

November 19, 2021

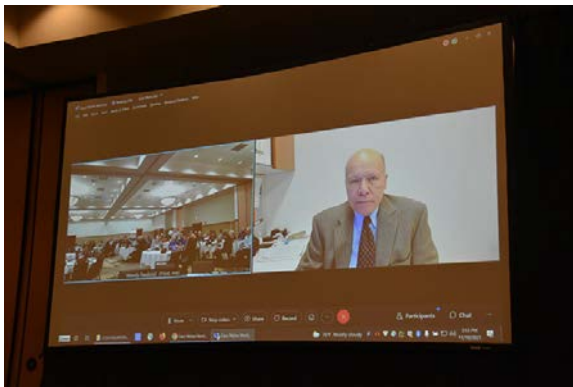


# CONDENSER

Wisconsin Electric Cooperative Association Newsletter

*Remember - No Condenser next week due to the Thanksgiving holiday!*

## Princeton Study: Midwest is Central to Climate Change Action



The Wisconsin Electric Cooperative Association's annual meeting held November 10–11 included a virtual presentation by Eric Larson, one of the authors of the Princeton Study: *Net Zero America*, which is an in-depth analysis on the different pathways to reaching net-zero carbon emissions by 2050. First released in December of 2021, the report was written with the input of 18 researchers over the course of two years.

*"We made an effort to make it really visceral – what it would mean to get to net-zero emissions for the United States across not just the electricity sector, but all sectors," Larson told attendees.*

Larson made an effort to detail the five complex scenarios in his 60-minute presentation. The varied approaches to reaching net-zero in the study range from an intense focus on across-the-board electrification, to a renewables-only (wind, solar, biomass) plan. What was apparent in the presentation is how the landscape of the Midwest will change dramatically under every single scenario.

In every scenario, as you would expect, there is a dramatic expansion of wind and solar, which in most cases would have to at least double by 2030. In 2020, the United States added a record 25 GW of wind and solar to the power grid, and Nelson said their research showed every single scenario would require much more capacity added each year than this country has ever done before, and much of it would happen in the Midwest.

Looking at the logistics, Nelson and his team mapped out where the wind and solar expansion would be able to happen. They eliminated areas across the country where building is unlikely to be allowed, including dense urban areas, national parks, prime agricultural land, and other environmentally sensitive areas. Using a least-cost algorithm, they came up with several maps, including this one, which show dense wind farm expansion in the Midwest, and dense off-shore wind installations on the east coast.

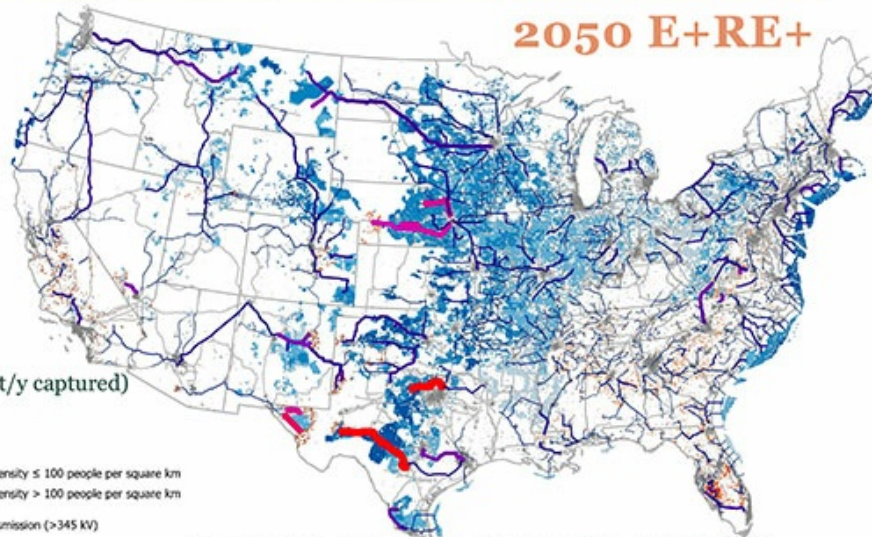
## 5.9 TW SOLAR+WIND & 5X TRANSMISSION BY 2050. 1,100,000 KM<sup>2</sup> OF VISUAL IMPACT & 70,000 KM<sup>2</sup> DIRECT IMPACT.



