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Special Year-End Edition

Circle Pines gas utility sets the benchmark for Minnesota municipal systems

The city of Circle Pines, Minnesota, stands out as the only municipality originally founded as a cooperative.

The city of Circle Pines recently celebrated 75 years as a city. The current public works crew is shown here.

At Circle Pines' founding in the 1940s, residents shared ownership of the city, and that spirit of collective responsibility laid the foundation for its municipal utilities. Although the cooperative governing model lasted only a few years, Circle Pines recently celebrated its 75th anniversary, and those founding ideals continue to shape its identity.

The new city was well established by 1959, so city leaders proposed the formation of a municipal gas utility. By the early 1960s, Circle Pines Gas was officially launched. Today Circle Pines is the only suburban city that operates its own natural gas distribution company, something the Anoka County Historical Society attributes to "its cooperative past." Residents had initially hoped to make all the Circle Pines utilities city owned. While an electric utility was not in the cards, the gas utility endured and evolved. Today, it operates under the same department as Circle Pines' water, sewer, refuse and recycling, and storm sewer services.

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Small City grants support Minnesota municipal towns

The Minnesota Department of Employment and Economic Development (DEED) announced more than $20.7 million in grants through its Small City Development Program (SCDP), which will support economic development in 33 cities and counties across Minnesota.

The grant is designed to help cities fund housing, public infrastructure, and commercial rehabilitation projects. The program primarily supports communities of fewer than 50,000 residents and low or moderate-income communities in eliminating slum and blight conditions or urgent threats to public health or safety. This year, 92 percent of SCDP grant recipients serve people with low and moderate incomes.

Three of the cities awarded SCDP grants are members of MMUA. Brainerd will receive $600,000 for public facility improvements to the streetscape; Fairfax was awarded $600,000 to be used for public facility improvements, including water main looping; and Fulda was awarded $1,155,654 for rehabilitation of 21 owner-occupied homes as well as streetscape improvements.

Grants like the SCDP are essential for towns throughout Minnesota that need infrastructure and housing improvements, as the smaller populations mean fewer people bear the burden compared to larger cities. While the grant primarily supports housing, it also contributes to community development.

Brainerd

John Schommer, Maintenance and Rehab Director at Brainerd Housing and Redevelopment Authority (HRA), says this was a unique opportunity for small cities to apply for this round of grants, because they used the streetscape improvements part of the program in a way Brainerd hasn't before.

Schommer applied on the city's behalf and explains that Brainerd wanted to go after this grant because there were significant needs for funding. This is the first time Brainerd

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Ten defining energy stories of 2025

The energy sector produced seismic headlines in 2025.

Investors poured record sums into innovative technologies, courts decided the fate of giant offshore wind projects, geopolitics continued to rearrange gas markets, and local fights over transmission lines and private-equity deals shaped how cities and states plan their electric futures. This year's top 10 stories will likely impact what customers pay, which technologies scale, and how government and markets balance resilience, affordability, and decarbonization.

Here are the 10 energy stories of 2025, globally, in the United States, and in Minnesota.

Record global energy investment: clean energy drives the surge

Investors committed to energy at an unprecedented scale in 2025. International agencies and trade groups reported sharply higher capital flows into electricity networks, renewables, batteries, and other zero-carbon technologies. The International Energy Agency (IEA) and allied analysts have reported global energy investment is climbing into the trillions as nations and corporations race to upgrade grids, expand renewables, and manufacture batteries at scale. Industry leaders confirmed that capital is essential to meet rapidly growing electricity demand while trying to curb emissions. That investment influx will accelerate deployment but will also create intense competition for skilled labor, critical minerals, and permitting bandwidth in many countries.

Why it matters: More money reduces the time to commercial scale for clean technologies, but it also concentrates influence in private capital and raises questions about who bears the risk when projects face regulatory or market setbacks.

Offshore wind drama: the Revolution Wind ruling and political pushback in the US

Offshore wind blew into the courtroom in 2025. Developers, states, and investors celebrated

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Inside Stories

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Circle Pines gas utility

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Turning on natural gas for Circle Pines in December 1959.

Growth and expansion of the gas utility

Unlike most municipals, Circle Pines Utilities—which became known as Centennial Utilities in 2000—serves neighboring communities in addition to its own residents. The utility first expanded into Lino Lakes and then Blaine in the early 2000s. The utility says the name change occurred to "portray the expansion of service from Circle Pines further into the entire Centennial area."

Today, Centennial's gas service delivers between 358,000 and 440,000 MMBtu of gas annually. Residential customers are billed for 62.9 percent of the utility's total gas revenue, commercial customers represent 26.9 percent, and interruptible service provides 6.1 percent. Franchise fees make up the remainder.

The utility is governed by a board composed of five commissioners who meet monthly.

Constant renewal

Keeping the system running well requires planning, commitment, and allocation of resources. Centennial typically upgrades infrastructure beginning with gas-line replacements before tackling water and sewer mains.

To fully modernize the system, the utility has replaced all steel gas pipes, which corrosion and leaks had rendered increasingly vulnerable. City Administrator Pat Antonen explains that Centennial installed plastic pipelines, which will prolong the system's life by another 100 years. This upgrade also creates a loop in the system, enhancing reliability and integrity. By running main gas lines on both sides of the street, a layout municipalities rarely adopt, Circle Pines achieves a safer and more efficient system.

Leveraging technology and support

Centennial Utilities matches the technological capabilities of major providers like Xcel Energy and CenterPoint Energy, employing similar locating and leak detection tools. Antonen mentions he envisions a future where AI and drones will be used to survey Centennial's pipelines and identify leaks, similar to what Northern Natural Gas is currently doing.

The utility employs a laser leak detection device that enhances its ability to identify methane leaks in homes and buildings. Centennial takes pride in its use of advanced technology, directly benefiting customers.

An essential aspect of any utility is ensuring knowledge-sharing with new recruits. Circle Pines participates in the MMUA Gas Circuit Rider Program, led by Dennis Danielson, its natural gas circuit rider. "Having someone like Dennis helping out is going to be huge for all the natural gas utilities," Antonen says.

Specialized support to assist municipal gas utilities is a must in Antonen's opinion. "We need more of that," he says. "We've had incredible staff tenure, and that's coming to an end soon with a lot of retirements in the next couple of years. Having those programs is important to hopefully educate this next crop of natural gas employees. That's gonna be key."

Embracing renewables

A significant development in the gas industry is the rise of renewable natural gas, particularly from capturing methane produced by farms and landfills. Antonen says Circle Pines cannot generate methane itself because it lacks a dedicated sewage-treatment facility; its sewage flows through a pipeline to St. Paul. Centennial's supplying pipeline partner, Northern Natural Gas, plans to incorporate renewables into its system. Sewage waste is a straightforward source for methane capture to feed back into the gas system.

Circle Pines stands ready to absorb those inputs from Northern Natural Gas. "We're a green-step city. We do have that kind of goal to be as environmentally friendly as possible. This year we received a grant from the Minnesota Pollution Control Agency for an environmental-stewardship plan," Antonen says.

Looking back and ahead

Circle Pines recently marked its 75th anniversary with events highlighting community and continuity: a magic show at Centennial High School, a vintage-car show, recognition of long-standing community members, and a pancake breakfast hosted by the Centennial Fire Department.

The city's gas utility represents a microcosm of municipal-utility evolution—born of cooperative ideals in the mid-20th century, adapting through infrastructure improvement, and now positioning itself for a sustainable future. From its humble beginnings serving a few square miles to now spanning multiple cities, the utility embodies resilience and forward thinking.

As it confronts upcoming challenges, such as staff retirements and advancing environmental mandates, Centennial Utilities remains committed to its core principles of community service, reliability, and environmental stewardship. Its journey offers more than a local infrastructure story: it reflects how small municipal utilities can innovate and remain relevant in a rapidly changing energy landscape, serving as a model for other municipal gas utilities across the state of Minnesota.

I'd Louvre to tell you a story about security and risk management

From My Desk to Yours

Karleen Kos
MMUA CEO

On October 19, 2025, a group of thieves brazenly stole jewels valued at more than $100 million from the Louvre Museum in Paris. The heist occurred in broad daylight while tourists stood in lines nearby. The crooks quickly fled on motor scooters, loot in hand, while stunned authorities tried to figure out what had just happened.

The Louvre is among the most famous and well-protected buildings in the world.
Until that fateful autumn day, it had a reputation for strong operational security, up-to-date protective systems, and an expert team that took any threat to its priceless collections seriously. Despite all this, four robbers made off with a haul of precious gems that may never be recovered. Their operation took seven minutes.

The success of the "bad guys" that damp morning 4,000 miles from Minnesota got a lot of people's attention. Museum officials and various agencies are now trying to piece together how it all occurred and what they can do to prevent such things in the future. More importantly for us, I think, are the important lessons Minnesota's municipal utilities can take from the Louvre's experience.

Lesson one: Being small does not make you immune.

This was not the first time these robbers had stolen from anyone. The public record does not indicate whether the Louvre burglars were rolling other kids for lunch money in middle school, but it wouldn't surprise me. Their rap sheets indicate careers that have included prior traffic offenses, robberies, conspiracies, and thefts. The Louvre was the pinnacle, not the starting point.

So we should pay attention. Being a small utility doesn't mean you are not a target for cybercrime, vandalism, or other security incursions. It means you are exactly the sort of target that wannabe bad guys will focus on so they can learn the ropes. In 2021, Lewiston, Minnesota, learned this lesson through experience. The small town of about 1,500 located 30 miles east of Rochester was hit by a ransomware attack that locked up all the electronic files in the city. They paid a $60,000 ransom, only to be hit with a second demand for $120,000 more.

Thief River Falls faced a similar ransomware attack around the same time. They didn't pay a ransom, but they had to rebuild their entire customer system from the bottom up.

In December of 2024, a new mandatory cybersecurity incident reporting law went into effect in Minnesota. In its third quarter 2025 report, Minnesota IT services (MNIT) showed a total of 854 recorded security attempts for all governments in the state. Five of these were specifically directed at municipalities, and 15 were directed at counties between July 1 and September 30, 2025.

It's not just cybersecurity though. It's all security. In 2025, the city of St. Paul has been hit over and over with theft of copper wire from streetlights. It's easy to think, "Ah, that's why I live in a small town. It doesn't happen here."

Don't be too sure. This year, MMUA experienced multiple attempted thefts at the Training Center in Marshall that didn't end until Cody Raveling and MPD tackled a dude in the middle of the night.

In 2023, New Ulm Public Utilities experienced the theft of vehicles, a trailer, a boat motor, and numerous electronic devices over Thanksgiving weekend. The culprit was a former employee who gained access using a key card for the building. Who knows? Had they been successful, either of these bumblers could have worked up to hitting the Louvre next. You gotta play some city league before you make the majors.

Lesson two: It's easy to overlook what seems "normal."
Part of how the Louvre robbers got away with it was their technique. They came dressed in uniforms and rolled an ordinary basket lift—similar to a bucket truck—up to the window of the museum. It looked like it belonged there, at home in the midst of construction equipment parked in the neighborhood for a project nearby. The people who got out seemed like an ordinary group of workers, and they garnered no attention until alarms went off as they were fleeing.

While the Louvre robbers must be applauded for their chutzpah, they are not unique in making bad things happen in the middle of what seems entirely ordinary. Twice I have taken over leadership of Minnesota-based nonprofit operations that suffered embezzlements in excess of $1 million. In both cases, the transactions spanned years while problematic employees hid their shenanigans under a veneer of normal operations.

The same sort of things can happen anywhere, including small town Minnesota. Just this year, the mayor of Good Thunder, a town of about 500 people located 20 miles southwest of Mankato, was sentenced on one of seven charges related to theft, fraud, and embezzlement from the city. The other charges were dismissed in a plea deal. In November, three former employees of Clear Lake—including the public works director, the city clerk, and a firefighter—were charged with felonies related to theft through payroll fraud and improper purchases totaling nearly $200,000. None of them broke into anything at gunpoint and raced out of town on the stagecoach. Their activities looked like normal business and passed numerous internal checks—until they didn't.

Lesson three: Don't be too sure you've got things under control.
With all the treasures at the Louvre, you would think security would be impenetrable. As it turns out, the Louvre is no different than anybody else. Budget priorities focused elsewhere have forced delays in updating security systems, so that only 39 percent of the museum's rooms had cameras. While an audit before the heist found security and technical infrastructure (alarms, surveillance, access control, anti-intrusion) had not been treated as high priority and called for a "real revolution in attitudes" toward museum security, museum officials maintained they had things in hand.

At Minnesota's municipal utilities, I hardly ever hear anyone suggest they have things in hand when it comes to cybersecurity. Folks appear more certain they've done what they can as far as physical security, balancing what seem like reasonable protective measures with a combination of small town "everyone knows everyone" intel and trust in their fellow humans. But nobody is confident they've got cybersecurity nailed down. More often than not, I hear, "We're too small for anyone to care about." Don't be too sure of that.

As for the external intruder or maleficent force? In Minnesota's municipal utility community, I often detect the same sort of resignation that helped our forebears survive the possibilities of hail on the crops, grasshopper plagues, and diphtheria epidemics. "Whattya gonna do?" seems to be the posture toward risk management beyond a certain point. There is just no realistic way to plan for, budget for, and otherwise avoid certain bad things from happening.

It's true that no one can anticipate or prevent every possible adverse scenario.
But if there were measures you could take, wouldn't it be better to find out what they are before the bad thing happened? Of course it would.

That's why MMUA is planning its ***Utility resilience workshop: Safeguarding against physical and digital threats.*** Slated for January 20, 2026, in St. Louis Park, this meeting brings national and statewide experts together to give you a full picture of what the real bad guys—those home grown in Minnesota and those halfway around the world who target Minnesota—are currently doing to attack utilities and cities like yours. The session will include:

- **The Littleton Electric Light and Water hack.** Nick Lawler, general manager of the municipal water utility in Littleton, a town of 10,000 in Massachusetts, will join us to talk about the Chinese attack on his organization and the lessons learned. This story was featured on "60 Minutes" on October 12. It revealed the ongoing Chinese incursions into some 200 US utilities.

- **Insights from security threats and attempted incursions nationwide.** Michael Coe and Matt Whiting, both security experts with the American Public Power Association, will provide up-to-the-minute updates on what is known regarding attacks on municipal utilities to date and what sorts of actions utilities are taking to secure their operations.

