



THE GEORGE WASHINGTON UNIVERSITY

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The Stella Group, Ltd.

The Stella Group, Ltd.. is a strategic technology optimization and policy owner's rep firm for clean distributed energy users and companies which include advanced batteries and controls, energy efficiency, fuel cells, geoexchange, heat engines, microhydropower (including tidal and wave), modular biomass, photovoltaics, small wind, and solar thermal (including CSP, daylighting, water heating, industrial preheat, building air-conditioning, and electric power generation). Scott Sklar serves on the national Boars of Directors of the non-profit Business Council for Sustainable Energy (BCSE). He teaches three unique interdisciplinary sustainable energy courses at The George Washington University (GWU) and serves as Sustainable Energy Director of GWU's Environment & Energy Study Institute (EEMI). Scott Sklar was awarded the prestigious The Charles Greely Abbot Award by the American Solar Energy Society (ASES) and on April 26, 2014 was awarded the Green Patriot Award by George Mason University in Virginia.

Sklar has two self-power buildings in Arlington, VA – Residence with solar water heating, ductless geothermal heat pump, mixed PV module system tied to a lithium ion phosphate 300 amp hour battery system which also 100% charges 2023 Nissan Leaf SL – Office Building – solar PV roofing shingles, small 2 kW wind turbine, and a PEM hydrogen fuel cell all tied to the web-enabled battery bank, ductless heat pump, and solar daylighting.

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U.N. leader calls on tech industry to run data centers on 100% renewable energy by 2030

<https://www.latimes.com/environment/story/2025-07-30/ai-should-run-on-100-renewable-energy-by-2030-un-chief-says>

By Laura Millan. July 30, 2025 3 AM PT

- A typical AI data center consumes as much power as 100,000 homes, according to the U.N.
- Big tech also must be responsible in its use of water for cooling, the U.N. secretary general said this week.

Major tech firms should commit to fully powering data centers with renewable energy by 2030, said United Nations Secretary-General António Guterres. Big tech also must be responsible in its use of water for cooling, Guterres said in New York City this week as he presented the U.N.'s new report on the energy transition, *Seizing the Moment of Opportunity*, together with the International Renewable Energy Agency.

“AI can boost efficiency, innovation and resilience in energy systems, but it is also energy hungry,” Guterres said. “This is not sustainable — unless we make it so.”

A typical AI data center consumes as much power as 100,000 homes, according to the U.N., and the largest centers now being built will use 20 times that. By 2030, data centers could consume as much electricity as all of Japan today, the report finds.

Although renewable energy is advancing exponentially across the world as costs fall, the transition away from fossil fuels is highly concentrated in advanced economies like the U.S. and Europe, as well as China, the U.N. says. Much of the developing world is falling behind. That means clean energy is not replacing fossil energy at the pace and scale needed.

Amory Lovins

From: amory@lallc.co

Wednesday, July 16 at 6:21 PM

In May 2025, China reportedly installed 93 GW of PV capacity, i.e. 3 GW/day.

Meanwhile China is installing the equivalent of one new nuclear power plant of solar photovoltaics every fifteen hours in renewable power,

100 solar panels every second!

Email to Professor Sklar

[U.S. adds 7.4GW new renewable capacity in Q1 2025, mostly in Republican states](#)

PV Tech. by [Will Norman](#). May 30, 2025

The U.S. added 7.4GW of new renewable energy capacity in the first three months of 2025, with deployments and planned projects concentrated in Republican-voting states. [Read More](#)

LINK: <https://www.pv-tech.org/us-adds-7-4gw-new-renewable-capacity-in-q1-2025-mostly-in-republican-states/#:~:text=Utility%2Dscale%20solar%20led%20the,concentrated%20in%20Republican%2Dvoting%20states>.

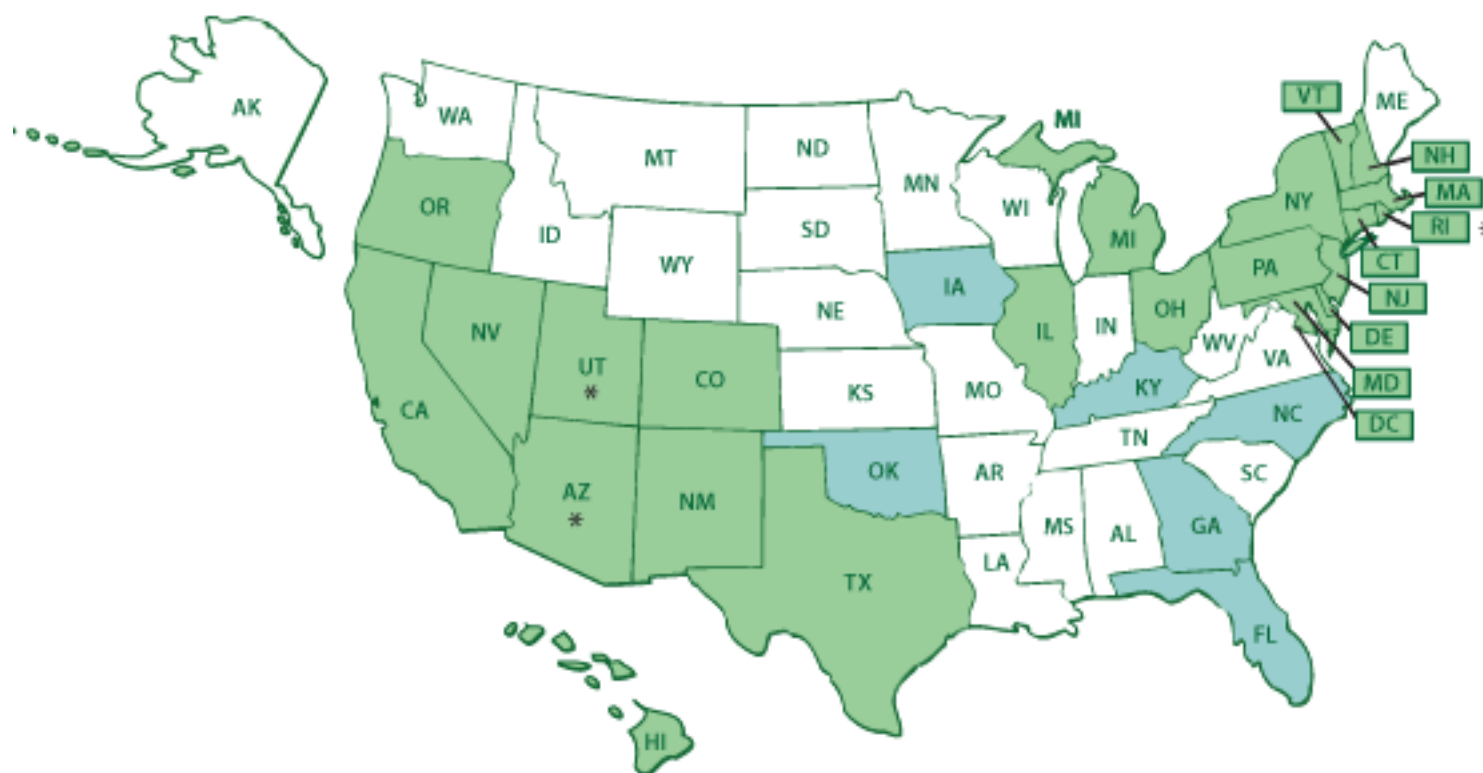
According to data from the American Clean Power (ACP) association, which said that 2025 has had the second-strongest start for clean energy deployments of any year on record. Total installed US solar PV, energy storage and wind power capacity, after the 7.4GW of new power, reached over 320GW as of the end of March, ACP said.

Utility-scale solar led the Q1 additions by far, with 4.46GW of new capacity added compared with 1.6GW of energy storage and 1.3GW of onshore wind capacity.

Perhaps more notable than the new additions, ACP said that the national renewable energy project pipeline grew 12% year-on-year in Q1 2025, reaching 184.4GW. The energy storage pipeline, in particular, grew by 57%. If everything in the pipeline is built, ACP said it will represent US\$328 billion in project investment.

It noted that projects included in this figure are “typically” fully permitted projects, and that the growth of the pipeline does not indicate growth in the number of projects receiving permits. However, ACP’s announcement said: “These market-driven investments reflect growing demand for reliable, affordable domestic energy from utilities and major American companies.”

3rd-Party Solar PV Power Purchase Agreements (PPAs)



- ☒ Authorized by state or otherwise currently in use, at least in certain jurisdictions within the state
☐ Apparently disallowed by state or otherwise restricted by barriers
☐ Status unclear or unknown

* Limited to certain sectors.

Sources: Database of State Incentives for Renewable Energy & Efficiency and NREL (Feb. 2013)

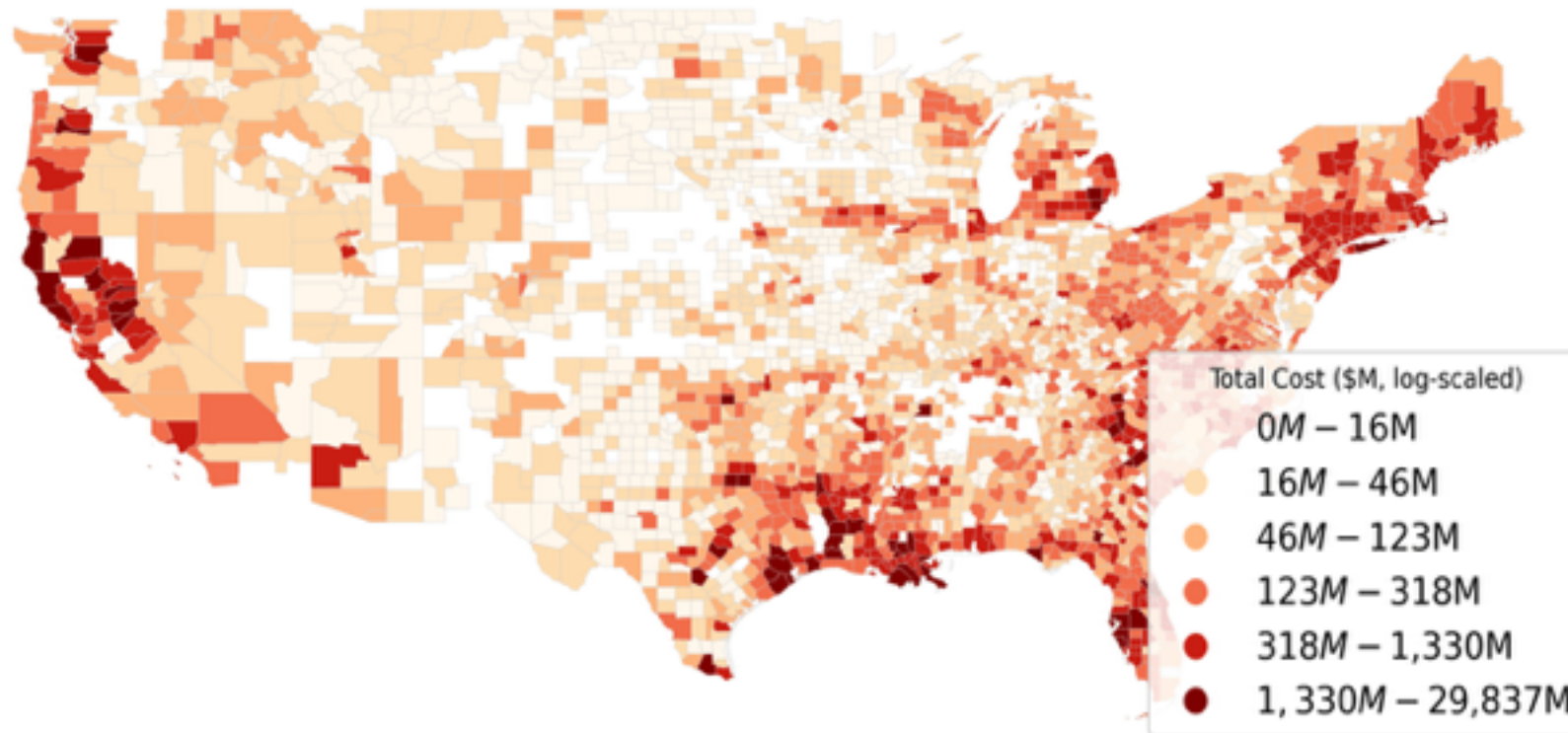
2025 USA RISK PROFILE

T&D World tdworld.com

tdw@news.tdworld.com

Discover the rising economic toll of U.S. power outages and how cutting-edge data tools are helping planners drive smarter investments in grid resilience.

All Customers: Total Cost by County (Log Scaled)



Date: Thursday September 11, 2025. Moderator: Nikki Chandler, Group Editorial Director

Time: 11:00 AM ET / 10:00 AM CT / 8:00 AM PT / 4:00 PM GMT

Duration: 1 hour. LINK: [https://www.tdworld.com/resources/webinars/webinar/55308587/the-rising-cost-of-blackouts-national-lab-data?sti=UMOFFEMAIL&utm_source=TDW+Other+Editorial+Communications&utm_medium=email&utm_campaign=CPS250825064&o_eid=532416740801C8Z&rdx.ident\[pull\]=omeda|532416740801C8Z&oly_enc_id=532416740801C8Z](https://www.tdworld.com/resources/webinars/webinar/55308587/the-rising-cost-of-blackouts-national-lab-data?sti=UMOFFEMAIL&utm_source=TDW+Other+Editorial+Communications&utm_medium=email&utm_campaign=CPS250825064&o_eid=532416740801C8Z&rdx.ident[pull]=omeda|532416740801C8Z&oly_enc_id=532416740801C8Z)

Electricity costs are rising nationwide — and could get even higher for some with the explosion in data centers powering AI, *Axios' Alex Fitzpatrick writes.*

- Why it matters:** Surging power bills could stress
- many Americans' budgets as pretty much everything
- else gets more expensive, too.

 **Zoom in:** Electricity prices vary regionally and have many influences, from basic supply and demand to fuel rates and infrastructure costs.