2020 - 2050 (cumulative)	
Wind	Solar
Capacity installed (TW)	
2.7	2.5
Land used (1000 km <sup>2</sup> )	
Total	1,003
Direct	66.2
Capital invested (2018\$)	
Trillion \$	10
Transmission capacity	
GW-km	1,629,000
	(5.1x 2020)

New nuclear: 0 GW  
CO<sub>2</sub> stored: 0 Gt/y (0.7 Gt/y captured)

Transmission  
Capacity (GW)



Notes: 1. Color intensity of wind and solar sites reflects local capacity factor (darker = highest CF).  
2. New transmission is visualized along existing rights of way (>160 kV); paths are indicative not definitive.

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(Courtesy: Net-Zero America Report, Princeton Study)

Biomass is another critical component to reaching net-zero by 2050, and another area where Midwest participation is key, according to the study. Larson said for the renewables-only approach to be possible, the ethanol industry would be largely diminished, but the bio-energy industry would expand exponentially in the Midwest, a transition that would require major government subsidies.

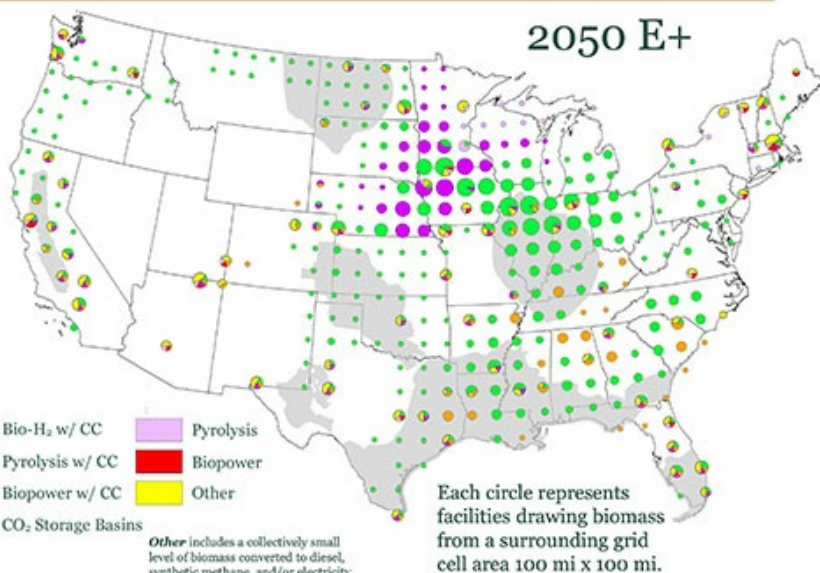
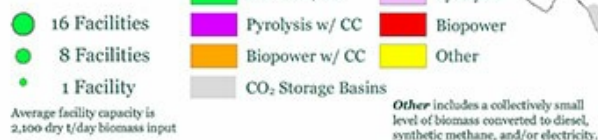
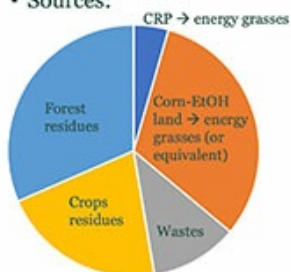
"For the bio-energy industry, there are about a trillion dollars invested by 2050 in conversion technologies for biomass largely in the Midwest region, and the biomass market by 2050 is in the order of twice the corn ethanol revenues are today, so it becomes a much larger industry than corn ethanol, in our scenarios," Larson explained.