- **An assessment of the security threats being faced by Minnesota utilities.** Energy security advisor Chris Watkins from the Minnesota Department

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All the buzz: how bees can help energy companies power Minnesota

Minnesota sits at the intersection of two growing movements: renewable energy and pollinator conservation.

Solar arrays and utility rights-of-way offer vast, underused acreage. Beekeepers and native bees need flowers, nesting sites, and safe corridors. When utilities plant the right mix of grasses and wildflowers under solar panels and along transmission corridors, they bestow more than lovelier land; they create working habitats supporting agriculture, biodiversity, and community flexibility.

Utilities have started treating pollinators as part of infrastructure planning rather than an afterthought. Xcel Energy, for example, runs a formal pollinator initiative and manages dozens of pollinator sites across several states, including Minnesota, to promote habitat on company properties. Those sites supply nectar and food throughout the growing season and demonstrate how energy operations and pollinator goals can coexist on the same land.

Minnesota also wrote policy to encourage this coexistence. The state's Habitat Friendly Solar Program and a 2016 statute incentivize pollinator-friendly vegetation at solar projects, and the Board of Soil and Water Resources rates sites on a pollinator-habitat rubric. The law changed the economics of solar siting: developers now face a concrete benefit for adding native plants and grasses beneath panels, and communities receive a habitat supporting wild bees and honeybees.

Solar companies and beekeepers already combine forces in Minnesota. A solar farm in Albany now grows native plants beneath its modules and hosts apiaries. The site produces honey and attracts native pollinators while the solar array generates electricity. Solar beekeeping can create dual revenue streams—electricity plus honey—while turning previously low-value land into multifunctional habitats. The model suits Minnesota landscapes where farmland, prairies, and suburbs converge.

Conservation scientists and habitat managers offer a playbook utilities can follow. The Xerces Society recommends road- and rights-of-way planting strategies maximizing floral diversity, time blooms across seasons, and local seed mixes to favor native bees and other pollinators. Proper mowing regimes and targeted grazing can maintain habitats without compromising transmission safety or access, and clear signage reduces public complaints by showing intentional stewardship about the presence of the insects. Utilities adopting these practices reduce herbicide reliance and can often cut long-term maintenance costs.

The benefits are numerous. Minnesota farmers rely on pollinators for crops and forage, as stronger pollinator networks support yield stability across commodity and specialty crops. Utilities investing in bee habitats create measurable value—improved ecosystem services, community goodwill, and better grid-siting outcomes in contested local approval processes. For utilities operating within Minnesota's regulatory framework, pollinator-friendly sites also align with state incentives and with rising customer expectations about corporate environmental stewardship.

Practical barriers remain. Developers and utilities must guard against invasive plants, manage perception in communities that fear "unkempt" meadows, and coordinate with transmission and vegetation-management teams to avoid conflicts with safety and reliability. Smart contracts and clear maintenance plans that specify native mixes, mowing windows, and monitoring requirements can overcome those hurdles. Conservation partners—state agencies, nonprofits, and local beekeepers—serve as technical advisers and community liaisons in successful projects.

Minnesota—and all states—stand to gain if utilities, regulators, and beekeepers treat solar fields and rights-of-way as shared assets. Energy companies can deliver cleaner electricity and healthier landscapes. Beekeepers can find secure sites and diversified income. Farmers and citizens can enjoy more reliable pollination and richer local ecosystems. Municipalities hosting cooperative projects can point to pragmatic climate and conservation wins. The bottom line—when engineers and apiarists plan together, landscapes buzz with electricity and with bees.

Rochester gets the buzz

Bees and energy connect in more ways than one. A group of Rochester Public Utility (RPU) workers has built a strong bond through their shared passion for beekeeping. Tim McCollough, Nick Winkles, Tom Keller, Josh Mason, Shaun Hall, and Steve Cook actively care for bees as hobbyist beekeepers, united by their appreciation for these remarkable creatures.

The group regularly shares tips and tricks they learned over the years, exchanging knowledge and experiences about maintaining healthy hives. Audrey McCollough sparked her interest in bees through conversations with her dad, Tim McCollough, who serves as RPU's general manager.

A story from the *Park Rapids Enterprise* highlights the group's genuine fascination with bees—from the diverse honey varieties they produce to the deep knowledge gained through hands-on experience. Beekeeping continuously teaches them valuable lessons. Steve Cook showed the McColloughs how to harvest honey, while Josh Mason hears from neighbors that flowers bloom abundantly thanks to their bees.

Beekeeping is not without its dangers. Audrey recalled her first summer of beekeeping in 2024. She carefully inspected the hive and performed a mite test, only to be stung on her legs and ankles by bees defending their home. In a heroic moment, Tim rushed to protect her. Despite a broken ankle, he braved the swarm, enduring numerous stings himself, but returned the boxes to their place, shielding his daughter from further stings.

"Not many teenage girls can say that their dad ran, hobbling on a broken ankle, into a cloud of stinging bees to protect them," Audrey says.

While honey is a sweet reward, this group genuinely appreciates its contribution to pollination. Perhaps someday, they will join a solar farm initiative that benefits bees, combining their interests in sustainability and clean energy.

Small City grants

Continued from page 1

is applying for a streetscape grant and it was influenced by the upcoming Highway 210 reconstruction project and its associated costs.

The grant is part of the Community Development Block Grant funds allocated to entitlement communities. The HRA has previously assisted Brainerd with single-family housing rehab and commercial rehab projects.

The City of Brainerd plans to use its grant funds for street lighting improvements. Schommer mentioned that the upgrades will cost over one million dollars, excluding the expense of new light fixtures. This made it straightforward to decide where to allocate the funds from the grant. While it doesn't cover all costs, it significantly reduces the remaining expenses.

The city will undergo environmental reviews to administer the SCDP grant funds, and the HRA will help the city work through those.

Fairfax

An engineer brought the idea of seeking a grant to the City of Fairfax to fund a street project. Fairfax hadn't been aware of the grant opportunity, and the city engineer did most of the work to obtain the grant.

The main projects the grant will fund are replacing old water and sewer lines and upgrading the storm sewer on one of Fairfax's streets.

City administrator Andrea Merkle notes that the grant requires a certain number of residents qualify as low income based on household size. The city did a community survey to make sure it qualified for the grant.

Fulda

The City of Fulda worked closely with Ivanhoe Development Services, Inc. (DSI) for SCDP. The city will use the funds to support 21 low- to moderate-income homeowners with home improvement grants ranging from $20,000 to $25,000. These funds will address critical home maintenance needs, including health and safety upgrades such as lead paint and radon testing, roof repairs, window replacements, siding work, electrical updates, and plumbing improvements.

The streetscape component of the project will transform the city's Main Street, featuring new sidewalks, street furniture, and a newly developed public space. Plans include installing benches and modern garbage receptacles, and converting a vacant grass area between local businesses into an inviting seating area complete with concrete surfaces, trees, and enhanced lighting.

This is not the city's first experience with such grants. City officials noted they have successfully secured similar grants in the past, approximately seven to eight years ago. A dedicated committee of council members and local residents collaborated to develop the comprehensive proposal.

Building community

Schommer reflects on the grant and says it's about the city being good stewards of the tasks and resources they are given, and about how they can maximize and stretch them.

Through this SCDP grant, cities across Minnesota are able to strengthen their communities and make a positive impact on the residents of their towns. Each application and award of money reflects the significant investment city leaders want to see in community infrastructure and quality of life.

Security and risk management

Continued from page 3

of Commerce and cyber navigator Angela Hary from Minnesota IT Services will be joined by intelligence coordinator Carter Oster from the Minnesota Department of Public Safety and AJ Carlson from the Minnesota Bureau of Criminal Apprehension. Together they will provide a report on what is really happening in communities like yours—helping you better discern which threats you are most likely to experience and what you can do about them.

- **A live simulation** that will demonstrate incursions and likely scenarios at hometown utilities.

- **A tabletop exercise** gaming out a crisis at a municipal water utility. It will help you test your readiness, decision-making, and resource coordination under realistic pressure.

If you are a regular reader of this column, you may be feeling duped by the turn things have taken. I seem to have veered from observations on how the Louvre heist applies to Minnesota's municipal utilities to a shameless marketing plug for MMUA's upcoming event. I can see how you might think so.

My intent in this column is never to bring up a problem without also offering one or more solutions. The fact is that utility security these days is complicated. It's more than making sure a rabid coyote doesn't breach a fence at a substation and everybody locks the door on the way out at night. It requires expertise and information that is changing all the time. Keeping up with it could be someone's full time job—and of course, that's not realistic for most of Minnesota's municipal utilities.

So, in an effort to offer a practical solution, MMUA is bringing in the foremost experts on security issues that are real, today, in towns like yours. We are hoping you will attend, because we would like to help you solve a problem you don't ever want to have. The more of you who can join us, the better, as the local information sharing will be richer. I hope you will consider attending. It is a solid step you can take toward helping your community prepare for whatever may come its way. Except grasshoppers falling out of the sky … nobody can prepare for that.

Ten defining energy stories of 2025

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a federal judge's decision allowing construction to resume on the Revolution Wind project off Rhode Island after the federal government ordered a halt, citing national security concerns. The ruling marked a high-stakes judicial about-face on an administration pushing to slow or reshape domestic wind development. The decision allowed work to continue while legal and administrative reviews continued. The episode highlighted how politicized energy permitting has become and how legal battles can impose costly delays on projects already burdened with substantial capital requirements.

Why it matters: Offshore wind sits at the center of the US clean-power scale-up. Legal uncertainty chills investor confidence, raises borrowing costs, and can table wind projects despite coastal states' promised carbon reductions and local jobs.

Natural gas markets shift: LNG supply growth and a looming price correction

A year after gas markets scrambled to meet shortfalls, 2025 showed signs of a new balance. Major North American liquified natural gas (LNG) expansions and new projects generated substantial supply to global markets, creating a pathway toward lower prices by late 2026. Analysts warned a supply surge could tip the market into a glut, which would ease short-term prices for Europe and Asia but complicate investment decisions for gas producers and the long-term economics of new fossil infrastructure. Policymakers and utilities must decide how to manage cheaper gas without harming decarbonization goals.

Why it matters: Gas remains the backup fuel for many power systems. Price swings affect household bills, industrial competitiveness, and the pace at which renewables displace dispatchable thermal generation.

Bipartisan policy battles in Washington: incentives, reconciliation proposals, and grid politics

US energy policy in 2025 moved along multiple tracks. Federal incentives, built on the former administration's Inflation Reduction Act and follow-up programs, continued to steer private investment into batteries, clean manufacturing, and electrification. At the same time, legislative reconciliation proposals and committee actions sparked fierce debate about macroeconomic impacts, job outcomes, and energy costs. Think tanks and advocacy groups published competing analyses of the effects on jobs, gross domestic product, and consumer energy bills, and utilities and regulators pushed for clearer rules to integrate fast-growing energy loads and distributed resources. Those debates framed the political landscape where utility commissions, grid operators, and project developers must operate.

Why it matters: Federal policy sets tax incentives, procurement signals, and trade rules shaping whether the US builds domestic battery supply chains, scales hydrogen, or continues to rely on imported fuels.

Portugal blackout: Europe's energy resilience under the spotlight

A massive power outage plunged most of Portugal into darkness in mid-2025, raising urgent questions about European grid security. Officials cited a cascading failure linked to extreme heat, transmission bottlenecks, and equipment breakdowns, though a cyberattack was also investigated. The blackout disrupted transportation, water pumping systems, and hospitals, and it rippled across neighboring Spain. European Union leaders convened emergency meetings, calling for accelerated investment in cross-border transmission and distributed generation.

Why it matters: The outage highlighted how vulnerable even advanced European grids remain to climate stress and infrastructure strain. It also reignited debates about cyber defense, regional cooperation, and the costs of building redundancy into continental networks.

Battery manufacturing boom: the US sees concentrated growth and supply-chain debates

Investment in battery manufacturing and advanced storage became headline news. Private capital, driven by demand for electric vehicles and grid reliability, flowed into gigafactories; analysts saw battery systems capturing a large share of cleantech investment through mid-2025. Manufacturers raced to secure cathode, anode, and electrolyte supplies, and local governments used incentives to lure factories. The boom promises cheaper storage and more flexible grids, but it also exposes supply-chain vulnerabilities and raises questions about the environmental footprints of mining and refining critical minerals.

Why it matters: Storage solves intermittency challenges for wind and solar and enables new load flexibility, but the industry must resolve raw-material sourcing issues, recycling, and community impacts.

Global emissions trends and IEA warnings about demand growth and climate goals

The IEA's Global Energy Review and other analyses showed energy demand growth rebounded after the pandemic, driven by industrial activity and electrification. That growth juxtaposed sharply with the pace needed to meet mid-century climate targets. Agencies warned the world must deploy clean technologies more rapidly and retire more coal capacity if it intends to hit net-zero objectives. Countries with expanding power needs face a hard trade-off between affordable fuels and long-run carbon commitments. The IEA's yearly snapshot pushed policymakers to consider both near-term energy security and long-term decarbonization.

Why it matters: rising energy use has real implications for emissions trajectories, and the pace of clean deployment will determine whether nations can reconcile growth with climate commitments.

Minnesota in 2025: local fights, cleaner grids, and corporate deal scrutiny

Minnesota did not sit on the sidelines during the energy skirmishes. The state continued to cut power-sector emissions and to register growth in electric vehicles, while utilities filed multidecade integrated resource plans that map retirements, new renewables, and transmission decisions. Those planning documents and public disputes revealed the balancing act between ratepayer affordability, grid reliability, and climate goals. The state also saw heightened scrutiny of large corporate deals and private-equity interest in utility assets, prompting debate about whether outside ownership will accelerate or hinder the clean transition. Local reporting and agency filings reinforced that Minnesota will play a key role in how midwestern states integrate renewables and manage distributed load growth.

Why it matters: Minnesota's choices affect customers' bills, regional wholesale prices, and how Midwestern grids match supply with the demands from new industries and data centers.

