $150 billion to the U.S. economy in 2025.
- Otherwise known as Gross Domestic Product or GDP, it is the total dollar value of final goods and services produced in a given period. The higher it is, the more stuff is being made and sold, which generally means more jobs and income for people.
- Solar contributed almost half of the total value at $73B, followed by land-based wind at $43B, battery storage at $32B, and offshore wind $2B.
- Most of the value-added came from construction activities of projects that came online in 2025 ($58B) or continued to be under construction by the end of the year ($85B). Ongoing O&M activities contributed $10B in value-added.
- This $150B in value add is more than the GDP of over 100 countries. It is equivalent to the GDP of the country of Bolivia, and a little under half the size of New Zealand's GDP.[1]
- Clean power also provided more value-added than thirteen states such as Idaho ($136B and population 2.0 million), New Hampshire ($127B and population 1.4 million), and Hawaii ($125B and population 1.4 million).[2]

Clean Power Value-Added (2025$ billions)



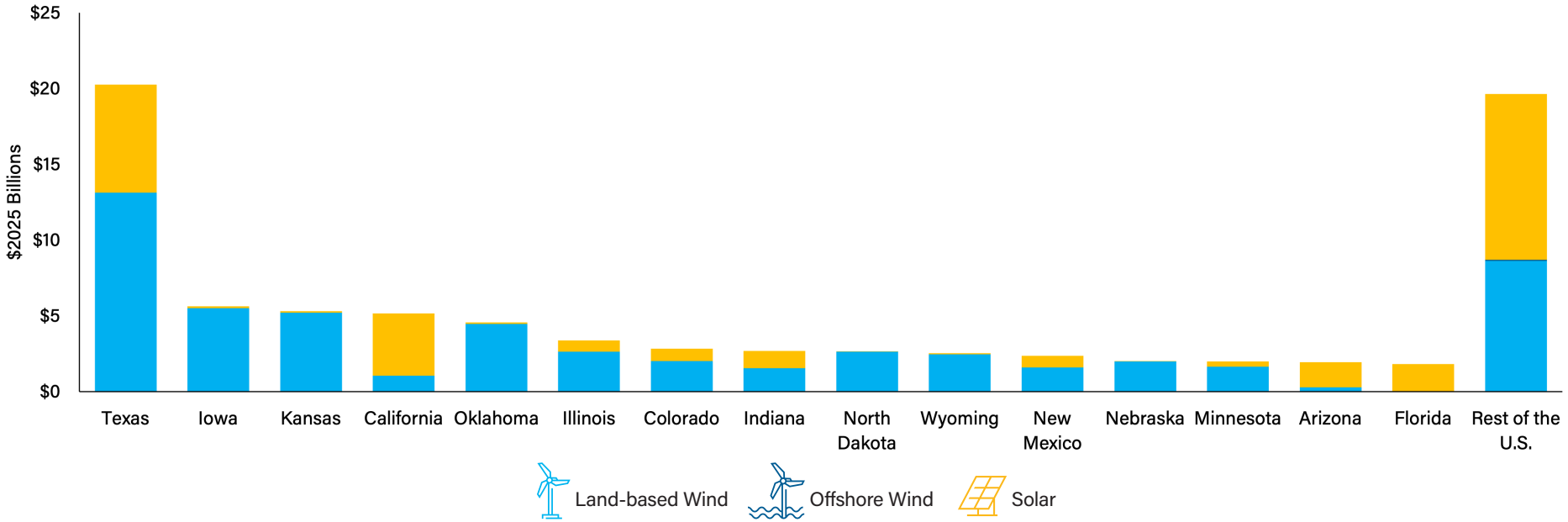
1. Source: International Monetary Fund, World Economic Outlook (October 2025). Adjusted for Purchasing Power Parity (PPP), i.e. accounting for differences in price levels between countries, allowing GDP figures to be compared meaningfully across nations.
2. Source: Bureau of Economic Analysis, State Quarterly Gross Domestic Product (GDP) and U.S. Census Bureau annual estimates of the resident population for the United States, regions, states, District of Columbia, and Puerto Rico. State GDP comparisons are based on 2025-Q3 annualized figures.

Clean Power's Additional Economic Benefits

The clean power industry generates $85 billion in additional economic benefits via avoided emissions

- Clean power generates additional economic benefits in the form of quantified emissions avoided.
- The land-based wind, offshore wind, and solar projects that were operational at the end of 2025 are expected to mitigate 50 million metric tons of emissions annually.
- Emissions avoided by the operational fleet of clean power projects generates health benefits with an economic value between $8.2 billion to $13.3 billion per annum at a 2.5% and 2% discount rate, respectively.
- Cumulatively, all land-based wind, offshore wind, and solar projects that are currently online generate an economic value between $85 billion to $137 billion annually, equivalent to 0.28% to 0.45% of the U.S. economy.
- Texas leads the way with over $20.3 billion economic benefits (at 2.5% discount rate), followed by Iowa ($5.6 billion) and Kansas ($5.3 billion).

Economic Value of Emissions Avoided by Technology, Top 15 States[1]



Source: U.S. EPA

1. Note: Assumes a 2.5% Discount Rate

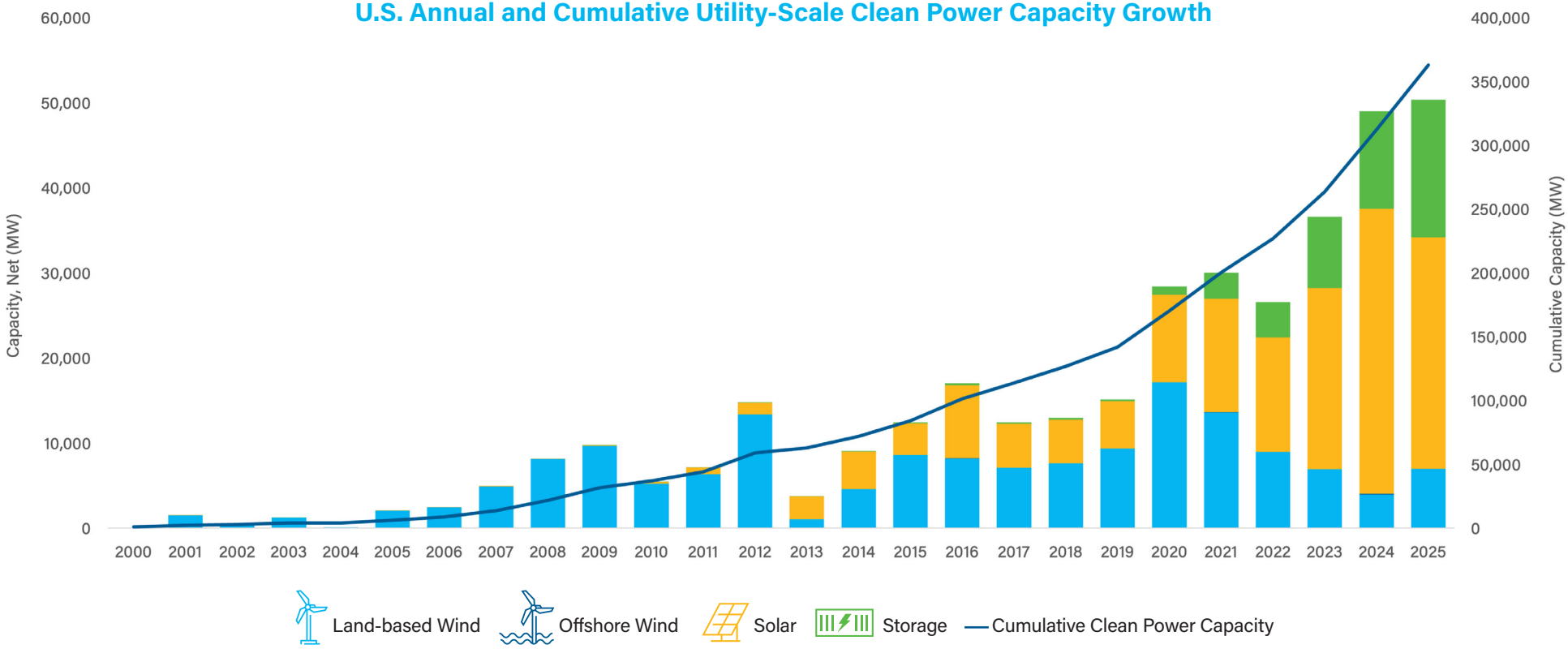
2025 Clean Power Activity

U.S. Sets Installation Record for Annual Clean Power Additions

The U.S. added a record-setting 50.3 GW of clean power to the grid in 2025, up 3% from the record set in 2024

- In 2025, developers in the U.S. commissioned 50,344 MW of utility-scale solar, wind, and storage capacity, setting a record for the strongest installation of operating clean power in a single year.
- Clean power technologies provided over 90% of all new power generation capacity added to the U.S. electricity grid in 2025.
- Total operational clean power capacity in the U.S. ended the year at 363,301 MW, providing enough electricity to power the equivalent of 79 million American homes each year.
- Utility-scale solar capacity in the U.S. increased by 27 GW in 2025, pushing cumulative capacity past the 150 GW milestone to 156,980 MW.
- Storage experienced a record year for installations, surpassing 45 GW with 16,175 MW /46,520 MWh installed in 2025.
- Land-based wind capacity increased by 7 GW in 2025, bringing the total capacity installed to 160,881 MW. Offshore wind projects currently under construction have made substantial progress toward completion in 2025, despite headwinds.

