

THE RESOURCE

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Minnesota Municipal Utilities Association



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MMUA
3131 Fernbrook Lane North
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SMMPA 2.0 takes EV charging to the next level for member communities

Editor's note: In 2019, the Southern Minnesota Municipal Power Agency (SMMPA), which generates and transmits wholesale power to its 18 municipal member utilities in Minnesota, embarked on "SMMPA 2.0."

SMMPA 2.0 is an initiative to build on SMMPA's work in providing dependable energy to its member utilities, while also taking the next step forward by providing increased sustainability to its members, including through the promotion of electric vehicles (EVs) through the installation of EV chargers in member communities.

MMUA caught up with Joe Hoffman, SMMPA Director of Agency and Government Relations and Chief External Affairs Officer, to see how this initiative is going and what they have learned so far.

MMUA: Tell me about the project that started in 2019.

Joe Hoffman: It was all part of



Michelle Murphy, Administrative Assistant for the City of Waseca, tries out a fast charger in Waseca that is part of the SMMPA EV charging network.

SMMPA's 2.0 initiative, which was finding out what our role was in supporting the transition to EVs and getting the public comfortable with this transition. Part of that was recognizing

that existing direct current (DC) fast chargers were mainly located along major travel corridors and not in some of the more rural communities.

The underlying issue for many

prospective EV owners is range anxiety—how far you can go before needing to recharge. Building a fast-charging network in greater Minnesota became one of the goals for SMMPA.

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Record number of Minnesotans gather in Washington for 2023 APPA Legislative Rally

By Bill Black



Senator Klobuchar shared a laugh with (l-r): Mayor Thomas Kuntz of Owatonna, General Manager of Rochester Public Utilities Mark Kotschevar, and General Manager of Marshall Municipal Utilities David Schelkoph.

Minnesota Public Power turned out to rally at the 2023 APPA Legislative Conference February 27 through March 1 – in fact, more so than in any year before.

With 75 utility managers, mayors, city councilors, commissioners and others, this year's day on the hill for MMUA members set an attendance record. The messages they brought to the U.S. Capitol were heard loud and clear by the state's

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Legislature approaches halfway mark

By Kent Sulem

Minnesota's 2023 regular legislative session convened on January 3 and must adjourn by the end of day on May 22, so mid-March marks the halfway point of the session.

This milestone is marked by the arrival of the first policy deadline, which means a bill must be out of all relevant policy committees in either the House or Senate by the end of day on March 10 in order to proceed without special action. A bill must be out of all relevant policy committees in the other chamber by March 24. Any bill with financial provisions must be out of the relevant finance committee by 5:00 p.m. on April 4, a week before the legislature takes its spring break from 5:00 p.m. April 4 until 8:00 a.m. April 11.

Looking back, January 3 seems a long time ago, and yet it also doesn't seem possible we are approaching mid-March. Perhaps this is because the legislature

has been on overdrive all session, cranking out and acting on bills at a very fast pace. As of March 3, the House had introduced 2,554 bills while the Senate kept pace with 2,501 bill introductions. Twelve bills have made it all the way through the process and have been signed into law by the Governor, one of which will probably be the bill with the greatest overall impact on municipal utilities.

Listed as 2023 Session Laws Chapter 7, the "100% Carbon-Free by 2040" bill was signed into law on February 7, and took effect on February 8. The new law establishes a mandate that by 2040, all electricity sold in Minnesota must not emit any carbon. In addition, 55 percent of the power must be from renewable sources by 2035. Leading up to the complete ban on carbon-based sources, a utility must be 60 percent carbon-free by 2030 and 90 percent by 2035. For most of MMUA's membership, the obligation will actually fall on the

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Staff

Chief Executive Officer

Karleen Kos, kkos@mmua.org

Director of Administration

Rita Kelly, rkelly@mmua.org

Director of Finance

Larry Pederson, lpederson@mmua.org

Director of Gov't Relations and Senior Counsel

Kent Sulem, ksulem@mmua.org

Director of Training and Safety

Mike Willetts, mwilletts@mmua.org

Government Relations Attorney

Bill Black, bblack@mmua.org

Government Relations Liaison

Michael Siebenaler, msiebenaler@mmua.org

Multimedia Journalist and Content Creator

Reid Baumann, rbaumann@mmua.org

Marketing and Member Relations Manager

Christian Glanville, cglanville@mmua.org

Accounting Assistant

Karen Heiden, kheiden@mmua.org

Safety Services Coordinator

Theresa Neddermeyer, tneddermeyer@mmua.org

Ass't Director of QA and On Demand Services

Anthony Lenz, alenz@mmua.org

Ass't Director of Education and Outreach

Cody Raveling, craveling@mmua.org

Ass't Director of Technical Services

Jay Reading, jreading@mmua.org

Ass't Director of Workplace Safety Services

Joseph Schmidt, jschmidt@mmua.org

Regional Safety Group Program Leader

Mike Sewell, msewell@mmua.org

Regional Safety Group Coordinator

Jason Gorr, jgorr@mmua.org

Regional Safety Coord./JT&S Instructors

Keith Byklum, kbyklum@mmua.org

Travis Denison, tdenison@mmua.org

Mike Grabow, mgrabow@mmua.org

Brad Gunderson, bgunderson@mmua.org

Rusty Kadarabek, rkadarabek@mmua.org

Generation Coordinator/JT&S Instructor

Paul Helling, phelling@mmua.org

Natural Gas Circuit Rider

Dennis Danielson, ddanielson@mmua.org

Regional Safety Coordinators

Adam Chesney, achesney@mmua.org

Brad Levasseur, blevasseur@mmua.org

Dan Nath, dnath@mmua.org

Bernie Richards, brichards@mmua.org

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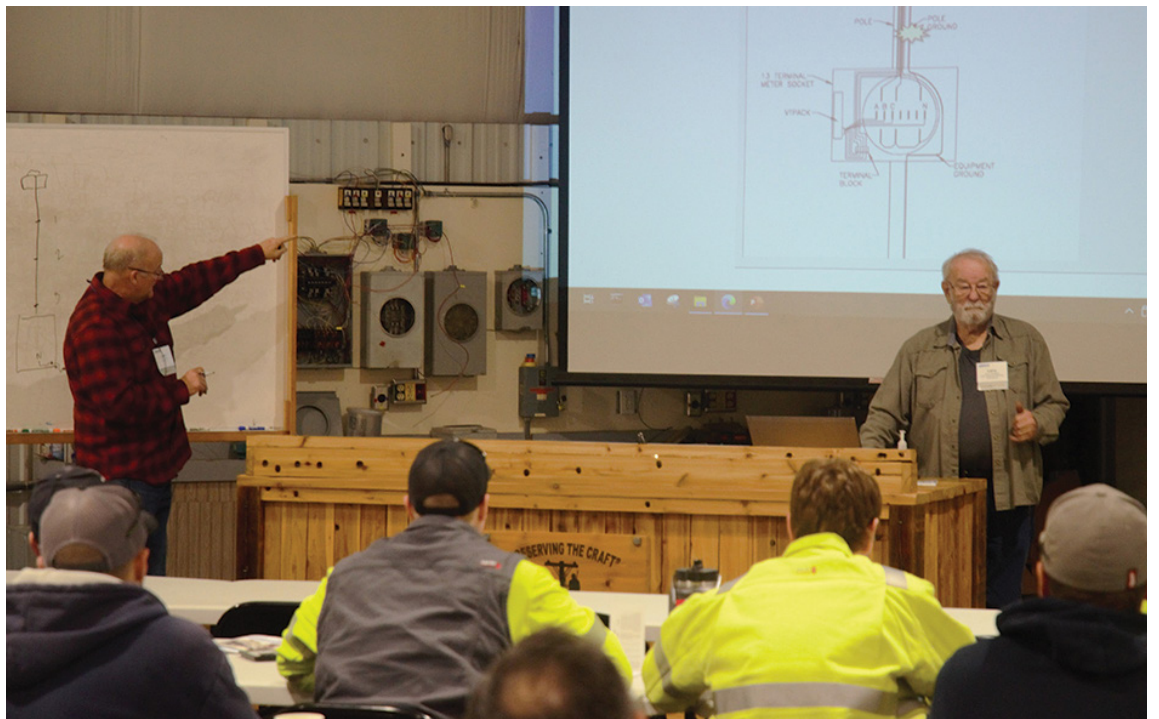
Meter School

Students met at MMUA Training Center in Marshall to learn everything they need to know about meters and metering.

The pre-conference workshop and school ran from February 7 through 10. MMUA thanks everyone who attended and presented.



MMUA's Cody Raveling welcomed students to the school.



John Pollard of TSTM, Inc. and Larry Chapman of Larry Chapman Metering Consultants presented together at times, sharing their metering knowledge in a fun and engaging way.



Students from multiple states were in Marshall to learn about meters and metering.

Rock your utility priorities

When you have too many top priorities, you effectively have no top priorities.