Shock in St. Paul: lawmaker's murder stalls energy legislation

The assassination of Minnesota lawmaker Melissa Hortman and her husband in the summer of 2025 sent shockwaves through the statehouse and froze key pieces of energy legislation. The legislator, who had been central to bipartisan negotiations on grid resilience funding and electric vehicle incentives, was fatally attacked in a case that remains under investigation. In the aftermath, legislative leaders scrambled to regroup. With a DFL leadership void in the House, the tragedy slowed Minnesota's clean-energy policymaking and deepened partisan divides over the state's decarbonization path.

Why it matters: Beyond the human loss, the murder disrupted momentum and underscored how political instability can affect energy markets, regulatory certainty, and investor confidence.

Minnesota Power's parent company, Allete, agrees to sell to Canadian investors

In one of the year's most closely watched utility deals, Minnesota-based Allete announced plans to sell Minnesota Power and its other assets to a partnership led by the Canadian Pension Plan Investment Board (CPPIB) and Global Infrastructure Partners (GIP). The proposed transaction drew immediate scrutiny from state regulators and consumer advocates, who questioned foreign ownership of a utility that serves northern Minnesota's energy-intensive industries and tens of thousands of households. Supporters argued that the deal would inject new capital for renewable projects and grid upgrades.

Why it matters: The sale could reshape Minnesota's energy future by shifting control of a major regional utility to foreign investors. Regulators must weigh the promise of new investment against the risks of reduced local oversight and potential rate impacts.

How these 10 stories connect

These 10 news items reveal three persistent tensions that will be driving energy policy and investment over the rest of the decade.

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First, capital versus permit friction. Money now chases projects at an unprecedented speed, but permitting and legal challenges can create multi-year delays affecting investor returns and politicizing local debates. The Revolution Wind litigation and transmission fights illustrate this conflict.

Second, near-term security versus long-term climate alignment. Governments and utilities must keep lights on now while simultaneously avoiding further commitments to long-lived carbon-emitting assets. The LNG supply rebound underscores this tension, as cheap gas stabilizes markets today but risks embedding fossil infrastructure tomorrow.

Third, federal levers versus local control. Washington's incentives or constraints shape capital flows, yet local regulators and communities decide where transmission lines, factories, and power plants land. Minnesota's integrated resource plans (IRPs), local debate about private equity, and filings from neighboring states opposing regional transmission show how federal and local stakes clash.

Energy trends to watch in 2026

- Watch transmission filings and Federal Energy Regulatory Commission actions. Projects designed to move cheap renewable power across state lines will face coordinated legal and regulatory pushback, and their outcomes will shape wholesale markets and retail bills.
- Track battery factory openings and supply-chain announcements. If manufacturers can ramp and secure critical minerals, storage costs should decline faster than many models now assume.
- Monitor judicial and administrative decisions on offshore projects. Courts and federal agencies will continue to mediate disputes, as each ruling will affect project timetables and financing.
- Follow state IRPs and local equity debates. IRPs will define power plant retirements and investments, and community groups will likely push for equitable resilience measures and affordable rate design.

Final thought

Energy in 2025 was a constant debate across multiple fronts. Governments, investors, and communities now juggle urgent reliability needs, aggressive decarbonization goals, and the social license to build. That tension will create both wins and costly setbacks. Policymakers who combine clear rules, transparent community engagement, and dependable incentives will lower the political and economic costs of the transition. Those who fail to balance trade-offs will watch projects stall or move overseas, with missed jobs and slower emissions gains.

New England ends coal era, cementing shift to cleaner grid

New England officially turned off its last coal-fired power plant on September 12, making it the first region in the United States to eliminate coal from its electricity grid.

Granite Shore Power shut down the coal-burning units at its Merrimack Station in Bow, New Hampshire, nearly 60 years after the plant first came online.

The company opted to retire the plant three years ahead of schedule after settling with regional environmental groups. The agreement followed years of criticism over the plant's mercury emissions and pollution concerns affecting nearby communities and ecosystems.

The facility still houses two kerosene-powered backup generators, used only during times of high demand or emergencies. While kerosene emits fewer pollutants than coal, it still generates greenhouse gases. For more than two years, the plant struggled to keep its coal units compliant with state regulations, prompting the early retirement.

According to a spokesperson for the New England System Operator, the plant never submitted a formal retirement request, but the grid no longer depends on it for reliability. Coal produced merely 0.22 percent of power in 2024 across the region. The Operator also noted that because New England imports some electricity, residents may still indirectly use coal-generated power, but with Merrimack Station now offline, no coal plants feed directly into the regional grid.

Granite Shore Power said it will support displaced workers and explore redevelopment options for the site. Local officials estimate around 30 jobs were affected by the retirement. Union representatives are working with the company to secure fair severance and retraining for impacted employees.

Coal at a crossroads

This moment marks a turning point for New England, as it moves away from coal toward cleaner energy sources. Meanwhile, the closure comes as coal plants nationwide confront mixed signals from Washington, DC, since the changing of administrations in January 2025.

While some agencies advance new coal leasing, such as the US Department of the Interior opening 13.1 million acres of public land for coal leasing and the US Department of Energy announcing a $625 million investment to expand the coal industry, other recent rules would have required any coal plant operating beyond 2032 to co-fire at least 40 percent natural gas by 2030, and those operating past 2038 to capture and store 90 percent of their carbon dioxide emissions. The US Environmental Protection Agency now proposes to roll back those obligations and revisit the "endangerment finding," fortifying fossil fuel regulation under the Clean Air Act. Reversing this legal basis could sharply reduce the federal government's ability to regulate fossil-fuel emissions.

In Minnesota, the 2023 Carbon Free by 2040 law was just the latest nail in the coffin of coal generation. Several coal-fired generation plants have been decommissioned over the last decade as more renewable generation comes online. The largest coal, Xcel's Sherco plant in Becker, retired one of its three units in December 2023. The remaining units are scheduled to go offline in 2026 and 2030. There is no indication that shifting federal policy will affect these closure dates.

Sediment is transforming our lakes

From navigation channels to lakeside docks, the gradual flow of sediment is remaking America's freshwater landscapes.

Across the contiguous US, lake systems now face challenges unseen by everyday visitors: filling basins, smothering aquatic life, and reshaping how people swim, fish, and boat. In Minnesota — the "land of ten thousand lakes" — the myriad impacts loom especially large.

The gradual strain on water resources

Sediment enters lakes from numerous sources: upland erosion, streambank collapse, agricultural runoff, urban stormwater, and channel modifications. In Minnesota waters, much of the sediment carries phosphorus and other contaminants that latch onto fine particles. As the sediment grows, lakes become murkier: light fails to penetrate, vegetation withers, and oxygen declines.

On a national scale, researchers collecting sediment samples from more than 1,000 lakes found 26.5 percent of US lakes register "good" sediment condition, but nearly 70 percent fall into a "fair" category, suggesting potential harm. Some lakes show heavy contamination with metals and polycyclic aromatic hydrocarbons (PAHs) tied to land use in their waters.

Sediment also robs lakes of storage capacity. In reservoir systems, sediment accumulation steadily erodes usable volume. A review of reservoir and lake systems found most natural lakes show increasing sedimentation trends; in stored reservoir systems, many show a recent decline in sedimentation, likely reflecting enhanced management efforts, although not enough to reverse decades of sediment accumulation. Engineers and water managers already battle reduced water retention, increased dredging costs, and compromised flood control.

Minnesota's sediment challenges appear in its watershed lakes and in the Mississippi corridor. Upstream pressure accelerates sediment inflows; the upper stretch of Lake Pepin, for instance, could fill over the next century if current deposition rates continue unmanaged.

Recreation risks for boats, fish, and swimmers

When sediment clogs a lake, recreation suffers in multiple ways. Shallowing channels force boaters to reroute or risk grounding. Muddled water discourages swimmers and hides hazards beneath the surface. More broadly, sediment promotes algae blooms by fueling internal nutrient cycling, especially phosphorus bound to sediment layers, which can lead to degraded water quality and harmful cyanobacteria events.

In addition, sediment disturbance from wave action or boat propellers can resuspend phosphorus-rich layers. In a case study of a small shallow lake under heavy recreational use, scientists recorded zones near boat docks held sediments with high phosphorus fractions and a high potential for nutrient release back into the water. Thus, recreation itself can aggravate sediment impacts.

Fisheries feel the pressure as well. Sediment blankets spawning beds, reducing the viability of egg and larval stages, and smothering benthic invertebrates vital to fish diets. In Minnesota, shoreline development (removal of riparian vegetation, insertion of docks, landscaping) intensifies sediment influx, eroding fish communities over time.

Residents along the Mississippi have witnessed a visible loss of lake surface and changing shoreline dynamics. As Lake Pepin contracts upstream, landowners in Wabasha, Minnesota, and surrounding areas watch islands emerge as the waterfront erodes. A recent news account describes landowners exploring options to adapt as the lake's upper section shrinks, altering property lines, navigation, and aesthetics.

Minnesota is at the forefront of the future

Minnesota offers a microcosm of larger trends. The Minnesota Pollution Control Agency outlines active strategies: shoreland buffers, cover crops, and stream stabilization to slow sediment build up. Lake-management plans incorporate both watershed remedies and in-lake interventions—such as dredging, aeration, or nutrient inactivation—though these approaches require sustained funding and delicate calibration.

In the lower Minnesota River floodplain, scientists have used sediment cores to track how quickly sediment has built up since European settlement. These records show how modern farming, development, and changes to water flow have greatly increased the amount of sediment moving through the system. Across Minnesota's lakes, researchers have also found the presence—or loss—of shoreline vegetation strongly affects how much sediment accumulates, especially in kettle lakes formed by glacial activity.

In Minnesota, scientists use sediment cores to study the spread of invasive species. By finding remains of spiny water fleas buried in lake sediments, they discovered these invasions often began long before humans noticed them in the water. The research shows how sediments act like time capsules, preserving a record of past ecological changes still affecting lakes today.

A clearer future

Across the US, legacy lakes still salvageable may benefit from integrated strategies: reforesting buffers, keeping streambanks intact, encouraging no-till agriculture, deploying check dams, and selective dredging. In Minnesota, policymakers must commit resources to these practices.

Lakes remain sources of joy, habitat, and identity. If managers, local communities, and recreationists treat sediment not as a constant but as a manageable hurdle, they can steer many waters toward clarity—for swimmers, anglers, and the enduring promise of clean water.

America's grid remains exposed to sabotage, cyberwar, and climate shock

Utility officials and national security experts have spent decades sounding alarms about the electric grid.

Yet adversaries, including foreign states, criminal hackers, and lone rogue attackers, have found a widening array of methods to damage the system powering modern life. Severe weather, targeted kinetic strikes, and sophisticated cyber intrusions now converge on an infrastructure keeping the country running through a mix of patchwork defenses, rapid federal grants, and industry retrofits.

The weaknesses exposed

The grid's physical vulnerability carries an ugly origin. In April 2013, assailants fired high-powered rifles at the Metcalf transmission substation south of San Jose, California, ripping through transformer cooling systems and causing $15 million in damage—a clear demonstration of how a small, determined group can immobilize critical equipment. Investigators found the attack both low-tech and precise: attackers targeted components which would take months to replace, intending to knock out service to large population centers. The incident forced utilities and regulators to confront a painful reality: rural substations and transmission nodes remain soft targets.

The 'net threat

Cyberattacks add a stealthy, scalable dimension. Criminal groups and nation-states have moved beyond data theft to aim for operational control. Adversaries exploit decades-old industrial-control systems, fragile supply chains, and the increasingly interconnected nature of utilities to push software with the ability to manipulate circuit breakers, falsify telemetry, and mask outages until they snowball. Federal agencies see the threat in stark terms: deliberate campaigns that once seemed theoretical now play out overseas in real war zones and in ransomware attacks forcing temporary shutdowns of some American industries.

Grids become a battlefield

No foreign example proves the stakes better than Russia's campaign against Ukraine's electricity network. Since 2022, Moscow has repeatedly struck generation and transmission assets with missiles, drones, and cyber tools. The strikes caused prolonged outages, forced utilities to isolate damaged lines, and exposed how attackers can combine kinetic and digital tactics to amplify damage. US planners have

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America's grid remains exposed

Continued from page 8

watched Ukraine's experience closely, recasting it from a regional tragedy into a template for modern hybrid attack.

Weather worries

Climate change has led to another threat. Utilities now face larger, more frequent storms, sustained heat waves, and wildfire seasons turning transmission systems into potential tinderboxes. Those hazards do not require an enemy; they simply exploit the grid's brittle points—long transmission spans, aging transformers, and centralized generation—and they can force long outages, compounding the harm done by nemesis attackers. Regulators and grid operators note a troubling synergy: extreme weather increases system fragility, and fragility enhances the success rate for sabotage or cyber mischief.

Building the defense shield

Federal and industry responses now aim to harden the system on multiple fronts, but they face practical limitations. The North American Electric Reliability Corporation, the industry's statutory reliability monitor, reports incremental improvements in some metrics even as it warns of emerging, complex risks. Policymakers have funneled hundreds of millions of federal dollars into resilience programs, from grid modernization roadmaps to competitive grants for undergrounding lines, hardening substations, and deploying backup microgrids. The Department of Energy's Grid Modernization Strategy spells out numerous resilience tactics for supply-chain security and situational awareness, including programs such as the Grid Resilience and Innovation Partnerships (GRIP), providing direct grants to local utilities to dull storm-related impacts. Those investments make a difference, but they also reveal how much work remains.

Security planners now push a layered defense: hardened fencing, cameras, and armored transformers on the physical side; segmented networks, multi-factor authentication, and improved incident response on the cyber side. Operators also adopt redundancy strategies that once sounded futuristic—microgrids, distributed generation, battery storage, and faster black-start capabilities—so communities can island critical services during a major outage. Still, utilities confront a harsh math problem: replacing or burying thousands of miles of lines and tens of thousands of transformers costs tens of billions of dollars, and many small or rural utilities lack the capital for such endeavors.

Federal directives and White House technical assessments demand stronger cyber-physical resilience planning, better information sharing, and clearer standards for critical components. In some regions, states have pushed utilities to invest in substation hardening and vegetation management. Yet critics argue that regulators move in fits and starts and the industry's voluntary compliance model leaves gaps that adversaries can exploit. The tug-of-war between speed, cost, and scope of reforms repeatedly surfaces in congressional hearings and industry forums.