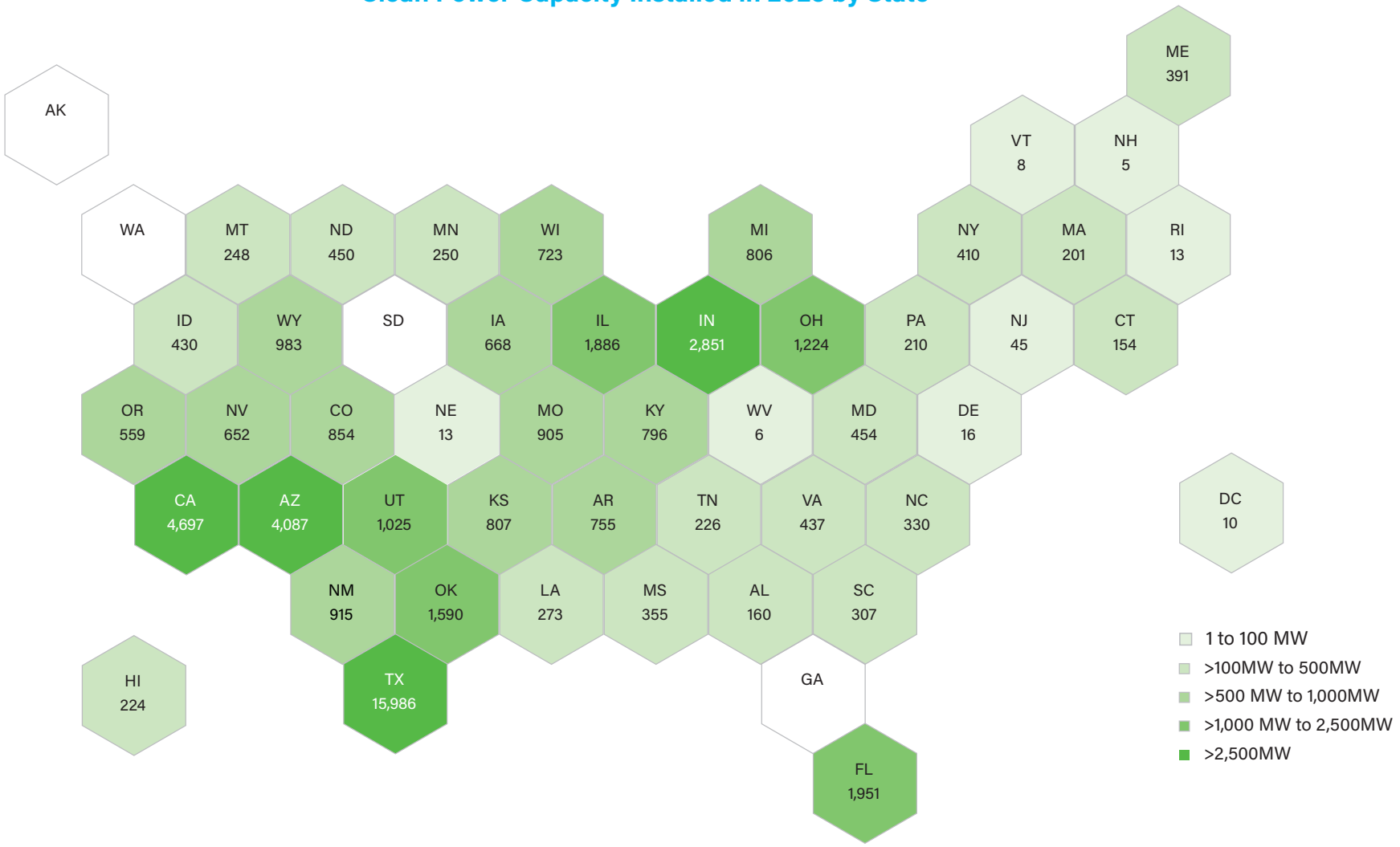
U.S. Annual and Cumulative Utility-Scale Clean Power Capacity Growth



Clean Power Capacity Installations in 2025 by State

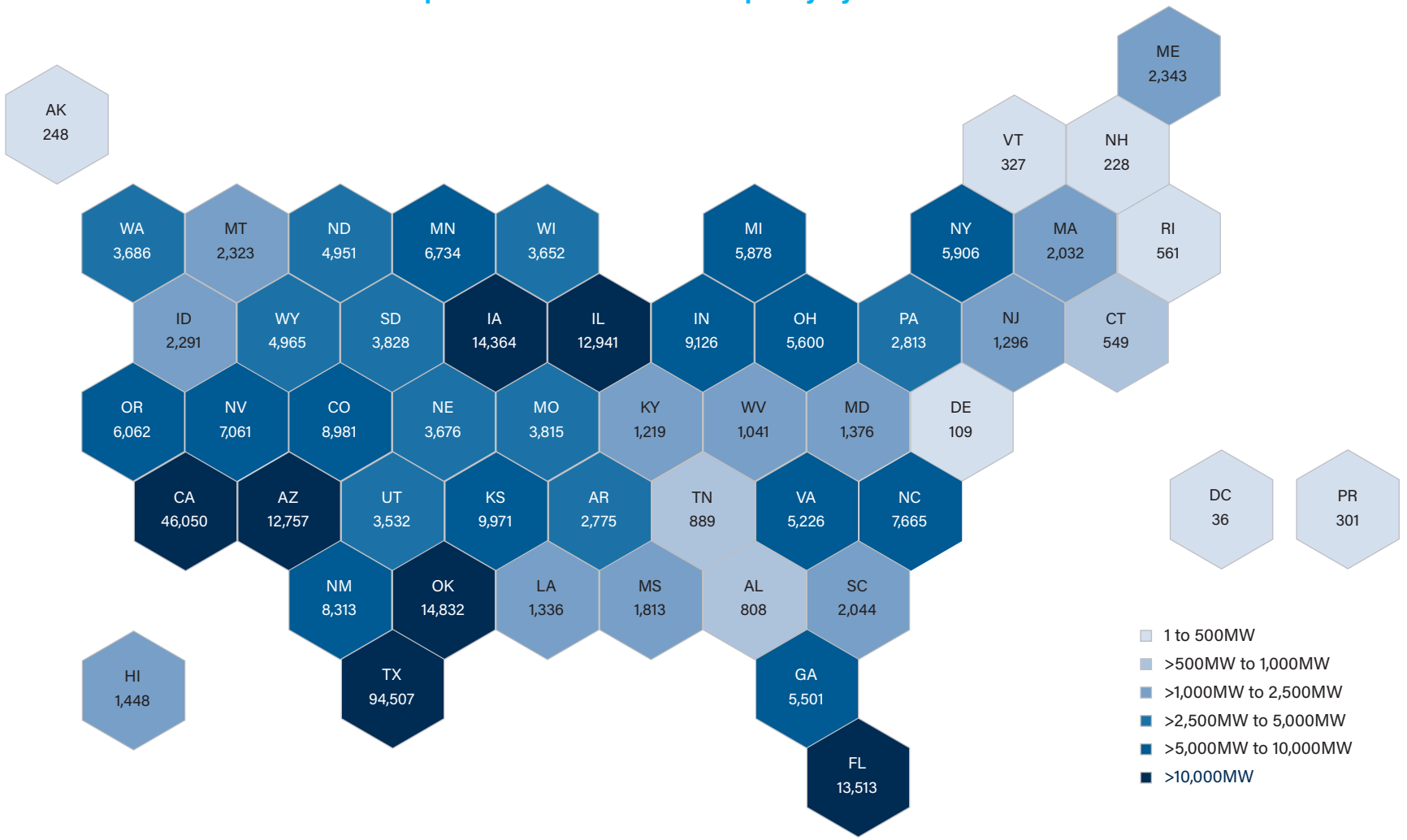
In 2025, 46 U.S. states and the District of Columbia installed at least one utility-scale solar, wind, or storage project