— Stephen Covey

I've spent a couple of decades facilitating planning sessions with groups. One kickoff technique is to fill a glass jar with big rocks until it looks full. The rocks represent organizational priorities, and the jar represents available time.

The thing is, if you pour a bunch smaller rocks and sand—representing other tasks—and water—representing insidious time-stealing distractions—into the jar, it will all fill in around the big rocks and more than



double the weight of what needs to get done in the same amount of time.

Doing this demonstration helps planners remember that the big rocks, the organizational priorities, only fit in the jar because we put them in first. If we don't prioritize the big things, the little things will take up all the space. Then everybody will be doing more ... but not better.

With this visual in mind, I challenge you and your team

to identify the big rocks that should go in your municipal utility's jar.

Ripped out of the headlines.

I recently saw two things in the *Wall Street Journal* (WSJ) that I think can offer some insight into how we might think about those few items that matter most for Minnesota's municipal utilities in 2023.

The first article, "Electric Vehicles Are Shattering the Barrier to Adoption that Could Matter Most," said, in part:

"With recent price declines, the cost to buy and operate some electric vehicles over several

years is now roughly on par with their gasoline-powered counterparts. [...] Nearly all of the vehicles at cost parity with their gas equivalents are non-Teslas." The companies now making the lower cost-to-own electric vehicles (EVs) include traditional brands like Ford, Chevrolet, and Toyota.

The second WSJ item that caught my attention is a video called, "Campbell's Took a Risk by Redesigning Its Iconic Soup

Can." The film explains how the well-known purveyor of potage has taken steps to evolve with customers' changing needs and perceptions.

EV rivalries and cream of mushroom soup offer a window into identifying our "big rocks."

The story about downward pressure on EV costs strikes me as a stark reminder that new kids on the automaking block are just that: new. Prices are coming down because of how the established companies are responding to the same needs the EV companies popped up to fill.

The same is true of utilities. Plainly said, there is a market need for carbon-free electricity. Those that view the transition to clean energy as an annoying, made-up crisis that is the stuff of activists, political extremists, opportunists, and weirdos will have a very hard time these next few years, just as automakers that were late comers to the EV party are struggling.

This change is happening. WHY it is happening is less important than THAT it is happening—and seismic industry-level change is not new. Ships evolved from wind-filled sails to diesel engines to nuclear power; transportation evolved from animals to railroads to jets. The lesson of the past—and from today's auto industry—is that it is much easier to make changes when you embrace them than to do so while being dragged kicking and screaming into a new era.

The other thing about the EV story is what we can take from the fact that traditional automakers are now besting Tesla in several ways. The sheer amount of know-how in legacy companies will provide them with a

From My Desk to Yours

Karleen Kos
MMUA CEO



considerable advantage during the bumpy years of energy transition ahead, provided they use it to help move the change along and not to justify the status quo.

Again, the same is true of utilities. We have been around for a long time. Our communities know us, and we know how to make sure folks are not sitting in the cold and dark. While it is true that a lot of things about the power supply and transmission are out of our hands, we still have much to say, and much expertise to bring to the table as we navigate this transition.

The Campbell's soup item reminded me of the warm feeling one gets from things that are familiar. The red and white can, the reliably consistent smell of chicken noodle when you are just in from sledding, the smoothness of cream-of-whatever in your church basement hotdish, are all comforting.

Yet today other brands beckon us with soup that seems more modern, odd as that sounds when referencing food. So, Campbell's has taken the matter in hand, gotten rid of some of its most objectionable ingredients, updated their labels, and adopted new ways of connecting with customers of all ages. They have also committed to making their soup with excellence, selling

off other product divisions that distract them.

Utilities can take a page out of Campbell's playbook. Our townspeople know us. We might be as familiar as a can of creamy tomato. Our job now is to update how we advertise and deliver our product so that it sends the message, "We are here, we are leading our community into the carbon-free era, and we are committed to serving you with reliable, affordable utilities. You can trust us."

As you plan for a carbon-free future in your community, consider these "big rocks" for your jar before you get lost in the pebbles and sand of day-to-day operations.

1. Service delivery. At the end of the day, people care whether their lights, heat, and air conditioning come on. Some of it is out of your control, but do everything you can to modernize and protect your system. Work relentlessly with your joint action agency, MMUA, and others on plans to make sure your hometown has the best, most reliable and affordable service anywhere.

2. Communication. In the coming years, you need to have your community's support. To get that, ratepayers need to understand what is happening and why municipal services are the best option for your city. Look at Campbell's soup or Coca-Cola. Times change, they gradually evolve their products and marketing, but mostly they make sure their customers know why they are the best. Don't leave communication to the things you have time for and the people who aren't too busy. Build a communication plan and carry it out, even if you have only three employees.

3. Visibility. Show up around town, make sure folks both see you contributing to the community and listening to their concerns. Foster coverage in local media, have a consistent brand presence on your vehicles, sponsor events, and field a softball team. Offer customer forums. Invite community groups to meet in your spaces. You are

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Utility Priorities

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literally bringing the light to your hometown; don't hide it under a bushel. People value "doing good", but only if they can see it.

4. Relationships. This may seem obvious, but it is a huge advantage over the "big guys." You know your customers, your utility leaders, your employees, and your vendors. Prioritize those connections and build on them. Often, they help you get things done more quickly, safely, and cost-effectively. Whenever things get tough, the strength of relationships is the thing that makes the difference between a favorable outcome and a not-so favorable one.

5. Foster nimble decision-making and the ability to pivot quickly. One advantage our smaller organizations have over huge ones is that we can move more quickly if we want to. If you don't already have a nimble culture, prioritize developing it.



6. Staff improvement. We know that staffing is going to be a challenge in the coming years, both because there are fewer workers, period, and because drawing them to outstate areas is challenging. Make one of your rocks building and executing a plan for investing in current staff and attracting and retaining new people. This may mean partnering with other community groups, economic development personnel, and schools to build a strategy for the next 20 years or so.

Stephen Covey, author of *The Seven Habits of Highly Effective People*, had a lot to say about priorities.

I started this column with one of his quotes. Here's another that is particularly germane right now: "The key is not to prioritize what's on your schedule, but to schedule your priorities."

As you plan for the many changes that are coming to your utility in the years ahead, focus on identifying and prioritizing the big things. Get them right, and then tell your story well. The rest will take care of itself.

Minnesota Energy Assistance Program launches new online joint application

From the Minnesota Department of Commerce:

The Minnesota Department of Commerce (DOC) announced on February 8 that Minnesotans can now apply for both the Energy Assistance Program and Weatherization Assistance Program through a new online joint application that will make it easier and faster to get help to pay their energy bills.

More than 114,000 Minnesotans have applied for help paying their energy bills since the program year began in October, an increase of 5.5 percent over last year at the same time. The program is funded by the federal government and administered by the Minnesota Department of Commerce. Eligibility is based on income. DOC's new online application allows applicants to more easily complete the application and upload required documentation rather than delivering the application and documents by mail or email or in person. Typically, 40 percent of applications are slowed by missing documents.

"We are here to help Minneso-

tans stay safe and warm in their homes with critical assistance for families struggling to pay their energy bills," said Michael Schmitz, director of Minnesota's Energy Assistance Program. "Our new online application simplifies the process for Minnesotans to apply and speeds up the process to review the application."

The Energy Assistance Program prioritizes emergency funding to help income-eligible Minnesotans who have received disconnection notices or are otherwise facing energy emergencies. Eligibility is determined through a one-time application, whether online or on paper. The program has helped nearly 64,000 Minnesota households overall and has prevented 7,700 disconnections this winter. The Energy Assistance Dashboard, which is updated weekly, provides data about households served.

Learn how to apply for Minnesota's Energy Assistance Program, including new how-to videos for using the online application: mn.gov/commerce/energy/consumer-assistance/energy-assistance-program/.



The launch of the online Energy Assistance application follows the rollout of DOC's new website this month. Both initiatives reflect a goal of making it easier for Minnesotans to interact with agency programs.

The Minnesota Energy Assistance Program helps pay energy and water bills for eligible Minnesotans. DOC administers the program through a network of local service providers. The new online application allows potential recipients to apply for

both Energy and Weatherization Assistance.

Payments for energy and water bills are sent directly to a household's utility company or to a provider of fuel, like propane, fuel oil, or wood. The federally funded program is free and provides benefits of up to \$1,400, plus additional support to respond to emergencies.

Both renters and homeowners can qualify. Eligibility is based on income and household size.