Workforce challenges

The human factor adds another layer of complications. Utilities still depend on a workforce that must learn new cyber skills while mastering climate-adapted operations. Supply chains for key components, like large power transformers, remain thin; lead times can stretch into a year or more, which amplifies the consequences of a targeted strike. And the sheer scale of the US grid—millions of miles of distribution lines and a handful of critical bulk-power substations—creates a problem of prioritization: what to harden now, and what is an acceptable risk for now.

What are the most effective strategies?

It is clear policymakers and utilities cannot completely eliminate risk, but they can reduce it and buy time. The most effective strategies pair federal financing and clear performance standards with local projects to shore up critical exposures. They also require honest, public assessments to force utilities to prioritize resilience investments where a single hit could cascade nationally. The Metcalf shooting exposed a fundamental truth: an adversary does not need a master plan to wreak havoc if systems remain exposed. The US now must translate these lessons into permanent, widely funded change before the next attack—physical, digital, or meteorological—finds the same brittle weakness.

If the country wants its lights to stay on when confrontation arrives, it must treat the grid as both an economic asset and a national survival system. That treatment requires money, expediency, and the political will to harden infrastructure weaknesses. Until then, attackers and nature will continue to exploit the seams between policy, funding, and physical reality.

Gas school

Participants from 12 utilities attended the first gas school MMUA has hosted in more than 20 years. Led by subject-matter experts with a wide array of gas-related skills, the school focused on locating and leak detection on the grounds of the controlled gas field at the Marshall-based training center.

Troy Dahlin from Groebner led the room through leak field detection best practices and used a variety of leak detection instruments out in the field.

The gas utility crew from New Ulm brought their Sensit vehicle-mounted optical laser detector (VMD) mounted on a ranger for the gas school attendees to observe in the newly revamped controlled leak field. Bryce Rusch with Hutchinson Utilities is shown using the Bascom and Turner Gas Rover II.

A closer look at the Sensit VMD. This high-tech instrument serves New Ulm in numerous ways, providing the utility with a solid foundation for operational management in its gas services.

Rich Lavell and Brandon Rousseau of Centennial Gas from Circle Pines lead a team to conduct a field bar hole test using a Sensit Gold combustible gas indicator (CGI).

Bill Gustafson from Fosston watched as a leak field investigation was carried out. Here, a hole is drilled into the ground where a CGI is inserted, which, when using the bar hole function, informs the user of the underground gas leak concentration.

Dennis Danielson, center, MMUA, led participants in the leak detection field. Danielson is the gas circuit rider supporting municipal gas utilities with training and consultation.

Jay Reading, second from right, MMUA Assistant Director of Job Training and Safety, looks on during the outside leak detection conducted on a meter set by Brandon Rousseau from Centennial Gas of Circle Pines.

Building relationships, shaping policy: how MMUA engages across Minnesota's energy landscape

By Kent Sulem, Director of Government Relations and Senior Counsel

The terms "government relations" and "government affairs" are frequently used interchangeably.

A quick online search reveals very similar but not identical definitions for each term. Personally, I have always preferred "government relations" because it puts more of a focus on building relationships—a crucial part of developing good policies and lobbying.

In the last issue of *The Resource,* we highlighted the interaction among the Joint Action Agencies (JAA), and between the JAAs and MMUA, in the process of developing MMUA's legislative agenda. This issue looks at the role a few other entities have in influencing the direction MMUA takes on legislative matters.

To the surprise of some, MMUA is a member of the Minnesota Chamber of Commerce (Chamber). MMUA joined the Chamber to be a member of its Energy Committee and have access needed to help influence the Chamber's energy policy. Membership in the Chamber also helps us gain a better understanding of where Chamber policies either mesh with or run counter to MMUA policies. Fortunately, the Chamber's energy policy has not changed much in the past few years, and MMUA helped draft it. The result is that the Chamber's policy is not contrary to municipal efforts in the energy arena.

Another entity of which MMUA is a member is **Drive Electric Minnesota (DEM).** This is a fairly new enterprise for MMUA and came about after DEM contacted MMUA to discuss MMUA becoming a member. Originally MMUA had passed on the opportunity because of the amount of dues we thought we would have to pay to be a part of DEM. The conversation revealed a more affordable option, and "the rest is history," as the saying goes. It has been very informative to receive the information DEM provides to its members, though MMUA has purposely taken a cautious approach to commenting on DEM policy statements. Some policies simply would not apply directly to a municipal utility, while others are not objectionable on their face but are vague enough that a legislator could easily use them to support legislation MMUA would need to oppose. MMUA recently participated in DEM's annual meeting, and we will continue to be open to synergies where they may exist. See the summary of this meeting elsewhere in this edition of *The Resource.*

The final relationship I will highlight is MMUA's membership in the Minnesota Nuclear Energy Alliance (MNEA). This group is composed of more than 40 organizations seeking the repeal of the moratorium on new nuclear power that has existed in Minnesota for decades. MMUA is joined by the Minnesota Rural Electric Association (MREA), several electric co-ops, Minnesota Utilities Investors, Minnesota Power, and such diverse groups as the Laborer's International Union of North America, individual counties, and long-time pro-nuclear energy groups such as Generation Atomic. The goal of the alliance is to educate decision-makers on the need for and benefits of nuclear power and thus the need to repeal the moratorium.

On October 28, 2025, MNEA hosted a forum that included two panels of experts making the case for repealing the moratorium. Thus, a strong effort was made to get legislators to attend. House Republicans were well represented, but Rep. Larry Kraft was the lone DFL member in attendance. A couple of Republican senators attended, but the DFL Senate appeared to be represented by staff only.

The panels discussed the need for nuclear power as an option for clean and dispatchable energy if the state is going to achieve its goal of being carbon-free by 2040. The panelists also highlighted the good, reliable, safe, and well-paying jobs nuclear energy would bring to the state.

Also serving as a panelist was Blake Johnson, who serves as the Government Relations Specialist for the Prairie Island Indian Community (PIIC). Mr. Johnson explained why the PIIC remains opposed to the lifting of the nuclear moratorium. The primary reason is a lack of trust of the government, given the way the Prairie Island Nuclear Reactor and related waste storage was handled in the 1970s. So long as the PIIC remains opposed to lifting the moratorium, it is doubtful that it will occur. So our work continues.

Participating in the MNEA has helped MMUA look at lifting the moratorium in a new light. On the one hand, there is a strong case to be made in favor of new nuclear energy. On the other hand, it is not hard to understand the PIIC position. Maybe the MNEA will find a way to establish the level of trust needed to gain the PICC's support for lifting the moratorium. But this issue is an excellent example of the importance of building relationships, especially when the desire is to create and implement sound policies at all levels of government.

From ground to grid: drones reshape transmission construction

When drones take to the sky for Infravision, they carry more than cables and sensors—they carry the future of energy infrastructure.

The Australian energy tech company has crossed the Pacific with a $91 million Series B funding boost, setting its sights on transforming how utilities build and maintain the power grid across North America.

Founded in 2018 by robotics engineer Cameron Van Der Berg and military veteran Chris Cox, Infravision blends innovation with necessity. The founders saw the inefficiency, danger, and environmental toll of helicopter-assisted power line construction and asked a simple question: What if we use drones?

The answer became the TX System, a precision drone platform that automates the laborious process of stringing high-voltage transmission lines. The system combines autonomous drones, intelligent ground equipment, and specialized stringing hardware to deliver grid infrastructure more quickly, safely, and economically than traditional methods.

"Infravision's core technology integrates four key sub-components that automate grid construction," Van Der Berg said. "This system—not just a drone—delivers helicopter-class performance at an industrial scale for some of the largest and longest transmission projects in the world."

That kind of scale matters. Across the energy sector, transmission projects often stall under the weight of permitting delays, cost overruns, and safety concerns. Infravision's approach offers a fresh path forward, one that reduces environmental disruption, eliminates helicopter hazards, and keeps projects on schedule.

Infravision has completed 40 major projects worldwide, including the Powerlink Genex transmission build in Australia and emergency response operations with PG&E in California. Each project demonstrates how drone-assisted line stringing can bridge the gap between innovation and infrastructure.

The $91 million infusion positions Infravision for rapid growth in the US, where grid modernization has become a national priority. The company plans to expand its Texas manufacturing hub, attract top-tier engineers, and form partnerships with utilities, developers, and contractors eager to accelerate transmission deployment.

Van Der Berg expects the company's workforce to reach 150 to 200 employees by the end of 2025, spanning Australia, India, and the United States. India, he notes, currently builds more transmission infrastructure than any other country—a sign that global demand for faster, smarter grid construction continues to climb.

From its beginnings as a bold idea in Australia to its arrival in the US energy market, Infravision embodies the spirit of innovation defining the clean energy transition. With drones replacing helicopters and algorithms replacing guesswork, the sky may no longer be the limit—it is just the beginning.

2025 delivers a year of transformation and milestones

January 2025

MMUA held its first Cyber and Fiscal Security Threats and Preparation workshop in St. Louis Park. This seminar brought national experts to Minnesota in an effort to make the topic more accessible and relevant for hometown utilities.

February 2025

St. Peter Municipal Utilities completed its long- planned conversion to an all-underground electrical system behind City Hall, investing $1.6 million in modern underground infrastructure.

MMUA shared its first monthly video update, and they continued during the 2025 Minnesota legislative session. The series aimed to keep commissioners, council members, staff, and ratepayers informed on the issues that may affect their utilities.

March 2025

Anoka Municipal Utilities completed the Hwy. 10 Rebuild Project between Thurston Ave. and 7th Ave.

MMUA worked toward eventual legislative victories, expanding utility-commission authority, clarifying EV charging station rights, and advancing infrastructure bonding.

April 2025

Alexandria, Detroit Lakes, Luverne, and **Jackson** sent crews to the Navajo Nation for the "Light Up Navajo" project.

MMUA launched the Developing Utility Expertise and Leadership™ (DUEL™) program, a flexible, customizable curriculum aimed at equipping utility sector leaders with the skills and knowledge to excel in today's evolving industry landscape.

May 2025

Marshall Solar Plus reached production milestones, generating roughly 23,000 MWh annually.

Owatonna Public Utilities installed three miles of underground cable, relocated overhead circuits, increased capacity, and prepared conduit for future expansion.

MMUA's Mike Willets served as National Coordinator during APPA's national mutual aid tabletop exercise.

June 2025

Hibbing Public Utilities joined MISO, strengthening regional transmission coordination.

Anoka launched its AMI pilot program.

New Prague installed 20,000 feet of underground residential conductor.

MMUA awarded five $1,000 Utility Workforce Scholarships.

Continued on page 13

Minnesota's municipal utilities, and MMUA itself, powered through 2025 with a clear sense of momentum.

They modernized aging systems, expanded undergrounding efforts, advanced safety training, strengthened mutual-aid readiness, and deepened their presence in statewide and national conversations. Their accomplishments stretched from major infrastructure projects to creative workforce development and community outreach, and every month delivered a new benchmark.

January opened the year with municipal utilities preparing for high-impact legislative and operational work. February and March moved quickly as utilities secured important wins at the Legislature and celebrated transformative undergrounding accomplishments. Spring and summer featured nationwide volunteerism, renewable-energy achievements, scholarship awards, and storm-response heroics. Fall delivered facility openings, gas-training advancements, and new regional water infrastructure. By December, Minnesota's municipal utilities stood firmly ahead of the curve, ready to enter 2026 with strengthened systems and a sharpened strategic vision.

Throughout the eventful year, MMUA members made bold investments, acted with purpose, and positioned their communities for decades of reliable service.

Passing the torch with honor: MMUA salutes a wave of distinguished retirees

Minnesota's municipal utilities thrive because seasoned professionals devote their careers to reliability, accountability, and community service.

In 2025—and stretching into early 2026—a wave of retirements closed notable career chapters across the state. These leaders built the systems Minnesotans count on every day, and their departures mark both an ending and a testament to careers defined by innovation and public trust.

Utilities change with every generation, but the individuals who shaped today's municipal landscape built their networks by staunchly navigating storms, modernizing infrastructure, advocating for ratepayers, and mentoring the talent that now steps forward. Their legacy endures in the crews they trained, the systems they improved, and the communities they championed.

The following is a tribute to several professionals whose exceptional service elevated Minnesota's municipal utility sector.

Honoring 2025–2026 retirees

Anoka Municipal Utility
- **Del Vancura,** electric director, will be retiring in February 2026, closing a career marked by system strengthening and a calm, experienced response to the demands of a modern electric grid.

Austin Utilities
- **Keven Maxa,** engineering supervisor, retired at the end of June 2025 after 24 years of service to Austin Utilities. Described as a "cornerstone and trusted resource at AU," he oversaw numerous engineering changes during his career, particularly an increase in the use of technology both in the office and in the field.

- **Mark Nibaur,** general manager, retired in October 2025 after more than a decade of strategic leadership. **Tom Dankert** assumed the role with a commitment to continuing Nibaur's strong administrative and operational direction.

Barnesville Municipal Electric
- **Guy Swenson,** TEC manager, retired in May 2025, after 20 years of guiding technology and energy control-operations for Barnesville residents.

City of Chaska–Electrical Department
- **Nancy Essler,** assistant utility billing coordinator, retired in November 2025, after a career dedicated to ensuring accurate billing and exceptional customer service.

Elk River Municipal Utilities
- **Scott Thoreson,** line crew foreperson, retired in July after a 32-year career with ERMU. Scott began as an apprentice lineworker, advancing to journeyman, then lead lineworker, and ended his time as foreperson. He was ERMU's longest-serving staff member.

Marshall Municipal Utilities (MMU)
- **Dave Schelkoph,** general manager, retired in September 2025. He guided MMU through years of modernization and operational stability. **Pete Wyffles**, a 34-year utility veteran and former electrical director in Chaska, stepped into the role in October with deep operational insight and a steady hand.

- **Scott Truedson,** wastewater treatment facility superintendent, retires in December 2025 after a career dedicated to safeguarding water quality and improving plant performance.

Missouri River Energy Services
- **Jeff Becthold,** a former MMUA staff member and respected presence across the municipal sector, retires in December 2025 after decades of regional energy service leadership.

Moose Lake Water & Light
- **Harlan Schmeling,** superintendent, retired at the end of April 2025. He served MLWL for 26 years, serving as the power plant operator and eventually as utility superintendent, where he oversaw a series of projects that strengthened the city's power infrastructure.