Clean Power Capacity Installed in 2025 by State



Cumulative Clean Power Capacity by State

Operational Clean Power Capacity by State



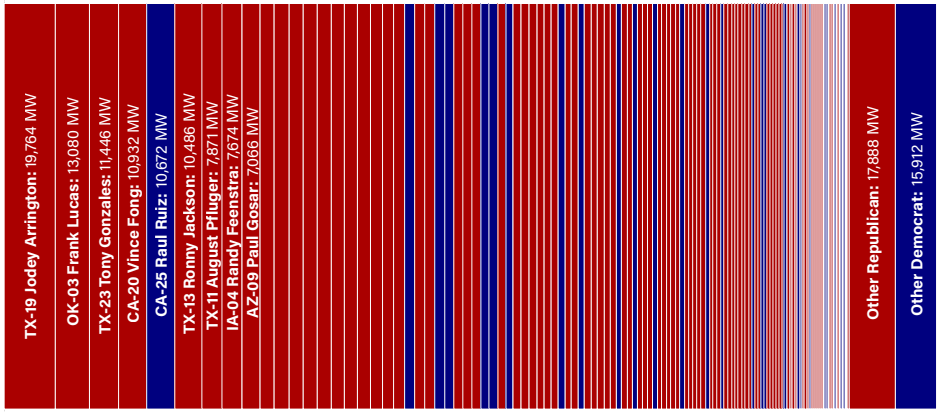
Clean Power is Red, White, and Blue

Operational clean power capacity can be found in 89% of congressional districts

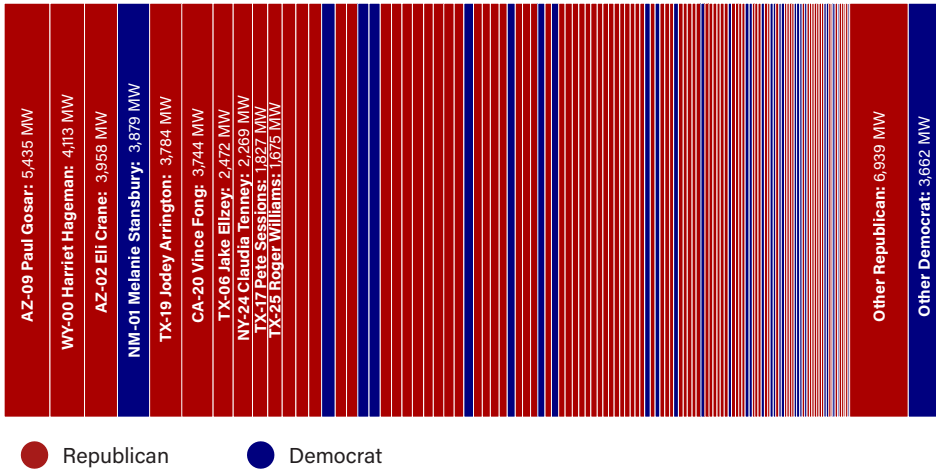
- A total of 389 congressional districts had operating wind, solar, or battery storage projects in 2025, up from 375 districts in 2024.
- Overall, 94% of Republican-held districts and 85% of Democrat-held districts have operational clean power projects.
- Congressman Jodey Arrington of the 19th district of Texas represents the most operating clean power capacity in the country. The 19.8 GW deployed in Congressman Arrington's district is 51% larger than the next-largest clean power district, Oklahoma's 3rd district represented by Frank Lucas. Over 2 GW of clean power capacity came online in OK-03 in 2025, narrowing its gap with the top-ranking district by 15% compared to 2024.
- Nineteen of the top 20 districts by clean power capacity are represented by Republicans. In total, 79% of all clean power capacity is installed in districts represented by Republicans.
- The top district for operational clean power represented by a Democrat is California's 25th, represented by Congressman Raul Ruiz. The district hosts 10.7 GW of clean power.
- For the clean power pipeline, 16 of the top 20 districts are represented by Republicans and four by Democrats. Arizona's 9th district, represented by Congressman Paul Gosar, is host to the most clean power capacity in the pipeline, with 5.4 GW.
- Twenty-five Republican congressional districts have more than 1 GW of clean power in the pipeline, compared to five districts represented by Democrats.

Clean Power Capacity by U.S. Congressional District

Operating Capacity



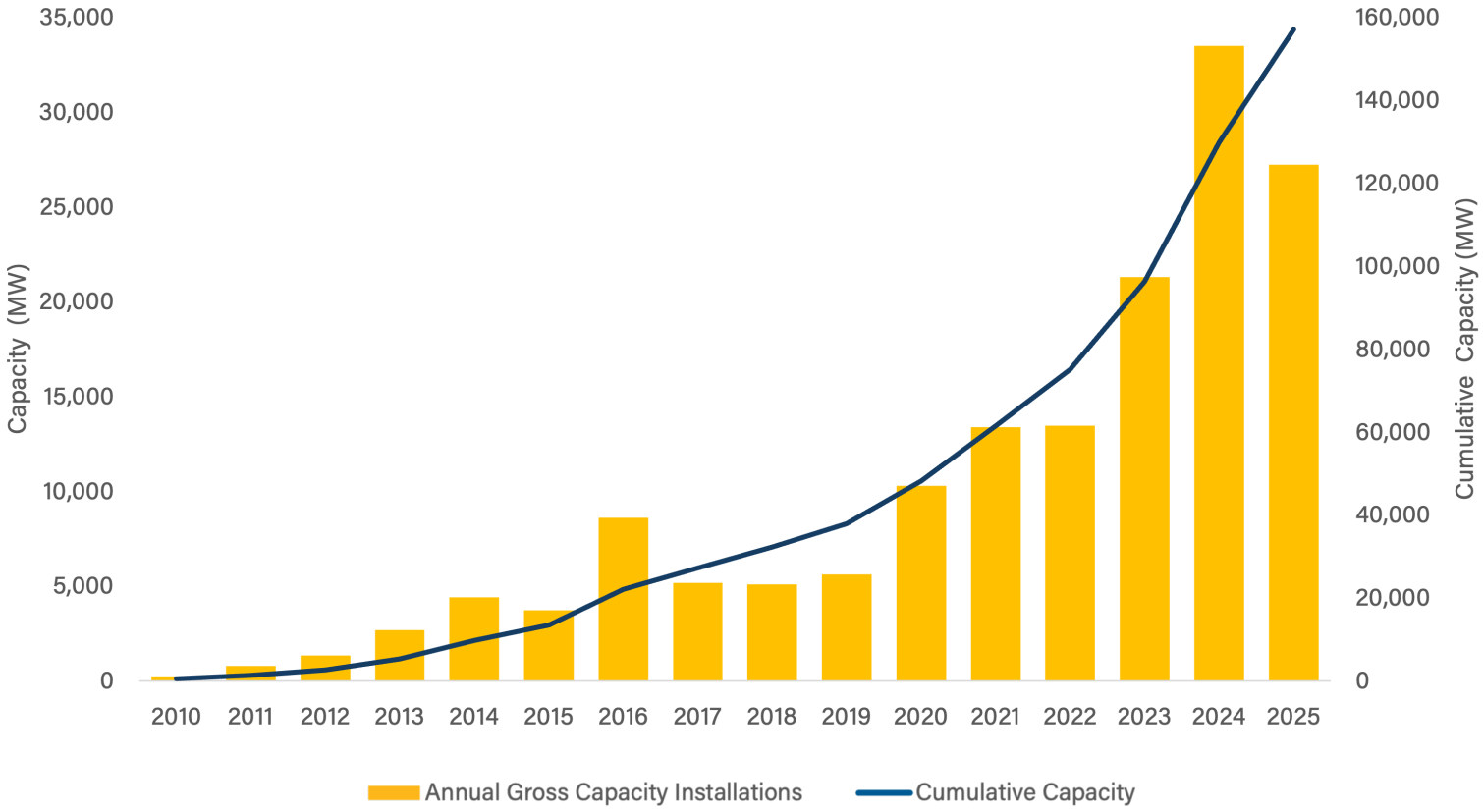
Pipeline Capacity



Annual and Cumulative Utility-Scale Solar Capacity

- The U.S. solar industry added 493 utility-scale projects in 2025, totalling 27,225 MW of new capacity.
- Cumulative operating capacity for utility-scale solar grew to 156,980 MW in 2025, passing the 150 GW installed milestone.
- Installations in 2025 fell 19% compared to 2024; however, 2025 surpassed 2023 to become the second-largest year for solar additions.
- The solar industry has seen rapid growth in recent years, adding over 108 GW of new capacity since the start of the decade.