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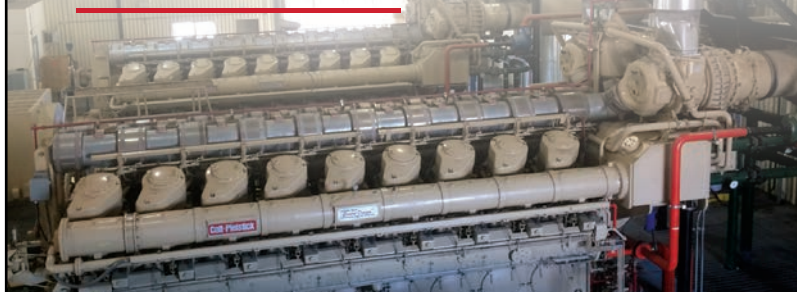
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Pacific Gas and Electric experiments with virtual power plants



Pacific Gas and Electric (PG&E), a large Oakland, California-based investor-owned utility, is experimenting by using virtual power plants (VPP) in different ways to meet energy needs on the West Coast.

VPPs are distributed power sources that can provide energy back to the grid. In a home setting, most of today's VPP systems consist of home solar paired with battery storage. These efforts include partnerships with two companies: home battery and electric vehicle producer Tesla, and home solar provider Sunrun.

The VPP project with Tesla started in the summer of 2022. This pilot focused on using VPPs to provide backup to the grid to prevent blackouts. Some 4,500

VPPs had joined the effort by the summer of 2022, with a maximum of 33 megawatts (MW) available to the grid. The pilot provides participants with up to \$10 per event, with each additional kilowatt-hour contributed to the grid earning a homeowner \$1.

This pilot has been acknowledged as a success, with Tesla Powerwalls and other home battery systems saving the California grid from rolling blackouts on September 6. On that day, 31 MW of power was provided to the grid from home VPPs.

The VPP project with Sunrun, which was announced February 6, will enroll up to 7,500 existing home solar and battery systems within PG&E's service area in a program that will store power

during the day and send it to the grid at night. Participants will be required to discharge their batteries to the grid from 7 to 9 p.m. each night from August through October, during a time of the day and year when power needs are highest in the state. According to estimates, this collection of home VPPs will be capable of backstopping the grid with 30 MW of energy.

In return, participants will receive \$750 and a free smart thermostat. The agreement will also allow battery owners to have enough energy left for their needs if there is a local power outage.

As the energy transition continues, it is clear that VPPs could play an important role in helping support the grid when it needs it most.

Russians attempt to damage North Sea energy infrastructure

A report from Dutch military intelligence on February 20 said that a Russian ship has been seen in the North Sea, attempting to learn more about undersea cables, wind farms, and pipelines located in the region.

The ship was escorted away by the Dutch Navy and Coast

Guard. The Dutch intelligence sources said that the Russian ship seemed to have a particular interest in examining the extent of offshore wind farms in the area.

Many European countries have been watching their waters more closely after the sabotage of the Nord Stream 1 and 2 pipelines in September of 2022.

National clean fuels standard could be in the works

On February 15, senators on the Environment and Public Works Committee in the U.S. Senate considered the adoption of a national clean fuels standard for transportation, one that may include options like ethanol and hydrogen fuel.

A key component of testimony before the Committee was a desire not to restrict types of

clean fuels as long as they aided the overall goal of reducing carbon dioxide that is being emitted by transportation.

Ethanol was also touted by senators from several states, including Nebraska and Michigan, as an important fuel for a future standard.

The United States currently does not have a national clean fuels standard.





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East Central Energy completes acquisition of North Branch Water and Light's electrical distribution system

On February 3, East Central Energy (ECE) completed its acquisition of North Branch Water and Light's (NBW&L) municipal electric distribution system.

The final price of the sale was \$5,318,943. About 2,000 homes and businesses that were previously part of NBW&L were transferred to ECE.

ECE is a member-owned electric cooperative founded in 1936 and headquartered in Braham, Minnesota.

NESC workshop updates utilities on latest requirements

MMUA's Mike Willetts was on the road from late January through mid-February, sharing the changes in the National Electric Safety Code (NESC) with staff for utilities from multiple states.

Willetts says the NESC originated in 1914, with its present-day content reflecting the influence of the Occupational Safety and Health Administration (OSHA), and OSHA enforcing the code. For many years, Public Power was not represented on the NESC update team. This has changed in the last 10 years, and there are now two representatives from Public Power that work on the code.

Under the NESC, the first goal is to protect employees and the public by getting as close to 100 percent safety as possible. The second goal is to show compliance under the code if a utility is in court for a litigation process. In that way, the NESC protects people and utilities.

Willetts noted how much safety practices have changed since he entered the field. Fire retardant (FR) clothing used to stay in the truck or locker because it was so expensive and a culture had not developed of wearing it continuously.

Further back, the same idea would apply to safety glasses or hard hats. Now, personal protective equipment (PPE) is a prerequisite for every task and part of most organizations' safety culture.

The most recent changes in the NESC cover a variety of areas, most notably emerging technologies within the electrical field. The Code this year includes changes to rules surrounding

photovoltaic generating stations (solar farms), grid storage batteries, and changes to radio frequency (RF) safety. This year's APPA Safety Manual update has 20 pages on RF safety, as wireless internet grows and further encroaches on electrical infrastructure.

Arc flash is another concern that continues to affect electrical workers. Willetts said that rules preventing arc flash are

something the NESC team continues to work on. To mitigate this problem, it is recommended that workers use shields whenever necessary.

One real takeaway of the event was that accidents usually occur while lineworkers are doing familiar tasks they have carried out many times before. Even though electrical professionals work in a dangerous field, it is easy to occasionally

lose focus on the safety mindset. Similar to driving a motor vehicle—another inherently dangerous task—doing it frequently and easily can lend itself to loss of focus. That is when safety slip-ups and accidents can occur.

The daylong NESC sessions occurred in Alexandria, Grand Rapids, New Ulm, and at MMUA headquarters in Plymouth.



Mike Willetts, MMUA's Director of Training and Safety, shared the changes in the NESC along with safety incidents that have happened over the years, and how following the NESC could have prevented them.



A good-sized group was present in Plymouth as well as at other meeting sites.

Canada to build first commercial-grade geothermal plant



Deep Earth Energy Production Corporation, a Saskatchewan-based company, announced on February 6 that it will begin construction in 2023 of a 25-megawatt geothermal power plant in southeast Saskatchewan.

The plant is expected to come online in the summer of 2024 and provide power to 25,000 households.

The project will use oilfield drilling techniques to access the geothermal resources, drilling vertically approximately 2.2 miles and horizontally 1.9 miles. Deep Earth Energy believes this technique could be applied to similar geothermal resources around the world.

If projects like this are successful, geothermal could emerge as an important type of baseload power in areas that possess geothermal resources.



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\$17 billion Minnesota budget surplus intact in February

Minnesota Management and Budget (MMB) released its latest economic forecast on February 27.

It appears that the \$17 billion-plus surplus projected previously still exists. This is the number the Legislature will use to make budget decisions for the next two years.

Here is MMB's top-line summary related to the anticipated surplus:

Minnesota's budget and economic outlook remains stable with a general fund balance of \$17.455 billion now projected for the next biennium, the majority of which is leftover balance from the current biennium. Higher collections this fiscal year and



higher profits raise the individual income and corporate franchise tax forecast; however, the statutory inclusion of inflation in the spending forecast offsets the gain in resources. The U.S. economic outlook is improved with lower expected inflation and a milder recession expected this year. As in November, we expect revenues to exceed spending through FY 2027.

2023 APPA Legislative Rally

Continued from page 1

congressional delegation from many speakers within the group.

At meetings on the hill Wednesday, March 1, Senators Klobuchar and Smith and Representatives Fischbach and Stauber all attended in person. Staff of Representatives Craig, Finstad, McCollum, and Phillips sat in for their bosses, as is sometimes the case in congressional constituent meetings. Each received a half-hour tutorial on the major issues facing Minnesota's municipal utilities. They heard about the need to protect and preserve recent federal infrastructure investments and about the importance of guarding and expanding the public financing tools needed to implement them. Presenters also explained the very real problems a utility faces when it takes a year or more to get new transformers and other equipment because of global supply chain issues.

Coordinated by MMUA staff on the last day of the conference and held right in the U.S. Capitol Visitor Center, MMUA's day on the hill has the feel of policy making by the people and is annually the rally highlight for most North Star State attendees. In fact, MMUA is known throughout the public power world for developing this "Minnesota model," where our



Detroit Lakes Public Utilities General Manager Vernell Roberts, Hibbing Public Utilities General Manager Luke Peterson, and Grand Rapids Public Utilities General Manager and incoming MMUA Board President Julie Kennedy met with Representative Pete Stauber (second from left). Topics discussed included protecting and preserving public infrastructure as well as investments and public finance issues faced by municipal utilities.

elected officials come to a room where the entire MMUA delegation is waiting to greet and talk with them. This show of numbers and unanimity tends to convey a more powerful message than the more common practice of splitting up to visit each Congressional office separately.

There is more to the conference than our visits with legislators, though. During the prior two days, Minnesota's contingent and their public power brethren from across the nation mingled and learned from each other at APPA's large welcoming reception with excellent food and drink and at informative

seminars in top-notch facilities. Meetings of APPA's Advisory Committee, a group of state association leaders, and of the Legislative and Resolutions Committee, which is populated by one voting representative from each APPA member entity, rounded out the agenda. At these meetings, the groundwork is laid for APPA's ongoing advocacy in Washington throughout the year.