New Ulm Public Utilities
- **Kris Manderfeld,** utility director, retires in December 2025 after championing reliable service and local engagement in one of Minnesota's most historic utility communities.

- **Kathy Shaefer,** clerical assistant, retired this year after providing essential administrative support for the utility.

Owatonna Public Utilities
- **Kris Busse,** city administrator, retired in August of 2025 after two decades of dedicated leadership and commitment to strengthening community services.

Southern Minnesota Municipal Power Agency
- **Kevin Hafner,** HR and insurance administrator, retired in July 2025 after strengthening workforce systems and employee support across the agency. **Deb Donahue** now fills the role.

- **Sandra Feeham,** manager of HR, retired this year after serving 44 years at the agency.

- **Bob Heine,** generation project manager, retires in December 2025 after guiding key generation projects with precision and foresight. **Paul Helling,** former MMUA generation coordinator, now carries Heine's work forward.

City of Vermillion
- **Monty Munkvold,** light and power superintendent, retired in March 2025 after 38 years of service and dedication to the Vermillion community.

Watertown Municipal Utilities
- **Sheila Mennenga,** HR and risk coordinator, retired in January 2025 after 17 years of dedicated service to the Watertown team.

Willmar Municipal Utilities
- **Beth Mattheisen,** executive secretary, retired in January 2025 after 44 years, eight months, and 24 days of service in a variety of roles at WMU.

Minnesota's municipal utilities run on more than cables, water mains, and substations. They run on people who commit decades to public service, steward ratepayer dollars responsibly, and help shape the next generation of utility professionals. The 2025–2026 retirees leave behind an industry stronger than they found it, and their work echoes in every community that counts on safe, resilient, affordable utility service.

(Note: Did we miss someone? Please email lsimpson@mmua.org, and we will honor them next time.)

2025 delivers a year of transformation and milestones

Continued from page 12

July 2025

Twelve utilities received $1.9 million in Minnesota Electric Grid Resiliency Grants. The recipients include Austin Utilities, Blooming Prairie Public Utilities, City of Anoka, City of Granite Falls, City of Hawley, City of Roseau, City of St. Charles, Lanesboro Public Utilities, Madelia Municipal Light and Power, New Ulm Public Utilities, Rochester Public Utilities, and Virginia Department of Public Utilities.

Owatonna restored 99.7 percent of customers within 24 hours after a severe windstorm.

MMUA launched MMUA Connect, an app with a full member directory giving members instant access to upcoming events, MMUA resources, and staff contact information.

August 2025

Owatonna completed major water-system rehabilitation, including Tower 7, wells, booster motors, and 3,000 feet of water main.

New Prague advanced planning for a new generating plant.

MMUA debuted its presence during STEM Day at the Minnesota State Fair.

September 2025

Alexandria Public Utilities opened its new consolidated facility.

Hibbing Public Utilities advanced major water infrastructure improvements and prepared for APPA presentations.

MMUA hosted the 7th annual Minnesota Lineworkers Rodeo in Marshall with competitors from City of Chaska-Electric Department, Detroit Lakes Public Utilities, Marshall Municipal Utilities, City of North Saint Paul Utilities, Owatonna Public Utilities, Shakopee Public Utilities, and Rochester Public Utilities.

October 2025

Anoka launched its primary-line undergrounding project with MN Commerce Department support.

Lincoln Pipestone Rural Water opened its new Lake Benton headquarters facility.

Anoka Municipal Utility Director Del Vancura marked 40 years of service.

Anoka Municipal Utility participated in the annual Light Up the Night Parade.

AMI installation expanded in Anoka and Ramsey service areas.

Owatonna completed full gas-system modernization and major IT upgrades.

MMUA held Gas School for the first time in more than two decades.

November 2025

Hibbing Public Utilities prepared its APPA-MN presentation on water infrastructure.

The cities of **Brainerd, Fairfax,** and **Fulda** each received a Small City Development Program grant through the Minnesota Department of Employment and Economic Development to enhance city streets and low-income residential homes.

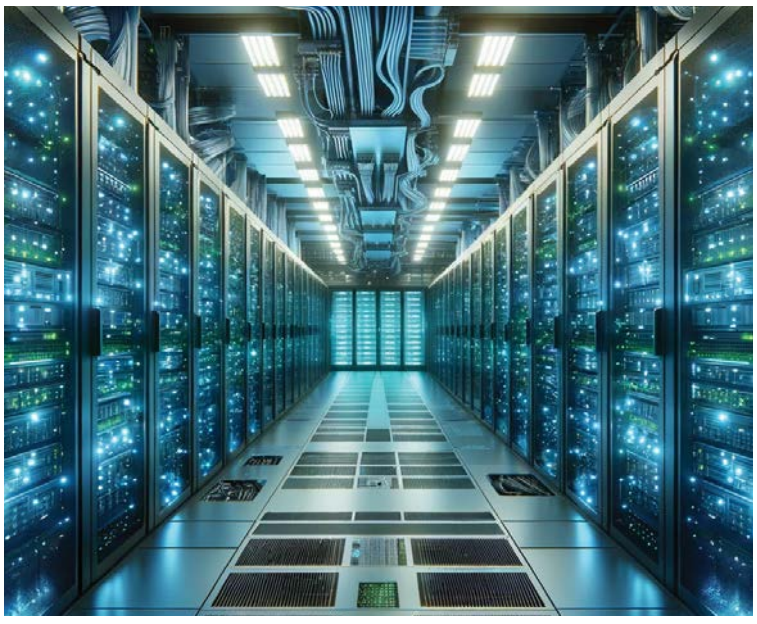
MMUA launched Crossroads, a community chat platform where members can engage with each other on all topics related to municipal utilities.

December 2025

MMUA held its annual T&O Conference in St. Cloud, debuting a new water/wastewater learning track.

(Note: Did we miss your milestone? Please email lsimpson@mmua.org, and we will list it next time.)

Indiana's data center fast track sparks debate over transparency and energy policy



Northern Indiana Public Service Co. (NIPSCO) has redrawn the boundaries of utility regulation in a bid to capture one of the fastest-growing energy markets in the nation: data centers.

With approval from state regulators, the utility launched a spinoff company called GenCo, allowing it to bypass much of the state's traditional oversight for power generation. The move enables NIPSCO to deliver substantial amounts of energy more quickly to "megaload" customers— primarily data centers—without what it calls unnecessary delays or costs for existing ratepayers.

"We face unprecedented demand from data center operators," said Vincent Parisi, president and CEO of both NIPSCO and GenCo, during testimony before the Indiana Utility Regulatory Commission (IURC). "GenCo positions us to respond quickly and keep Indiana competitive."

A shortcut through regulation

Indiana's regulated energy market usually requires utilities to seek commission approval for generation plans and rate structures. GenCo, however, operates largely outside those rules. The company functions more like a merchant power producer in deregulated states such as Illinois, yet maintains a guaranteed customer in NIPSCO, its corporate sibling under parent company NiSource.

Critics warn this hybrid model gives NiSource too much freedom to set internal prices and potentially shift costs between its subsidiaries. "If GenCo runs into trouble, NIPSCO customers could still pay the price," said Kerwin Olson, executive director of the Citizens Action Coalition. "The structure lacks transparency and oversight."

GenCo does not file detailed generation plans or submit environmental assessments for new projects. Instead, the IURC will review each NIPSCO–GenCo contract individually, a case-by-case process consumer groups say limits public scrutiny.

Economic promise meets environmental concern

State officials view GenCo as a necessary tool to attract investment. Indiana offers affordable land, abundant water, and tax breaks on energy and equipment—an appealing mix for data center operators. The Purdue University State Utility Forecasting Group projects data centers will nearly double Indiana's energy demand by 2035.

The IURC agreed with NIPSCO's argument that GenCo gives the state a competitive edge. In its September ruling, the Commission wrote, "…megaload customers are sophisticated and have many choices available," and this flexibility would help Indiana compete for economic development.

But environmental advocates warn of a different scenario. NIPSCO's latest generation plan calls for more than 3,700 megawatts of new natural gas capacity by 2035, a sharp turn from its 2018 pledge to retire coal and cut carbon emissions 90 percent.

"GenCo represents a complete reversal on sustainability," said Ben Inskeep of the Citizens Action Coalition. "NIPSCO has replaced its clean energy commitments with fossil-fuel expansion disguised as economic development."

National implications and local pushback

Across the Midwest, similar tensions are rising as utilities and regulators grapple with the energy needs of hyperscale computing. In Minnesota, for example, Hermantown residents have protested a confidential data center proposal which would draw water from Lake Superior. Local officials signed nondisclosure agreements to keep project details secret, sparking frustration and environmental fears.

Indiana's approach could set a precedent. Other regulated states are watching closely as utilities seek ways to serve massive new loads without triggering lengthy regulatory reviews.

Not everyone in the industry supports NIPSCO's path. Kenneth Davies, CEO of data center developer Takanock, testified NIPSCO restricts new data centers from purchasing power on the open market. "This model lets NIPSCO pick and choose winners," he said, calling the GenCo setup "anticompetitive." He and others advocate for transparent pricing tariffs, similar to those used in Wyoming or by Indiana Michigan Power, to ensure data centers pay fair market rates without creating unregulated subsidiaries.

Balancing speed and accountability

GenCo has already changed how Indiana's largest utility approaches generation planning. It promises faster project approvals, but it also erodes long-standing guardrails protecting consumers and the environment.

Supporters call it pragmatic. Critics call it reckless. Both agree the stakes are high. As data centers continue to multiply, and as states compete for their investment dollars, Indiana's experiment could either become a model for modern energy policy or a cautionary tale of deregulation by another name.

US and Minnesota gas utilities: juggling rising demand and climate pressures

The US natural gas utility industry stands at a pivotal crossroads.

While natural gas remains a cornerstone of the nation's energy infrastructure, its role is increasingly scrutinized as environmental concerns intensify and renewable energy sources gain momentum. In Minnesota, the landscape mirrors national trends, with utilities balancing the need for reliable energy with commitments to sustainability.

Gas demand surges nationally

The US Energy Information Administration (EIA) projects natural gas consumption will reach a record 91.4 billion cubic feet per day in 2025, marking a 1 percent increase from the previous year. This surge is primarily driven by colder-than-average winter temperatures and heightened demand in the residential and commercial sectors. However, the electric power sector has seen a decline in natural gas usage, with renewable sources like wind and solar gaining market share.

Despite this shift, natural gas remains a leading source of electricity generation. According to Deloitte's 2025 Power and Utilities Industry Outlook, natural gas generation is expected to rise by 3.5 percent by year-end. However, its share is projected to decline to 40 percent in 2025 due to high fuel prices. The American Gas Association (AGA) stresses the industry's commitment to safety and emissions reduction, investing $37 billion annually to enhance the safety of natural gas distribution and transmission systems, leading to a 70 percent decline in emissions since 1990.

Minnesota's energy transition

Minnesota's energy sector is undergoing a similar revolution. The state's 2025 Energy Fact-sheet reveals renewable sources provided 33 percent of Minnesota's electricity, with zero-carbon sources producing the majority of the state's electricity for the fifth consecutive year. Additionally, greenhouse gas emissions have decreased by 52 percent below 2005 levels, surpassing the nation's 38 percent reduction.

Minnesota Power's 2025–2039 Integrated Resource Plan (IRP) outlines a strategy to pull the plug on coal usage by 2035, replace coal units with natural gas, and add 750 megawatts (MW) of new natural gas resources by 2035. The plan also includes 400 MW of wind and 100 MW of energy storage, echoing the commitment to a balanced energy mix.

Xcel Energy, for example, has taken steps toward sustainability by implementing its first-ever Natural Gas Innovation Plan. Approved by the Minnesota Public Utilities Commission (PUC) in February 2025, the plan aims to reduce or avoid at least 687,000 metric tons of greenhouse gas emissions, explore innovative technologies, and support the state's transition to a lower-carbon energy future.

Minnesota's public utilities and regulators are also overhauling how gas service is planned and delivered to residents. In 2024, the Minnesota PUC adopted a new gas integrated resource planning (IRP) framework requiring the state's major gas utilities—Xcel Energy, CenterPoint, and Minnesota Energy Resources—to file 10-year resource plans every three years. These IRPs must include forecasts of future gas demand; propose a mix of supply options, including pipeline gas, renewable natural gas, electrification, efficiency, heat pumps, or thermal networks; and explicitly analyze non-pipeline alternatives and equity impacts. In addition, Minnesota is reconsidering long-standing gas line extension policies. Currently, existing customers subsidize the cost of bringing gas service to new customers, but there is concern that expansions now may become abandoned assets in a decarbonizing environment.

The role of municipal utilities

In addition to investor-owned utilities, Minnesota's municipal gas utilities are adapting in distinctive ways to the shifting energy landscape. The Minnesota Municipal Utilities Association (MMUA), which represents Minnesota's 33 municipal gas utilities, provides technical support, training, and regulatory assistance through programs like the Gas Circuit Rider. Because municipal utilities operate under local control and often finance infrastructure via municipal bonds, they can tailor decisions, such as when to upgrade pipelines, deploy leak-detection technologies, or integrate non-pipeline alternatives, to local needs.

For example, the City of Duluth manages its own gas system, distributing about five billion cubic feet annually through roughly 550 miles of pipeline to more than 28,000 customers, and maintains 23 regulator stations in its network. Its municipal Public Works & Utilities division handles the purchase of gas at wholesale, system maintenance, and investment decisions aligned with city goals. Duluth Energy Systems—a city-owned district heating utility servicing downtown and Canal Park—has transitioned portions of its steam network to hot water and added natural gas into its fuel mix while phasing out coal to enhance flexibility and emissions reductions.

In contrast, the City of Rochester does not operate its own municipal gas utility. Natural gas service in the Rochester area is provided by Minnesota Energy Resources, the regulated gas utility. However, Rochester's municipally-owned Rochester Public Utilities (RPU), which operates the electric and water utilities, does manage natural gas–fueled generators and reciprocating engines for its electric portfolio. In sum, while some municipal gas utilities are directly addressing the evolving gas environment, municipalities like RPU instead engage in hybrid roles, adjusting their electric/generation strategies where they do not own the gas system.