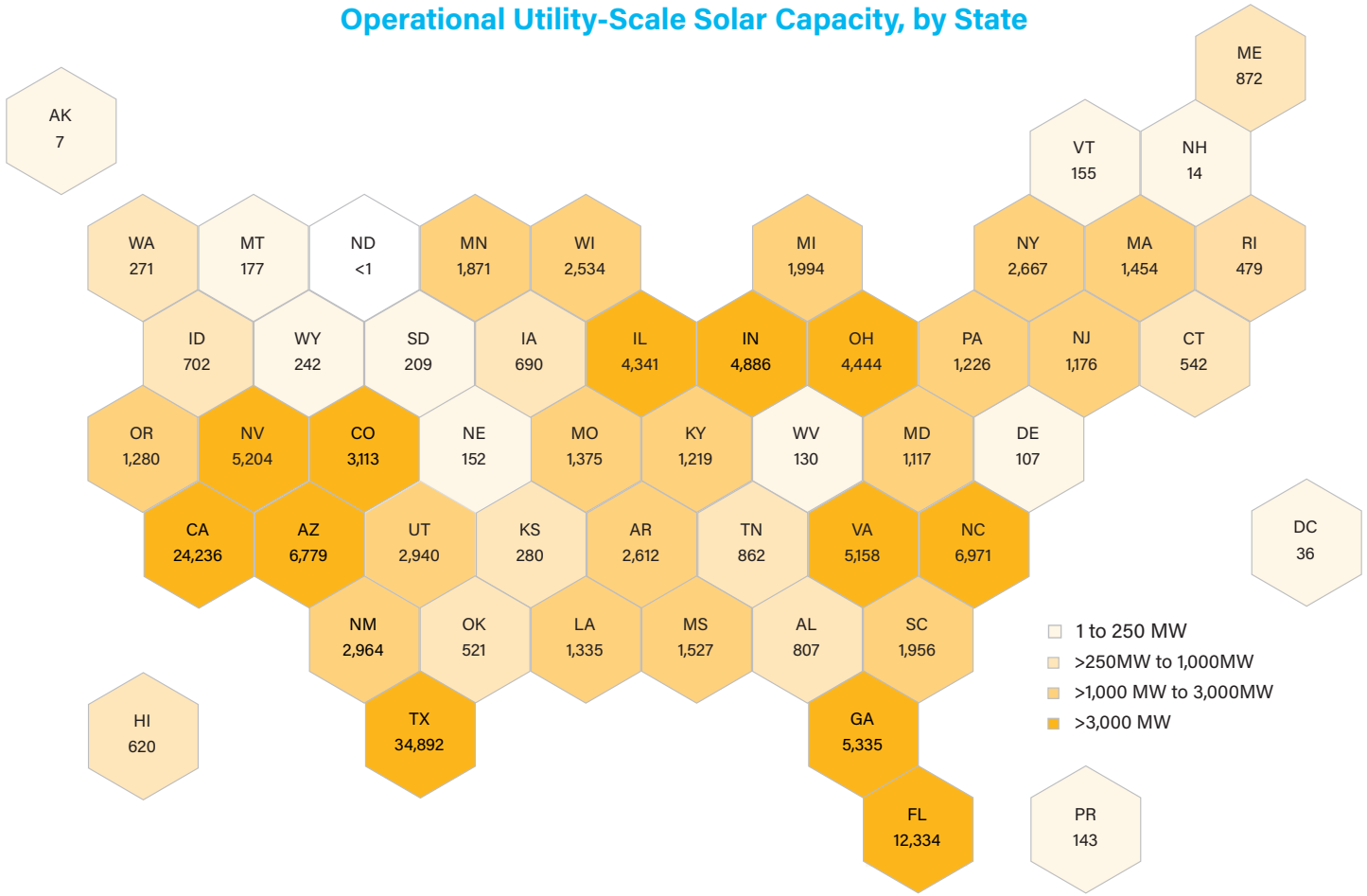
U.S. Annual and Cumulative Utility-Scale Solar Capacity Growth



Operating Utility-Scale Solar Capacity by State

- At least one utility-scale solar project is operational in all 50 states, the District of Columbia, and Puerto Rico.
- Texas installed 7,637 MW of solar capacity during 2025, the most of any state or region, accounting for 28% of the total solar installations for the year.
- Thirty-two states brought over 100 MW of solar online in 2025, fourteen of those states saw over 500 MW of solar additions, and seven states added at least 1 GW of solar (AZ, CA, FL, IL, IN, OH, and TX).
- In four states, over 60% of the state's total operating solar capacity was added in 2025 (KS, KY, MO, and OK).

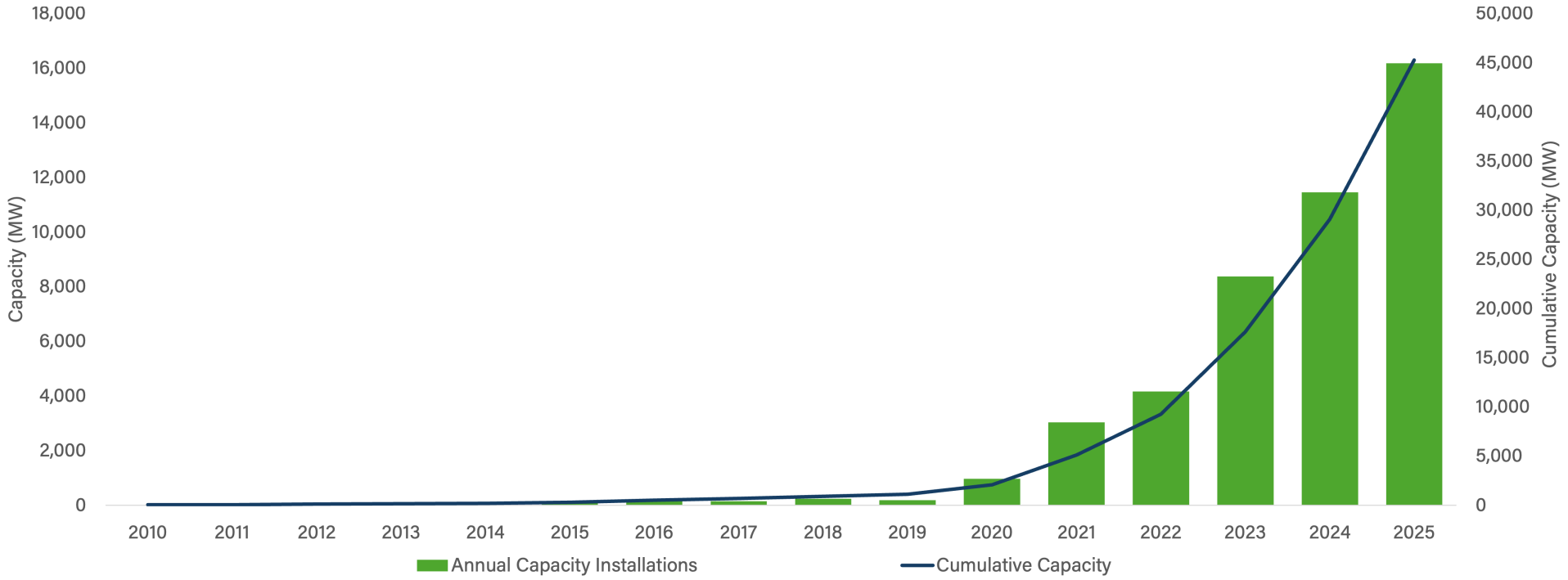
Operational Utility-Scale Solar Capacity, by State



Annual and Cumulative Energy Storage Capacity

- In 2025, developers added 177 storage projects, totalling 16,175 MW/46,520 MWh of utility-scale storage capacity additions to the grid.
- Cumulative operating capacity for utility-scale energy storage grew to 45,266 MW /125,549 MWh by the end of 2025.
- Battery storage additions in 2025 surpassed the previous record in 2024 by 41%, marking 2025 as the strongest year for storage on record.
- Battery storage accounted for around one-third (32%) of all clean power capacity additions in 2025, up from providing roughly one-quarter of all additions in 2023 and 2024.

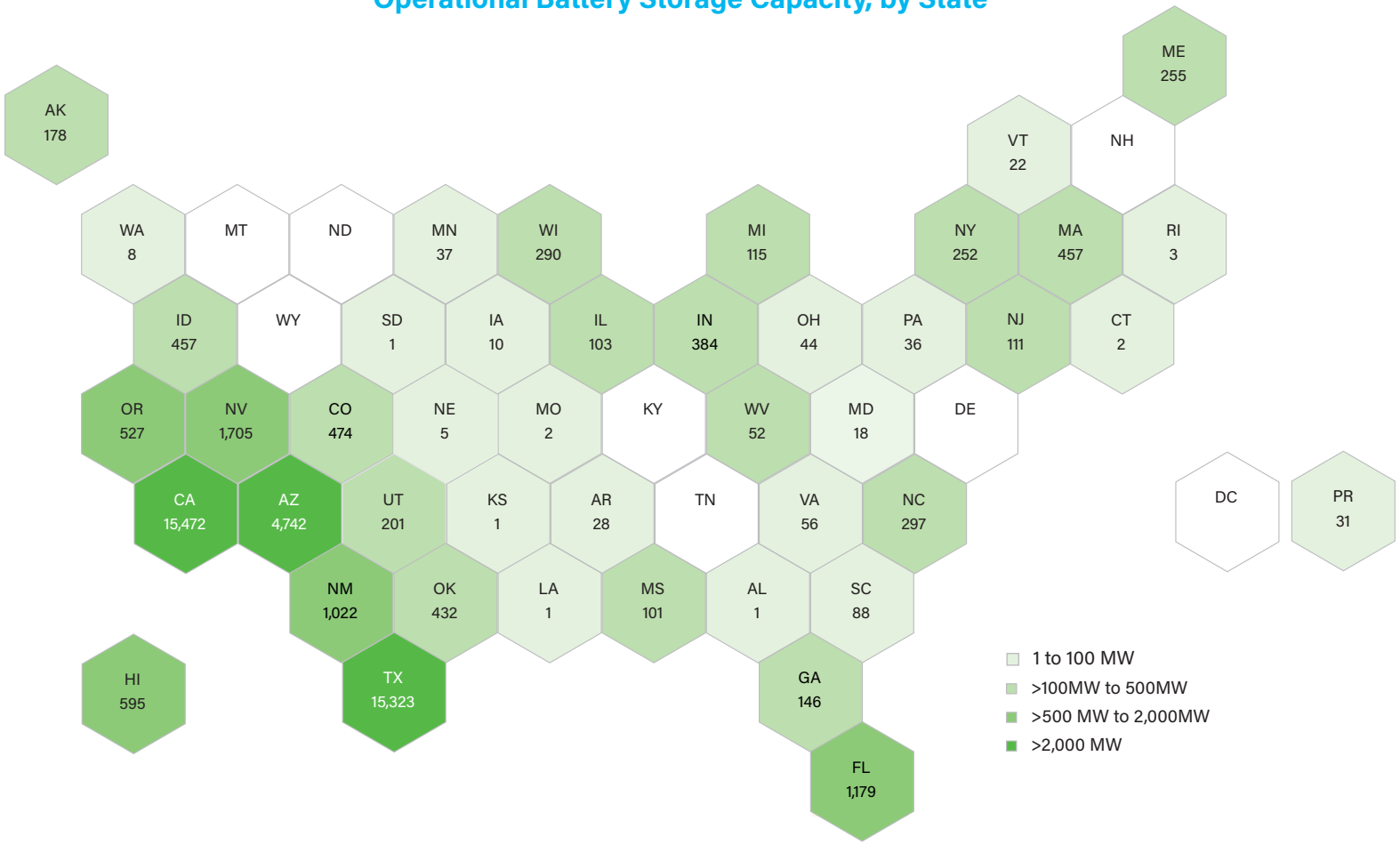
U.S. Annual and Cumulative Utility-Scale Battery Storage Capacity Growth