Could 2024 Minnesota numbers top this year's? If you haven't attended before, it may be time to look into it.



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Obama-era mercury emissions rules reinstated

On February 17, the Biden administration finalized Environmental Protection Agency (EPA) rules on mercury and acid gas emissions that will require coal and oil-fired power plants to reduce their emission of these pollutants.

The rules were originally put into place in 2012 and were changed during the Trump administration.

The 2012-era mercury and acid gas standard will stay in force until the EPA formulates new rules that use current research on the pollutants and their effect on human health.



Nuclear-produced green hydrogen gets EU approval

According to rules published by the European Union's (EU) European Commission on February 13, some hydrogen that is produced from nuclear power within the EU will now contribute toward the group's renewable energy benchmarks.



The rules set forward three types of hydrogen that will count toward renewable energy: hydrogen from facilities that are connected to a new renewable electricity generator, those that take grid power if the local electricity area had more than an average 90 percent share of

renewable power, and those that take grid power in regions with a low carbon dioxide emissions limit.

The rules will become permanent in two months, during which time EU countries and policymakers can comment.

Clog causes massive wastewater spill in Winston-Salem



On February 18, more than 9,000 gallons of wastewater spilled in Winston-Salem, North Carolina.

An estimated 9,350 gallons of untreated wastewater entered Peters Creek after "disposable" wipes clogged the wastewater system and caused a spill. The North Carolina Department of

Environmental Quality, Division of Water Resources, will be looking into the spill.

This accident is a good reminder that even so-called "flushable" wipes rarely are. It is important to let customers know that wipes should be thrown in the trash so they don't damage or clog wastewater systems.

Seawater split without treatment into green hydrogen

Two professors from the University of Adelaide in Australia have led their team to a breakthrough: splitting seawater into oxygen and hydrogen without the use of any treatment processes.

Previously, seawater needed to be alkalinized or purified before being efficiently split. In this process, untreated seawater was successfully run through an electrolysis process using an inexpensive catalyst.

Because freshwater is an increasingly desirable commodity, the team emphasized the effectiveness of using saltwater, which is a more common resource. They plan to scale their new process up so that it can be used commercially in the future.



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Rooftop solar coming to historic buildings

Throughout much of the world, historic or traditional types of roofing make replacement with typical solar panels difficult.

Now, an Italian company called Dyaqua is trying to change that.

Dyaqua has invented a line of solar panels called "Invisible Solar" that look like the ceramic or clay tiles traditionally used as roofing on homes in the Mediterranean region and elsewhere in the world. By using this product, homeowners or historic sites can maintain the historic appearance of a home while also generating solar electricity.

Invisible Solar has already been installed at the historic site Pompeii near Naples, Italy.



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Iowa legislature advances bill on solar panel array locations

On February 6, a bill advanced through the Iowa Senate that would delineate where solar panel arrays could be located in the state.

The bill, called Senate Study Bill 1077, would prevent commercial solar arrays from being erected within 150 feet of a neighboring property, or within 1,250 feet of a neighboring home.

Much of the impetus behind the bill is that some people who live in rural areas want to maintain the rural look, and don't like the look of solar panels in their vicinity.



Many opponents of the bill, such as electric companies, renewable energy advocates, and nonprofits, are coming together to voice concerns about the bill. They claim that too many restrictions on solar

arrays in rural areas could make them more difficult to build.

The bill was advanced out of subcommittee on a 2-1 vote, with both Republicans in favor and the Democrat opposed.

Carbon capture leaders call for industry initiative, standards

A diverse group of leaders in the carbon capture industry released an open letter on February 10 that calls for a nonprofit initiative that would scientifically support guidelines for the industry, as well as objectively understanding the effectiveness of differing carbon capture techniques.

As with other emerging technologies, the group wants to develop standards and practices

that can add value for everyone in the industry, while moving away from an environment where decisions or practices are made at the behest of just a few industry leaders.

Signatories included leaders from major carbon capture companies, non-profits, academia, and companies with a strong interest in carbon removal, like online payments firm Stripe and e-commerce company Shopify.

FERC gives 2022 generation data update



in 2022, including that new renewable energy sources are powering nearly three-quarters of all new utility-scale generation.

FERC's December 2022 Energy Infrastructure Update reported that 74.1 percent of new generation capacity in 2022 came from renewables, with 39.6 percent of the total coming from solar and 33.9

percent coming from wind. Natural gas composed 25.8 percent of new generation capacity.

Renewables now comprise 27.3 percent of all installed generation capacity in the U. S. According to FERC's projections, renewables will make up nearly 33 percent of all generation capacity in the U.S. by the end of 2025.

The Federal Energy Regulatory Commission's (FERC) recently released generation update revealed some interesting trends

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Concentrating solar power plants are adding to the renewable landscape

A little-known emerging technology, concentrating solar power (CSP) plants, could provide another piece of the overall clean energy solution.

While conventional solar power has developed faster, CSP is a fascinating power multiplier that is powering small parts of the grid now and holds even more promise for the future.

CSP works by using mirrors or lenses to concentrate sunlight into a receiver. The heat generated can then be used as a heat source for a conventional power plant. In most systems, the heat is used to raise the temperature of water, oil, or salts, which can then be

used for heat transfer.

The most commonly used type of CSP system uses a parabolic trough (a parabola-shaped trough) to collect sunlight and focus it on a tube that runs the length of the trough. The liquid inside is heated, and then it can be used to generate electricity or for other purposes. The trough itself tracks with the sun angle during the day to maximize the amount of solar power it can generate.

Another version of CSP is called the solar power tower, which collects sunlight from many reflectors on the ground and directs the sunlight to a receiver on top of a giant tower. As with the parabolic trough, the reflectors

track with the sun to collect the optimal amount of sunlight.

One thing that differentiates CSP from conventional solar is that the fluid being heated using the sun's energy can maintain its heat energy long after the sun has set. When these plants have been adapted for storage, the heated salts or oils are stored in insulated tanks, where they can be used to provide power on-demand at any time. The dispatchable nature of this technology, as well as CSP's ability to efficiently produce steam for other uses, has driven the construction of CSP plants as well as an increase in research dollars from the federal government.

CSP does best in areas with

high amounts of solar radiation, which in the U.S. is primarily found in the Southwest and in Florida. As a result, most CSP plants have been constructed in these areas. The most significant examples of the technology currently in use are in California, Nevada, Arizona, and Florida.

The newest idea in CSP is not heating a liquid, but heating particles. The Department of Energy (DOE) is in the process of testing this new system at the DOE's National Solar Thermal Test Facility in Albuquerque, New Mexico.

The system works by heating aluminum oxide-based particles that are 300 micrometers— that

is, three-tenths of a millimeter. The heated particles are stored in an insulated bin before being passed through a particle-to-fluid heat exchanger. The heat exchanger, using supercritical carbon dioxide, can create power even when the sun isn't shining. Scientists estimate the system could produce 100 megawatts of power all day long.

Research and growing interest in this unique and emerging form of solar power could eventually drive increased installation of CSP that provides reliable power around the clock. Just don't expect to see it in Minnesota anytime soon.



The Gemasolar Thermosolar Plant in Fuentos de Andalucia, Spain, is of the solar power tower

Safety Team meets

MMUA's Safety Team met in Plymouth on February 6. Joe Schmidt presented to all staff on some basics of safety and how to apply them to life.



Jason Gorr, and Joe Schmidt look on as Anthony Lenz makes his point.



Joe draws a laugh from Cody and Anthony.



Joe Hoffman, SMMPA Director of Agency and Government Relations and Chief External Affairs Officer

We deployed 15 DC fast chargers (DCs) in our member communities, and that was pretty unheard of at the time. We are now seeing more DCFCs being installed in rural Minnesota. The DCFCs in the SMMPA network can generally provide about 100 miles of charge in 30 minutes. SMMPA also deployed 30 level 2 chargers in these member communities.

Level 2 chargers are more of an overnight charger. In Preston, the level 2 chargers were placed near two hotels. Range anxiety seemed to be a major roadblock to EV adoption and we wanted to be part of solving that problem.

MMUA: As we understand it, SMMPA's idea was to have a one-port fast charger and a two-port level 2 charger in each of your 18 communities. Have you accomplished that?

Joe Hoffman: We have. There may be one or two chargers yet to be installed, but the network is pretty much built out at this point. A DC fast charger with 50 kilowatts is in each of the communities, and there are two different charging handles on those. We also have two level 2 chargers, and each one has two different charging ports. Three chargers are available

to each member community. One member opted out at this time because they don't yet see a demand for public charging in their community. So we have a total of 45 chargers.

We allowed each community to make the decisions about where to locate the chargers. Some put them together to create a charging hub; others dispersed them around the community. For example, one is by a hotel, and one is by the visitors' center in Preston.