Regulatory pressures and industry responses

Minnesota's regulatory environment has evolved to address climate goals. The state's Public Utilities Commission has initiated the "Future of Gas" docket, evaluating changes to natural gas utility regulatory and policy structures needed to meet or exceed Minnesota's greenhouse gas emissions reduction goals. Advocacy groups, including Fresh Energy and the Minnesota Center for Environmental Advocacy (MCEA), urge the state to end gas line extension incentives, advocating for a more sustainable approach to gas infrastructure.

Nationally, utilities are responding to these pressures by updating their integrated resource plans (IRPs). In the third quarter of 2025, utilities updating their IRPs increased projected load through 2035 by 2.1 percent and emissions by 5.5 percent, demonstrating a trend toward higher energy demand and associated emissions.

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Short-term energy outlook suggests mixed impacts on Minnesotans

The changing price of underlying fuels will impact but not dictate Minnesota's actual costs this winter.

According to the US Energy Information Agency (EIA)'s November 2025 forecast, global oil inventories will continue to rise through 2026, putting downward pressure on oil prices. Prices are now expected to average just $54 per barrel for Brent Crude in quarter one, roughly 22 percent lower than a year ago. The impact of lower oil prices will not be seen at the consumer level due to increased costs for refiner margins, delivery, and utility operations. Consumer electricity prices are projected to increase an average of 4.4 percent in the Midwest over last year, slightly lower than the projected national average increase of 4.8 percent.

Natural gas prices during the winter of 2025–26 could average $4.00/MMBtu, some 16 percent higher than in 2025. This change is primarily due to increased liquified natural gas (LNG) exports amid flat production growth. Exports are projected to average 14.9 billion cubic feet per day by the end of 2025, 25 percent above last year's exports, lowering supplies of LNG for domestic use and pushing prices up. Despite this, the EIA's October *Winter Fuels Outlook* predicted a mere 2 percent increase in monthly natural gas expenditures for consumers in the Midwest, a figure that could be impacted by the number of heating degree days. The region's natural gas inventory was near or above average heading into the winter months.

US and Minnesota gas utilities

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Looking toward a complex energy future

The future of the gas utility industry in the US and Minnesota is characterized by a delicate balance between meeting rising energy demands and adhering to environmental commitments. While natural gas remains a vital component of the energy mix, its role is being reevaluated in the context of climate goals and the increasing viability of renewable energy sources. Utilities are investing in cleaner technologies and updating their plans to align with sustainability objectives, but challenges remain in transitioning away from fossil fuels, especially as demand skyrockets.

As the energy landscape continues to evolve, stakeholders must collaborate to ensure a reliable, affordable, and sustainable energy future. The path forward will require innovative solutions, thoughtful policy decisions, and a commitment to balancing environmental stewardship with the need for dependable energy services.

Global renewable growth remains strong despite US rollback

The world expects a clean-energy boom in the next half decade, but according to a recent analysis, policy shifts in the United States threaten to negatively affect the global trajectory.

The International Energy Agency (IEA) recently cut its US 2030 renewable capacity outlook by nearly 45 percent, a revision sending shock waves around the globe. Reuters reported that US policy changes, including accelerated tax credit phase-outs, import restrictions, and restrictions on wind and solar development on federal lands, forced the agency to scale back its projections.

Once seen as a core engine of the global transition, US renewables now risk becoming a hindrance to progress. The change weighs heavily: the US was among the few developed economies expected to play a counterbalancing role as China and India began to dominate world renewable growth.

The impact of the US renewable dip

Despite the US slide, the global renewable outlook remains strong. The IEA still forecasts the world capacity from renewable sources to more than double by 2030, adding some 4,600 gigawatts (GW) of new capacity. That expansion approximates the current total capacity of China, the European Union, and Japan combined, a magnitude few earlier analysts dared forecast.

The IEA admits the revised baseline misses the ambitious goal of tripling capacity by 2030, meaning the new forecast leaves the world off-target by a wide margin. Fingers point to the US renewable cut for the diminished projection. In an October 7, 2025, Axios report, the US outlook drop dominated the revisions chart, overshadowing region-level gains in MENA (Middle East and Northern Africa) (+23 percent), ASEAN (Association of Southeast Asian Nations) (+15 percent), India (+9 percent), and the European Union (+3 percent).

China remains atop the renewable food chain. Even after trimming its forecast modestly, China still accounts for roughly 60 percent of global capacity growth in IEA's outlook. But the US pullback changes the balance, and the global risk profile shifts toward China's regulatory consistency and grid stability.

Milestone: renewables outpace coal generation

In the first half of 2025, wind, solar, hydro, and other renewable sources overtook coal in global electricity generation for the first time. According to a report by the energy think tank Ember, renewables produced roughly 5,072 terawatt-hours (TWh), beating coal's 4,896 TWh. This paradigm shift signals a structural pivot: when combined with nuclear and hydro, low-carbon sources now supply more than 40 percent of global electricity.

In Europe, solar overtook coal in the EU's electricity mix for the first time in 2024, with solar generation at 11 percent versus coal at 10 percent. The region also saw gas and coal generation drop, reinforcing long-term structural shifts.

In the US, a related shift occurred: in 2024, wind and solar together exceeded coal output for the first time, generating 17 percent of US electricity, versus coal's 15 percent. Yet policy reversals now jeopardize the momentum of this breakthrough.

The regional gap widens

The US backpedaling contrasts sharply with dynamics elsewhere. In India and Southeast Asia, falling solar costs, streamlined permitting, and political agendas will drive accelerated renewable deployment. The MENA region is also gaining visibility as solar and storage costs collapse, pushing ambitious targets in Saudi Arabia, UAE, and elsewhere.

The EU's pace remains steady. While its 3 percent revision is modest, the region gains advantage from existing infrastructure, grid interconnectivity, and regulatory consistency. Sub-Saharan Africa and Latin America trail in scale, but both regions are raising ambitions amid falling capital costs and donor engagement.

One notable fact: in more than 80 percent of nations, the IEA expects project capacity growth between 2025 and 2030 to exceed that in the preceding half decade, suggesting continued global momentum, even if the US focus has shifted.

Opportunities loom

Growth on this scale strains every element of the value chain: grid integration, supply chains, financing, permitting, and human capital. The IEA explicitly warns of increasing pressure from all these fronts.

Grid flexibility matters more than ever. Recent studies have indicated wind and solar may displace thermal plants, but diminished production capabilities could lead to project curtailment and grid stress.

In parallel, the transition moves from deployment to maintenance. One study models the shift beyond 2050: the industry must renew and replace generation assets, not just add capacity. The research warns of potential overproduction cycles or bottlenecks in turbine and photovoltaic manufacturing.

Finally, capital cost and financing risk loom disproportionately for developing economies, where interest rates, currency volatility, and credit risk may limit investments.

Conclusion: strong but fragile growth

Renewables now carry real weight in the global energy system. The shift from coal to clean power marks a symbolic turning point, especially when combined with a still-expanding capacity base. The US rollback, however, reveals how fragile progress can be under policy changes.

Even as global clean energy momentum remains on track, the impact of policy changes in the US shows that clean energy growth relies heavily on policy stability, regulatory clarity, innovation, and finance.

Expect China, India, the Middle East region, and parts of Asia to dominate the narrative through 2030. The real question: can the US regain its footing—or will the clean energy lead fall to others just when the renewable boom enters its most critical phase?

Drive Electric Minnesota Annual Members Meeting

The momentum for electric transportation is continuing despite the new administration's cancellation of federal subsidies for electric vehicles (EVs).

That was the overriding message at the Drive Electric Minnesota Annual Members Meeting held at the University of Minnesota Alumni Center on October 28.

As the initial example of that forward progress, the event began with its keynote speaker unveiling the new national "Electric For All" consumer awareness campaign. Aimed at helping prospective EV owner s understand their options and make informed choices, the campaign's website—electricforall.org—contains media blitzing materials for any and all EV promotors to use with their own logos, including videos, fact sheets, raw data, banner ads, and other tools. Campaign-funded TV ads will air soon in target markets across the country, including non-metro areas of Minnesota.

Other speakers at the event shared perspectives on EV industry trends and evolving public perceptions of EVs. The meeting also included a panel discussion with four Minnesota state legislators focused on 2025 state law changes concerning EV-related fees and taxes. They also talked about future policy ideas focused on charging infrastructure that electric utilities will want to have a voice in.

Representatives of many utilities—including some municipal—attended and participated, lastly, in engaging roundtable discussions with state agency personnel in important positions as well as representatives of companies that install charging stations.

Residents vote for local control at Florida utility

In Gainesville, Florida, residents voted to restore local control of Gainesville Regional Utilities (GRU), overturning a state law that had placed the utility under a governor-appointed board.

This marked the second time in two years that voters approved the measure, after a court nullified the first referendum due to misleading ballot language.

The GRU Authority, created by the Florida Legislature, had managed the utility until voters passed the new measure. The board attempted to block the vote by suing the city, but a judge denied the request, allowing the special election to proceed.

More than 14,500 people participated in the election, with 75 percent voting to return oversight to the Gainesville City Commission. Only Gainesville residents could vote, excluding those in the surrounding areas of Archer, Alachua, High Springs, and Newberry, despite also being GRU customers.

Supporters believe local control will prioritize community needs and align GRU's mission with Gainesville's values. Although legal hurdles remain, residents expect changes once the legal process concludes.

GRU Authority CEO Ed Bielarski voiced strong opposition. He warned that shifting control back to the city could reduce representation for customers outside Gainesville and questioned the motivations behind the move. "I fear it would create utter chaos, leaving the utility a directionless organization whose primary purpose is to fund city initiatives," he said.

Critics of the original state law called it undemocratic, noting that voters had rejected a similar 2018 referendum. A 2017 bill proposing a similar board also failed after then-Gov. Rick Scott vetoed it.

Former Newberry Rep. Chuck Clemons, who filed the bill that created the GRU Authority, said he aimed to give a voice to GRU customers outside city limits who can't vote in city elections. Both Clemons and Bielarski argued that the special election disenfranchised these non-city ratepayers.

GRU reports that customers outside Gainesville make up:

- 30 percent of electric users
- 36 percent of wastewater users
- 38 percent of water users
- 42 percent of natural gas users

On October 29, an Alachua County judge denied the GRU Authority's request for a temporary injunction, ruling that the election did not disenfranchise voters because it concerned residents rather than customers. The authority also claims the election violates the special act that created the board, arguing that the Legislature's passage of HB-1645 overrides local decisions.

Gainesville City Commissioner Bryan Eastman used TikTok to urge voters to support the referendum and restore accountability by returning management to elected officials. Mayor Harvey Ward echoed that sentiment during an October 28 town hall meeting, emphasizing that voters can hold city commissioners accountable but have no influence over a state-appointed board.

At the same town hall, Bielarski defended the authority's record, citing lower electric rates and a more business-like approach. He highlighted the board's decision to reduce the government services contribution, cutting the city's annual share by $6.8 million for 10 years to recover what the board considers past overpayments.

Returning local control to GRU gives the majority of its customers a say in what their utility does, but for the remaining service area, choice remains inaccessible. While legal and political challenges remain, the vote sends a clear message: local utility decisions should consider the voices of everyday users.

North Dakota leads the charge against MISO's $22 billion grid expansion

A regulatory battle is brewing across the Midwest as the North Dakota Public Service Commission (PSC) challenges a $22 billion transmission expansion plan proposed by the Midcontinent Independent System Operator (MISO).

The outcome could reshape how multi-state grid projects are financed and built for years to come.

Earlier this year, North Dakota filed a formal complaint with the Federal Energy Regulatory Commission (FERC), claiming MISO's cost-benefit metrics for its Tranche 2.1 long-range transmission plan fail to justify the enormous price tag. The PSC argued North Dakota ratepayers would pay far more than they would gain in benefits.

Four other states—Arkansas, Louisiana, Mississippi, and Montana—sided with North Dakota, joining a chorus of industrial energy users also criticizing MISO's approach. Groups including the Coalition of MISO Transmission Customers, Midwest Large Energy Consumers, and Illinois Industrial Energy Consumers asked FERC to impose tighter oversight and appoint an independent transmission monitor.

A question of fairness

North Dakota's regulators insist they support grid modernization but reject what they describe as an uneven financial burden. Commissioner Sheri Haugen-Hoffart said states pursuing aggressive decarbonization goals should shoulder the infrastructure costs. "Anything less," she said, "undermines the principle of just and reasonable rates and imposes unfair financial burdens on ratepayers in states that have not adopted such policies."

Although she avoided naming Minnesota, Haugen-Hoffart's comments clearly referenced the state's carbon-free by 2040 law and similar mandates in other MISO states. The PSC also accused MISO of inflating project costs by assuming worst-case energy losses and relying on unproven technologies.

Minnesota pushes back

Minnesota utilities and regulators fired back immediately. Xcel Energy dismissed North Dakota's complaint as "utterly meritless," while Minnesota

Public Utilities Commission Vice Chair Joe Sullivan defended the transmission projects as critical for economic growth and reliability.

"I don't get involved in how they regulate in their states, because it doesn't affect me," Sullivan said. "Why are they messing around with our economic future?" He warned blocking the projects would weaken Minnesota's competitiveness and stall development across the region.

Minnesota Governor Tim Walz echoed this sentiment in a letter to FERC, calling the Tranche 2.1 portfolio a catalyst for economic growth and lower long-term energy costs.

Southern skepticism

Not all critics came from the northern tier. Louisiana Public Service Commissioner Davante Lewis questioned MISO's cost-benefit analysis even though ratepayers in Louisiana, Arkansas, and Mississippi will not pay for northern projects.

MISO backs its vision

MISO defended the Tranche 2.1 plan as essential to meeting future energy demand. The grid operator said every dollar invested will yield $1.80 to $3.50 in benefits. MISO emphasized it spent years developing the portfolio and hosted more than 300 stakeholder meetings to refine it.

In a letter to FERC, MISO noted it incorporated several North Dakota recommendations to improve regional energy delivery, particularly for exporting renewable energy and natural gas. Officials said North Dakotans and Montanans would gain significant benefits while paying only a small fraction of the total costs. Southern states, including Louisiana and Mississippi, would not pay anything, because the projects lie outside their service areas.