Operating Battery Storage Systems by State

- Utility-scale storage is operational in 44 states and Puerto Rico. In 2025, seventeen states added at least 100 MW of storage, five of which added more than 500 MW (AZ, CA, FL, NV, and TX).
- Texas installed 6,631 MW of storage capacity during 2025, the most of any state or region, accounting for 41% of the total storage installations for the year.
- Looking at the pipeline, 28 states have at least 100 MW of storage in advanced development or under construction and thirteen states have over 500 MW in the pipeline. Texas currently has the largest pipeline with 8,914 MW of storage planned, followed by California and Arizona with 8,274 MW and 8,048 MW, respectively.

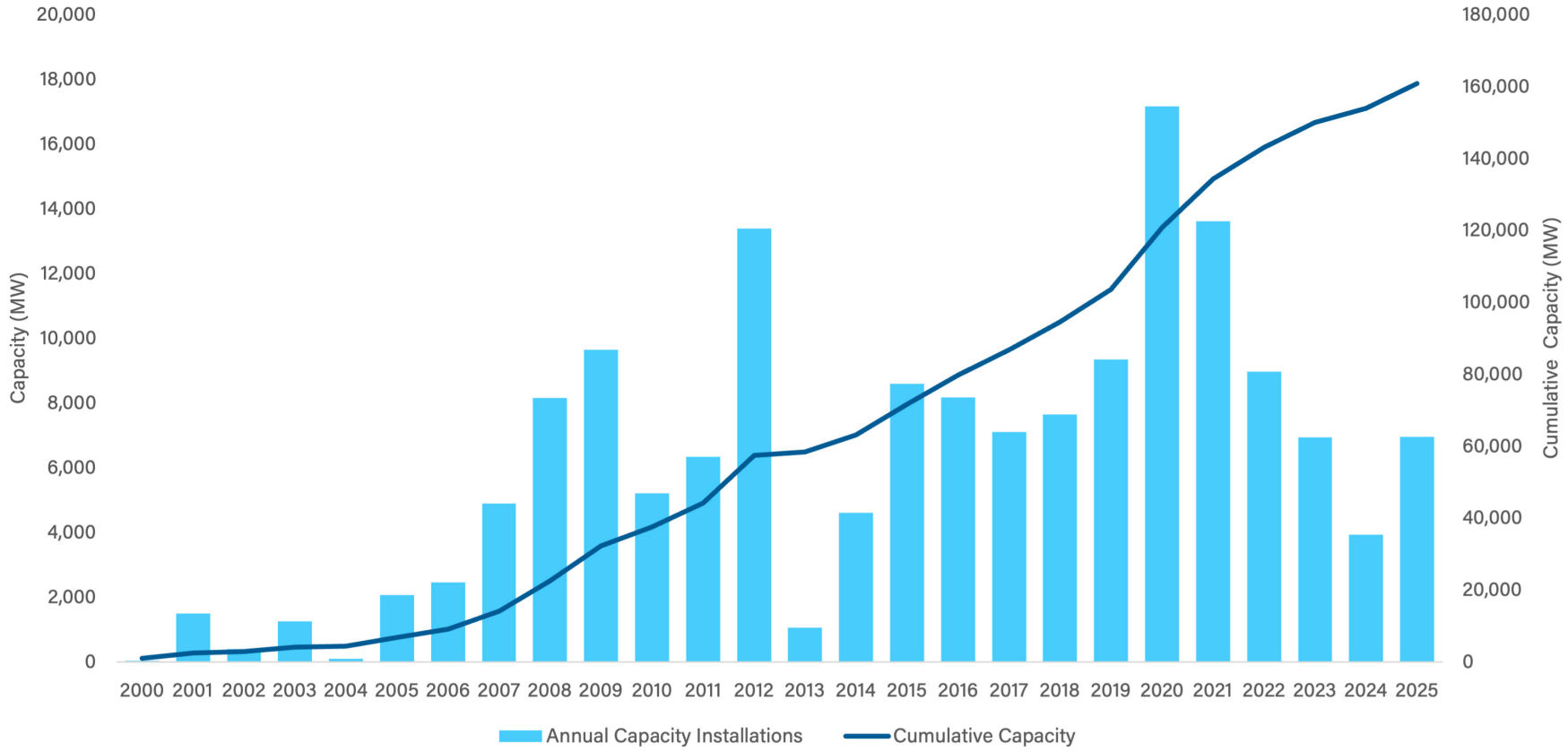
Operational Battery Storage Capacity, by State



Annual and Cumulative Land-Based Wind Power Capacity

- In 2025, developers added 34 land-based wind projects to the grid, totalling 6,944 MW of new capacity. Cumulative operating capacity for utility-scale wind at the end of 2025 had grown to 160,881 MW.
- After reaching a record high in 2020, annual capacity additions consistently declined year-over-year in 2021-2024; however, the capacity added increased by 78% in 2025 compared to 2024, signaling some recovery in deployments.
- The 34 projects commissioned during the year consisted of 1,866 turbines.
- Weighted by capacity, the average size of a wind project installed in 2025 was 268 MW, larger than the average project installed in 2024 (196 MW) and 2023 (233 MW).

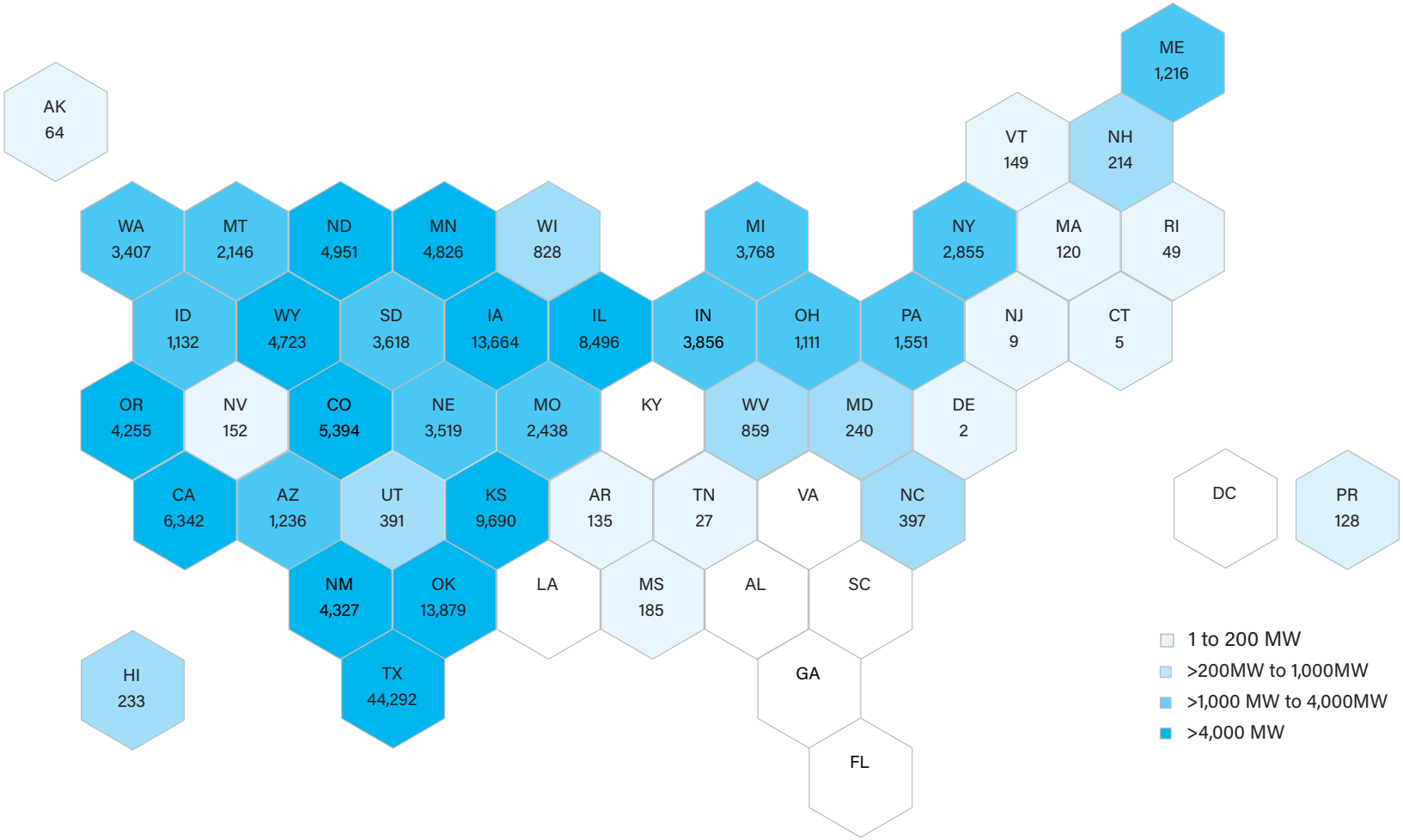
U.S. Annual and Cumulative Land-Based Wind Capacity Growth



Operating Land-Based Wind Power Capacity by State

- Operational land-based wind projects can be found in 43 states, Guam, and Puerto Rico. In 2025, fifteen states added a new land-based wind project. Texas led the ranking of wind installed in 2025 with 1,718 MW, followed by Wyoming with 983 MW and Oklahoma with 818 MW.
- Twenty-five states have over 1 GW of operating wind capacity and seven states have over 5 GW. The majority of operational capacity is concentrated in the Central Plains, where wind speeds are the highest.