Some are in city parks, and some are at private businesses. The DC fast chargers take a 480-volt, three-phase service. This isn't necessarily available everywhere in the community. There are significant costs with bringing three-phase to a new location.

Under the SMMPA system, the members were required to bring the power to the chargers. SMMPA provided the chargers, but then each member was responsible for installation, distribution electrical work, and the traditional electrician work.

MMUA: How much do installation costs run?

Joe Hoffman: A public level 2 charger can be purchased and installed in the \$5,000-\$10,000 range. A DC fast charger with installation could cost \$50,000-\$100,000 or more. The distance from three-phase service is a big factor.

MMUA: Have you heard of utilities that have had great success with this and expanded past the initial chargers? Have you had some where adoption has been slow?

Joe Hoffman: Lake City and St. Peter have expanded with additional DC fast chargers. So far, we haven't discussed

expanding the network as we haven't seen vehicles backing up at the chargers yet. That would be the factor that could drive the expansion of the network.

However, we knew that the chargers wouldn't likely receive heavy use. About 90 percent of charging takes place at individual homes. The SMMPA charging network is more for people visiting the communities or passing through so they could get more comfort with owning an EV and the limitations on range that come with that.

MMUA: How have communities directed motorists to the stations?

Joe Hoffman: Initially, we thought having them in a very visible location would be important.

We learned quickly that charging is largely driven by cell phone apps. Plugshare is one that offers an interactive map where you can see the chargers. You could put the chargers at the end of an alley somewhere and people would still find them. That reflects the technology and the fact that people who own EVs are pretty up on technology. So it seems more important to have accurate information on the maps, good descriptions of where they are, and pictures of what they look like than to insist on high visibility locations. With the right tools, people will find them on their own.

We are also well aware of challenges for people who live in apartments or who rent homes or condos. We are seeing more level 2 chargers that are built into a cord supplied with the vehicle and they plug into a dryer-type plug. What you deliver is 220V energy to the vehicle. Over time, I believe we will see apartments providing these receptacles in parking areas, with the cord being owned by the vehicle owner.

MMUA: How has the partnership with ZEF Energy gone? What observations can you make that would be helpful for a utility that is considering entering into an agreement with a similar company?

Joe Hoffman: We've been impressed with their expertise. They are one of the big players and are Minnesota-based. They've been excellent advisors on the technical side and we've had good communication with them. The chargers are located outside, and they are exposed to the weather and to the public. We've had some minor weather-related issues with the chargers, some issues with the credit card readers because they are exposed to the elements. We've had some minor mechanical breakdowns, electrical issues, some tampering like kids pulling buttons off. ZEF has been helpful in all of these situations. The chargers are something new and different and draw attention from the public. Unfortunately, we have even had a vehicle crash into one of

the chargers.

The chargers are owned by our member communities, so they are responsible for watching them. ZEF gives support as well, and if a driver has difficulty initiating a charge there is a 1-800 number to ZEF. Occasionally, these calls will go to the local utility, so we work to redirect those calls to ZEF.

I think we've learned that going into it with an open mind is important, and realizing that it isn't going to be perfect, but that there are ways to work through the challenges that we face. I mentioned some issues with the credit card payment system, we've ironed out a lot of those details. A lot of payments for charging are now made through phone apps. ZEF has their own



app, so the easiest way for people to charge on these chargers is to download the ZEF app and then they can shoot a QR code on the charger to initiate the charge. We have heard that "it is another app to download," so that can be frustrating, especially if you are just traveling through the state. The industry still struggles a little bit with collecting payment for charging sessions since there are a variety of individuals and businesses that own all these charging networks.

MMUA: Is there a SMMPA 3.0 in the works?

Joe Hoffman: Right now, we don't necessarily feel that SMMPA's charging network is at capacity. Going forward we will likely focus more on at-home EV charging. We are going to work with our members on promoting in-home charging, and that will be the next key thing.

The ECO Act addresses some of that—EV charging sales can be excluded from the utility's gross annual energy sales if those utilities have implemented an EV charging program, or EV charger load control, or have an EV rate in place. We are going to work with our members who are interested in implementing that. We also need to work with the public to make sure EV charging doesn't occur on-peak. I'm confident we can educate our citizens on the benefits of

having an EV charger at their (place of business) off-peak charging, and that ultimately it will result in more affordable and reliable electricity for all.

MMUA: How does the federal money for EVs play into your discussions?

Joe Hoffman: There are some discussions now about building out the state network on the key transportation corridors. We might have a few members along those corridors, so we are excited to pursue that funding. There is also some funding for installing level 2 chargers at various locations in Greater Minnesota. Several businesses in member communities have reached out to me about installing

DC fast chargers at their place of business—perhaps not realizing that it is a significant financial investment. We have had some interesting discussions surrounding fast chargers vs. level 2 chargers.

The automotive market is dealing with the same supply chain constraints we are. There are challenges getting batteries and getting vehicles built. Demand is outstripping supply with many EV models and the Inflation Reduction Act is providing new incentives starting this year. I'm fascinated with EVs and what they mean for our industry. It's exciting that our members will play a key role in moving to a cleaner transportation sector. It's going to be interesting for utilities to work with convenience stores on our role with EV charging. Since demand is still relatively low, a lot of convenience stores haven't dipped their toe in that water yet. There will be a transition in vehicle fueling, and it will be interesting to see what happens there.

MMUA: Will that look like a contract or profit sharing? What will that look like?

Joe Hoffman: Those are all the questions we have as well. We haven't worked through them yet, but it is on the to-do list—to look for a solution that works for the convenience stores and our member utilities.

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Legislature

Continued from page 1

utility's power agency, but any utility that is not a member of a power utility will need to directly comply with the mandates found in Chapter 7 of the 2023 Session Laws.

Thankfully, another bill, SF 41, which was introduced at the same time as Chapter 7, has not yet gained a house companion file, nor has it been scheduled for a hearing in any committee. SF 41 seeks to impose a fee of \$50 per ton of carbon emissions per year any year carbon fuel is burned. The fee would increase at a rate of \$5 per ton per year until the fee reaches \$200 per ton per year.

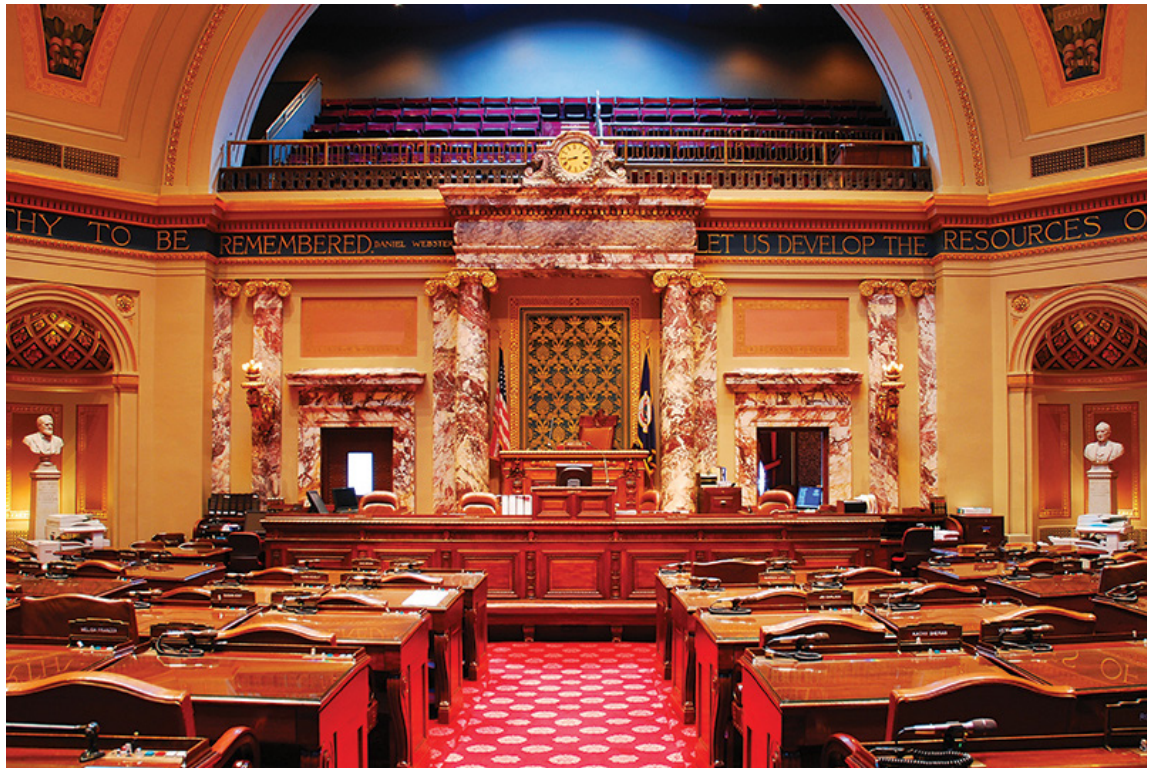
Bills seeking to expand the Solar-for-Schools program and to create a Solar-for-Public Buildings program have been moving their way through the process. MMUA is neutral on these pieces of legislation so long as they contain MMUA-negotiated language preventing third-party sales. The language was originally drafted to include rural electric co-ops, but was stripped back to just protecting municipal utilities in the House before the bill was laid over for possible inclusion in the House's Omnibus Energy bill. Debate over the scope of the protection against third-party sales caused the bill to be pulled from the Senate Energy Committee's agenda, and it has not yet been rescheduled.