The larger stakes

Of the 22 transmission projects in Tranche 2.1, only two reach eastern North Dakota. Most span the upper Midwest from South Dakota to western Ohio. One of the earliest endeavors, the 180-mile Northland Reliability Project, broke ground in October and will link central Minnesota with Grand Rapids.

The dispute has divided regulators across MISO's vast territory. Officials from Indiana, Iowa, Kentucky, and Michigan defended the plan, warning delays could stall more than seven gigawatts of proposed generation. Utilities including AEP Indiana Michigan, Great River Energy, and Northern Indiana Public Service Co. urged FERC to reject North Dakota's complaint, arguing that changing cost allocations retroactively would violate federal law.

What comes next?

FERC's five-member panel remains split, reflecting deep regional tensions over who pays for clean energy infrastructure. The decision could redefine how MISO and other regional transmission organizations justify massive grid investments as the energy transition accelerates.

For now, MISO continues building transmission lines to meet reliability standards and growing demand. North Dakota is fighting the penalization of states with different energy priorities, which it views as an overreach. The debate underscores a fundamental question for America's evolving grid: how to balance shared infrastructure with state-level energy autonomy.

A farewell to PMUG and its legacy of support

In 1990, the PowerManager Users' Group (PMUG) was formed with a shared purpose: to discuss PowerManager accounting software and discover new ways to optimize its use among small utilities.

Last month, after 35 years of collaboration, the group officially concluded its journey by donating the remaining funds in its account to the Minnesota Municipal Utilities Association (MMUA) in appreciation of the organization's longstanding support.

Rita Kelly, MMUA's director of administration, provided steady leadership for PMUG for many years. She took over from Bonnie Hayes, MMUA's director of education, in 2010, and managed the group's financials, coordinated its conferences, and kept communication flowing with its steering committee. An 11-member committee guided PMUG, organizing annual conferences where utility accounting professionals gathered to learn about software updates, exchange insights, and strengthen professional connections.

Mitch Mullins, owner of Salt Creek Software—the company that created PowerManager—played an active role at these events. He regularly helped shape the conference agenda and shared technical expertise. PowerManager, designed specifically for small utilities, helped organizations bill customers accurately and efficiently. MMUA briefly used the software to better understand its functionality, but as a non-utility organization, it soon moved away from it.

Over the years, PMUG drew members from across the country, from Minnesota to Texas and New York to Oregon. At its height, the group represented 50 cities, with most participants coming from Minnesota. Over time, however, engagement declined, and finding volunteers for the steering committee became increasingly difficult. "People saw great value in the group, but as staff gets replaced, that value goes with them," Kelly said.

The group last met in 2019. When the COVID-19 pandemic halted in-person gatherings and longtime members began to retire, the organization gradually wound down. Through every phase, Kelly remained dedicated to supporting PMUG's members and mission.

The group's final donation to MMUA stands as a heartfelt gesture of gratitude—an enduring acknowledgment of decades of partnership, shared learning, and support for small utilities across the nation.

Leech Lake Band of Ojibwe sues 3M

The Leech Lake Band of Ojibwe has filed a federal lawsuit against 3M alleging that the company contaminated its water with per-and polyfluoroalkyl substances (PFAS).

Other companies such as BASF Corporation, The Chemours Company FC, LLC; Corteva, Inc.; DuPont de Nemours, Inc.; EI DuPont De Nemours and Company; and Tyco Fire Products, LP, were listed in the lawsuit alongside Minnesota-based 3M Company.

This isn't the first time 3M has faced a lawsuit over PFAS. In 2018, the state of Minnesota settled a case with 3M over contamination in the east Twin Cities metro area. 3M agreed to pay $850 million to ensure safe drinking water and improve natural resources. Additionally, in 2021, the city of Bemidji received $12.5 million from 3M to help cover the costs of treating its water supply for PFAS.

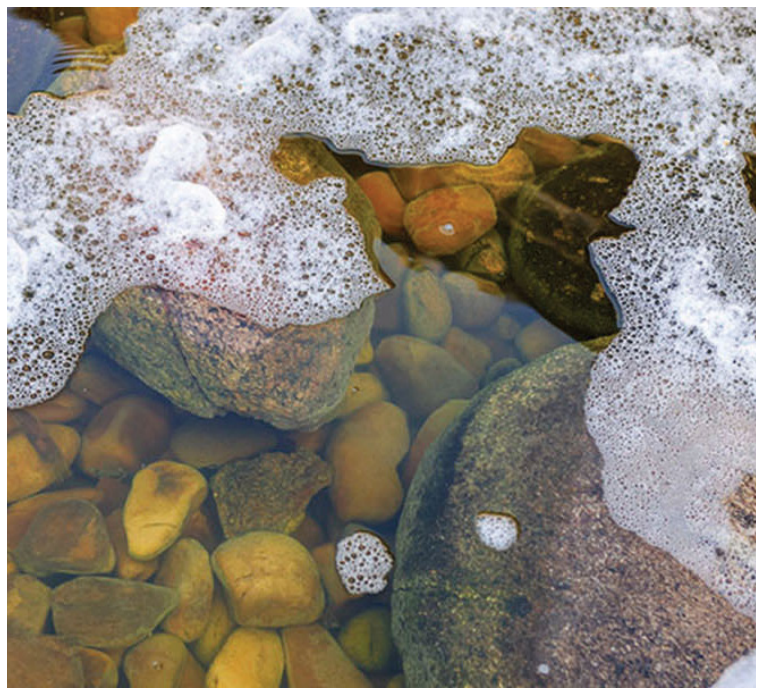
PFAS are known for their durability and do not break down in the environment. Exposure to some PFAS through contaminated food or water has been linked to health problems, including liver and kidney issues and cancer.

The lawsuit describes the items produced, distributed, and sold by the companies that contain PFAS chemicals. It claims that the companies contaminated the drinking water and wildlife of the Leech Lake Band of Ojibwes Reservation with these "forever chemicals."

The Band charges the companies with one count of public nuisance, one count of product liability, one count of negligence, and one count of unjust enrichment. 3M is additionally charged with cost recovery under the Minnesota Environmental Response and Liability Act (MERLA), while the Dupont Defendants are accused of fraudulent transfer.

The Band emphasizes in the lawsuit that its culture, religious practices, and way of life are deeply connected to the land and water resources on the Leech Lake Reservation, which have become contaminated due to PFAS pollution.

In 2022, the Band tested its 11 public drinking water systems and found PFAS in the water supply for one of its schools. Now the school provides bottled water to students in lieu of the tap water because of the contamination.



The Band also tested six species of fish from Cass Lake and Pike Bay. Toxic levels of PFAS were found in the fish, including walleye, white fish, perch, and pike. Additionally, samples from the livers of 22 deer in 2025 showed high levels of PFAS. All are essential to the regular diets of the Band members.

The Band is seeking funds for PFAS testing and cleanup, including treating or replacing contaminated water and infrastructure, remediating natural resources, restoring tribal fisheries, conducting further studies, covering health impact costs for tribal members, and providing medical monitoring.

At this time, 3M and the other affected companies have not responded to the lawsuit.

Power, pixels, and promises: how utilities can tame AI data centers' energy appetite

Tech companies and utilities face an escalating problem: artificial-intelligence workloads demand enormous, consistent power at the same moment customers and environmental advocates demand cleaner electricity.

In Minnesota, across the US, and around the globe, the industry is responding with a mix of grid upgrades, contractual renewables, flexible computing, water, and workforce solutions, some even gambling on new-age technologies. The strategies reveal both practical engineering and political tap-dancing—utilities must keep the lights on, and regulators must keep ratepayers from getting squeezed.

Minnesota offers a concentrated case study. Utilities such as Xcel Energy and regional cooperatives have logged proposals for gigawatts of new data center load, and capacity equaling the electricity need of hundreds of thousands of homes would be required to meet the need. Those proposals triggered urgent planning: utilities now model the new demand, propose transmission upgrades, and consider new generation initiatives to ensure reliability and affordability.

State lawmakers stepped in with legislation to tighten environmental and energy-review requirements for large data center campuses after communities raised alarms about groundwater, local infrastructure, and tax incentives. This has led to public negotiations among counties, utilities, tech firms, and the legislature over who pays for what and how quickly new power gets built.

Tech firms are answering the carbon-free mandates primarily through renewable energy deals. Companies negotiate long-term power purchase agreements (PPAs) with wind and solar developers to claim carbon-free electricity for their operations and to finance new renewables on the grid. Google and other major players now aim to match energy usage with carbon-free generation on an hourly basis—a more precise system than annual accounting—and they sign contracts and invest in grid services to ensure their calculations are credible. Utilities and independent power producers often partner with those firms to build the clean energy generation data centers need, which helps developers secure financing and helps utilities to meet

sustainability objectives.

Companies are also deploying flexibility programs to flatten the peaks and valleys. Data centers can shift non-urgent tasks—training runs, batch analytics, and some model development—away from grid-stressed hours or move workloads between regions where inexpensive and clean power reside. Google and others are exploring software controls and commercial arrangements to treat computing load like a flexible grid resource, reducing local strain, and earning revenues from demand response programs. Utilities value this flexibility because it defers expensive upgrades: if a data center can trim consumption during a transmission bottleneck, the utility can postpone a substation or line upgrade that would otherwise lead to rate hikes.

Storage and on-site balancing provide valuable assistance. Operators often place battery farms or thermal storage near or inside campuses so the site can ride through brief supply gaps or absorb surplus renewable output. Innovators are experimenting with so-called "heat batteries" and other forms of stored energy that release power precisely when AI jobs need it.

In some partnerships, cloud firms contract with grid-scale storage providers to ensure a steady, low-carbon supply for critical AI operations. Those solutions help meet the carbon-free target, while reducing the need for fossil fuel backup.

Where renewable expansion cannot keep pace, developers and utilities are considering other low-carbon resources. Large corporate buyers now support projects yielding round-the-clock carbon-free power, from advanced geothermal to small modular nuclear reactors (SMRs). Corporations like

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The hourly gamble: Can time-of-use rates alleviate peak demand?

Utilities across Minnesota and the nation have spent the last decade testing whether charging different prices by hour will incentivize customers to shift usage away from the grid's most expensive moments.

The short answer: yes, time-of-use (TOU) pricing can move the energy load, but in Minnesota, the results depend on who runs the program, how regulators set protections, and whether municipal utilities can tailor options to local customers.

Policymakers and utilities design TOU so the price signal matches the system stress. In other words, make daytime kilowatt-hours more expensive and nighttime hours cheaper, and customers who can shift dishwashing, laundry, or electric vehicle (EV) charging will pay less and lower peak demand. Xcel Energy recently won regulatory approval in Minnesota for a new optional residential TOU plan with pronounced peak windows, and advocates and consumer groups have already debated its likely winners and losers. That decision reflects a larger trend: Minnesota regulators and utilities now treat TOU as a mainstream tool for demand flexibility, not an experiment.

Municipal utilities take a different path from investor-owned giants, because they answer to local councils and their customers live close to the people who set policy. Many Minnesota municipal systems offer TOU or time-of-day options tailored for specific needs. For example, Rochester Public Utilities posts a residential TOU schedule targeting weekdays and weekends differently and warns customers individual savings can hinge on each household's ability to shift load. These local systems often combine TOU with targeted programs such as discounted EV charging windows, water-heater control, or rebate offers for smart thermostats. This municipal flexibility gives cities pragmatic ways to protect vulnerable customers while benefiting from flexibility among willing households.

When municipal utilities control the design, they can keep equity on the table. City utilities can add opt-out rules, low-income protections, or special tariffs for customers with medical equipment. They can also run pilots at the community scale and adjust peak windows to reflect local load patterns. A city-based utility in Rochester can set peak hours differently from a rural cooperative with a significant irrigation load. This local flexibility limits the "one-size-fits-all" risk, which critics cite when large utilities roll a single TOU schedule across diverse service territories.

Still, TOU brings tradeoffs. Economists and grid modelers point to three core issues:

- First, the magnitude of load shift depends on price differentials and customer tools. Behavioral incentives alone yield modest reductions; customers who add automation—smart chargers, connected thermostats, or programmable water heaters—show the largest and most reliable shifts.
- Second, voluntary opt-in programs attract the most flexible, tech-savvy customers and leave system planners with limited, skewed participation. Conversely, default enrollment produces larger overall system benefits but creates political pushback if customers feel trapped.
- Third, poorly chosen peak windows can simply move the load to a new time of day and create secondary peaks. Minnesota regulators flagged those risks in past reviews and encouraged careful evaluation of meter data before and after rollouts.

Minnesota's local landscape already shows both promise and caution for TOU programs. Advocacy groups argue TOU can increase usage of low-carbon energy by rewarding off-peak charging of EVs and shifting consumption onto cleaner wind and nighttime sources. Municipal utilities that coordinate TOU with local renewable schedules and pair rates with rebates for automation, can produce real, local emissions and cost benefits. On the other hand, consumer advocates worry about customers on fixed schedules, shift workers, or households with multiple occupants who cannot move energy loads. Those customers may see bills rise if utilities and regulators do not build safeguards. The Minnesota Public Utilities Commission and consumer groups have consistently called for transparent bill comparisons, outreach, and safeguards before widespread time-of-use implementation.

Practical recommendations for Minnesota utilities and municipal boards point to a common playbook. First, test locally and use default enrollment only when the utility pairs it with clear communication and an easy opt-out. Second, offer automation and retrofit incentives so customers do not have to manually select cheaper hours. Third, create explicit low-income protections and medical exemptions at the municipal level so local councils can promptly address inequities. Finally, measure effects openly: publish pre- and post-implementation load studies so residents and regulators can see who saved what and who paid more. Municipal utilities, because of their proximity to customers, can run those experiments faster and adjust rates to local realities.

TOU does not solve every grid problem. Utilities must still invest in distribution upgrades, storage, and regional market coordination. But as municipal utilities design TOU with local nuance—pairing clear communications, device incentives, and customer protections—the program becomes a practical lever for lowering peaks and integrating cleaner energy. For Minnesotans, the policy test will look less like a single statewide experiment and more like dozens of community pilots. The state's municipals will learn which versions produce durable savings, which rollouts create unfair outcomes, and which practices deserve statewide scaling.