## ENTIRELY NEW BIOENERGY INDUSTRY EVOLVES ACROSS RURAL AMERICA BY 2050



2050 non-food biomass use:

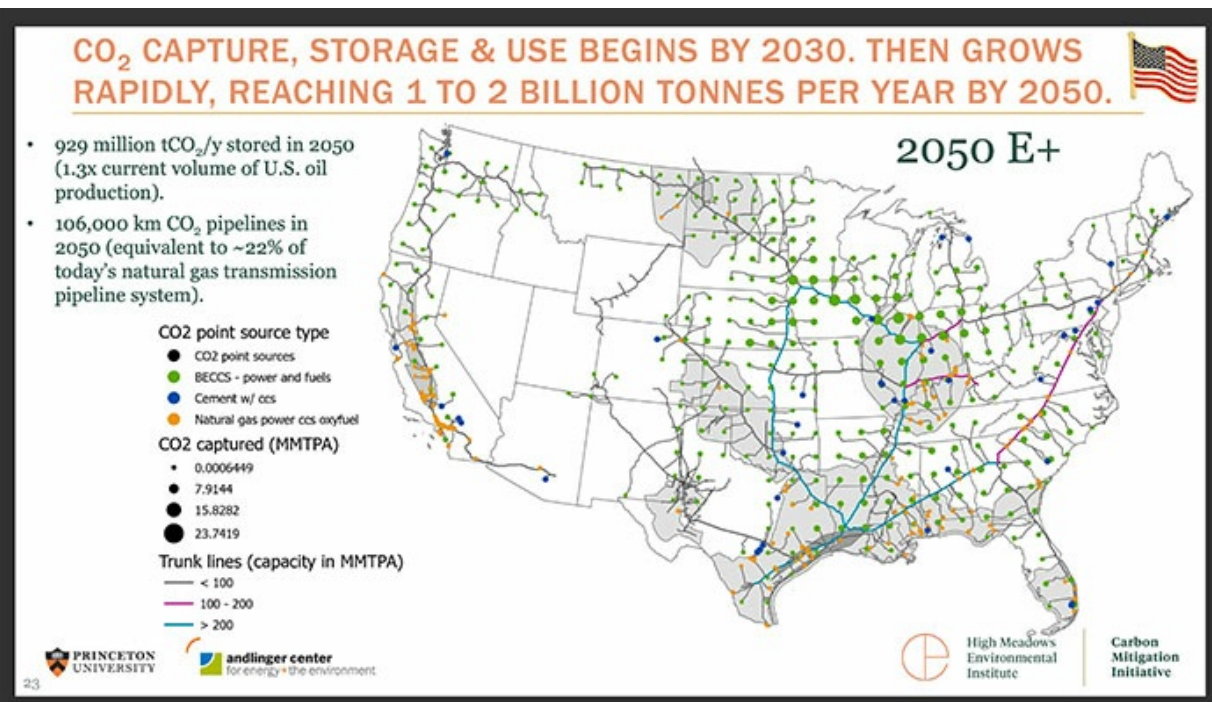
- 618 million dry t (12.2 EJ)
- 17% of primary energy
- Sources:



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(Courtesy: Net-Zero America Report, Princeton Study)

The Midwest would also be central to the plans where carbon capture is key. While much of the carbon is captured in the Midwest, the areas where underground storage is optimal (gray areas in the map below) are mainly in the Gulf Coast region, which would require the construction of major pipelines.



(Courtesy: Net-Zero America Report, Princeton Study)

*"The rural economy is where much of the energy supply needs to come from," Larson said. "I think it's pretty clear from our maps—whether its bio-energy, which is more rural-based, or more solar and wind—which are also largely rural-based—I think the potential benefits are huge for the rural economy."*

One of the scenarios to achieve net-zero by 2050 would require TRIPLE the amount of high-voltage transmission lines in the country. Citing the legal and regulatory challenges as evidenced by Dairyland Power Cooperative's Cardinal-Hickory Creek line, which is now under construction after more than six years of planning, WECA President and CEO Steve Freese questioned how this level of expansion could be possible, asking *"Clearly where the energy needs to be produced, is not where it's going to be consumed. So how do we do that? Do we need to nationalize the grid?"*

*"That's the \$64,000 question and probably the most challenging of all the challenges of reaching net-zero is how to get transmission built," Larson replied. "I don't have a good answer for that other than we have to do things differently than what we're doing today."*

Larson said overall, the transition to cleaner energy using these aggressive scenarios would be expensive, but not out of line with historic investments in energy infrastructure. He also said the job outlook is positive. While some coal states including West Virginia, Kentucky, and Wyoming would see job losses within the first few years, most states would see an increase in jobs, totaling 500,000 nationwide in this decade.