Originally flagged as an issue

of top priority, HF 1656/SF 1622 are companion bills that would appropriate state money to be used as matching funds required by the grants being awarded under the federal IIJA and IRA programs. The bills passed easily out of the relevant policy committees but have been stuck in the House Ways and Means Committee, and the Senate's Finance Committee.

On March 2, MMUA was informed there was a difference of opinion between the Governor, the House, and the Senate over how much money should be so dedicated. Even though the House and Senate policy committees had passed the bills at \$156 million for FY 2023 (using surplus revenue), word was received that the Governor had decided the number should only be \$100 million, and for unknown reasons, the House agreed. After assorted calls and emails among lobbyists and legislators, a clarification was reached that the \$100 million was for immediate release and that the remaining dollars—and perhaps more—would be accounted as part of the budget process for the 2024 fiscal year, which starts July 1, 2023.

One additional piece of legislation that warrants discussion at the halfway point is HF1275, a bill being carried by Rep. Kraft (DFL, St. Louis Park) on behalf of the Office of Pipeline Safety (MNOPS).



The bill, as introduced, would require a lot of new reporting of incidents of delayed compliance and other problems associated with locating and marking the location of underground facilities, including pipelines, electric lines, and water pipes, if the reporting operator received 5,000 or more requests (tickets) in a year.

MMUA and others opposed the bill as introduced and reached out to Rep. Kraft, who volunteered to work as an intermediary with MNOPS in trying to find

a workable solution. At the time this article was submitted for publication, negotiations continued but progress appeared to be made. The Senate had not yet taken up the issue.

In addition to tracking thousands of bills, MMUA squeezed in a successful Legislative Conference in January, the first live event of its kind in three years. And as overviewed elsewhere in this edition of *The Resource*, the 2023 APPA Legislative Rally in Washington, D.C. was a huge success with

more than 70 representatives of Minnesota municipal utilities meeting with nine out of ten lawmakers from our Congressional delegation.

We are optimistic that the second half of the 2023 legislative session will go well. Be sure to follow updates by subscribing to MMUA's (mostly) weekly recap on legislative activity relevant to your utility, *The Capitol Letter*, and/or by being part of the Friday morning Zoom meetings of the Government Relations Advisory Group.

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EPA grant to repair Puerto Rican water infrastructure

On January 27, the Environmental Protection Agency (EPA) approved \$23 million in Puerto Rican water infrastructure projects, which are funded by the Infrastructure Investment and Jobs Act.

Water infrastructure projects will be built in Caguas, Coamo, Jayuya, Naranjito, and Orocovis.

The EPA-approved projects include the design and

construction of sanitary sewer systems in Coamo, Jayuya, Naranjito, and Orocovis, and a current wastewater treatment facility in Caguas that will be converted into a wastewater pump station.

The projects will help eliminate outdated public and private infrastructure and improve water systems in many areas on the island.

FERC moves on environmental impact statements may mean faster review times

Notices issued by the Federal Energy Regulatory Commission (FERC) regarding several planned pipeline expansions may mean a greater focus on environmental assessments (EAs) versus a recent preference for environmental impact studies (EIS) at the Commission.

This change has allowed FERC to move up EAs so they can occur months earlier than

previously planned EISes, which may mean a more expedited process and lower costs for energy developers. The downside is reduced public input and less-rigorously evaluated projects.

EISes seemed to be the preferred path under the previous leadership of Richard Glick at FERC, who used the longer EIS process to examine the impacts of projects more carefully.

NTIA says broadband grant recipients must “buy American”

As the U.S. moves forward with full-scale broadband deployment, the National Telecommunications and Information Administration (NTIA) said in a statement on February 9 that recipients of the \$42.5 billion Broadband Equity, Access, and Deployment (BEAD) funds must buy American materials for their broadband buildouts.

“Buy American” has loomed large as a component of President Biden’s domestic policy. It has entered the law in rules surrounding government purchasing and spending of monies allocated through initiatives like the Infrastructure, Investment and Jobs Act.

BEAD money will begin reaching states on June 30.

EPA to propose new coal plant rules in 2023

According to the Environmental Protection Agency’s (EPA) most recent plans, the Agency will propose a series of new carbon rules for existing coal-fired power plants in April.

The rules are expected to include modifications to rules on pollution that crosses state lines,

coal plant waste that enters groundwater, legacy combustion residuals from past coal activities, and mercury pollution.

The rules come at a time when coal-fired power plants are facing increasing pressure from regulators as well as the burgeoning renewable generation space.

Missouri River Energy Services names Matthew Schull as President and CEO



New MRES President and CEO Matthew Schull

On February 13, Missouri River Energy Services (MRES) named Matthew Schull as its next President and CEO.

He will assume the position on May 12.

Mr. Schull previously served as Chief Operating Officer of ElectriCities, a non-profit membership organization of municipal electric utilities in Raleigh, North Carolina. He has served as Vice President of the organization since 2009.

Mr. Schull has extensive roots in Wisconsin, where he was born

in Fort Atkinson. He earned a bachelor of science degree in electrical engineering from the University of Wisconsin-Madison and a master of business administration from the University of Wisconsin-Whitewater. He previously had roles at several Wisconsin-based energy companies before serving with ElectriCities.

He is replacing current President and CEO Thomas Heller, who is retiring in May after serving as the leader of MRES for more than 30 years.

FERC approves incentives for Great River Energy’s Minnesota, South Dakota transmission lines

The FERC voted unanimously to allow Great River Energy (GRE) a set of incentives for the construction of a transmission line in Minnesota as well as a second line that will go from Minnesota to South Dakota.

The incentives approved include the construction work in progress, or CWIP incentive,

and the abandoned plant incentive. The incentives provide assistance to GRE with the capital structuring of the projects, as well as recovery of costs if the project is abandoned or cancelled.

The Minnesota-only line, the Iron Range line, will extend 150 miles from Itasca County in northern Minnesota to Sherburne County northwest of the Twin

Cities. The Minnesota-South Dakota line, Big Stone, will extend 128 miles between the Big Stone substation near Big Stone City, South Dakota, and the Alexandria substation in Minnesota.

The granting of the incentives to GRE was debated among FERC commissioners, but ultimately was passed unanimously.



Bills in legislature seek aid, clarity for closing Oak Park Heights power plant

Xcel Energy’s coal-fired Allen S. King power plant is closing in 2028, and local politicians and citizens are attempting to ease the transition for people in the area.

The plant, which is located in the City of Oak Park Heights, just south of Stillwater, has been an important part of the

community since it opened in 1967.

Now, Republican State Senator Karin Housley and Democratic Representative Josiah Hill, who represent Stillwater in the legislature, have introduced two bills. The first would create formulas for giving state aid to Oak Park Heights after the plant closes, with the second

bill requesting further clarity from Xcel Energy about their decommissioning and demolition timelines for the plant.

Oak Park Heights is currently receiving Community Energy Transition Grant monies that will help workers at the plant transition to new jobs, attract new employers, and increase the city’s tax base.

Federal funding for rural electric investment reaches \$2.7 billion

The United States Department of Agriculture (USDA), through the Department's Electric Loan Program, is investing \$2.7 billion in 64 projects throughout rural America.

An estimated \$613 million of the loans and loan guarantees will go toward installing and improving smart grid technologies. Funds will also go toward the modernization and expansion of rural electrical infrastructure.

Rural Minnesota loan recipients include:

Beltrami Electric Cooperative, which received a loan in the amount of \$22,658,000. These funds will connect 1,480 consumers and build or improve 225 miles of line. The project also includes

\$1,317,000 in funding for smart grid technologies.

McLeod Cooperative Power Association received a loan in the amount of \$13,001,000. The funds will be used to connect 288 consumers and build or improve 74 miles of line. The plan includes \$2,039,629 for smart grid technologies.

Minnesota Valley Electric Cooperative received a loan in the amount of \$35,000,000. The funds will be used to connect 1,846 consumers and build or improve 1,631 miles of line. The projects include \$3,628,271 for smart grid technologies.

PKM Electric Cooperative received a loan in the amount of \$13,420,000. The funds will be used to connect 342 consumers and build or improve 119 miles of

line. Approximately \$1,074,000 will go toward smart grid technologies.

Red Lake Electric Cooperative received a loan in the amount of \$9,112,000. The funds will be used to connect 299 consumers and build/ improve 225 miles of line. \$104,000 will go towards smart grid technologies.