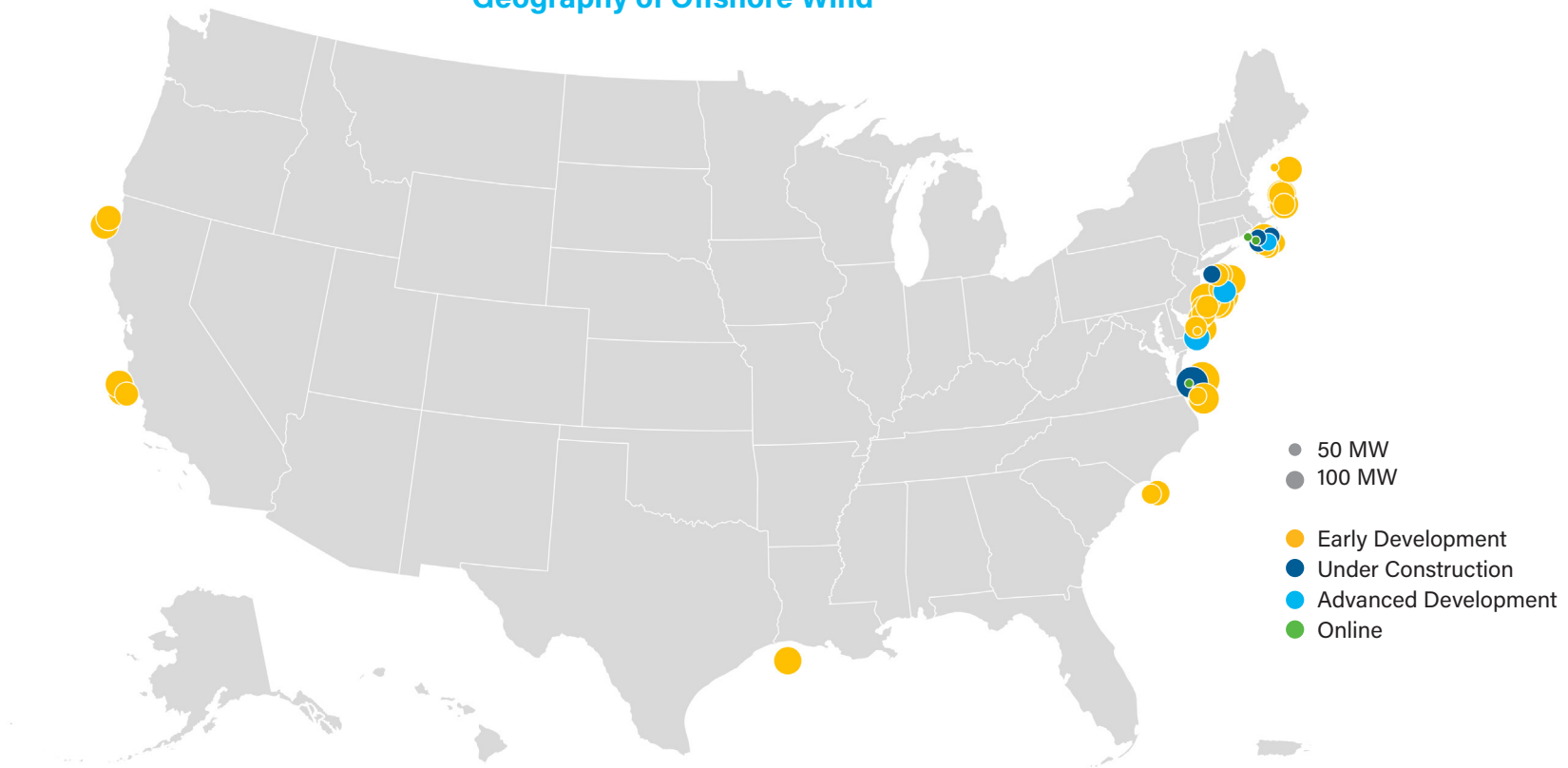
Operational Land-Based Wind Capacity, by State



U.S. Offshore Wind Year-in-Review

- While the U.S. offshore wind industry faced political headwinds in 2025, several projects in the construction stage made substantial progress toward full completion during the year.
- The coastal Northeast continued to be the epicenter of project development, with projects in the Gulf Coast and West Coast remaining in the earlier stages of development.
- South Fork Wind, which came online in 2024 off the coast of New York, averaged a net capacity factor of 53% in the first half of the year, according to the project's owner and operator, demonstrating offshore wind's high potential.
- South Fork Wind also showcases the potential benefits that offshore wind projects can bring to local marine life: offshore turbine foundations function as artificial reefs, creating a habitat that supports a variety of species. Several of these species are commercially valuable, driving fishing revenue near the South Fork Wind project to amounts last observed in 2008.