Around the state

In late September, on-site power equipment manufacturer Caterpillar Inc. delivered three 500-kilowatt generators for future research work to the University of St. Thomas campus in **St. Paul.** The University is in the process of constructing a building to house its Center for Microgrid Research, and the generators will be used for future study. The Center is dedicated to improving the reliability and resiliency of the electric grid through its research and education programs, preparing the next generation of engineers to lead sustainable energy solutions. The Center for Microgrid Research has received grants from the State of Minnesota and Xcel Energy, and it partners with electric vehicle charging technology firm Bright Green to support its mission.

The Moore Slough Waterfowl Production Area in southern Minnesota has been restored to a wetland and native prairie by the US Fish and Wildlife Service, Ducks Unlimited, and Pheasants Forever. The restoration eliminated standing water issues, sediment, and pollutants, and transformed the area into an oasis for waterfowl and wildlife. It will also serve the people who live downstream in the entire Okoboji chain, providing them with clean, safe water.

Bear Head State Park in **Ely** received the award of America's Best Restroom from Cintas. The award includes a spot in America's Best Restroom Hall of Fame, along with a cleaning service from Cintas and $2,500 worth of products. Cintas describes the Bear Head bathroom as the perfect blend of practicality and natural beauty, highlighting its stunning setting, fully accessible layout, and dishwashing sinks that accompany the facility. The public voted on this matter, competing against restrooms from other states. This marks Cintas' 24th annual competition, with two other Minnesota bathrooms winning in 2013 and 2016.

Xcel Energy is deploying AI-powered cameras to protect against wildfires. The cameras scan a 10-mile radius every minute and use AI to detect smoke that is then verified by humans. Pano AI started using cameras like these in 2021, and now is one of Minnesota's largest power providers, operating two cameras in **Clear Lake** and **Mankato.** The goal is to protect power infrastructure against the growing threat of wildfires. Xcel Energy plans to roll out an additional 36 cameras across the state by 2026.

Students in **Duluth** hit the streets in protest a few days after ALLETE's Minnesota Power sold to the world's largest asset manager, BlackRock. "Do we care about people, or do we care about profit?" was the rallying cry of a group of local students as they made their way through the downtown streets as part of a planned walkout. Students stationed themselves at Minnesota Power Plaza, near the Lake Avenue intersection and the headquarters for Minnesota Power's parent company, ALLETE. Students have followed the deal closely in an environmental and sustainability class where conversations often involve sustainable development, environmental policy, and industry impacts.

Three **St. Louis County** commissioners have confirmed they signed non-disclosure agreements with Mortenson Development to keep details of the Hermantown data center confidential. Local residents are upset, forming Facebook groups such as "Stop the Hermantown data center," attending public meetings, and filling the rooms. They are concerned about the thoroughness of the environmental review process and worry about keeping Hermantown a charming, rural Minnesota town while protecting its future. The groups against the data center have also moved to sue the city and the company behind the facility, challenging the environmental studies of the proposed building.

Hibbing Public Utilities (HPU) issued a notification after testing revealed elevated lead levels in some homes' drinking water. From June to September 2025, 29 samples were tested under EPA regulations, with more than 10 percent exceeding the EPA's lead action level of 15 parts per billion (ppb); Hibbing's 90th percentile was 32 ppb. Lead in public water systems mainly originates from lead service lines or household plumbing that can corrode over time. HPU is committed to removing lead pipes, having already identified 3,314 non-lead connections, secured more than $600,000 for lead line replacements, and prioritized $400,000 for further assessments. HPU plans to seek an additional $1 million for future projects. HPU is also preparing to implement corrosion control measures.

The University of St. Thomas in **St. Paul** has been awarded five million dollars from the Minnesota Department of Employment and Economic Development (DEED) from the Minnesota Forward Fund (MFF). The University will use MFF funding to establish the Minnesota Semiconductor Artificial Intelligence (AI) Hub. The hub—in collaboration with manufacturers Seagate and Skywater Technology, and MFF recipient Polar Semiconductor—will use AI to improve semiconductor manufacturing. The program will also establish a graduate curriculum related to smart manufacturing with the goal of creating a pipeline of more than 120 highly skilled professionals adept at leveraging AI and data science in semiconductor manufacturing.

Bits & pieces

Bill Powers, a **San Diego**-based mechanical engineer, published a study indicating the city **could save billions by switching to a public power system.** The analysis suggests that a publicly owned electricity provider might save ratepayers up to $47 billion in the first 20 years and up to $137 billion over 30 years. Powers, a strong supporter of public power for San Diego, was skeptical of an initial study released two years ago claiming that public power would lose money. San Diego is currently served by SDG&E, an investor-owned utility that serves more than 3.9 million people.

New York is focused on preparing workers for a clean energy future. Governor Kathy Hochul recently announced a total of $16 million in state funds to develop the state's clean energy workforce. The funds include an allocation from the New York Power Authority (NYPA), which approved $12 million for workforce training and retraining through the Department of Labor, and funding from the Department of Environmental Conservation, which awarded $4 million in grant funding to support green jobs training for young New Yorkers. Of the $12 million from NYPA, $7 million will fund electric vehicle training programs, focusing on maintenance and repair, while $5 million will be available for supportive services like childcare and transportation for trainees. The NYPA funding, enabled during the 2023–24 budget year, aims to connect workers, especially underrepresented groups, to clean energy jobs through upskilling. Last year, NYPA allocated $25 million for workforce development, reinforcing its commitment to a skilled clean energy labor force and support of sector growth.

A startup is gaining attention for its eco-friendly coffee roasting machines. Bellwether Coffee's fully electric roaster features a closed-loop heat recovery system that captures and filters smoke particles produced during roasting. This setup eliminates the need for ventilation, ductwork, and energy-consuming afterburners. Unlike many European electric coffee roasters that require high industrial voltages, the Bellwether machines operate on standard 240-volt or 208-volt power readily available in commercial buildings. This approach is more energy-efficient than traditional roasting, costing about 2 to 3 cents per pound of roasted coffee compared to roughly 10 cents.

OpenAI, the world's leading artificial intelligence company, is calling on the federal government to bridge the "electron gap" between the US and China. It urges the White

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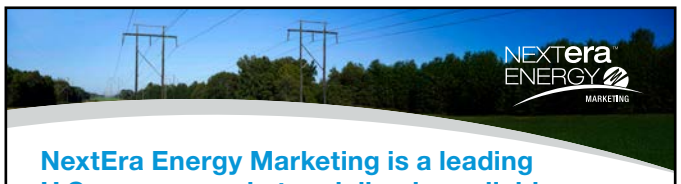

House to tackle vulnerabilities in the US power grid and to install 100 gigawatts of new capacity each year starting in 2026. In a letter to the White House Office of Science and Technology Policy, OpenAI highlighted that every stage of AI development—from critical minerals and semiconductor production to grid components and data centers—relies on inputs that are globally concentrated or have limited manufacturing capacity. China currently dominates nearly all of these areas. Meanwhile, the US has invested heavily at the top of the AI stack, focusing on algorithms, chips, and cloud services, which has established it as a global leader in AI. To maintain this leadership, OpenAI suggested that the US might need to follow China's example by prioritizing capacity as a vital aspect of industrial competitiveness.

Laura Swett is now the chair of the Federal Energy Regulatory Commission (FERC) and will serve in this position until 2030. Swett has litigated FERC law for 15 years, including representing generating utilities, transmission owners, and natural gas liquids pipelines. Additionally, she previously served at FERC advising a former chair and commissioner, and she also served as a lead attorney in FERC's Office of Enforcement. Chair Swett will take over the helm at FERC from David Rosner, who had been serving on an interim basis. David LaCerte was confirmed by the Senate as a FERC commissioner at the same time as Swett. These confirmations bring FERC to its full complement of five sitting commissioners—three Republicans and two Democrats.

The Tennessee Valley Authority (TVA) has become a leading supporter of small nuclear reactors, inking multiple public-private partnerships with small modular reactor developers in recent months. The goal is to meet the growing power demand from AI and data centers across TVA's extensive service area, covering most of Tennessee and parts of neighboring states. TVA's size and structure as a federally-owned entity lend themselves well to these long-term bets. Notable agreements include those with Kairos Power, Type One Energy, GE Hitachi, and NuScale.

The American Water Works Association (AWWA) has published a white paper to assist water utilities in planning for data centers. The document discusses data centers and their effects on water systems and the environment. It also offers guidance on what water utilities should prioritize if they anticipate a data center, including water source selection, treatment capacity, and customer impacts. This report is available at no cost on the AWWA website.

Safety corner

Joe Schmidt, Assistant Director of Workplace Safety Services

Employee safety is key to our hometown utilities commitment to providing reliable and efficient services.

Among the leading causes of workplace accidents and incidents, the lack of communication of the hazards of the job remains constant. A simple discussion reviewing the job procedures and related hazards can prevent many of those problems before they start.

On a recent airline trip, I boarded the plane and began the wait for takeoff. Soon enough, every traveler received reminders to fasten seat belts, where to find exits, how to correctly use the flotation devices, and how to don the air mask should it be deployed. I scanned the cabin looking for attention to the flight attendant's "job briefing." Most passengers were tuned out, already starting their binge of the hottest downloaded trend in streaming history, most with ear buds intact canceling out the sounds surrounding them. They've likely heard this song and dance on numerous occasions.

Are job briefings at your workplace treated with the same attention as the flight attendants' safety briefing? Studies have shown that consistent reminders of known risks will raise the level of awareness and reduce complacency.

In the OSHA regulations cited at 1910.269, we're all made aware of the requirements of performing these daily job briefings. If you're using the APPA safety manual, the same requirement is found in section 115.5.

Before the work begins, the day's tasks need to be reviewed to identify potential hazards and their controls, confirm that everyone understands what their responsibilities are, and remind workers of the required PPE and the supplies/equipment necessary.

While documentation is not mandatory, an easy-to-use checklist can assist in providing the necessary information for supervisors and crew leaders to conduct a job briefing. The QR code to the right links to an easy-to-use checklist that can aid in conducting a daily job briefing. You can also access the document at this link: https://tinyurl.com/mmuajobbrief.

Remember that when the conditions change, the job briefing should be revisited to address any new safety concerns that may have come up.

A few minutes of planning before the job begins goes a long way to keeping the day's tasks rolling along as efficiently as possible.

MMUA's safety management team is always willing to provide the assistance necessary to begin or improve the safety culture across the municipal world. Your safety coordinator can help you. If your utility is not currently involved, but you're interested in becoming a part of our safety management program, please contact Joe Schmidt, Assistant Director of Workplace Safety Services, at jschmidt@mmua.org.

Power, pixels, and promises

Continued from page 19

Amazon and others have announced exploratory moves into nuclear and other firm generation to guarantee baseline power for growth in AI services. These investments remain complex, costly, and political, but they signal an appetite where big corporations with business needs are willing to underwrite new dispatchable, low-carbon sources when wind and solar alone cannot satisfy the energy load.

Communities and resource managers raise practical constraint concerns beyond the power grid. Many modern data centers use water-based cooling systems that draw on groundwater or municipal supplies. In Minnesota, residents, environmental groups, and regulators scrutinize water use, land impacts, and the transparency of environmental reviews as projects are considered. In 2025, lawmakers are passing measures to ensure environmental assessments keep pace with the rapid rise of data centers. A new data center can generate construction jobs and tax revenue, but it also requires new pipelines, roads, and social services, and it can alter a region's long-term resource footprint. Communities are rightly concerned, and they scrutinize all of the elements and their impacts on the area as they consider data center projects.

Finally, as data centers become a fact of life, everyone plays their role. Utilities must balance rate designs, customer protections, and where to allocate the costs of grid expansion. Legislators weigh tax incentives and environmental safeguards. Tech companies weigh the cost of clean power and the reputational benefit of hourly matching. In practice, each new data center campus forces a negotiation over who shoulders capital costs, who reaps the economic benefits, and how regulators protect ratepayers from subsidizing corporate expenses. That debate will determine whether the data center boom produces jobs and decarbonization or utility headaches and higher bills in the future.

The short run looks messy but manageable: utilities plan lines, builders propose generation, and cloud firms sign PPAs or test flexibility. The long run demands clearer rules and faster investment in clean firm power, storage, and grid modernization if society expects AI to scale without eroding climate goals or grid reliability. Policymakers, utilities, and tech companies must keep negotiating so the digital economy grows on a foundation that both supports innovation and protects the public interest.

Upcoming events

Utility Resilience Workshop

January 20, 2026
MMUA office, St. Louis Park

Minnesota cities and local utility companies face an imposing array of physical and cyber risks that are very real and increasing by the day.

Like all businesses, public power and other hometown utilities are potentially exposed to vandalism, theft, and data breaches involving personal information of employees, customers, and vendors. However, utilities face an even greater risk when they are exposed to cyber espionage, cyber extortion, and cyber-attacks that manipulate or destroy utility control systems and the equipment they operate and rely on. Whether bad actors try to break into a substation or hack your IT system, you want to be ready—and this workshop will help you prepare.

Join MMUA and a host of state and national experts who will offer valuable insights that can help you identify and mitigate these imposing threats. You will learn how to protect your vital systems, infrastructure, and reputation. For more information, go to the MMUA event page at mmua.org/events.

Governance in Action: The View From a Commissioner's Chair

January 23, 2026
Holiday Inn & Suites, St. Cloud

Serving as a utility commissioner comes with both opportunity and responsibility. This one-day session provides a solid grounding in governance principles and best practices for Minnesota's municipal utilities. You'll review the key statutes that define commission authority, clarify the line between governance and operations, and explore how commissions and city governments can work together effectively. Financial oversight will also be addressed, and case studies will help you learn to apply your knowledge in real situations.

While designed for commissioners, utility staff and city council members will also benefit from attending. Alongside the structured learning, you'll meet fellow commissioners and others interested in governance, building a peer network to support you in your role. For more information, go to the MMUA event page at mmua.org/events.

Meter School and Pre-Conference

February 4–7, 2026
MMUA Training Center, Marshall

Meter School is an annual opportunity to receive hands-on technical training in electric metering. Participants choose from two course options: Beginner/Intermediate and Advanced. Both courses are flexible and allow participants to progress at a pace to fit their motivation and abilities. The Pre-conference Workshop is ideal as an introductory or refresher course on basic metering. For more information, go to the MMUA event page at mmua.org/events.

Please scan the QR code to go directly to the MMUA event registration page.