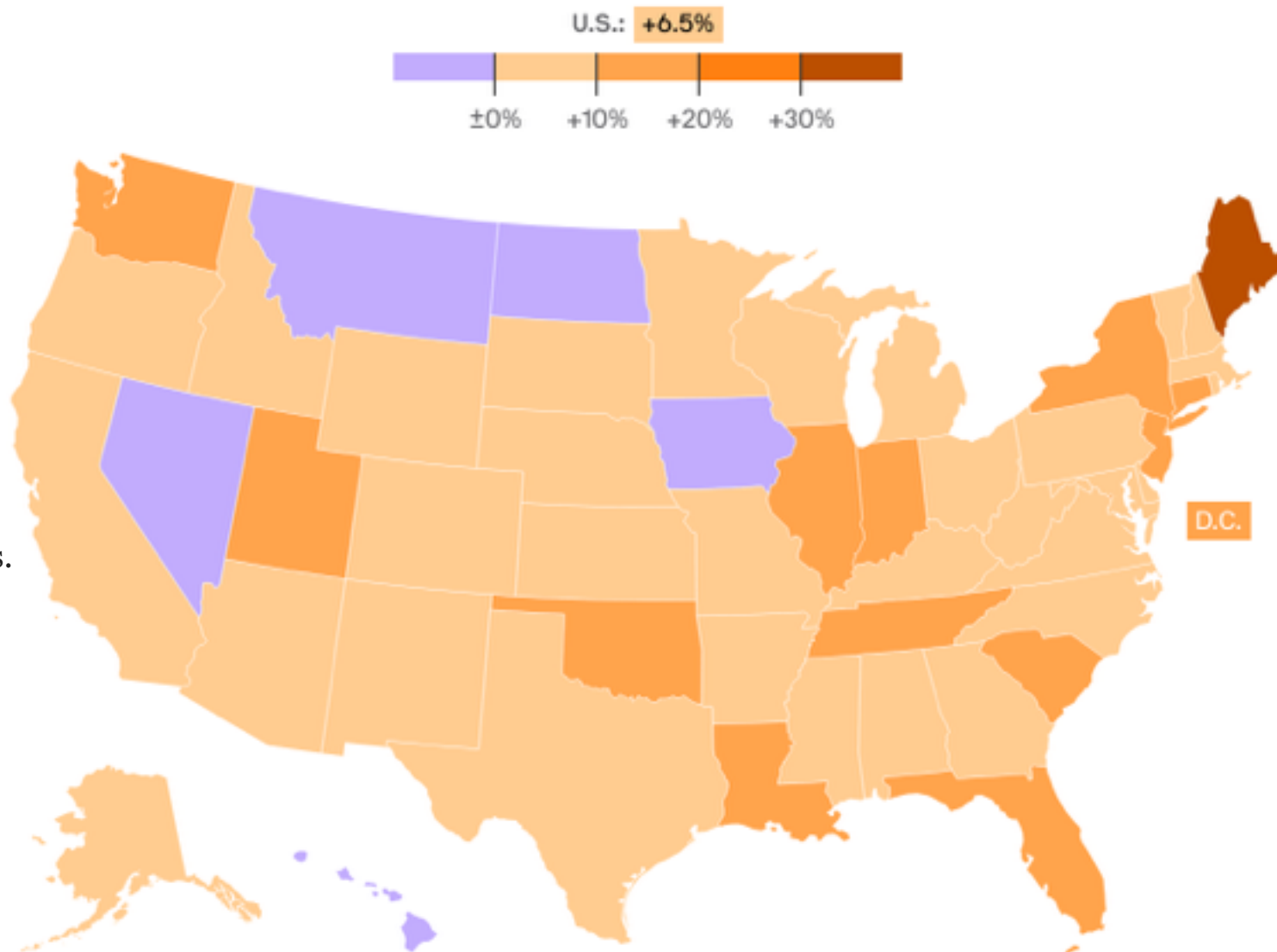
•**Yet many analysts** point to power-hungry data centers as a driver of rising rates, up 6.5% between May 2024 and May 2025 nationally.

•**That's partly because** of data centers' immediate demand for energy, but also because grid operators are investing in new transmission lines and other equipment. Those costs are passed along to customers.

INTERACTIVE MAP

https://www.axios.com/2025/08/04/electricity-costs-bills-data-centers-ai?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top

Change in average residential electricity prices from May 2024 to May 2025



Natural Disasters Have Caused \$131 Billion in Global Losses So Far in 2025

CBS News, by Tracy J. Wholf, July 29, 2025

<https://www.msn.com/en-us/news/us/natural-disasters-have-caused-131-billion-in-losses-so-far-in-2025/ar-AA1JuC>

According to a new report from the insurance company Munich Re, natural disasters that have contributed to more than \$131 billion in global losses for the first half of 2025. The Los Angeles wildfires and severe spring thunderstorms are just a few examples. Overall losses so far in 2025 were slightly lower than the same time period in 2024, but still above long-term averages.

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- NextEra CEO John Ketchum says renewables are becoming a more attractive option to meet growing
- demand from data centers as the cost of building gas-fired generation triples due to a shortage of
- turbines. ([Politico Pro](#))

John Ketchum's comments came after Energy Secretary Chris Wright downplayed the role renewable energy would have in new power generation.

BY: **BEN LEFEBVRE** | 03/10/2025 11:55 AM EDT

U.S. electricity demand is climbing as more data centers are built to power artificial intelligence and buildings and vehicles increasingly electrify. **“To get your hands on a gas turbine right now and to actually get it to the market,**

you’re looking at 2030 or later,” Ketchum said on the CERAWeek stage. “The cost of gas-fired generation has gone

up more than threefold.” Factors for the cost increase include higher demand for turbines, which leads to higher labor costs as more workers in the gas turbine construction industry retire or leave for other careers, Ketchum said. Slow government permitting was also making natural gas projects more difficult.

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https://subscriber.politicopro.com/article/2025/03/gas-turbine-shortage-boosts-renewable-energy-nextera-ceo-says-00220475?utm_campaign=Newsletter&utm_medium=email&hsenc=p2ANqtz-C0CfyKPlapndYHa8taltL0idePzjibbtys

Transformer, breaker backlogs persist, despite reshoring progress

Manufacturers have been slow to invest in U.S. capacity amid uncertainty over long-term electricity demand. That's changing, but there's a long way to go, experts say.

Published May 29, 2025. by Brian Martucci

LINK: https://www.utilitydive.com/news/reshore-electrical-equipment-backlogs-transformer-breaker-nema/749265/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202025-05-29%20Utility%20Dive%20Newsletter%20%5Bissue:73595%5D&utm_term=Utility%20Dive

President Trump's tariffs, which have raised prices for thousands of imported products, provide another tailwind for suppliers that make electrical components in the United States. But for now, many buyers rely on imports, according to [data from Wood Mackenzie](#). In 2024, Mexico supplied 39% of high-voltage transformer imports, which dwarf domestic alternatives in volume. Canada provided 20% of high-voltage switchgear imports. China supplied 54% of imported low-voltage transformers. South Korean and Brazilian manufacturers sell meaningful volumes of transformers into the U.S., too. The U.S. also imports key electrical equipment inputs, like transformer cores and grain-oriented electrical steel, or GOES, the specialized conductive metal that makes them work. Japanese and South Korean GOES producers continue to sell into the U.S. despite a 25% tariff dating back to Trump's first term, Boucher said. Cleveland-Cliffs is now the only onshore GOES producer, he added.

To avoid the tariff, Asian producers [also sell GOES into Mexico and Canada](#), where local manufacturers shape it into transformer cores to be purchased by U.S. customers, a U.S. Commerce Department investigation found. The U.S. may struggle to add GOES production capacity in the coming years unless prices rise, Boucher said. Making GOES is a "highly technical process" and the market for it is limited despite its importance for transformer manufacture, "so it depends on whether the supplier wants to take that risk," he said.

That pattern can play out elsewhere in the supply chain. Until recently, Boucher said, the electrical equipment market's boom-and-bust tendencies left suppliers wary of big bets on new capacity. While demand seems more stable now amid sustained investment in renewable generation and AI data centers, recent capacity announcements "are really going to be a drop in the bucket next to what we need to be self-sufficient," Boucher said. But utilities and their manufacturing partners [remain unsure](#) of the shape and pace of U.S. load growth, Lotto cautioned. "To the extent we can get more certainty around load growth, that will give the utilities more opportunities to do better planning and forecasting, which would give manufacturers more certainty around investment," she said. "Demand signals are really important." NEMA wants to move things along. Earlier this year, it released detailed specifications for American-made distribution transformers and conductive wire and cable products, helping its members comply with Biden-era domestic content requirements. More electrical component specifications could be on the way, said Spencer Pederson, NEMA senior vice president of public affairs. Since 2018, electrical suppliers have invested \$185 billion in U.S. manufacturing and imports from China have decreased 10%, spurred in part by Biden-era legislation that incentivized reshoring, Pederson said. To sustain that momentum, NEMA is pushing Congress to preserve the [advanced manufacturing](#) and [energy property tax credits](#) in a [sweeping budget package](#) that's expected to face a final vote this summer. "A lot of that \$185 billion was low-hanging fruit," Pederson said. "We are starting to get to the more difficult things to reshore."



The electrical transformer shortage is worsening

With electricity consumption hitting new records in the U.S., demand for transformers is surging. The years-long supply shortage for power and distribution transformers is now set to hit a deficit below demand of 30% and 10%, respectively, in 2025, according to a new [report](#) from the energy consultancy Wood Mackenzie. Complicating matters further for manufacturers scrambling to ramp up supply, Trump's One Big Beautiful Bill Act is throwing clean-energy projects into jeopardy and sending mixed signals to factories on what kinds of transformers to produce. At the same time, tariffs are raising the price of materials needed to make more transformers.

The electrical

“The U.S. transformer market stands at a critical juncture, with supply constraints threatening to undermine the nation's energy transition and grid reliability goals,” Ben Boucher, a senior supply chain analyst at Wood Mackenzie, said in a statement. “The convergence of accelerating electricity demand, aging infrastructure and supply chain vulnerabilities has created constraints that will persist well into the 2030s.”

REPORT:Mhttps://www.woodmac.com/news/opinion/transformer-troubles-manufacturing-and-policy-constraints-hit-us-transformer-supply/?utm_campaign=heatmap_am&utm_medium=email&_hsmi=376068682&utm_content=376068682&utm_source=hs_email

Transformer shortage an increasing concern in the US

Smart Energy International August 17, 2025

Pressure on power infrastructure in the US is intensifying, with a supply shortage for power and distribution transformers to hit 30% and 10%, respectively, in 2025, according to a recent report from Wood Mackenzie, an energy research and consultancy firm.

According to the report '[Untangling the US transformer supply chain crisis](#)', since 2019, Wood Mackenzie estimates that US power and distribution transformers have seen demand surge by 116% and 41%, respectively. This has been due to a confluence of new demand drivers, including a rise in electricity consumption, which has increased 7% since 2020, reversing a 1% decline from 2010 to 2020, the growing pipeline for clean energy projects, and aging infrastructure, Wood Mackenzie notes.

"This surging transformer demand has created a significant supply deficit, with domestic manufacturing capacity unable to keep pace," observed Ben Boucher, senior analyst of supply chain data and analytics at Wood Mackenzie.

"Utilities are routinely turning to the import market to meet project timelines. In 2025, imports will account for an estimated 80% of US power transformer supply and 50% of the distribution transformer supply. This market imbalance is escalating costs and lead times and is delaying our ability to bring generating plants online in pace with the surging energy demand."

Supply has not kept pace with demand, resulting in a growing market deficit across all transformer specifications and escalating lead times and prices, the report found.



Strategic Avoidance and the Welfare Impacts of U.S. Solar Panel Tariffs

This study examines the effects of tariffs imposed by the United States on imported solar panels. We first provide definitive evidence that tariff-exposed firms shifted production to locations that did not face tariffs, and that domestic prices increased relative to other markets. We then develop a structural model to analyze welfare and employment effects. We find that the tariffs led to modest gains for manufacturers with domestic operations, but larger losses in domestic consumer surplus and environmental benefits. Furthermore, the tariffs reduced domestic solar industry employment and wages on net. By contrast, subsidizing solar panel manufacturing could increase domestic production, employment, and welfare.

<https://cowles.yale.edu/sites/default/files/2024-05/Gerarden-solar-tariffs.pdf>

Nexamp self-performs grid interconnection construction to accelerate solar project

by Ryan Kennedy on July 25 2025, 8:10 am

The community solar company took interconnection work into its own hands, rather than relying on the electric utility. The company said it reduces both

time and cost to self-perform the work. Nexamp said self-performance of interconnection work allows developers to perform grid modifications and infrastructure upgrades to reduce the time and cost to connect projects to the grid. The work is typically performed by electric utilities, but lengthy studies can delay projects, sometimes for years. Interconnection delays and cost sharing issues are common in the United States, and [New England is no exception](#).

Interconnection work can include building local transmission lines, substations, point-of-interconnection devices, transformers and line enhancements as well as civil construction like trenching, directional drilling and concrete pads. The projects included:

- Hartland Solar, a 1.2 MW DC solar farm in Hartland, Maine
- Barre Road Solar, a 1.3 MW DC solar farm in New Braintree, Massachusetts
- Summit Farm Solar, a 2.6 MW DC solar farm in New Braintree, Massachusetts

Nexamp said it was able to directly negotiate better pricing and delivery times with existing supplier relationships. The company said it orders much of the same utility-required hardware for its own facility in bulk, and if an expedited shipment is needed, the company can go to the supplier directly. “The results are greater visibility, control, and certainty to drive shorter interconnection timelines, create opportunities to save costs, and reduce burden on utilities,” said Daniel Passarello, lead consulting engineer, Nexamp.



LOW-INCOME – UNDERSERVED COMMUNITIES
ENERGY

Facts you need to know:

1. Low-income populations pay the highest energy rates
2. Low-income populations experience the worst electric power quality – meaning surges, sags, transients that ruin appliances, digital equipment like cell phones
3. Most fossil and nuclear power generation is in lower income areas
4. All energy wastes – coal slag and ash, nuclear waste, fracking water ponds and wastes are in low-income areas
5. Most electric power outages occur in lower-income areas
6. Energy Regulation – electric rates, power plant sitings, waste sitings – have processes where input by low-income communities in most cases have little participation or say of the outcome

The energy system is ‘inherently racist,’ advocates say. How are utilities responding to calls for greater equity?

Millions of utility shutoffs during the pandemic highlighted the growing U.S. electricity affordability crisis, customer advocates say. Utilities say funding, outreach are barriers to doing more.

Published October. 26, 2022. Reporter [Robert Walton](#)

Investor-owned utilities need to do more, these advocates say, to help low-income customers, customers of color and residents of traditionally underserved communities. To assess these efforts, Utility Dive contacted 20 major investor-owned utilities around the country to request details on their customer equity initiatives, including goals and challenges as well as what type of customer data they collect. Eleven utilities responded, sketching out a range of programs that stretch beyond traditional energy efficiency and bill assistance efforts to include expanded access to renewables, new approaches to energy affordability, weatherization offerings and commitments to community partnerships.