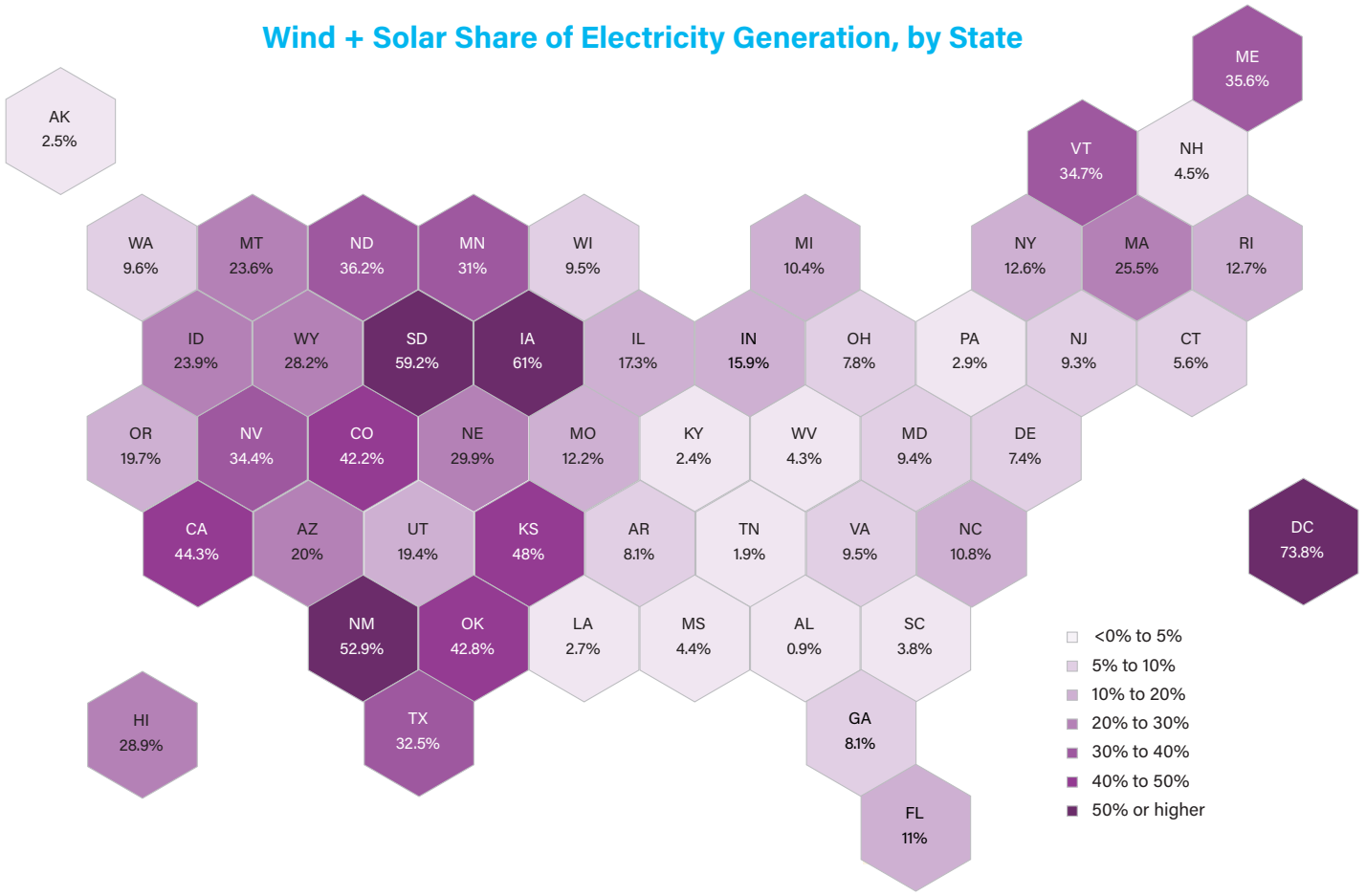
Geography of Offshore Wind



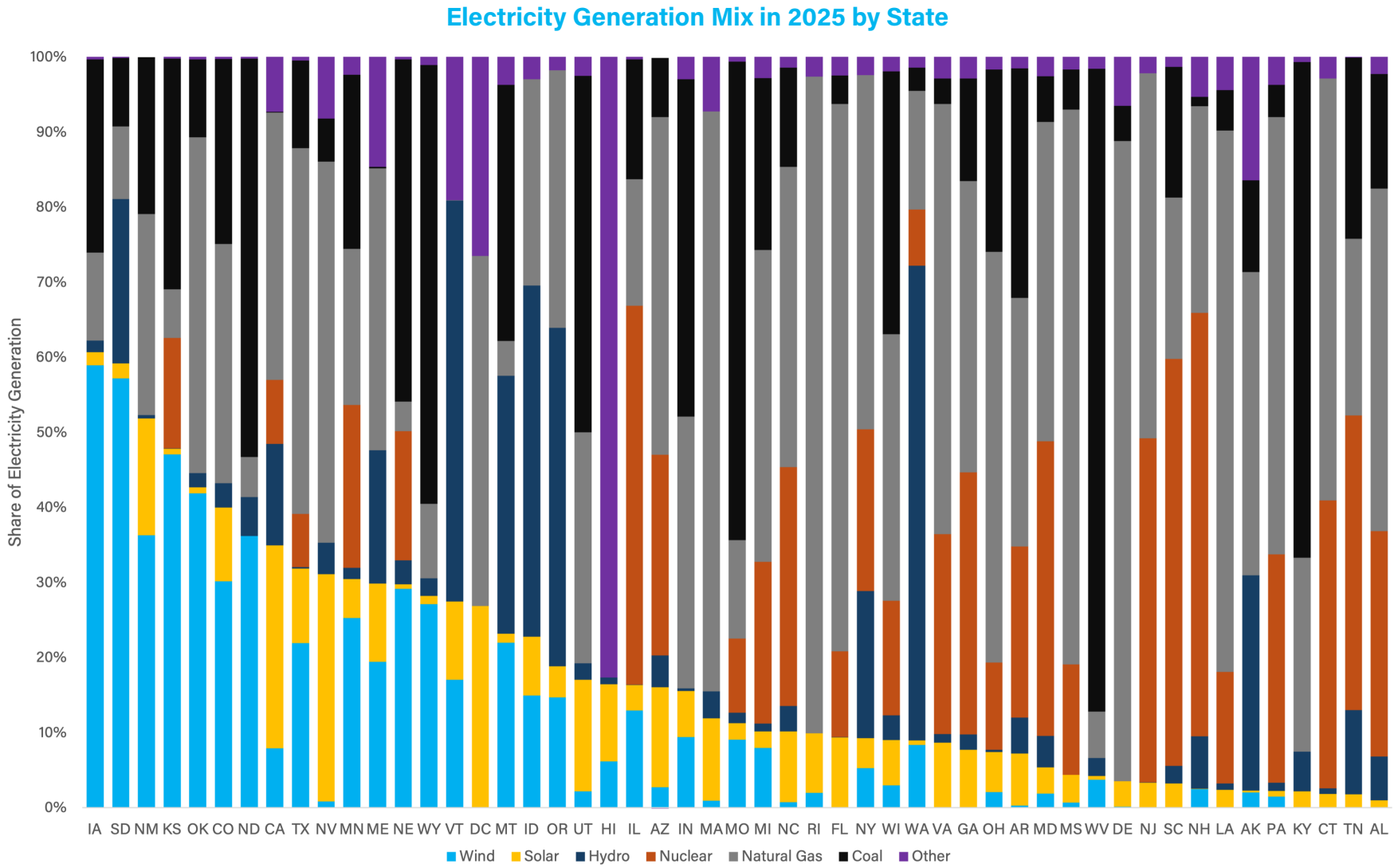
Wind + Solar Share of Electricity Generation

- Wind and solar are a major source of electricity for homes, businesses, and industries across the country. Iowa leads the U.S. with 61% of power generated from wind and solar. Thirteen states generated more than 30% of their electricity from wind and solar, while twenty-four states generated at least 15% from clean power resources.
- Combined, utility-scale wind and solar have a total operational capacity of 318 GW and generated 16.8% of U.S. electricity in 2025. Including behind-the-meter solar generation, wind and solar accounted for 18.9% of U.S. electricity generation.
- California had the greatest year-over-year increase of clean power generation share, with an additional 15% of electricity from wind and solar in 2025 compared to 2024 to reach 44.3%. Massachusetts, Hawaii, and Vermont also experienced an over 10% increase in clean power generation share.
- The average change in clean power generation share across all fifty states was a 3.2% increase.

Wind + Solar Share of Electricity Generation, by State



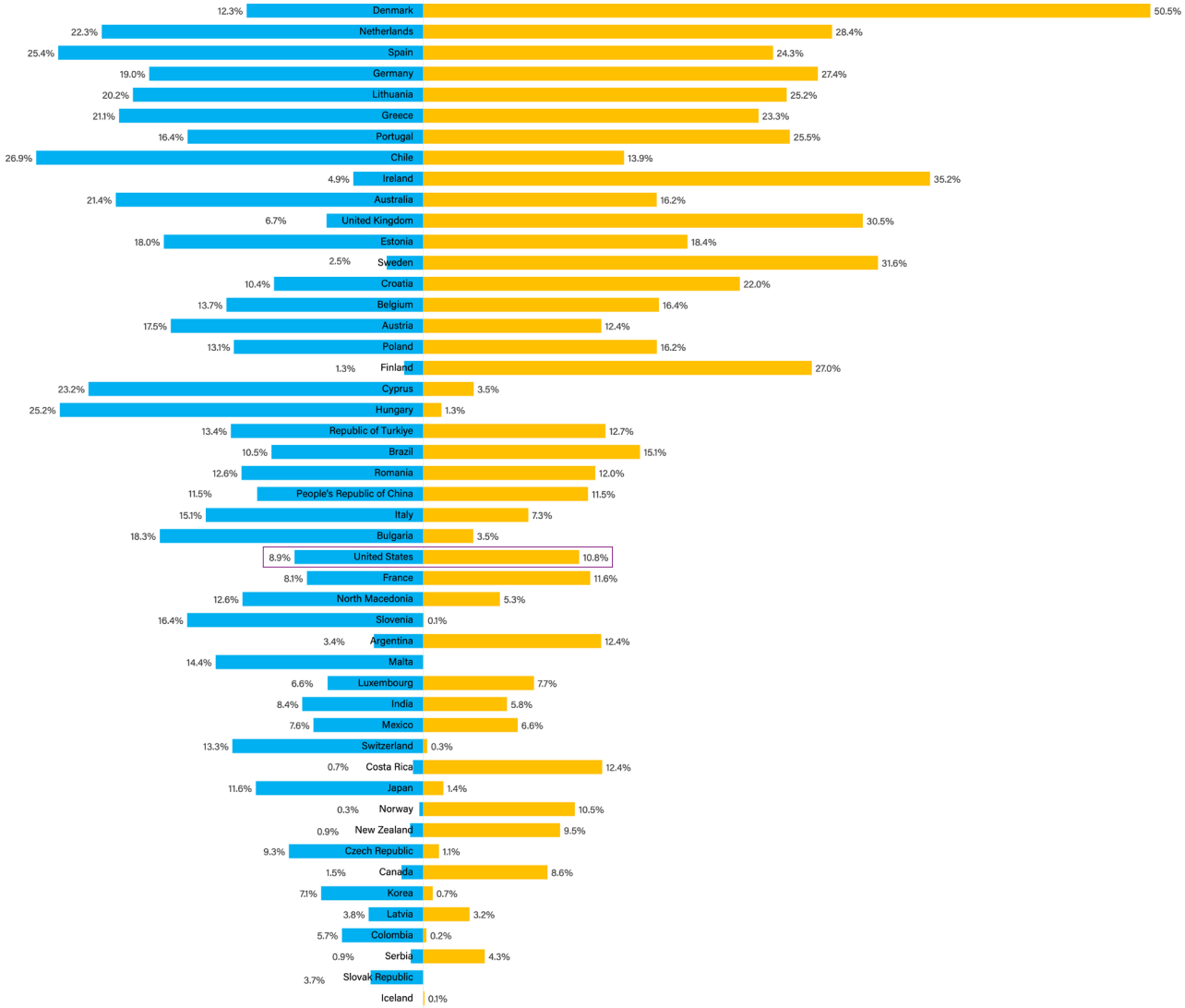
Electricity Generation Mix by State



Wind and Solar Penetration around the Globe

- The United States ranked 27th globally for the largest share of wind and solar generation in the national energy mix in 2025, after generating nearly 20% of its electricity from wind and all forms of solar in 2025, data from the International Energy Agency shows. In terms of absolute volume of generation, the United States is second only to China and distantly followed by India and Germany.
- Denmark has the highest penetration of renewable energy across the globe. Denmark produced 62.8% of its electricity from primarily wind energy in 2025.
- The Netherlands jumped over Spain in 2025 from the 2024 standings, producing 50.7% from a similar split between solar and wind. Spain follows with just under 50% of energy produced by wind and solar.
- Germany and Lithuania round out the top five countries with the highest share of wind and solar power generation, generating 46.5% and 45.4%, respectively.
- Among the 25 countries where electricity consumption increased from 2024 to 2025, there were 21 countries that had a year-over-year increase in the share of renewable generation, suggesting that wind and solar additions are supporting load growth. For example, Lithuania experienced a 34% year-over-year increase in electricity consumption and a 15% increase in solar and wind penetration to reach 45% in 2025.