*"Overall, this transition is achievable. Our modeling only considered technologies that we understand reasonably well today," he said. "It's achievable, and it's affordable, but there are some pretty important risks that will have to be mitigated, and we'll need to start yesterday if we're going to be successful."*

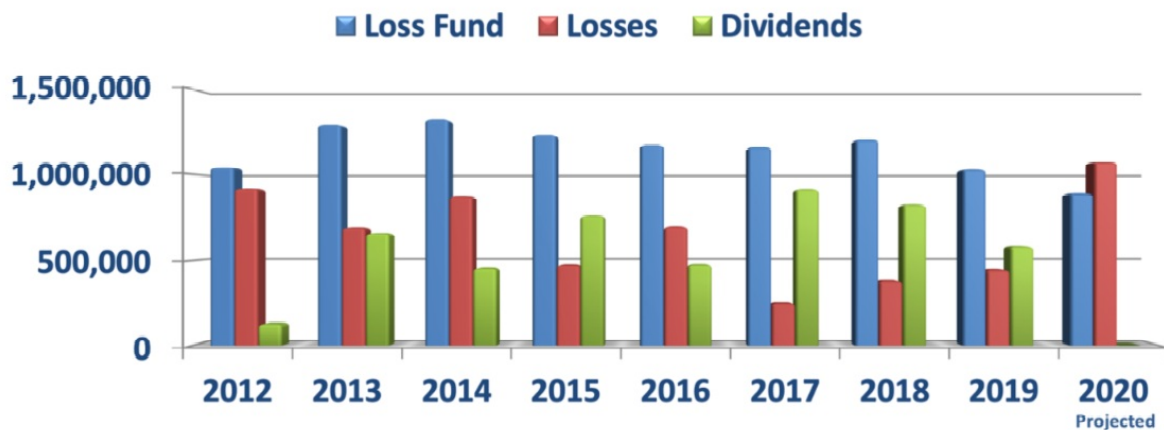
Read more of the Princeton study here: <https://netzeroamerica.princeton.edu/>

## Injuries From Falls Cost Group Insurance Fund in 2020-21

Three insurance claims resulting from trips, slips, or falls during the 2020–21 fiscal year took a large chunk of the shared worker's compensation (WC) group insurance fund, according to Keith Johnson, account executive for Federated Rural Electric Insurance Exchange. For the first time since at least 2012, loss claims exceeded the funds, which means no dividends were paid for that period. The last time the claims exceeded funds was in the 2010–11 fiscal year.



# WI WC Group Retention Results



**Over \$215,000 in Dividends to be Distributed this Month**  
**Over \$5.4M in Dividends have been Paid since 2006**

FEDERATED RURAL ELECTRIC INSURANCE EXCHANGE

Johnson noted, however, that the above graphic shows calendar years, not fiscal years, and the 2021–22 May to May fiscal year is off to a great start. Just this month Federated returned more than \$215,000 in dividends.

As for the year in the red, according to Johnson, during the period of May 1, 2020 to May 1, 2021 a total of 95 claims were turned in. Of those 95, three claims accounted for more than 44.25 percent of the claim dollars paid out, and all three were a result of falls, slips, or trips, the number one cause of injury claims.

Other main causes of injury leading to claims are pushing or pulling (strain or injury), ice and snow-related, or a lesser category of trips and falls. Fifty-nine of the 95 claims are “All Other,” which includes things such as poison ivy exposure or dealing with a tick bite.

“We want this to be discussed amongst the cooperatives because that is what leads to lowering the claims,” Johnson told Condenser. “Unfortunately, despite the majority of the co-ops doing great, only a few claims kept everyone from receiving dividends for that one year. However, each year starts fresh, and this current year is already looking much better.”

In Wisconsin, Federated has returned more than \$5.4 million in dividends since the inception of the program in 2006. This equates to an overall workers’ comp savings of approximately 17.5 percent.