Examples of recent efforts include the following:

- In Massachusetts, Eversource Energy is developing an equity index metric as part of its performance-based rates and an enhanced communication outreach plan for projects in environmental justice communities.
- In Virginia, Dominion Energy is installing fiber-optic cable in rural communities to expand broadband access and is in the process of implementing a new program, at the direction of state lawmakers, to cap eligible households’ electric bill payments at a percentage of income.
- Arizona Public Service has asked state regulators to approve a \$144 million package to support coal communities with economic development, electrification and renewables development as the utility exits its coal portfolio in 2031.
- Consolidated Edison has worked with the New York City Housing Authority to expand access to solar, and it provides greater levels of incentives for electric vehicle charging stations installed within a mile of disadvantaged communities.
- Wisconsin Electric Power has announced a 10-year, \$700 million storm hardening and grid resiliency plan that directs a third of the total investment into the city of Milwaukee, “including the 12 lowest median income zip codes.”

Utility responses also highlighted the challenges they face — including struggling to connect with target customers and a lack of sufficient funding for these efforts — that have perpetuated energy system inequities for years. “This is not a new problem. It’s been happening for a long time,” said Sharonda Williams-Tack, associate director for Sierra Club’s Energy Justice Campaign, Healthy Communities.

https://www.utilitydive.com/news/energy-system-inherently-racist-utilities-responding-equity-ej-justice40/634203/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202022-10-26%20Utility%20Dive%20Newsletter%20%5Bissue:45531%5D&utm_term=Utility%20Dive

NEW YORK – NYC

NYC Mapping Project Shows How Heat Exposure Impacts Lower Income Neighborhoods

By: [Olivia Rosane](#)

Updated: September 8, 2022

Edited by [Chris McDermott](#)

Scientists have long known that cities are hotter than rural areas. In fact, there is even a name for this phenomenon: the urban heat island effect (UHIE), according to [Heat Story NYC](#), where the results of the mapping are published. The effect is caused by various factors including the fact that urban building materials like concrete and brick tend to absorb heat and cities have more vehicles and infrastructure that emit carbon as well as lots of tall buildings standing close together. Not everyone living in a city experiences that higher heat equally, however. Because of a long history of discrimination and [redlining](#), minority and low-income populations tend to live in less desirable neighborhoods with fewer [trees](#) and suffer from preexisting health conditions that make them more vulnerable when temperatures rise. Half of the New Yorkers who died from [heat-related causes](#) between 2000 and 2012 were Black and half lived in low-income neighborhoods, The New York Times reported.

All of this is well known, but to better illustrate the relationship between heat exposure and inequality, the [National Oceanic and Atmospheric Administration \(NOAA\)](#) launched its NOAA Urban Heat Island Mapping Campaigns in 2017, working with Climate Adaptation Planning and Analytics (CAPA) Strategies to design citizen science projects to map heat in cities across the U.S.

Subject: NYC+Mapping+Project+Shows+How+Heat+Exposure+Impacts+Lower+Income+Neighborhoods

<https://www.ecowatch.com/heat-exposure-mapping-new-york.html>

Dec 15, 2022 - [Energy & Environment](#)

Historic redlining has enduring impact on power plant siting

[Ayurella Horn-Muller](#)

STUDY LINK: <https://www.nature.com/articles/s41560-022-01162-y>

A new study connects present-day emissions burdens with historic discrimination in the U.S. housing market more than 80 years ago.

Between the lines: It's no secret that environmental health hazards aren't equally distributed, with Americans of color [disproportionately](#) exposed to pollution, but the mechanisms fueling some of these systemic inequities are typically less quantified.

Driving the news: A [study](#) published Thursday in the journal *Nature Energy* measures the influence of redlining, a discriminatory housing practice, on fossil

fuel power plant siting across the U.S. since 1940.

- [Redlining](#) was a mortgage lending practice used by the federal government beginning in the 1930s.
- Officials color-coded every metropolitan area to reflect [racist beliefs](#) in the market value of neighborhoods home to Black and Asian residents, as well as immigrants, per the study.

By the numbers, Researchers examined the proximity of fossil fuel power plant sites upwind — within 5 km — of 8,871 neighborhoods in 196 U.S. urban areas,

comparing those with the redlining [maps](#) created by the government-sponsored Home Owners' Loan Corporation in the 1930s.

- They looked at three different time periods within the last century — 1940 to 1969, 1970 to 1999 and 2000 to 2019.
- Redlined neighborhoods had a 20-72% higher likelihood of a fossil fuel power plant being sited nearby compared to "C" graded neighborhoods, the second worst grade given by the maps.
- The average present-day emissions of air pollutants in the redlined neighborhoods was also 38-82% higher.
- The 20-72% range depends on the time period, and the 38-82% range depends on the air pollutant, researchers say.

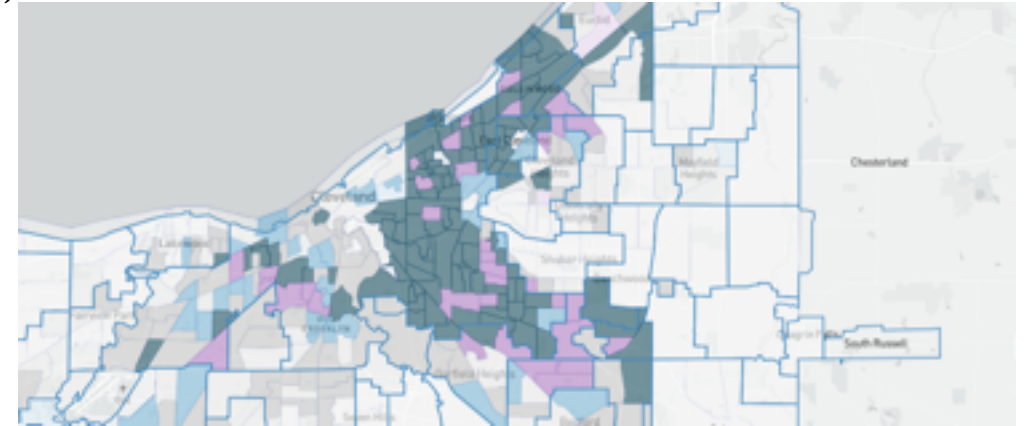
https://www.axios.com/2022/12/15/redlining-racism-power-plant-siting?utm_medium=email

Mapping tools help Ohio cities chart course for environmental justice

By layering multiple health, economic and environmental indicators, increasingly sophisticated digital mapping tools are helping cities and community groups identify and respond to environmental injustices.

by [Kathiann M. Kowalski](#) May 25, 2022

Ohio cities are using new data mapping tools to identify and respond to disparities in energy burdens, climate risks, and pollution impacts. Government and community groups in Cleveland, Columbus and Cincinnati have recently used one particularly robust tool called the Greenlink Equity Map, or GEM, platform. Its maps let users see the intersections among roughly three dozen demographic, economic and environmental factors.



LINK: https://greenlink-prod.us.auth0.com/login?state=hKFo2SBwRjJCc0NUXzBTRWRvdUdCUWtobDJTVDI4Qjg1enNVY6FupWxvZ2luo3RpZNkgcWZtYXNib0M1OHU1S3dMRnFWdFNkVUxQZW1NamxIVGujY2lk2SB3SU9FWGRwZ2FVU05GY2tpN1BXbG9uM2Qzb1M4ME45Mw&client=wIOEXdpgaUSNFcki7PWlon3d3oS80N93&protocol=oauth2&scope=openid%20profile%20email%20picture&audience=https%3A%2F%2Fgem.equitymap.org%2F&redirect_uri=https%3A%2F%2Fgem.equitymap.org&response_type=code&response_mode=query&nonce=N19HUzkwcGtNflluQjZjQmczVlc1UnZWYkpXeDVzdVhxYjdadWdsNTRwMA%3D%3D&code_challenge=Za-b8uYjSzuSY9RTP2ca-Uqq-hwZpZRQOCBDQUPCRl0&code_challenge_method=S256&auth0Client=eyJ1YjY1IjoiYXV0aDAtdcmVhY3QiLCJ2ZXJzaW9uIjoiMS44LjAifQ%3D%3D

In one series of reports, Greenlink Analytics examined the [energy burdens](#) for 25 U.S. cities, including [Columbus](#) and [Cincinnati](#). The measure compares the median of households' combined average electricity and gas bills in an area to that area's median income. Disparities between the least burdened and most burdened fifth of census tracts in each city showed stark differences. As of 2019, households in Cincinnati's least-burdened tracts paid an average of just 2.8% of their median income for electricity and gas, compared to 9.7% for households in the most burdened tracts.

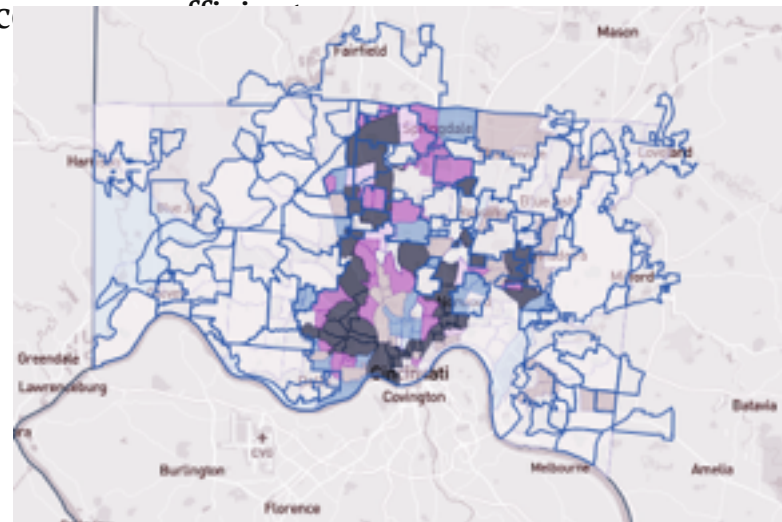
- continued from a previous slide -

Residents of Columbus's least burdened tracts spent an average of just 2.1% of their income on gas and electricity, versus 7.1% for people in the most burdened tracts.

A large number of census tracts in both Cincinnati and Columbus ranked in the top third for energy burdens and asthma rates. A significant number of census tracts in both cities also rank in the top third for energy burdens and evictions. Advocates have noted that [utility shutoffs](#) for lack of payment can precipitate evictions.

Cincinnati's Office of Environment and Sustainability has used the GEM map and other data tools for its work for reducing energy burdens. The [majority](#) of low-income weatherization work under existing programs in Ohio has been for single-family homes, said Director Michael Forrester. To avoid duplication, the city is focusing on multifamily dwellings.

The Greenlink Equity Map showed census tracts where people in multifamily homes might particularly profit from energy efficiency programs. Additional work and data review have been necessary, however, to identify properties within tracts where owners and renters might especially benefit, Forrester said. His office is working on ways to make that process



A screenshot from the GEM platform illustrates utility burdens in Cincinnati, with the darkest areas representing neighborhoods with both higher energy burdens and a larger proportion of Black residents. Credit: Courtes

More lower-income US households are adopting solar

A new report finds that rooftop solar is growing among low- and moderate-income households, though the industry still has a wealth gap problem. 9 November 2022

A November [report](#) by researchers at the Lawrence Berkeley National Laboratory has found that even though it's mostly wealthy customers who put solar on the roofs, households with low and moderate incomes are taking an increasing share of the market.

The report is part of an ongoing effort since 2010 to track the demographics of rooftop solar adopters, benchmarks that help “make sure that communities that have historically borne the brunt of the energy industry are not left out,” said Gabe Krawcheck, director of the Energy Equity Department at LBNL.

To get information on home solar installations, the research team draws from public and private databases, including from utilities and state agencies. The most recent study includes 2.8 million systems covering about 86 percent of all residential rooftop solar in the U.S. through 2021, with modeled household-income estimates.



In 2021, less affluent households accounted for a sizable chunk of the U.S. home solar market: 22 percent could be considered low-income, or making less than 80 percent of area median income, and an additional 21 percent could be considered moderate-income, or making between 80 and 120 percent of area median income, according to the report. That means that in total, 43 percent of households installing solar can be considered to fall into the lower-income category. https://www.canarymedia.com/articles/energy-equity/more-lower-income-us-households-are-adopting-solar?mkt_tok=ODUwLVRBQs01MTEAAAGIANcxwbd5JXGqq_e5_aDJ9pxrmM1isCA4ElnXPriPuYaeI9IjqiHiBJKq4Z78dObWnTYwkgR64zcfbUMnl2egV0enfX7fjHsJl6xxe7pEdys Residential solar is also rising in what the Department of Energy identifies as “disadvantaged communities.” The Berkeley team used interim definitions from the DOE developed in March 2022, which encompass dozens of criteria including energy burden, environmental and health hazards, and fossil fuel dependence.

PUERTO RICO

Will microgrids keep young people from abandoning Puerto Rican towns?

October 14, 2022 by [Lisa Cohn](#)

In the rural, mountainous regions of central Puerto Rico — which are the first areas to lose power and the last to regain it after storms — young people are

leaving because outages undermine their ability to work, stay healthy and enjoy their daily lives. In four such towns, the Microrred de la Montaña project aims to provide resilience with a microgrid that includes existing and upgraded hydroelectric power, rooftop solar and storage, plus an upgraded distribution

network within the boundaries of the towns.

The effort, which will reduce energy costs, lower carbon emissions and keep electricity flowing during and after storms for the municipalities of Adjuntas, Jayuya, Lares and Utuado — home to many disadvantaged residents — aims in part to help ensure that young residents stay local and thrive in their communities. “Electricity and light give comfort and potential for a better day,” said C. P. Smith, executive director of Cooperativa Hidroeléctrica de la Montaña,

an electric cooperative that would own and manage the resources and is working on the project with the Idaho National Laboratory (INL) and [Xendee](#), a California company that offers a microgrid decision support platform. INL recently completed a feasibility [study](#) of the project.

The electric cooperative began this project as an outgrowth of disaster relief efforts. While providing medical personnel and supplies after Hurricane Maria,

Smith realized that access to electricity is just as important as medical response during disasters. Without electricity and little ability to travel on destroyed roads, dialysis patients could not get access to the services they needed. And when electricity disappeared, residents were without clean water. One healthy

18-year-old died after being exposed to toxins that entered water pipes.

Chain of resiliency

“From there we decided we needed electricity. It’s the beginning and end of a chain of resiliency,” said Smith. Electricity was important not only for residents

’ health but also for the town’s economic activity. To operate a store, residents needed cash registers and lights. Stabilizing the flow of electricity would

VERMONT

[Green Mountain Power launches solar program for low-income residents](https://pv-magazine-usa.com/2023/01/13/green-mountain-power-launches-solar-program-for-low-income-residents/?utm_source=USA+%7C+Newsletter&utm_campaign=0a8623221e-RSS_EMAIL_CAMPAIGN&utm_medium=email&utm_term=0_80e0d17bb8-0a8623221e-158716569)

by Anne Fischer on January 13 2023, 8:56 am

Two programs aim to bring solar energy to those who often find it unaffordable.