Wind + Solar Share of Electricity Generation, by Country



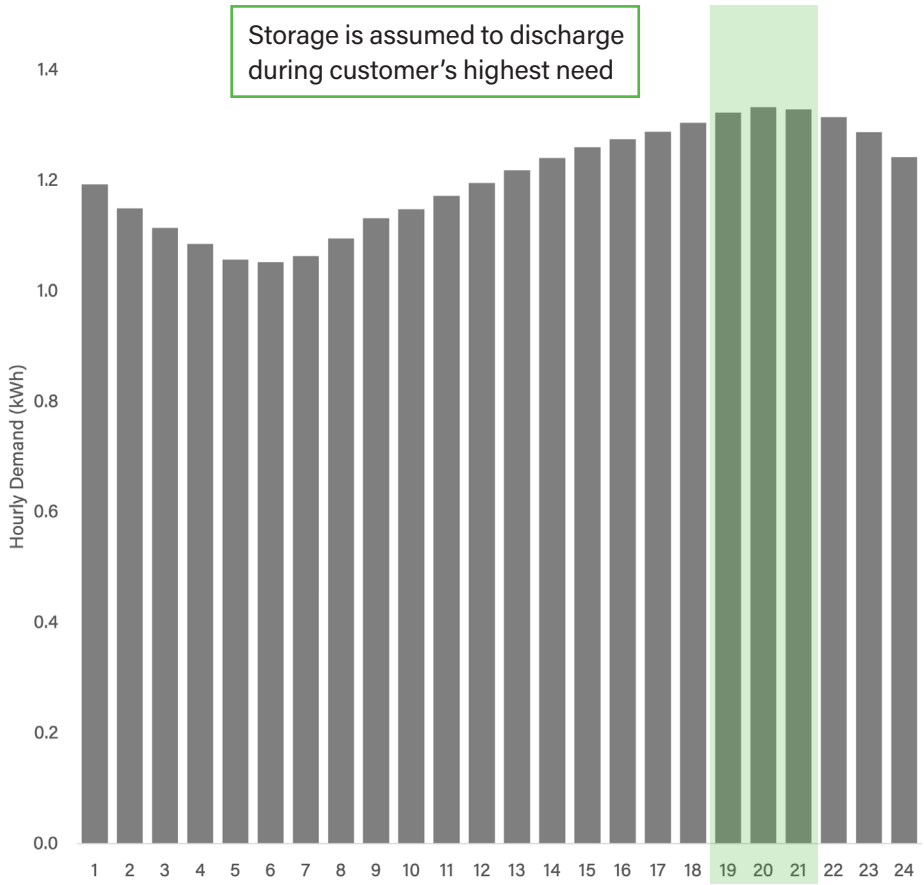
Source: IEA

Homes Powered by Storage

Over 31 million homes can be powered by battery storage on an average day in the U.S.

- Battery storage capacity often charges during low-cost periods and discharges during high demand periods when electricity prices are high.
- The U.S. has over 45 GW of storage capacity, which has an average duration of three hours. As a result, battery storage projects can cumulatively provide over 133 GWh of energy within a daily cycle.
- Electricity usage in the U.S. typically peaks during the evening periods as people return home from work. The U.S. has approximately 143 million residential customers, and the average household uses the most energy during evening peak hours at roughly 4 kWh/household[1].
- As a result, over 31 million homes could be powered by energy storage alone during evening peak hours (7-10pm).
- This is a 10 million (63%) increase, relative to battery's capabilities in 2024.

Daily Demand Profile of Average U.S. Electric Customer

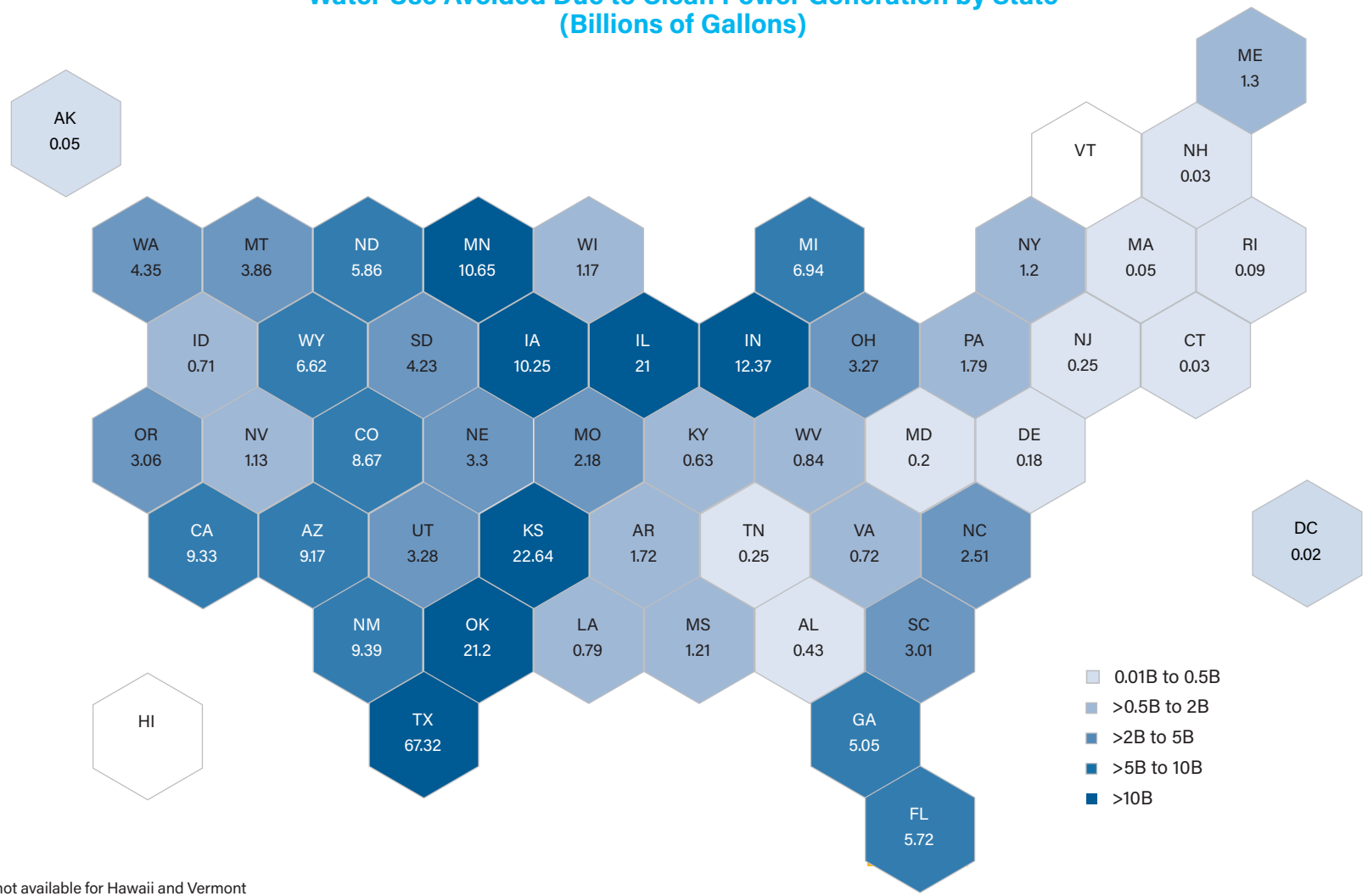


1 EIA Hourly Demand profiles for the contiguous U.S. is scaled to match total residential demand

Clean Power Generation Saves Water

Thermal generation technologies require water to power turbines via steam; by generating power with wind and solar, the U.S. saves millions of gallons of water each year

Water Use Avoided Due to Clean Power Generation by State (Billions of Gallons)



Water Usage data not available for Hawaii and Vermont

The American Clean Power Association (ACP) is the leading voice of today's multi-tech clean energy industry, representing energy storage, wind, utility-scale solar, clean hydrogen, and transmission companies. ACP is committed to meeting America's energy and national security goals and building our economy with fast-growing, low-cost, and reliable domestic power.

Learn more at www.cleanpower.org.

X / @USCleanPower

LinkedIn / American Clean Power Association

AMERICAN CLEAN POWER