## Simmons Re-elected to NRECA Board



*Chuck Simmons of Scenic Rivers Energy Cooperative spoke emotionally to the crowd at the WECA annual meeting about the challenges and impacts of the pandemic following his unanimous re-election to the NRECA board.*

## Third Party Solar Proposal Threatens Cooperative Model

For the first time in our state's history, a newly proposed Wisconsin law would allow persons to sell electricity through the leasing of equipment that generates electricity from a renewable resource such as solar, otherwise known as "third-party financing." The person leasing the equipment and selling the electricity would be an unregulated entity in the energy sector, exempt from the definition of public utility.

State Senator Rob Cowles (R-Green Bay) and State Representative Rachael Cabral-Guevara (R-Appleton) introduced Senate Bill 702, which WECA has opposed due to the implications related to the cooperative model.

The bill specifically prohibits an electric public utility from refusing to interconnect its distribution facilities to the third party's equipment if it meets certain Public Service Commission (PSC) standards and has the capacity of no more than 15 megawatts. While the bill, as written, does not affect electric cooperatives, the implications are far-reaching.

Should leasing companies successfully target the largest energy consumers in a cooperative area, as is expected, the rest of the cooperative members would be on the hook to pay for infrastructure costs, including transmission, which the third party would not be required to pay.

In a memo, WECA and Dairyland Power Cooperative urged legislators not to support this legislation because it largely 1) shifts costs onto members who can least afford this investment, 2) creates reliability issues that would become the burden of the electric utility and all cooperative members, and 3) lacks consumer protections to make sure those who lease are protected over the life of the financing contract.

Ten other industry groups including investor-owned utilities, labor unions, and Wisconsin Manufacturers and Commerce have joined WECA in opposing this legislation.

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## Biden Signs Infrastructure Spending Bill, Reconciliation Bill Vote Looming as Cost Increases to \$2 Trillion

President Joe Biden kicked off the week by signing the \$1 trillion "Infrastructure Investment and Jobs Act" during an event on the South Lawn of the White House Monday. Biden said the new infusion of cash for roads, bridges, ports, broadband, climate change, and more is going to make life "change for the better" for the American people.



The bill actually includes about \$550 billion in new spending over 10 years, as some of the expenditures in the package were already planned. Biden had originally proposed spending \$2.3 trillion on infrastructure.

The agreement ultimately earned the support of all Senate Democrats and 19 Senate Republicans, including Senate GOP leader Mitch McConnell. Senator Ron Johnson, (R-Wisconsin) voted against, citing the ballooning deficit.

*"I think we all agree we do need to spend money on infrastructure, but we also need to stop further mortgaging our children's future," he said in August after the vote. "We could have literally taken the more than \$700 billion of the partisan COVID relief package that isn't even spent till 2022 through 2028, and repurpose that toward infrastructure. That actually would have been more than the approximately \$550 billion, which isn't fully paid for."*

Thirteen House Republicans joined Democrats in voting for the infrastructure bill. All of Wisconsin's Republican Congressmen—Scott Fitzgerald, Mike Gallagher, Glenn Grothman, Bryan Steil, and Tom Tiffany—voted against it.

Difficult negotiations over the broader social spending package continue. Biden tried unsuccessfully to tie the infrastructure package to the passage of a broader reconciliation package that includes spending on social programs, health care, and a shift to renewable energy.

Meanwhile, the Congressional Budget Office (CBO) is completing its analysis of the broader bill, which now carries a price tag of roughly \$2 trillion.

The White House previously predicted spending \$80 billion to expand the IRS would net \$400 billion in revenue, but the CBO put that figure at about \$120 billion.

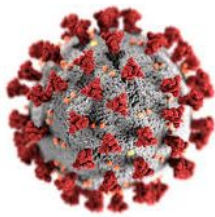
The major investment at the IRS is just one of the elements of the sprawling social-policy package, which also funds a universal prekindergarten program, child care and healthcare subsidies, and a series of tax incentives for reducing carbon emissions. The legislation also raises taxes on corporations and high-income Americans.

Democrats are using a process called reconciliation to pass the bill without any Republican support in the 50–50 Senate.

House Speaker Nancy Pelosi (D-California) was hopeful a vote would take place late Thursday.