Green Mountain Power (GMP) Green Mountain Power is a utility in Vermont that serves more than 270,000 residential and business customers with electricity that's 100% carbon free and 78% renewable. It is the first utility in the world to get a B Corp certification, Meeting rigorous social, environmental, accountability and transparency standards and committing to use business as a force for good. With the launch of two new programs, GMP aims to bring clean energy to income-qualified customers.

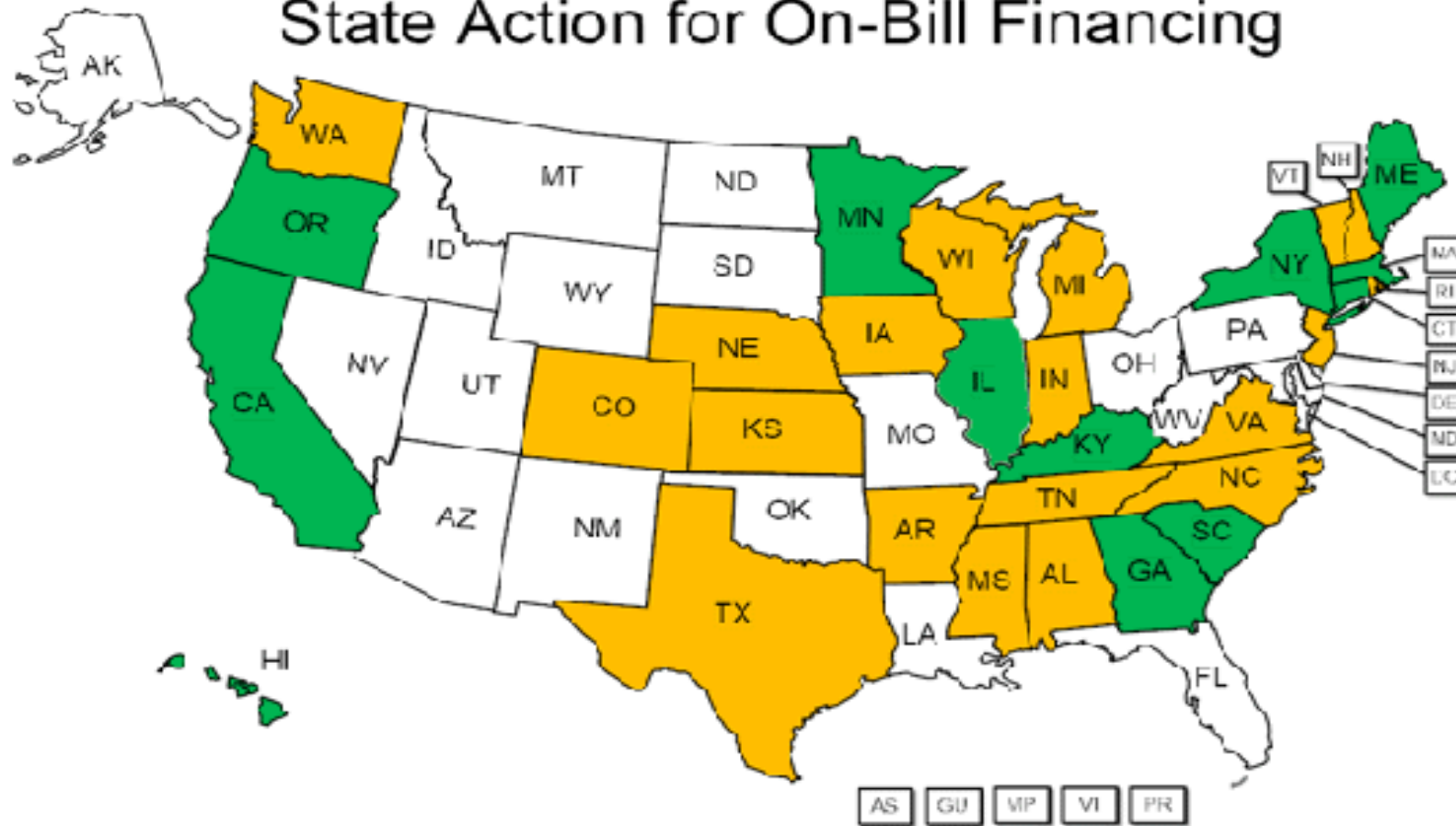
The Shared Solar Program (SSP) unlocks incentives in the federal Inflation Reduction Act (IRA) to create a qualified low-income program that saves participants money. The other program, the Affordable Community Renewable Energy (ACRE) Pilot, will use a state grant to help eligible customers take part in new Vermont solar projects,



providing them discounts for five years. The [Inflation Reduction Act](#), which was passed in August 2022, is hailed as the most important piece of climate legislation in U.S. history. One of the most significant provisions in the IRA is something the industry had been calling for for a long time: a long-term extension of the Investment Tax Credit. It also includes adders for things like electric vehicles, energy storage, and using U.S. -made products. Green Mountain Power's Shared Solar Program aims to help customers put the tax credits to good use by helping them to invest in clean energy.. GMP will also look to add energy storage to the projects to create more benefits for all customers, increasing resiliency, strengthening the grid, and further lowering costs. "These projects will help thousands of Vermonters who are low income reduce their monthly energy statements by unlocking financial benefits in the federal Inflation Reduction Act, all while boosting local solar energy," said Candace Morgan, director of corporate and legislative affairs at Green Mountain Power. "We're looking forward to seeing strong proposals from local solar developers to make sure we can connect our customers with cost-effective solar energy, and to partner with them to add storage to these projects too." for all customers. GMP plans to start enrolling customers for solar savings as soon as this summer with projects starting to generate power by the end of the year. "We know these new GMP solar programs are so important because they increase equity for those who need it most and serve a need that is currently unmet. We see this every day in CVOEO's Green SavingSmart Program in which our Financial Energy Coach works with Vermonters to navigate green energy choices who can't go solar because they don't own a home, or they have credit issues. GMP's initiative will change that in a meaningful way," said Paul Dragon, CEO of CVOEO. GMP opened its [request for proposals](#) (RFP) from solar developers for the Shared Solar Program in December 2022, and the window to file proposals closes January 26, 2023



State Action for On-Bill Financing



LEGEND

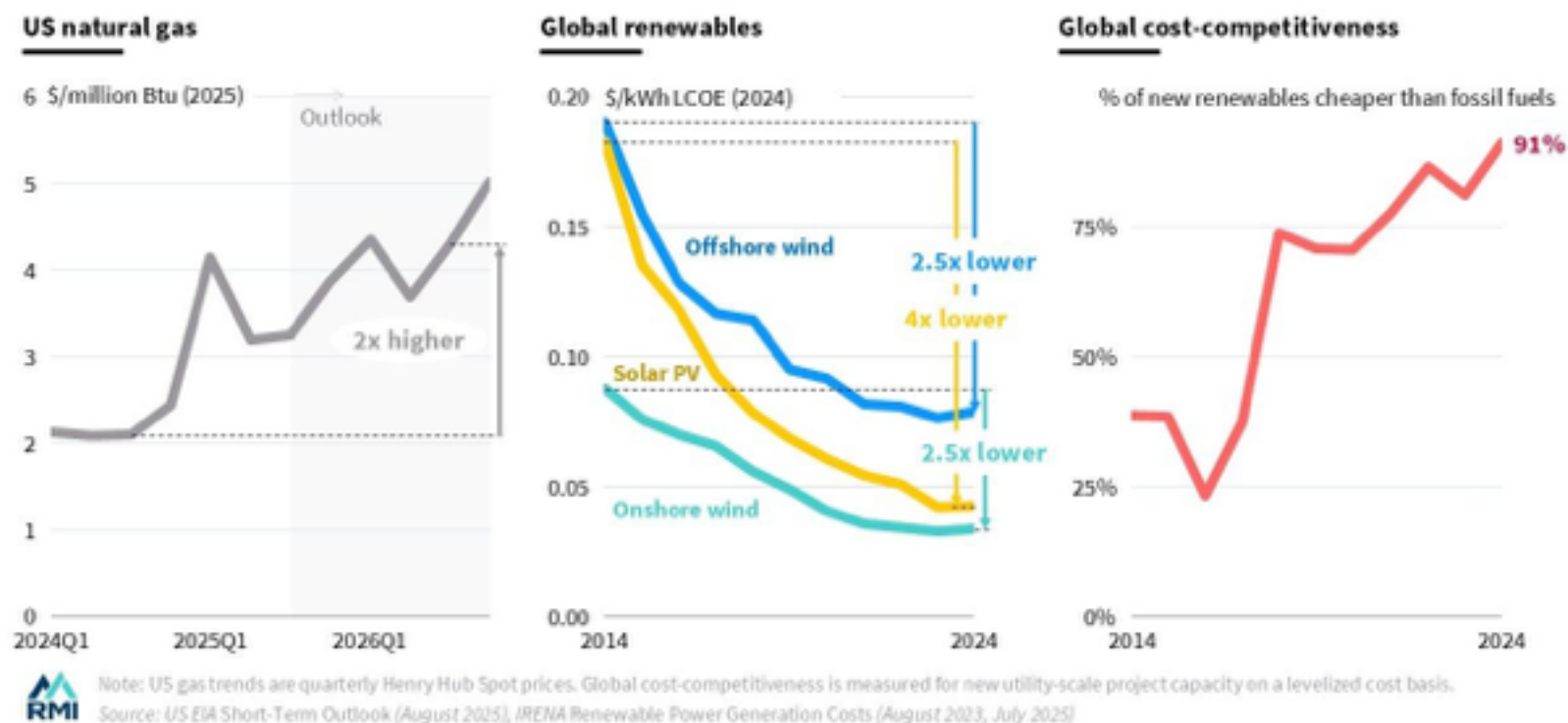
- States with legislation related to on-bill financing
- States where utilities have implemented or are developing on-bill financing programs
- No state or utility on-bill financing action

STATE OF THE MARKET 2025

Affordability, Not Volatility: Renewables' Cost Advantage Grows

Renewables' edge over fossil fuel electricity is growing, recent reports show. In 2024, more than 90 percent of new global renewable energy capacity was cheaper. (RMI)

August 13, 2025. by [Will Atkinson](#)



Heat pushes US electricity demand to record peak in July, says EIA

by Reuters

August 5, 2025 11:22 AM EDT.

The summer of '25 was one for the books.

Electricity peak demand in the contiguous United States set a new record in July, reaching as high as 759 GW. This comes as artificial intelligence data centers and manufacturing facilities drive a surge in demand for power — though how much load will materialize remains a matter of debate.

In this special edition of our newsletter, we're collecting our most impactful coverage of a remarkable summer that set new benchmarks for demand, usage and prices.

Aug 5 (Reuters) - Electricity demand in the Lower 48 states hit fresh all-time highs on two days in the last week of July due to surging temperatures, the U.S.

Energy Information Administration (EIA) said on Tuesday. Electricity demand in the U.S. climbed to a record 759,180 megawatts (MW) on July 29, following a peak of 758,053 MW the previous day, both surpassing the prior high set in July 2024, according to preliminary EIA data.

"We forecast U.S. electricity demand fulfilled by the electric power sector will grow at an annual rate of just over 2% in 2025 and 2026," the agency said. EIA also noted that demand is expected to grow faster in regions planning to establish large data centers and manufacturing facilities such as Texas and Northern Virginia.

EIA stats link: <https://www.reuters.com/company/u-s-energy-information-administration/>

https://www.reuters.com/business/energy/heat-pushes-us-electricity-demand-record-peak-july-says-eia-2025-08-05/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202025-08-29%20Utility%20Dive%20Newsletter%20%5Bissue:76419%5D&utm_term=Utility%20Dive

EIA DATA SHOW

RENEWABLES SET NEW RECORDS IN MAY SOLAR GENERATED >11% of U.S. ELECTRICITY, OUT-PRODUCING WIND FOR THE FIRST TIME

SOLAR + WIND PRODUCED MORE ELECTRICITY THAN EITHER COAL OR NUCLEAR POWER OUTPUT BY ALL RENEWABLES WAS ALMOST 30% OF TOTAL GENERATION

For Release: Friday – July 25, 2025 Contact: Ken Bossong, 301-588-4741

Washington DC – A review by the SUN DAY Campaign of data just released by the U.S. Energy Information Administration (EIA) reveals that solar provided over 11% of total U.S. electrical generation in May while wind + solar produced over one-fifth and the mix of all renewable energy sources generated nearly 30%.

Wind + solar are over one-fifth of total U.S. electrical generation – a larger share than that provided by either coal or nuclear power:

During the first five months of 2025, electrical generation by wind plus utility-scale and small-scale solar provided over a fifth (20.5%) of the U.S. total, up from 18.7% during the first five months of 2024. In just the month of May, solar plus wind accounted for nearly 21.5% of U.S. electrical output.

During the first five months of this year, the combination of wind and solar provided 26.2% more electricity than did coal, and 15.4% more than the nation's nuclear power plants. In May alone, the disparity increased further when solar + wind out-produced coal and nuclear power by 55.7% and 22.1% respectively.

Electrical output by the mix of all renewables was almost 30% in May:

The mix of all renewables (i.e., wind and solar plus hydropower, biomass and geothermal) produced 9.7% more electricity in January-May than they did a year ago (7.6% more in May alone) and provided (28.1%) of total U.S. electricity production compared to 26.5% twelve months earlier.

Electrical generation by the combination of all renewables in just the month of May provided almost 30% (29.7%) of total U.S. electrical generation. Renewables' share of electrical generation is now second to only that of natural gas whose electrical output actually dropped by 5.9% during the month.

[**sun-day-campaign@hotmail.com**](mailto:sun-day-campaign@hotmail.com)

US solar module manufacturing capacity reaches nearly 40 GW

Dec 4, 2024, 3:48:52 PM. Article by [Plamena Tisheva](#)

The US boosted its solar module manufacturing capacity by a record 9.3 GW in the third quarter of 2024, with five new or expanded factories in Alabama, Florida, Ohio and Texas, bringing its total capacity to nearly 40 GW.

The US solar module factories can now produce enough to almost fully meet domestic solar demand, the Solar Energy Industries Association (SEIA) and Wood Mackenzie said on Wednesday as they released their US Solar Market Insight Q4 2024 report. In addition, in the third quarter, Suniva opened the first silicon cell manufacturing facility, marking the return of silicon cell production to the US for the first time since 2019.

“Federal solar policies and increased private investments are strengthening our nation’s energy security and creating thousands of new job opportunities for American workers,” said SEIA president and CEO Abigail Ross Hopper. According to the report, the US installed 8.6 GW DC in the three months ending September, a record for a third quarter and up 21% year-over-year. Utility-scale installations reached 6.6 GW, a 44% rise from the previous year, though this figure is down 1% compared to the second quarter.