South Central Electric Association received a loan in the amount of \$13,000,000. The funds will be used to connect 188 consumers and build or improve 76 miles of line. About \$1,679,250 will go towards smart grid technologies.

The USDA will announce more funding in the coming months, mainly using funds provided by the Inflation Reduction Act.

Baltimore-area substation attack foiled; suspects arrested



On February 6, officials reported that a plan to attack several substations in the Baltimore area had been thwarted, and that two suspects had been arrested before they could carry out their plans.

Sarah Clendaniel of Catonsville (Baltimore County), Maryland and Brandon Russell of Orlando, Florida were arrested for planning to damage five substations in the Baltimore area so that they could "completely destroy" Baltimore.

The plan is alleged to have had racist motivations, because Russell had previously been involved with known racists and Nazi groups. Baltimore has a majority of Black residents.

Substation attacks have recently become a prominent way for extremist groups to gain attention and hurt their fellow citizens, largely because substations serve many customers and are usually lightly guarded.

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NextEra Energy ranked #1 most-admired company in the electric and gas utilities industry



NextEra Energy, the largest electric utility holding company in the U.S., has once again been ranked #1 in the electric and gas utilities industry on Fortune magazine's list of the "World's Most Admired Companies."

NextEra Energy ranked #1 in six of the nine categories rated, including innovation, use of corporate assets, people management, long-term investment value, financial soundness, and quality of products/ services.

NextEra's commitment to renewable energy, strong financial performance, and reliability all earned the company high marks. NextEra's principal companies include Florida Power & Light Company and NextEra Energy Resources, LLC.

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MNOSHA webinar shares Minnesota safety trends



database, and new rulemaking surrounding topics like COVID, infectious disease, and heat illnesses.

With turnover and retirements come a lot of new faces at the agency. MNOSHA reported that 50 percent of their safety inspectors have less than two years of experience in the job.

MNOSHA's most cited standards include fall protection, hazard communication, AWAIR, machine guarding (lockout-tagout), and carbon monoxide. MNOSHA noted that the number one cause of a potential fine is general housekeeping. Clean workplaces will get fewer citations in general.

Regarding penalties, the average MNOSHA penalty in Minnesota is \$1,128, which is among the lowest average in the nation. The five-year fatality average in Minnesota is 26.

MNOSHA noted that they are currently receiving around 20 calls and 15 emails per day. That is down considerably from the peak of the pandemic. At that time, the agency was fielding as many as 200 calls per day.

Members of the MMUA Safety Team recently attended a webinar hosted by the Minnesota Occupational Safety and Health Administration (MNOSHA) regarding operational matters at the agency.

MNOSHA is facing several challenges in 2023, many of which are shared by other organizations. These include open positions, staff changes, a replacement of the MNOSHA

Allete to build 385-mile transmission line in Montana, North Dakota

Allete, Inc., the parent company of Duluth's Minnesota Power, announced on January 30 that it would be partnering with Grid United, an independent transmission company, to build a new 385-mile high-voltage, direct-current (HVDC) transmission line, to be called the North Plains Connector, from central North Dakota to Colstrip, Montana.

The new transmission line will

function as a connection between the Midcontinent Independent System Operator, the Western Interconnection, and the Southwest Power Pool.

The new line will be 600 kilovolts and will provide 3,000 megawatts of transfer capacity to the grid. Allete is investing at least \$875 million in the line, and it will be at least 35 percent owner of the line when it is completed in 2029.



Fairmont, Rochester among 100 inaugural members of the Biden administration's "Get the Lead Out" partnership

On January 26, the Biden administration announced a new partnership called "Get the Lead Out," which is composed of more than 100 participating cities, local governments, water utilities, Tribes, non-profits, and private companies.

All participants have agreed to a framework on lead service lines and will work together to accelerate their own removal of lead service lines.

Among the inaugural members are Fairmont, Minnesota Public Utilities (water and wastewater) and the City of Rochester, Minnesota. The State of Wisconsin is also participating in the partnership.

This partnership is among several efforts the Biden administration has taken surrounding lead pipes. The administration announced that \$1.2 billion in funds from the Infrastructure Investment and Jobs Act for lead pipe replacement had already reached 23 states as well as Tribes and U.S. territories.

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Congressman Pete Stauber named Chairman of the Energy and Mineral Resources subcommittee

On February 1, Congressman Pete Stauber, who represents the 8th District in Minnesota, was named the Chairman of the Energy and Mineral Resources Subcommittee within the House Natural Resources Committee.

The assignment was announced by the House Committee on Natural Resources Chair Bruce Westerman.

In a statement, Stauber said, "...Whether it be unlocking our vast mineral wealth in northern Minnesota and across the country or unleashing American energy, I look forward to working with Chairman Westerman and the full Natural Resources Committee in delivering commonsense results for the American people."

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Portugal hits 88 percent renewable mark in January 2023; pursues expanded offshore wind

On February 1, Portuguese grid operator REN said the country had received 88 percent of its power from renewable sources in January of 2023. Portugal received 51 percent of its total production from hydropower, with wind providing 28 percent and solar 4 percent.

88%

Portugal has an unusually large hydroelectric infrastructure, including many dams and pumped storage stations.

Portugal's goal is to regularly generate 80 percent of its power from renewables by 2026. The country is usually around the 60 percent mark as of 2022,

but a combination of heavy rains, strong winds, and sun bumped it to 88 percent in January.

Portugal's favorable wind conditions are drawing interest as the country moves towards its first offshore wind auction. The country is planning to install 10 gigawatts of offshore wind capacity by 2030.

Turkish earthquake prompts nuclear power plant inspection

After the terrible earthquake on February 6 that impacted parts of Turkey and Syria, inspectors rushed to the Akkuyu Nuclear Power Plant in Akkuyu, Turkey to inspect the site.

The plant, which is currently under construction and will be Turkey's first nuclear power plant, is located approximately 267 miles west of the epicenter of the earthquake.


At its epicenter, the quake reached a magnitude of 7.8 on the Richter Scale. In Akkuyu, aftershocks reached a magnitude of 3.0.

Since the plant is currently under construction, inspectors had to examine cranes and scaffolds in addition to the built physical infrastructure of



the plant. Initial examinations found no damage to any parts of the plant, but a more-intensive

inspection will occur to ensure that no components of the plant have been impacted.



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1 www.bls.gov/oes/current/oes499051.htm | 2 www.bls.gov/oes/2017/may/oes499052.htm
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UK energy firm Tokamak Energy declares fusion breakthrough

Tokamak Energy, a fusion energy firm based in the United Kingdom, announced that it has developed magnets that can successfully control the plasma that is created during a fusion reaction.

The new magnet, called "Demo4", has a magnetic field strength a million times stronger than the earth. Tokamak Energy says that the new magnet will allow it to build spherical tokamaks (a machine that confines plasma,) speeding up the production of commercial fusion reactors.

Tokamak Energy plans to use this innovation to demonstrate commercial fusion in the next 10 years or so, although many scientists believe commercial fusion power lies much farther in the future.

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Brainerd Public Utilities (BPU) repaired a main water line in the city on January 30 after a break occurred. BPU Superintendent Scott Magnuson ascribed the break to aging infrastructure and/or cold weather. The line will be replaced with new infrastructure in a few years.

Plans to build a new oriented strand board (OSB) plant in **Cohasset** have been shelved. Huber Engineered Woods originally announced the plan in June of 2021, but said in February that they were no longer pursuing the development.

On February 14, the **Detroit Lakes** City Council approved a \$9.95 million construction bid for a new public works building. The building will include more indoor parking spots for city vehicles and office space. Construction will begin this year.



East Grand Forks has received a \$1.26 million grant from the Greater Minnesota Regional Parks and Trails Commission to construct an additional boat access on the Red River and to renovate LaFave Park.

Fairfax has gotten the go-ahead to start cleaning up the site where two buildings were destroyed by fire in October 2022. Repairs can now start on the city's post office, which was damaged in the event. City residents have been getting their mail in Gibbon since then.

Marshall Municipal Utilities is planning to replace two water mains in the city that run under Highway 23.



On February 6, the new Clay County Resource Recovery Center opened to the public. The \$23 million waste processing facility located in **Moorhead** replaces the Moorhead Transfer Station, Clay County Hazardous Waste Facility, and the Clay County Electronics Recycling Facility.

Lori Van Beek is celebrating 40 years of employment with the **City of Moorhead**. She started working for the city in late 1982 and has been transit manager since 1990.

The **New York Mills** Lund Boat Factory was the site of an active shooter event on February 9. Fortunately, the suspect was subdued and there were no injuries.

Olivia leaders are considering the construction of a joint city hall, fire department, and police department building.

Staff from Senator Amy Klobuchar's office stopped by **Owatonna Public Utilities** for a listening session about the 2023

Farm Bill. Klobuchar sits on the Agriculture, Nutrition, and Forestry Senate Committee.

Round Lake-Brewster voters approved \$30 million for new school buildings in the district on February 14. New classrooms, gymnasium, media center, and arts spaces are among the additions on the way.