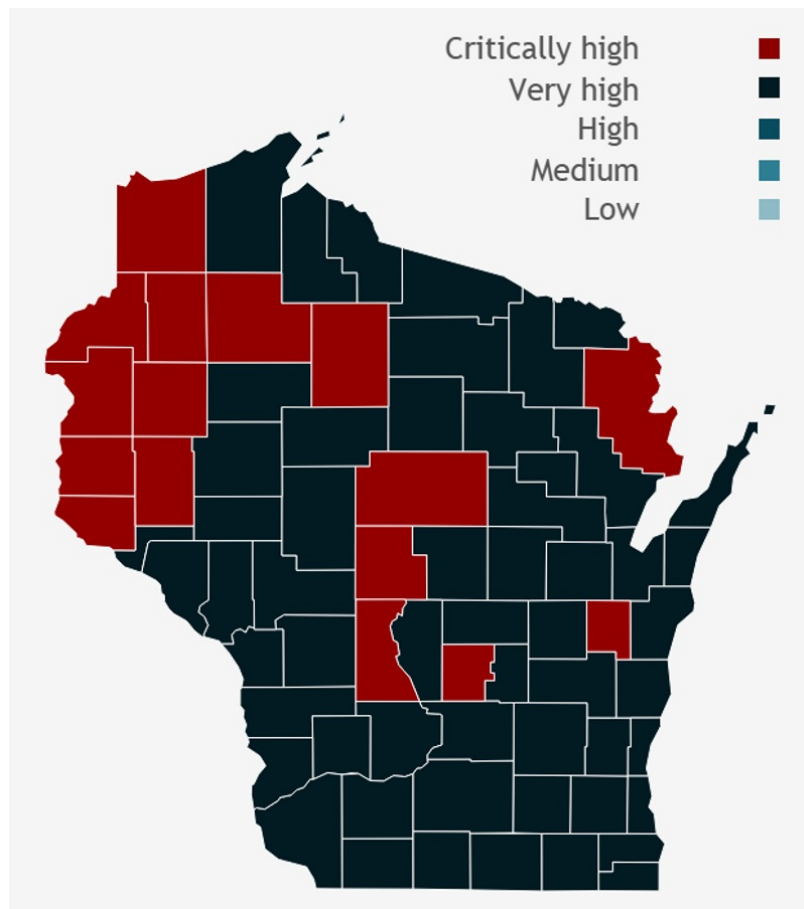
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## COVID WATCH: On the Rise



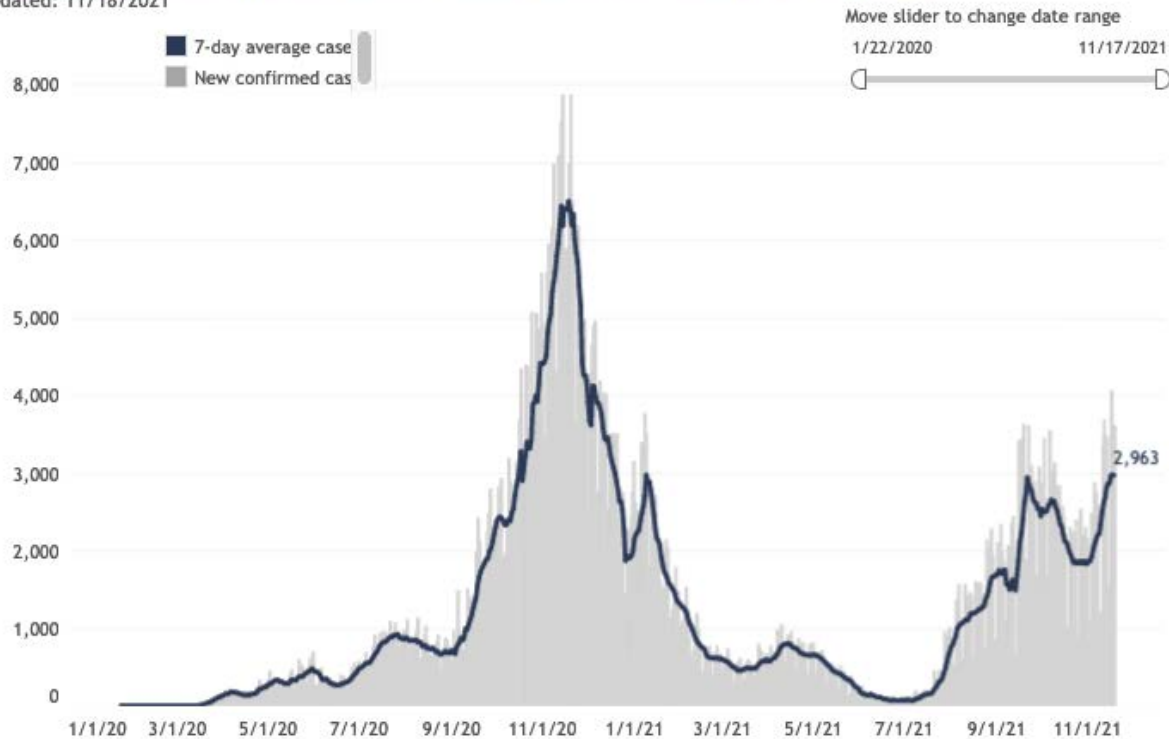
The seven-day average number of new cases of COVID-19 continues to rise as we head into the holiday season. As of yesterday, the average number of new cases was 2,963 per day, compared to 2,610 one week ago.