The residential segment continued to decline, shrinking 4% quarter-over-quarter and 39% year-over-year to 1.1 GW amid high interest rates and customer uncertainty. “Our current outlook for the next five years has the US solar industry growing 2% per year on average, reaching a cumulative total of nearly 450 GW by the end of 2029,” said Michelle Davis, head of solar research at Wood Mackenzie and lead author of the report.

https://renewablesnow.com/news/us-solar-module-manufacturing-capacity-reaches-nearly-40-gw-1267588/?utm_campaign=daily-newsletter-by-renewables-now&utm_medium=email&utm_source=newsletter
The US solar industry is projected to install 40.5 GW in 2024, with annual volumes expected to average at least 43 GW from 2025 to 2029, according to updated forecasts. This year is expected to see a slight decline in installations, down 2%, largely due to a forecast 26% drop in the residential segment.

New Report Finds Battery Storage Is Key to Strengthening Reliability and Lowering Energy Costs Across Midwest and Central U.S.

North American Clean Energy, July 29, 2025

<https://www.nacleanenergy.com/energy-storage/new-report-battery-storage-key-to-strengthening-reliability-and-lowering-energy-costs-across-midwest-and-central-u-s>
and
<https://cleanpower.org/news/battery-storage-key-to-strengthening-reliability-and-lowering-energy-costs-miso>

A new report from Aurora Energy Research, commissioned by the American Clean Power Association, finds that the deployment of 10-GW of battery storage - enough to power 8 million homes during peak demand - across the Midwestern and Central U.S. could result in \$25 billion in energy cost savings for American consumers, while significantly boosting reliability for the region. A 500% increase in battery storage by 2035 in the Midcontinent Independent System Operator (MISO) territory - which serves 45 million consumers - will be needed to maintain grid reliability as demand grows. During this time, MISO is expecting a significant increase in demand for electricity, which will place additional strain on energy generation infrastructure and transmission networks.

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Solar and wind are VERY substantially cheaper than old operating nuclear reactors AND projected new small modular nuclear reactors.

A recent Boston University study has shown that wind and solar are by far the cheapest and fastest to build sources of new electric power. They are also the most secure investments.

https://www.pv-magazine.com/2025/05/21/nuclear-power-carries-highest-investment-risk-solar-shows-lowest-say-us-researchers/?utm_source=Global+%7C+Newsletter&utm_campaign=bc5534caca-dailynl_gl&utm_medium=email&utm_term=0_6916ce32b6-bc5534caca-159838042

US POLICY 2025

Treasury Department and IRS Issue New Beginning-of-Construction Guidance for Wind and Solar Facilities Update

LINK: <https://www.bracewell.com/resources/treasury-department-and-irs-issue-new-beginning-of-construction-guidance-for-wind-and-solar-facilities/>

August 18, 2025

The One Big Beautiful Bill Act (which we discussed in a previous [client alert](#)) generally requires wind and solar facilities to begin construction before July 5, 2026, or be placed in service by December 31, 2027, to qualify for the Section 45Y clean electricity production credit or the Section 48E clean electricity investment credit. On August 15, 2025, the Treasury Department and the Internal Revenue Service (IRS) issued [Notice 2025-42](#) on the beginning-of-construction requirements applicable to wind and solar facilities (the Notice). The following is a summary of the Notice.

- Starting September 2, 2025, the five-percent safe harbor under prior IRS guidance is no longer available for wind and solar facilities, except in the case of “low output solar facilities.” A low output solar facility is a solar facility that has a maximum net output of not greater than 1.5 megawatts (measured by nameplate generating capacity in alternating current). Multiple solar facilities with integrated operations will be treated as a single facility.
- The physical work test under prior IRS guidance generally continues to apply to all wind and solar facilities.
- The continuity requirement and the continuity safe harbor under prior IRS guidance generally continue to apply to all wind and solar facilities.
- The Notice does not address the beginning-of-construction requirements relevant to certain “foreign entity of concern” (FEOC) rules. The Notice states that the Treasury Department and the IRS are currently drafting guidance related to the FEOC rules.

Legal Update - IRS Issues Guidance Regarding Beginning of Construction Requirement for PTC and ITC

Friday, August 15, 2025 at 6:06 PM. **Stoel Rives LLP** stoel_rives@stoel.com

IRS Issues Guidance Regarding Beginning of Construction Requirement for PTC and ITC

ALERT. 08.15.2025

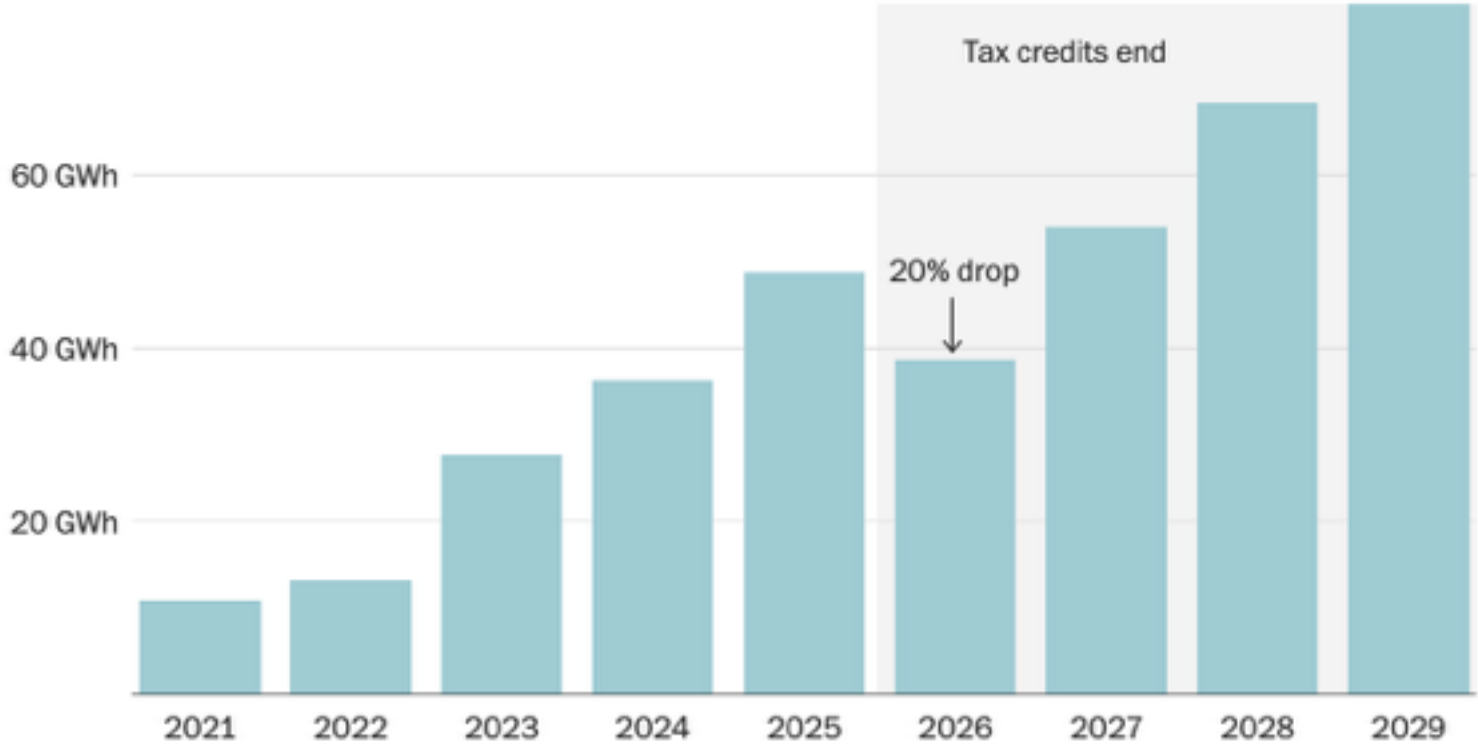
The IRS today issued guidance regarding the “beginning of construction” requirement as it relates to the clean electricity production tax credit (PTC) under Internal Revenue Code Section 45Y and the clean electricity investment tax credit (ITC) under Internal Revenue Code Section 48E. The guidance, Notice 2025-42 (the Notice), was issued pursuant to Executive Order 14315, Ending Market Distorting Subsidies for Unreliable, Foreign-Controlled Energy Sources, directing the Treasury Department to issue guidance related to beginning of construction for the PTC and ITC following enactment of Public Law 119-21 (commonly known as the One, Big, Beautiful Bill Act) (the Act). The Act included a number of changes to the PTC and ITC, the application of many of which depend on the date construction of a qualified facility begins. For a description of the renewable energy tax credit changes in the Act, see our [prior alert](#).

The Notice generally applies the same “physical work test” as previous IRS guidance regarding the beginning of construction requirements applicable to projects qualifying for the prior production tax credit under Internal Revenue Code Section 45 and investment tax credit under Internal Revenue Code Section 48. Like prior guidance, the physical work test under the Notice provides that construction of a qualified facility begins when physical work of a significant nature begins and takes into account both on-site and off-site physical work. Preliminary activities and work related to property that is in existing inventory or normally held in inventory are not taken into account. The Notice also generally follows prior beginning-of-construction guidance, including the continuity requirement and continuity safe harbor, construction by contract and binding written contract requirements, single facility treatment for qualified facilities operated as part of a single project, application of the “80/20 Rule” to retrofitted qualified facilities, and transfers of qualified facilities and equipment construction of which has already begun. The Notice limits application of the 5% safe harbor, pursuant to which a taxpayer could begin construction of project by paying or incurring five percent or more of the total cost of the project, to “low-output solar facilities,” which includes any solar qualified facility that has a maximum net output of not greater than 1.5 megawatt (as measured in alternating current). For purposes of the 1.5 MW limitation, the output of two or more applicable solar qualified facilities with integrated operations are combined. Qualified facilities have integrated operations if they are owned by the same or related taxpayers (members of a group of trades or businesses that are under common control), are placed in service in the same taxable year, and transmit electricity generated at the facilities through the same point of inter-connection (or, if not grid-connected or are delivering electricity directly to an end user behind a utility meter, are able to support the same end user).

The Notice is effective for applicable wind and solar qualified facilities the construction of which does not begin (based on the prior beginning-of-construction rules) prior to September 2, 2025. The Notice also indicates that additional guidance related to new prohibited foreign entity rules under the Act is forthcoming.

Batteries are on the rise, but the end of federal tax credits is projected to slow growth

Annual U.S. residential and utility-scale battery installations



Source: [Wood Mackenzie/American Clean Power Association](#)

AMERICAN SOLAR ENERGY SOCIETY

WEDNESDAY, OCTOBER 1st, 2025 ASES Conference Call

11:45 am MT, time Ella Nielsen enielsen@ases.org

STATUS OF FEDERAL RENEWABLE ENERGY LEGISLATION FIRST HALF OF 2025 CALENDAR YEAR

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[Renewable energy investment in 2025 rises 10% to \\$386B](#)

Global investment in renewable energy has risen 10% in the first half of 2025, reaching a record \$386 billion, despite efforts in the US to cancel and derail low-carbon projects. A Zero Carbon Analytics report highlights the resilience of renewable energy investment, with significant growth in onshore and offshore wind, with 304 large US companies still committed to net zero, up from 279 in 2024.

Full Story: [The Guardian \(London\)](#) (9/23)

Global investment in renewable energy up 10% on 2024 despite Trump rollback Growth rate slightly lower than previous first-half years but sector still strong and resilient, experts say

Investment in energy around the world is likely to hit about \$3.3 trillion (£2.4tn) this year. While more than \$1tn of the total is still likely to flow into fossil fuels, double that amount – about \$2.2tn – is expected for low-carbon forms of energy.

ZERO CARBON REPORT: <https://zerocarbon-analytics.org/policy/global-climate-action-sustained-despite-US-pullback/>

<https://www.theguardian.com/environment/2025/sep/23/global-investment-in-renewable-energy-up-10-on-2024-despite-trump-rollback>

New Map Shows \$29 Billion in Climate and Environment Grants Canceled or Frozen by Trump

Regarded as the culmination of decades of organizing for environmental justice, the Biden Administration's sweeping community grant programs were quickly terminated by President Trump.

The Trump Administration has canceled or frozen more than \$29 billion in community environmental and renewable energy grants awarded under the Biden

Administration, according to an analysis released Tuesday by the National Resource Defense Council. The NRDC produced an interactive map titled "[Stolen Futures](#)" showing the locations, values, descriptions and status of 910 grants and sub-grants under 12 programs funded by Biden's marquee Inflation

Reduction Act. Trump directed federal agencies to [begin rescinding](#) many of Biden's grant programs [within hours](#) of taking the office this year, calling them a

waste of taxpayer money. Some of those programs, administered by the Environmental Protection Agency, include the \$14 billion [National Clean Investment](#)

[Fund](#), \$7 billion [Solar for All Program](#), \$6 billion [Clean Communities Accelerator](#) and the \$3 billion [Climate Justice Block Grant Program](#). "The core climate and

environmental justice grants as we know them are either gone or on their way out," said Ella Mendonsa, a senior manager with the NRDC. "This is just a su-

bsection of what we know was going to be hitting communities in particular." For its analysis, the NRDC selected 12 EPA grant programs that were meant to

support community-level work, in line with Biden's 2021 "Justice40" pledge that 40 percent of certain federal investments would flow directly "to disadvantaged

communities that are marginalized by underinvestment and overburdened by pollution." Of \$37 billion slated for disbursement through these programs, \$159

million has been awarded while \$9 billion has been canceled, the analysis found. Another \$20 billion remains frozen—held up in legal limbo amid attempted cancellations.

<https://insideclimatenews.org/news/17092025/trump-stops-29-billion-in-grants-for-environment-climate-renewable-energy/>

NRDC Map Link: <https://www.nrdc.org/resources/stolen-futures#map>

[Musk criticizes Trump-backed bill on energy tax credits](#)

Elon Musk has expressed concern over a bill supported by President Donald Trump that would quickly phase out Biden-era low-carbon energy tax credits, noting on X that the bill does not change tax incentives for oil and gas. Some Republican senators have expressed similar concerns, though Trump wants the bill passed as is.

Full Story: [The Hill](#) (5/29/2025) <https://thehill.com/policy/energy-environment/5323536-musk-trump-gop-budget-bill-biden-green-energy-tax-credits/>

LINK: <https://www.reuters.com/business/autos-transportation/ford-executive-says-loss-federal-funding-could-imperil-battery-factory-2025-05-29/>

Outgoing administration adviser [Elon Musk](#) is criticizing Republicans' signature policy bill to advance President Trump's agenda as he walks out the door, saying it moves too quickly to phase out Biden-era low-carbon energy tax credits. Musk, in a post on the social platform X, reposted his company Tesla Energy's post [that warns against](#) "abruptly ending the energy tax credits."