Warren received coverage from WCCO-TV about their new childcare center coming in 2023, and how it is funded by a city sales tax that was approved by referenda.

Willmar Municipal Utilities

Willmar Municipal Utilities has created a new logo to represent the utility. Willmar plans to relabel everything with the new brandmark in the next 12 months.

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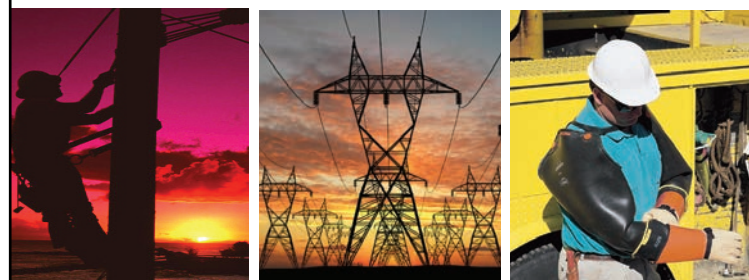


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CenterPoint Energy announced in early February that its hydrogen production pilot facility is functioning well. The project has seen CenterPoint introducing small percentages of hydrogen into its natural gas lines. The pilot has already helped the utility address problems by illustrating modifications that need to be made. CenterPoint has made changes to the water circulation system and the method by which it removes moisture before adding hydrogen gas to its pipelines.

Euractiv reported that Bosnia and Herzegovina are planning to build the country's first solar plant. The plant will produce 60 megawatts and will be located in the southern city of Mostar. Bosnia gets approximately 50 percent of its power from hydro-power and 50 percent from coal.

The BBC reported that Shell plc, the multinational oil and gas company headquartered in London, had earned its highest profits in the company's 115-year history. Shell earned \$39.9 billion in profits in 2022, partially as a result of the Russian invasion of Ukraine and the subsequent jump in world oil and gas prices.

OilPrice.com reported on February 5 that the world's tidal energy market is expected to grow significantly during the 2020s, from \$500 million in 2021 to almost \$4.5 billion by 2028.

The United States Energy Information Administration reported that according to their Preliminary Monthly Electric Generator Inventory, operators plan to retire 6.2 gigawatts (GW) of natural gas-fired and 8.9 GW of coal-fired power plants in 2023. If retirements occur as scheduled, total generation capacity from natural gas will decrease roughly 1.3 percent in 2023. Coal-fired power plant generation will drop around 4.5 percent during the year, finishing 2023 with just 95.5 percent of the total available at the beginning of the year.

On February 8, Mexican President Andres Manuel Lopez Obrador said that he expects the U.S. government and/or U.S. banks to provide interest-free loans for Mexico to construct four wind farms in southern Mexico.

Utility Dive reported that most U.S. states lag California's electric vehicle (EV) adoption rates by at least five years.

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1 www.bls.gov/oes/current/oes499051.htm 2 www.bls.gov/oes/2017/may/oes499052.htm 3 www.bls.gov/oes/2017/may/oes472152.htm

The New York Times reported on February 10 that the cost of electric vehicles in the United States could reach price parity with internal combustion engine vehicles as early as this year.

On February 13, the United Arab Emirates energy minister said there was no need for the Organization of Petroleum Exporting Countries (OPEC) to meet early after Russia announced that it would unilaterally cut output by 500,000 barrels a day due to European-backed price caps. An OPEC ministerial committee had planned to meet on April 4, with a full ministerial meeting on June 4.

New Jersey Governor Phil Murphy plans to sign an executive order that will move the state's target for 100 percent clean energy to 2035 from a previous target of 2050.



Bloomberg reported on February 13 that China's wind and solar infrastructure is now generating enough electricity to power nearly every home in the country. The problem is commercial and industrial demand, which raises total power consumption far above this mark.

Power plant workers at the United Kingdom's (UK) largest power plant, Drax in North Yorkshire, plan to stage a series of nine strikes from February to April to protest low pay at the plant. Drax has a generating capacity of 3,906 megawatts and produces approximately 6% of the UK's electricity. It was originally a coal plant but now burns primarily biomass.

A report released on February 27 by the Centre for Research on Energy and Clean Air and the Global Energy Monitor reported that China approved the equivalent of two new coal plants per week in 2022.

On February 28, France held a meeting with 12 other European Union countries in an attempt to build an alliance to advocate for nuclear power in future EU energy policies. In 2021, nuclear power comprised 69 percent of France's electricity generation.

First North American commercial green hydrogen and ammonia facility to be built

North America's first commercial green hydrogen and ammonia plant is coming to Nova Scotia and will open by 2025, according to developer EverWind Fuels.

The company announced on February 7 that it had been granted the permits needed to build the plant. The installation will be located near Point Tupper in the eastern part of the province,

at a soon-to-be converted oil and marine terminal.

EverWind plans to spend around \$6 billion to build the plant, which when complete will produce 200,000 tons of hydrogen in 2025 and 1 million tons in 2026. The green hydrogen will be produced by new solar and wind farms that will be built nearby. The green hydrogen produced will be combined with

nitrogen and converted into ammonia before being shipped via tanker to Germany.

This process will allow the ammonia to either be used as shipped or converted back into hydrogen. Ammonia is easier to liquefy and transport than hydrogen, and the end user can easily convert the ammonia to hydrogen using modern conversion methods.

German leadership declares wind power plans in interview

In an interview in the *Bild am Sonntag* newspaper on February 5, German Chancellor Olaf Scholz formally announced that Germany would be moving forward aggressively with wind power in order to meet the country's renewable energy goals.

Scholz said in the interview that by the year 2030, Germany will be building four to five wind

turbines a day. The country will carefully monitor whether it is staying on track, and if it is not, plans will be made to catch up.

German law currently requires that 2 percent of Germany's land must be used for wind energy by 2032. At the beginning of 2021, German wind power composed 22 percent of the country's electrical generation.



France to adopt aggressive solar power plan

France, which has long led the world in percentage of power generated from nuclear energy, is now taking on a solar plan that advocates say could generate as much power as several nuclear power plants: solar on parking lots.

The law, which is expected

to take effect in July 2023, will require all parking lots larger than 16,000 square feet to build raised solar-panel canopies that will cover at least 50 percent of the parking lot.

France expects to generate between 6.75 gigawatts (GW) and 11.25 GW with these solar installations, at a built cost

between \$8.7 billion and \$14.6 billion.

Even with the extra costs of the canopies' steel supports, French policymakers believe that in a densely built country like France, solar panel canopies are a better choice than building the panels on agricultural land.

State-by-state water scorecard released

The Alliance for Water Efficiency (AWE), a stakeholder-based 501(c)(3) organization dedicated to the efficient and sustainable use of water, recently released their "2022 U.S. State Policy Scorecard for Water Efficiency and Sustainability," ranking each state on its adoption of laws that promote sustainable and efficient water use.

Minnesota ranked 10th in the analysis, with California, Texas, and Arizona ranking first, second, and third respectively. The analysis was derived from a 23-question survey that asked whether each state had adopted specific water efficiency policies.

Scoring categories included areas like plumbing fixture standards, drought preparedness planning, state funding for water efficiency, climate action planning,

and state funding/support for water reuse.

AWE noted that most states had made little progress in the metrics since they were last calculated in 2017. The top score in the survey was 89 points, with 99 points available for "extra credit." AWE noted that the average state score was 23 points, with Minnesota, in 10th place, receiving 42 points.

Number one California, with 72.5 points, is well ahead of second place Texas, with 54.5 points. Even within the top three states, no improvement was made between 2017 and 2022. AWE notes that water efficiency and sustainability is growing more important, as states struggle with droughts and extreme weather events as a result of climate change.

World Bank signs \$311 million renewable energy agreement with four African countries

In Freetown, Sierra Leone, on February 1, the World Bank signed an agreement with the African countries of Sierra Leone, Liberia, Togo, and Chad to provide \$311 million for the construction of renewable energy projects.

An estimated 106 megawatts (MW) of solar power generation and 41 MW of hydroelectric generation will be among the projects financed. The West Africa



Power Pool, which is increasing cooperative efforts among West African electricity companies, will also receive funding.

Upcoming Events

Generation School

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Underground School

**May 9-12
MMUA Training Center
Marshall, MN**

Whether you are a seasoned journeyman looking to stay current or are an apprentice just starting out, this school offers something for everyone. Individuals will rotate through six sessions, covering a variety of topics that can enhance safety and improve efficiency. To learn more, visit mmua.org/event/underground-2023. Rates increase after April 8.

Competent Person and Excavation Safety Workshop

**May 23-24
MMUA Training Center
Marshall, MN**

This course is intended for public works personnel, water/wastewater personnel, lineworkers, engineering personnel, contract workers, and others involved with underground utility or infrastructure work. Please visit mmua.org/event/excavation-2023 to learn more. Register by April 10 for best rate.

For more information, see the Events Calendar at www.mmua.org or call MMUA at 763-551-1230.