The post states: "We urge the senate to enact legislation with a sensible wind down" of credits for low-carbon electricity companies and homeowners who want to install residential green energy such as rooftop solar. In a separate post, Musk wrote "there is no change to tax incentives for oil & gas, just EV/solar" in the House-passed GOP bill, which faces calls from changes

DOE Secretary's Proposed Budget Would Slash Research Programs at the National Laboratories:

E&E News, by Brian Dabbs & Christa Marshall, June 26, 2025

<https://www.eenews.net/articles/how-chris-wright-is-remaking-the-national-labs>

The U.S. Department of Energy's budget request would slash funding at the National Renewable Energy Laboratory from current levels by more than 56 percent, from \$687 million to \$300 million. Within that, funding for wind, solar and hydrogen technology research would be zeroed out. Support for efficiency research on buildings at the lab would fall by more than 90 percent.

In addition, the Trump administration's budget proposal takes an ax to the budget of the National Energy Technology Laboratory in Morgantown, West Virginia, cutting \$305 million - or 32 percent - from current levels. It slashes programs on hydrogen, vehicles, bioenergy, transmission, methane mitigation, carbon dioxide removal from the atmosphere, carbon utilization and point-source carbon capture research. The Pacific Northwest National Laboratory also would see significant cuts, with its proposed budget falling by more than 30 percent. Hydrogen, renewable and sustainable transportation programs would be zeroed out.

[U.S. delays or cancels US\\$14B in clean energy investments under Trump presidency](#)

PV TechCompanies delayed or cancelled US\$14 billion in investments in clean energy projects in the U.S. in the first four months of this year, amid growing uncertainty as to the future of renewable power under the Trump presidency. [Read More](#)

BY [ALEXA ST. JOHN](#) AND [ISABELLA O'MALLEY](#). Updated 2:25 PM EDT, May 29, 2025

More than \$14 billion in clean energy investments in the U.S. have been canceled or delayed this year, according to an analysis released Thursday, a President

Donald Trump's pending megabill has raised fears over the future of domestic battery, electric vehicle and solar and wind energy development.

Many companies are concerned that investments will be in jeopardy amid House Republicans' passage of a [tax bill that would gut](#) clean energy credits, non-

partisan group E2 said in its analysis of projects that it and consultancy Atlas Public Policy tracked. The groups estimate the losses since January have also cost

10,000 new clean energy jobs.

The tax credits, bolstered in the landmark climate bill passed under former President Joe Biden in 2022, are crucial for boosting renewable technology, key to

[the clean energy transition](#). E2 estimates that \$132 billion in plans have been announced since the so-called Inflation Reduction Act passed, not counting the cancellations.

Last week's House bill effectively renders moot many of the law's incentives. Advocacy groups decried the potential impact that could have on the industry after <https://apnews.com/article/climate-clean-energy-investments-trump-solar-wind-349e80c0d9c2cc768e63de9d48813d31> the [multitrillion-dollar tax breaks package](#) passed.

Solar and Batteries Lead U.S. Power Plant Additions by a Lot

Inside Clean Energy, by Dan Gearino, July 31, 2025

<https://insideclimatenews.org/news/31072025/inside-clean-energy-solar-and-batteries-lead-us-power>

The U.S. added 341 new power plants or utility-scale battery systems, with a total of 22,332-MW of summer generating capacity in the first half of this year, and the vast majority of it was utility-scale solar, batteries and onshore wind. More than half the total was utility-scale solar, with 12,034-MW, followed by battery systems, with 5,900-MW, onshore wind, with 2,697-MW, and natural gas, with 1,691-MW, which includes several types of natural gas plants. Looking ahead to the rest of this year and through 2030, the country has 254,126-MW of planned power plants, according to EIA. Solar is the leader with 120,269-MW, followed by batteries, with 65,051-MW, and natural gas, with 35,081-MW.

MARKET PRESSURES

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Renewables to Cover 90% of the Electricity Demand Increase Forecast for 2025

PV-Tech.org, by J.P. Casey, July 30, 2025

<https://www.pv-tech.org/renewables-cover-90-percent-electricity-demand-increase-forecast-2025>

and

<https://www.carbonbrief.org/iea-renewables-will-be-worlds-top-power-source-by-2026>

According to the latest report from the International Energy Agency, ‘Electricity Mid-Year Update 2025’, wind and solar PV are set to cover over 90% of the increase in global electricity demand this year. The contribution of solar and wind to the global energy mix is forecast to hit 17% this year, up from 15% last year, and increase to 19% next year. Solar generation, in particular, is expected to increase by 27% year-on-year in 2026. The rise of renewables is being driven by extremely rapid growth in wind and solar output, which topped 4,000 terawatt hours (TWh) in 2024 and will pass 6,000-TWh by 2026. Meanwhile, coal-fired generation is expected to remain “broadly stable” as the contribution of coal in the world’s total electricity generation is set to fall below one-third for the first time in a century. Depending on “weather trends and economic developments”, global renewable energy generation will exceed that of coal-fired electricity generation as early as 2025, or as late as 2026.

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Sustainable capital in a shifting landscape

As the impacts of U.S. energy policy upheaval begin to spread, new capital structures are emerging. In the short term, developers will race to finish projects to qualify for federal incentives being removed on an accelerated timeline. pv magazine spoke with Trenton Allen, CEO of Sustainable Capital Advisors, who sees this period as an opportunity to build momentum that will endure beyond the policies that supported it.

September 12, 2025 [RYAN KENNEDY](#)

Following the tightened tax credit eligibility laws outlined in the One Big Beautiful Bill Act, municipalities and communities that are sticking to renewable energy goals are under pressure to accelerate project timelines.

Trenton Allen, whose company Sustainable Capital Advisors works to provide sustainable finance for clean energy developers, alongside other activities, sees a market ready to make the most of what's left in the short term.

He explained that many municipal clients are now prioritizing projects to ensure they can fully leverage the federal incentives, such as the investment tax credits (ITCs) for projects in the residential and commercial sectors, which are now being removed earlier than planned. Developers are moving quickly through their procurement processes to identify and prioritize projects that are most likely to be completed within the required timeframe to secure maximum incentives.

“Prioritization is incredibly important because it allows developers to focus on projects that have the best chance to get done,” said Allen. “Other projects, they’re moving to the back burner, though these are still nice to have. There really is a prioritization that we’re seeing happening with many of our clients as they try to hit these windows to maximize the incentives that are available from these projects.”

Capital markets appear ready to support a high volume of projects on an accelerated timeline through commercial banks, community banks, and community development financial institutions (CDFIs). Allen said he foresees an uptick in green bonds and other municipal finance projects, as school districts and city governments seek to utilize their own credit to fund these initiatives.

“There’s a great opportunity available here in the short run,” said Allen. “Being able to meet this moment and to accelerate as much of these projects as we possibly can is incredibly important and will strengthen our overall energy system.”

Community solar

In August, the Environmental Protection Agency (EPA) announced plans to claw back all \$7 billion of grants that were made available through the Solar For All program. There is likely to be ongoing litigation to decide the fate of these funds, and for now uncertainty clouds the outcome.

Solar For All provided grant funds primarily for community solar projects across the United States. Community solar offers a pathway for residents to access low-cost solar energy without having to invest in an on-site project.

Allen highlighted a successful community solar program in Washington, DC, which has significantly reduced household energy bills, by more than 50% in some cases. These savings provide real cash flow to households.

Beyond help for households struggling with their energy bills, these projects create local economic opportunities through jobs in construction and ongoing operations and maintenance. Here, Allen sees the need for policymakers to ensure a stable market that provides greater certainty to businesses investing in the projects. This is crucial in allowing them to take a long-term view on hiring and other investments – creating a market, not just a one-off project.

State support

As support for renewable energy is being phased out from the federal government’s plans, Allen sees both an opportunity and a responsibility for states to step in and fill this role.

New data reveals the startling cost of solar & wind compared to traditional energy sources

"The most cost-competitive form of generation."

Aug 20, 2025. Christine Dulion

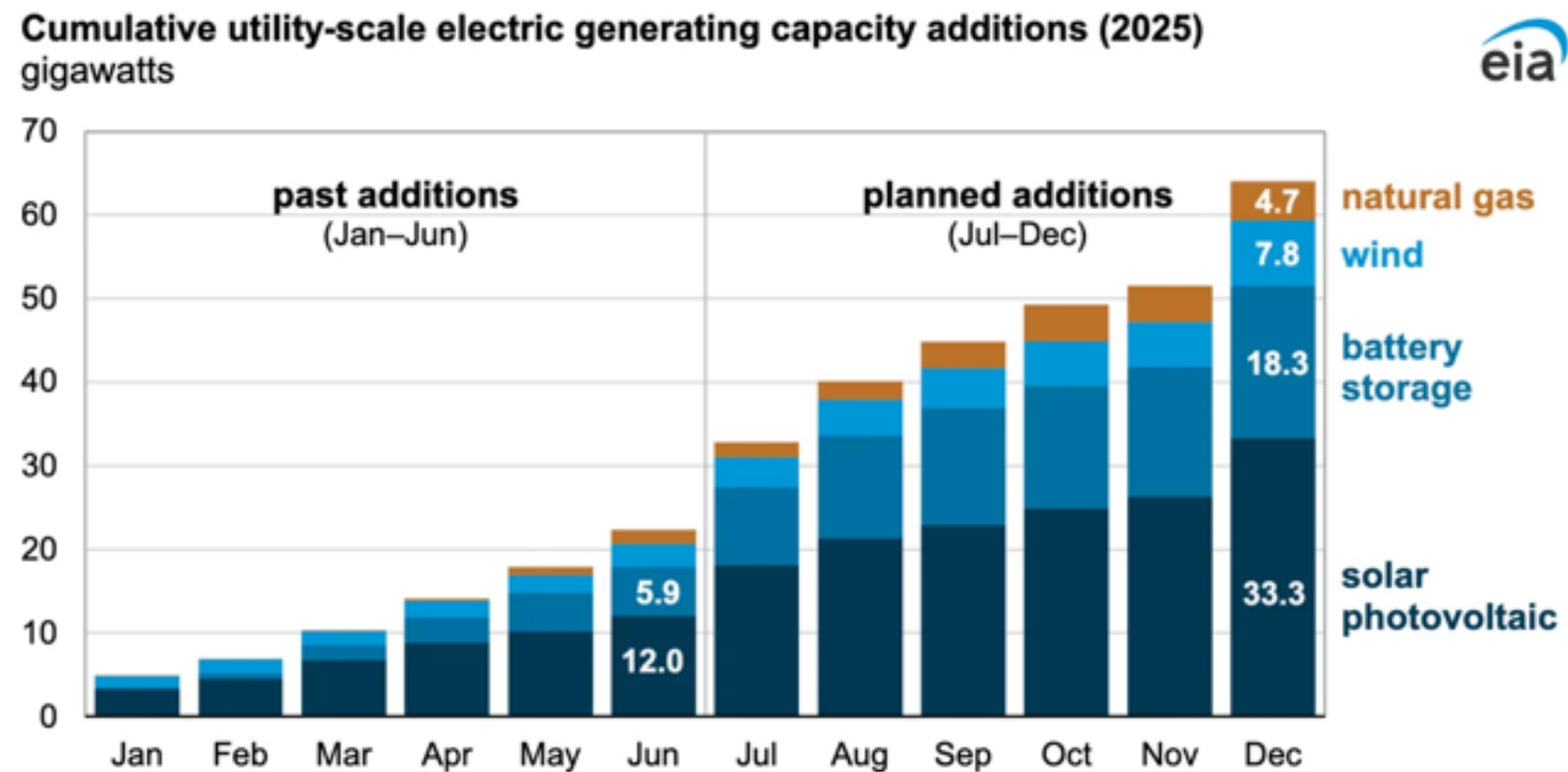
'[This] analysis makes it clear'

"The most cost-competitive form of generation." Aug 20, 2025 Even without tax incentives, solar and wind are beating fossil fuels such as oil and gas in the affordability department. A new analysis shows just how much of a gap there is between renewable energy sources and traditional ones. As reported by PV Magazine, Lazard's latest Levelized Cost of Energy report finds that unsubsidized utility-scale solar ranges from \$0.038 to \$0.078 per kilowatt-hour, while onshore wind comes in at \$0.037 to to \$0.086 per kWh. By comparison, new-build [natural gas](#) peaker plants cost \$0.138 to \$0.262 per kWh, even before factoring in volatile fuel prices.

Read in The Cool Down: <https://apple.news/A6KzpOdjdQbadU5texYsAYw>

Half of new U.S. electricity capacity will come from solar this year

Thursday, August 21, 2025 at 7:48 AM



Data source: U.S. Energy Information Administration, [Preliminary Monthly Electric Generator Inventory](#), June 2025

Heatmap AM
editors@heatmap.news

U.S. Wind Installations Surge, but Orders Drop 50%

Environment & Energy Leader, July 29, 2025

<https://www.environmentenergyleader.com/stories/us-wind-installations-surge-but-orders-drop-50,85660>

and

<https://renews.biz/102120/us-wind-market-installed-21gw-in-q1>

and

<https://www.windpowermonthly.com/article/1927150/us-wind-turbine-orders-plummet-trump-policies-bite-%E2%80%93-american-clean-power-association>

and

<https://www.windpowerengineering.com/us-policy-uncertainty-lead-to-50-decrease-in-wind-turbine-orders-compared-to-last-year>

According to the “Q2 2025 Wind Energy Monitor” by Wood Mackenzie and the American Clean Power Association, the U.S. wind market saw 2.1-GW of installations in Q1 2025 - more than double the capacity added during the same period

in 2024. However, this strong start contrasts sharply with a 50% decline in turbine orders, which have dropped to the lowest level since 2020. The report highlights continued momentum in onshore buildouts, with all first-quarter installations

coming from new greenfield projects. Yet looming regulatory uncertainty, shifting tax credit structures, and rising tariffs are casting a long shadow over future development.

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91% OF NEW U.S. ELECTRICAL CAPACITY IN THE FIRST HALF OF 2025 WAS SOLAR AND WIND

- IN JUNE, SOLAR WAS THE LARGEST SOURCE OF NEW GENERATING CAPACITY FOR THE 22nd CONSECUTIVE MONTH**
- RENEWABLES ON TRACK TO EXCEED 40% OF TOTAL GENERATING CAPACITY WITHIN THREE YEARS**

For Release: Wednesday, September 3, 2025. DUN DAY. Contact: Ken Bossong, 301-588-4741

Washington DC – A review by the SUN DAY Campaign of data just released by the Federal Energy Regulatory Commission (FERC) reveals that the combination of solar and wind accounted for 91% of new U.S. electrical generating capacity added in the first half of 2025. In June, solar alone provided 82% of new capacity, making it the 22nd consecutive month in which solar has held the lead among all energy sources.

Solar was 82% of new generating capacity in June and 75% in the first half of 2025:

In its latest monthly “Energy Infrastructure Update” report (with data through June 30, 2025), FERC says 63 “units” of solar totaling 2,439 megawatts (MW) were placed into service in June, accounting for over 81.5% of all new generating capacity added during the month. The new facilities include six solar farms with capacities of 199-MW or more: the 417.7-MW Ash Creek Solar Project and the 206.1-MW Mercury Solar & Storage Project both in Hill County, TX; the 300-MW Box Canyon Solar Project in Pinal County, AZ; the 250-MW Morris Solar Project in Adair County, MO; the 200.0-MW Big Star Solar & Storage Project in Bastrop County, TX; and the 199.0-MW Speedway Solar Project in Shelby County, IN. The 14,567-MW of utility-scale (i.e., >1-MW) solar added during the first six months of 2025 was almost three-quarters (74.9%) of the total new capacity placed into service by all sources. Solar has now been the largest source of new generating capacity added each month for twenty-two consecutive months: September 2023 – June 2025. During that period, total utility-scale solar capacity grew from 91.82 gigawatts (GW) to 151.73-GW. No other energy source added anything close to that amount of new capacity. Wind, for example, expanded by 10.53-GW while natural gas increased by just 2.73-GW.

Solar, wind and biomass were over 91% of new capacity added in the first half of 2025:

Between January and June, new wind has provided 3,139-MW of capacity additions – almost double the new capacity provided by natural gas (1,727-MW). Wind thus accounted for 16.1% of all new capacity added during the first six months of 2025. In June alone, the 144.0-MW Crossover Wind Project in Cross County, AR came on-line along with the 58.8-MW Moscow Wind Power Project in Somerset County, ME. For the first half of 2025, the combination of solar and wind (plus 3-MW of biomass) was 91.04% of new capacity while natural gas provided just 8.88%; the balance came from oil (14-MW).

Solar + wind are almost a quarter of U.S. utility-scale generating capacity; all renewables combined are nearly a third:

Utility-scale solar’s share of total installed capacity of (11.34%) is now almost equal to that of wind (11.83%). Taken together, they constitute nearly one-fourth (23.17%) of the U.S.’s total available installed utility-scale generating capacity. Moreover, at least 25-30% of U.S. solar capacity is in the form of small-scale (e.g., rooftop) systems that are not reflected in FERC’s data. [1] Including that additional solar capacity would bring the share provided by solar + wind to more than a quarter of the nation’s total. With the inclusion of hydropower (7.62%), biomass (1.07%) and geothermal (0.31%), renewables currently claim a 32.17% share of total U.S. utility-scale generating capacity. If small-scale solar capacity is included, renewables are now about one-third of total U.S. generating capacity.

- FERC – continue from previous slide –

The combined capacities of all renewables, including small-scale solar, may overtake natural gas within three years: The mix of all utility-scale (i.e., >1-MW) renewables is now adding about two percentage points each year to its share of generating capacity. At that pace, by June 1, 2028, renewables would account for three-eighths (37.8%) of total available installed utility-scale generating capacity - rapidly approaching that of natural gas (40.2%). Solar and wind would constitute more than three-quarters of the installed capacity of renewable sources. If those trendlines continue, utility-scale renewable energy capacity should surpass that of natural gas in 2029 or sooner.

However, as noted, FERC's data do not account for the capacity of small-scale solar systems. If that is factored in, within three years, total U.S. solar capacity (i.e., small-scale plus utility-scale) should exceed 300-GW. In turn, the mix of all renewables would then be about 40% of total installed capacity while natural gas' share would drop to about 38%.

Moreover, FERC reports that there may actually be as much as 226,821-MW of net new solar additions in the current three-year pipeline in addition to 67,405-MW of new wind, 9,064-MW of new hydropower, 202-MW of new geothermal, and 34-MW of new biomass. By contrast, net new natural gas capacity potentially in the three-year pipeline totals just 28,797-MW. Consequently, renewables' share could be even greater by late-spring 2028.

Evidence of the energy transition is already clear as renewables' share of generating capacity continues to increase while that of fossil fuels and nuclear power shrinks:

At the end of 2024, the mix of all renewables accounted for 30.96% of total generating capacity. Solar alone was 10.19% while wind was 11.68%. In just five months – i.e., by the end of May, renewables' share had risen to 31.98% with solar at 11.13% and wind at 11.80%.

On the other hand, natural gas' share had slipped from 43.00% to 42.52% as coal fell from 15.30% to 14.89% and oil dropped from 2.73% to 2.72%. Similarly, nuclear power's share of generating capacity decreased from 7.84% to 7.74%.

The SUN DAY Campaign is a non-profit research and educational organization founded in 1992 to support a rapid transition to 100% reliance on sustainable energy technologies as a cost-effective alternative to nuclear power and fossil fuels and as a solution to climate change.

- continued from previous FERC slide #2 –

"FERC's latest data predate enactment of the Trump Administration's 'Big, Beautiful Bill' which may adversely affect the future growth trajectories of wind and solar," noted the SUN DAY Campaign's executive director Ken Bossong. "However, FERC's forecasts suggest that cleaner and lower-cost renewable energy sources will continue to grow, retaining their lead over coal and nuclear power while closing the gap with natural gas."

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Sources:

FERC's 7-page "Energy Infrastructure Update for May 2025" was very belatedly posted (arguably 4-6 weeks late) on August 20, 2025. Can be found at: <https://cms.ferc.gov/media/energy-infrastructure-update-may-2025>.

For the information cited in this update, see the tables entitled "New Generation In-Service (New Build and Expansion)," "Total Available Installed Generating Capacity," and "Generation Capacity Additions and Retirements."

Notes:

[1] In a September 12, 2023 news release, EIA stated: "More than one-third of U.S. solar power capacity is small-scale solar. ... We expect small-scale solar capacity ... will grow from 44-GW in June 2023 to 55-GW by the end of 2024."

See: <https://www.eia.gov/outlooks/steo/report/BTL/2023/09-smallscalesolar/article.php>

[2] Generating capacity is not the same as actual generation. Fossil fuels and nuclear power usually have higher "capacity factors" than do wind and solar. The U.S. Energy Information Administration (EIA) reports capacity factors in calendar year 2024 for nuclear power, combined-cycle natural gas plants and coal were 92.3%, 59.7%, and 42.6% respectively while those for wind and utility-scale solar PV were 34.3% and 23.4%. See Tables 6.07.A and 6.07.B in EIA's most recent "Electric Power Monthly" report.

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Solar was 59% of new generating capacity in May and 75% year-to-date:

In its latest monthly “Energy Infrastructure Update” report (with data through May 31, 2025), FERC says 43 “units” of solar totaling 1,515 megawatts (MW) were placed into service in May, accounting for 58.7% of all new generating capacity added during the month.

The new facilities included the 305.1-MW Bright Arrow Solar & Storage Project in Hopkins County, TX; the 300-MW Papago Solar & Battery Storage Project in Maricopa County, AZ; the 250.0-MW Fairbanks Solar Energy Center in Sullivan County, IN; and the 200.0-MW Green River Solar Project in Meade County, KY.

The 11,518-MW of solar added during the first five months of 2025 was more than three-quarters (75.3%) of the total new capacity placed into service.

Solar has now been the largest source of new generating capacity added each month for twenty-one consecutive months: September 2023 – May 2025.

Solar + wind were nearly 91% of new capacity added in the first five months of 2025:

Between January and May, new wind has provided 2,379-MW of capacity additions, thereby accounting for 15.6% of all new capacity added during the first five months of 2025. In May alone, Prairie Switch Wind LLC’s 163.2-MW Crawfish Wind Project in Wharton County, TX came on-line along with Airstream LLC’s 33.6-MW Mesa Wind Developers Project in Riverside, CA.

For the first five months of the year, the combination of solar and wind was 90.9% of new capacity while natural gas (1,381-MW) provided just 9.0%; the remaining 0.1% came from oil (14-MW).

Solar + wind are almost a quarter of U.S. utility-scale generating capacity; all renewables combined are nearly a third:

The installed capacities of solar (11.1%) and wind (11.8%) are now each more than a tenth of the nation’s total. Taken together, they constitute almost one-fourth (22.9%) of the U.S.’s total available installed utility-scale generating capacity.

Moreover, at least 25-30% of U.S. solar capacity is in the form of small-scale (e.g., rooftop) systems that are not reflected in FERC’s data. [1] Including that additional solar capacity would bring the share provided by solar + wind to more than a quarter of the nation’s total.

With the inclusion of hydropower (7.7%), biomass (1.1%) and geothermal (0.3%), renewables currently claim a 32.0% share of total U.S. utility-scale generating capacity. If small-scale solar capacity is included, renewables are now about one-third of total U.S. generating capacity.

Solar remains on track to become the second largest source of U.S. generating capacity:

FERC reports that net “high probability” additions of solar between June 2025 and May 2028 total 89,513-MW – an amount almost four times the forecast net “high probability” additions for wind (23,019-MW), the second fastest growing resource.

FERC also foresees net growth for hydropower (596-MW) and geothermal (92-MW) but a decrease of 123-MW in biomass capacity.

Taken together, the net new “high probability” capacity additions by all renewable energy sources over the next three years – i.e., the bulk of the Trump Administration’s remaining time in office - would total 113,097-MW.

On the other hand, there is no new nuclear capacity in FERC’s three-year forecast while coal and oil are projected to contract by 24,913-MW and 1,907-MW respectively. Natural gas capacity would expand by 5,992-MW.

Thus, adjusting for the different capacity factors of gas (59.7%), wind (34.3%), and utility-scale solar (23.4%), electricity generated by the projected new solar capacity to be added in the coming three years should be nearly six times greater than that produced by the new natural gas capacity while the electrical output by new wind capacity would be more than double that by gas. [2]

If FERC’s current “high probability” additions materialize, by May 1, 2028, solar will account for over one-sixth (16.7%) of the nation’s installed utility-scale generating capacity. Wind would provide an additional one-eighth (12.7%) of the total. Thus, each would be greater than coal (12.2%) and substantially more than either nuclear power or hydropower (both 7.2%).

Zillow has a study saying solar increases the value of your home.

<https://www.zillow.com/research/solar-panels-house-sell-more-23798/>

Microgrid Knowledge

microgridknowledge@news.microgridknowledge.com

Wednesday, August 13, 2025 at 11:55 AM by [Kathy Hitchens](#)

The off-grid solar and battery storage system can deliver up to 2 MWh of electricity per day and will fully power the location's standalone tire center. The microgrid was installed by Trinity Energy, a Snohomish, Washington-based sustainable energy solutions provider of off-grid energy infrastructure.



"Energy should be treated as a necessary, finite resource as opposed to an expense or balance sheet charge," said Shay Reed, assistant general merchandising manager at Costco Wholesale. Costco has committed to operating with [100% clean energy](#) sources by 2035, and it aims to reduce its Scope 1 and Scope 2 emissions by 39% by 2030, according to the company's Climate Action Plan.

The retail giant has more than [800 stores](#) worldwide. Trinity previously installed an off-grid rooftop solar system at Costco's 1-million square foot distribution center in [Mira Loma](#), California. The power from that installation, which was completed in under four months, will be used to charge electric trucks. In California, [Carr Winery](#) and [Amond World](#), a refrigerated cold storage developer in the Central Valley, have both invested in off-grid microgrids to secure cheaper, cleaner and more reliable power. [Taylor Farms](#), a major North American fresh food producer also based in California, relies on an off-grid microgrid to supply electricity to a 450,000 square-foot facility in San Juan Bautista.

Trinity utilizes modular electrified structures and integrated microgrids to create ecosystems that include solar, battery storage, inverters and energy distribution systems. "By integrating our advanced hardware and software into a single, cohesive solution, we guarantee

[Costco Tire Center Goes Off-Grid with Microgrid in Connecticut](#)

By Kathy Hitchens

The solar and storage microgrid can deliver up to 2 MWh of electricity per day and will fully power the Costco tire center in Norwalk, Connecticut.

STATE & LOCAL ENERGY PROGRAMS 2025

California scores victory for rooftop solar owners, retaining contracts on home sale

The California Senate Energy, Utilities and Communications Committee voted to preserve solar net energy metering agreements for Californians that sell or transfer their homes.

JULY 16, 2025 [RYAN KENNEDY](#)

California senators voted 9-4 not to break contracts signed by rooftop solar customers, amending the controversial [AB 942](#) during its Senate Energy, Utilities and Communications Committee hearing.

The bill required that homes with rooftop solar that are sold or transferred must be shifted off their [net energy metering](#) agreements, a change that would damage the expected electricity bill savings from the system. California lawmakers amended the bill to maintain rooftop solar net metering for homeowners upon a sale or transfer of the home. The amendments also removed language that would deny cap-and-trade climate credits to solar customers.

The Senate Energy Committee, following [this legal analysis](#), voted to strike down the anti-solar language under the leadership of Senator and Committee Chair Josh Becker.

“Senator Becker is respecting past investments while focusing on a future of innovation and energy affordability,” said Brad Heavner, executive director of the California Solar and Storage Association.

The average rooftop solar customer would have seen their home’s electricity bills increase by about [\\$63 per month](#) after selling or transferring their home, presenting a potential sticking point in a real estate transaction.

[https://pv-magazine-usa.com/2025/07/16/california-scores-victory-for-rooftop-solar-owners-retaining-contracts-on-home-sale/?utm_source=USA+%7C+Newsletter&utm_campaign=cc6b963a3c-dailynl_us&utm_medium=email&utm_term=0_80e0d17bb8-cc6b963a3c-158716569&ct=t\(dailynl_us\)](https://pv-magazine-usa.com/2025/07/16/california-scores-victory-for-rooftop-solar-owners-retaining-contracts-on-home-sale/?utm_source=USA+%7C+Newsletter&utm_campaign=cc6b963a3c-dailynl_us&utm_medium=email&utm_term=0_80e0d17bb8-cc6b963a3c-158716569&ct=t(dailynl_us))

WASHINGTON POST

The disaster no major U.S. city is prepared for
Interactive graphic article. by [Niko Kommenda](#), [Shannon Osaka](#) and [Simon Ducroquet](#)
September 13, 2024 at 5:00 a.m.

HOMEWORK ASSIGNMENT: read this article

For days, residents of Houston struggled to survive as temperatures rose. They shared generators, filled buckets and bathtubs with ice, packed air-conditioned hotels and emergency rooms. The most vulnerable struggled to get the care they needed. Many [died](#). But in some ways, Houston was narrowly spared. Temperatures rose to the high 90s, but only for a couple of days. If the heat had stayed, the human toll could have been far worse.

Experts warn this type of catastrophe — a combined power outage with a heat wave — is a scenario that cities and states are unprepared for.

https://www.washingtonpost.com/climate-environment/interactive/2024/hurricanes-power-outages-heat-wave-risk/?utm_campaign=wp_post_most&utm_medium=email&utm_source=newsletter&wpisrc=nl_most&carta-url=https%3A%2F%2Fs2.washingtonpost.com%2Fcar-ln-tr%2F3f0147f%2F66e4643812a08c3f2aea9aca%2F596993209bbc0f6d71c43799%2F11%2F53%2F66e4643812a08c3f2aea9aca

Oregon legislature passes first-in-nation microgrid framework

Supporters say the Oregon model could set an example for other states concerned about grid reliability and rising costs.

Published July 14, 2025. by Brian Martucci

Dive Brief:

- Oregon lawmakers have passed two bills that experts say will make communities more resilient as the state's grid faces rising electricity demand, more frequent extreme weather events and repeated public safety power shutoffs to mitigate wildfire risk.
- [HB 2065](#) and [HB 2066](#) establish “a first-in-the nation strategy to create a regulatory framework for building microgrids,” smaller-scale power networks that can operate independently from the main grid, Portland-based nonprofit Sustainable Northwest [said June 27](#).
- “Oregon has passed the most ambitious microgrid legislation in the nation,” Dylan Kruse, president of nonprofit Sustainable Northwest, said in a statement. “These bills pave the way for clean energy innovation to support community resilience, energy independence, and cost savings across the state.”

POLITICS

Senate tackles housing affordability crisis with bipartisan bill

Published July 30, 2025. by [Ryan Kushner](#). Editor

Dive Brief:

- A bipartisan bill that seeks to expand access to affordable housing and increase housing production through regulatory reform advanced through the Senate Banking, Housing and Urban Affairs Committee on Tuesday.
- The Renewing Opportunity in the American Dream [\(ROAD\) to Housing Act](#) would ease some environmental regulations to speed up housing development and provide incentives such as grants for localities to embrace “pro-housing” policies that “remove regulatory barriers to the construction or preservation of housing units, including affordable housing units.”
- The bill has support from housing advocates, including from the U.S. Conference of Mayors, which called it “a [landmark piece of legislation](#) that addresses the urgent need to make substantial movement on the national housing crisis.”

Dive Insight:

Mayors have been sounding the alarm on the U.S. housing crisis “for years now,” Columbus, Ohio, Mayor Andrew Ginther [said earlier this year](#). Ginther is immediate past president of the U.S. Conference of Mayors and chair of its Housing Task Force. The conference’s June 2025 [survey of mayors](#) found that 51.5% believe housing affordability in their cities will worsen in the next year, and more than 94% reported their residents are “dissatisfied or very dissatisfied” with housing affordability.

Support from the federal government to address the crisis seemed in doubt after the Trump administration in May announced plans to slash Department of Housing and Urban Development funding by more than \$33 billion for the 2026 fiscal year.

The ROAD to Housing Act — reportedly the first housing bill to pass through the Senate committee in more than a decade — contains at least 27 pieces of previously introduced legislation, according to the Bipartisan Policy Center. It could offer major solutions cities have been looking for, according to the Conference of Mayors. “The bill lays the groundwork to address the nation’s [urgent need to boost housing supply](#), improve housing affordability, and increase oversight and efficiency of federal regulators and housing programs,” Ginther and Conference of Mayors CEO Tom Cochran said in a letter to the Senate Banking Committee chairman, Tim Scott, R-S.C., and ranking member, Sen. Elizabeth Warren, D-Mass.

https://www.smartcitiesdive.com/news/senate-tackles-housing-affordability-crisis-ROAD-to-housing-act/756310/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202025-07-30%20Smart%20Cities%20Dive%20Newsletter%20%5Bissue:75438%5D&utm_term=Smart%20Cities%20Dive

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Democratic Lawmakers Ask Government Accountability Office to Review DOE's Actions Against Solar and Wind:

Solar Power World, by Kelsey Misbrener, July 31, 2025

<https://www.solarpowerworldonline.com/2025/07/democratic-lawmakers-ask-government-accountability-office-to-review-does-actions-against-solar-and-wind>

Congresswoman Marcy Kaptur (D-OH), Ranking Member of the House Appropriations Subcommittee on Energy and Water Development, and Senator Patty Murray (D-WA), Vice Chair of the Senate Appropriations Committee and Ranking Member of the Subcommittee on Energy and Water Development, have asked the Government Accountability Office to issue a legal decision on whether Trump's Department of Energy violated key appropriations laws in shifting hundreds of millions of dollars provided for research and development of clean energy sources in the full-year continuing resolution Trump signed into law in March and steering those funds to energy sources it favors. Specifically, Kaptur and Murray requested that GAO look into whether DOE's spending decisions in fiscal year 2025 violate the Purpose Statute, which dictates that appropriations only be used for the purposes for which the appropriations were provided unless otherwise provided for by law, and the Antideficiency Act, which prohibits federal agencies from spending funds in advance of or in excess of an appropriation made by Congress.

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\$8.8B energy efficiency rebate program on hold in most states, underway in some

David Terry, president of the National Association of State Energy Officials, said he has been “repeatedly” assured that obligated funds will be dispersed.

Published August. 6, 2025 • [Diana DiGangi](#). Reporter

Dive Brief:

- Twelve states and the District of Columbia have launched rebate programs funded by the Inflation Reduction Act to help homeowners and low-to-moderate income households increase their energy efficiency.
- The Home Owner Managing Energy Savings Act, or HOMES, and the Home Electrification and Appliance Rebates, or HEAR, were allocated \$8.8 billion under the IRA that is set to be disbursed, while a similar residential energy efficiency tax credit was ended early by the Republican tax and spending law.
- David Terry, president of the National Association of State Energy Officials, said the association has been “repeatedly” assured by the U.S. Department of Energy that all obligated funds for the rebate program “will ultimately get out the door.” All states except South Dakota applied for the funding and have received conditional awards.

The IRA sets the HOMES and HEAR programs to run either until their funding runs out, or Sept. 30, 2031.

HOMES set aside \$4.3 billion in rebates for “whole-home retrofit packages based on the reduction in home energy use,” such as “building envelope upgrades, appliance and HVAC equipment replacement, and installation tasks,” according to the [nonprofit Northeast Energy Efficiency Partnerships](#). HEAR set aside \$4.5 billion “to fund efficient electrification of low- and moderate-income households” with alterations like “appliance upgrades, installation costs, and enabling measures such as upgrading circuit panels, insulation, air sealing, ventilation, and wiring,” NEEP said. Those appliances include heat pumps and heat pump water heaters.

EPA – INTERIOR ACTIONS 2025

[Interior finds new way to red-tape wind, solar](#)

The Interior Department has issued a secretarial order requiring that "all decisions, actions, consultations, and other undertakings" relating to wind and solar projects must undergo a multi-layer political review process. It introduces multiple political review stages for more than 68 types of activities, including basic project determinations and compliance with federal laws. The order would apply to projects on state, public and private lands and could result in sweeping project delays. "This is the way you stall and kill projects. Intentionally red-tape projects to death," said Biden-era clean energy adviser Avi Zevin.

Full Story: [Heatmap News](#) (7/16/2025) [JAEL HOLZMAN](#) • JULY 16, 2025

LINK: <https://heatmap.news/politics/interior-wind-solar-memo>

EPA's move to gut key climate regulation raises stakes for city leaders

A repeal of the endangerment finding would make local climate policy a new battleground in continuing tensions between the Trump administration and cities, a legal scholar suggests. Published July 30, 2025. [Robyn Griggs Lawrence](#) Editor

Dive Brief:

- The U.S. Environmental Protection Agency on Tuesday proposed rescinding the 2009 “[endangerment finding](#),” which concluded that emissions of six greenhouse gases endanger human health and welfare. Previous presidential administrations used the finding to regulate greenhouse gases under the Clean Air Act. The EPA said in a press release that if the proposal is finalized, it “is expected to save Americans \$54 billion in costs annually through [the repeal of all greenhouse gas standards](#).”

Rescinding federal authority to regulate greenhouse gas emissions from stationary sources like power plants would likely give states more leeway in regulating them, said Amy Turner, director of the Cities Climate Law Initiative at Columbia Law School’s Sabin Center. “It’s possible that in some states we’ll see the state meeting the moment and regulating power plants more robustly. But in some states, we will not. There’s the potential to have a real patchwork of how power plants are regulated.”

In 2007, the Supreme Court ruled the [EPA must regulate greenhouse gas emissions](#) under the Clean Air Act if it determined the emissions endanger public health and welfare. In 2009, the EPA made that determination for the combination of six greenhouse gases — carbon dioxide, methane, nitrous oxide, hydrofluorocarbons and sulfur hexafluoride — noting that “the body of scientific evidence compellingly supports this finding.” It used the finding and the Supreme Court ruling to justify greenhouse gas regulation. By rescinding this finding, “EPA thinks it has discovered this one neat trick to eliminate all climate regulations,” Meredith Hankins, senior attorney, climate and energy, for the Natural Resources Defense Council, said during a [press conference](#) Tuesday.

Yesterday’s announcement kicks off a formal rulemaking process with a 45-day period when cities and other stakeholders will be able to comment before the EPA finalizes and publishes the proposed rule, Turner said. “Then there is the opportunity for stakeholders to challenge the rule in court, as is certain to happen in this instance.

Interior's Permit Review Raises Concerns for Renewables - the Blast Radius Could Be Huge:

Heatmap News, July 24, 2025

<https://heatmap.news/plus/the-fight/spotlight/interior-order-industries-affected>

A memo from Trump's Interior Department introducing a political review process for renewables permits has created uncertainty among developers and investors, raising concerns about potential delays and project cancellations. The order could impact nearly 150 wind and solar projects near federal lands or critical wildlife habitats, and is broad enough that even projects on private lands that require federal transmission routes may be affected.

EPA to Suspend Methane Limits Without Public Input:

EE News, by Jean Chemnick, July 28, 2025

<https://www.eenews.net/articles/epa-to-suspend-methane-limits-without-public-input>

Trump's EPA plans to suspend requirements for oil and gas operations to limit their methane emissions. The rule would suspend a Biden-era mandate for oil and gas operators to step up monitoring and repair of natural gas leaks. It would apply to both new oil and gas operations that are already required to comply with the standard, as well as to the states writing implementation plans for their existing facilities. The upcoming interim final rule is the agency's latest use of a regulatory process usually reserved for emergencies - a regulatory maneuver that environmental attorneys say is a backdoor bid to

Trump's EPA Embraces Climate Denial as It Proposes Repeal of Landmark Finding That Greenhouse Gases Harm the Public:

The Hill, by Rachel Frazin, July 29, 2025

<https://thehill.com/policy/energy-environment/5425935-trump-epa-climate-change-endangerment-finding-greenhouse-gases>

and

<https://thehill.com/policy/energy-environment/5425226-epa-climate-endangerment-finding-zeldin>

and

<https://thehill.com/policy/energy-environment/5424434-trump-epa-zeldin-climate-change-denial>

and

<https://www.sierraclub.org/press-releases/2025/07/trump-proposes-gut-clean-vehicle-standards-and-wipe-out-climate-science>

and

<https://www.sierraclub.org/press-releases/2025/07/sierra-club-statement-proposed-epa-rule-rescind-greenhouse-gas-endangerment>

and

<https://www.eenews.net/articles/epa-moves-to-gut-scientific-finding-for-climate-rules>

and

<https://www.eenews.net/articles/zeldin-previews-his-big-climate-move-heres-a-fact-check>

and

<https://apnews.com/article/trump-climate-epa-endangerment-zeldin-5cba0871c880e23d044ef40a398c57b2>

The Trump administration is proposing the repeal of the landmark finding that climate change poses a threat to the public - as well as repealing all climate regulations on cars and trucks, meaning automakers would no longer have to abide by any climate rules. Regarding the latter, it is proposing to instead find instead that “that there is insufficient reliable information to retain the conclusion that GHG emissions from new motor vehicles and engines in the U.S. cause or contribute to endangerment to public health and welfare in the form of global climate change.” The impacts of the proposal appear to be limited to its regulations on the auto industry and does not directly address the EPA’s regulations on other emitting sectors including power plants.

THE BOTTOM LINE

SKLAR'S ENERGY VIEW OF THE LAY-OF-THE-LAND – OCTOBER 2025

MOST CONSUMERS -

“MOST US CONSUMERS CARE ABOUT RISING ENERGY PRICES AND MORE FREQUENT ELECTRIC GRID FAILURES”

SECONDARY CONCERNS THAT LARGE DATA CENTERS ARE CAUSING THESE ENERGY INCREASES AND ALL RATEPAYERS WILL ABSORB THESE COSTS

SUPER CHALLENGES and OPPORTUNITIES -

MOST US ELECTRIC TRANSMISSION & DISTRIBUTION LINES ARE BETWEEN 30 – 60 YEARS OLD – SUBJECT TO MORE OUTAGES – AND ARE AT FULL CAPACITY– CAUSING LINE VOLTAGE CONGESTION and POWER-LINE SAGGING ..

IN 2025 – US UTILITIES ACQUIRING TRANSFORMERS ARE AT A 4 YEAR BACKLOG AND THE LOWEST COST FOSSIL SOURCE – NATURAL GAS – HAS A 4+ YEAR BACKLOG OF SUPPLY OF TURBINES and MODULAR NUCLEAR POWER PLANTS BEGIN THEIR FIRST MARKET INSTALLTION IN 2033 WITH MAYBE INITIAL SCALE-UP in 2035 AT NO COST CERTAINTY

SINCE 2017, MORE THAN 50% OF “NEW” YEARLY UTILITY-SCALE ELECTRIC GENERATION CAME FROM SOLAR and WiND

- next slide -

- from prior slide –

THE SAD TRUTH

LOW-INCOME RATEPAYERS HAVE THE LEAST RELIABLE ELECTRICITY, THE LEAST ELECTRIC POWER QUALITY, THE MOST ENERGY WASTE STORED AROUND THEIR COMMUNITIES ALONG WITH THE MOST POWER GENERATION SITED IN THEIR COMMUNITIES

THE WAY FORWARD

MAXIMIZING PRACTICAL ENERGY EFFICIENCY and LOCATING DISTRIBUTED RENEWABLE ENERGY GENERATION AND ENERGY STORAGE NEAREST TO END-USERS – ON & AROUND BUILDINGS AT DISTRIBUTION AND DISTRIBUTION SUBSTATIONS, AND TECHNOLOGIES INTEGRATED WITH BATTERY STORAGE AND ADVANCED CONTROLS IN MICROGRIDS

HIGH ISSUE CO-BENEFITS

OTHER THAN MAXIMIZING RESILIENCY AND RELIABILITY ... REDUCE REGULATED EMISSIONS UNDER THE CLEAN AIR ACT, SIGNIFICANTLY USE LESS FRESH WATER, and REDUCE GREENHOUSE GAS EMISSIONS.

ANY QUESTIONS ?

NEED STUDIES, ANALYTICS, PEER-REVIEWED PAPERS, ARTICLES -

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