Of Wisconsin's 71 counties, 16 are now classified as "critically high" activity and the rest are "very high." The highest activity is in Sawyer County, followed by Washburn, St. Croix, Polk, Marinette, Dunn, Douglas, Juneau, Pierce, Barron, Marathon, Wood, Burnett, Price, Calumet, and Marquette.



## New confirmed COVID-19 cases by date confirmed, and 7-day average

Updated: 11/18/2021



## Job Market:

### SYSTEM ENGINEER

**Oconto Electric Cooperative, Oconto Falls, Wis.** A rural Wisconsin electric utility that owns & operators a 1-Megawatt Hydroelectric Dam located in Stiles, WI is seeking a full-time System Engineer to join our team. This position is responsible for engineering and planning and will direct, guide, or assist in the engineering duties by applying technical knowledge, sound engineering judgment, and skill to ensure OEC's system meets present and future requirements and is rendering safe, efficient, and reliable service.

#### Duties include:

- Conduct engineering studies to evaluate and improve system coordination
- Assist with maintaining engineering analysis model (MilSoft WindMil)
- Ability to work with all departments in the preparation of plans and studies relating to sectionalizing, over current protection, device coordination, over-voltage protection, voltage improvement, power factor correction, load balancing, and system reliability.
- Participate as technical advisor to the neutral-to-earth team as needed in the field
- Ability to maintain project schedule with multiple deadlines and apply critical thinking to design challenges
- Provides project management for major Cooperative initiatives such as distribution automation, mobile data, and other special projects.

**Qualifications:** The successful candidate must possess and be committed to the cooperative philosophy.

- Bachelor of Science degree in electrical engineering or related engineering degree
- Engineering experience with an electric distribution system a plus
- Hydroelectric plant knowledge a plus
- Computer skills strong knowledge of Excel, staking, CAD, and modeling software
- Excellent written and verbal communication
- Valid Wisconsin driver's license

Oconto Electric Cooperative offers a competitive salary, a full benefits package and is proud to be an equal opportunity employer.

**To apply:** please send cover letter, resume, and application to: Attn: Human Resource, Oconto Electric Cooperative, P.O. Box 168, Oconto Falls, WI 54154 or email: [humanresources@ocontoelectric.com](mailto:humanresources@ocontoelectric.com). To download an application or for more information, please visit [ocontoelectric.com/category/career-opportunity/](http://ocontoelectric.com/category/career-opportunity/).

For a full job description, [click here](#).

**Deadline to apply:** 4:00 p.m. December 3, 2021.



## Statewide Supporters

The Wisconsin Electric Cooperative Association would like to recognize all of our sponsors and associate members for supporting our efforts on behalf of the state's electric cooperatives, so they may continue to supply safe, reliable, and affordable electricity to members. Please join us in supporting these partners of the electric cooperative community.

This week we would like to highlight:



Stella-Jones is North America's leading producer of industrial pressure-treated wood products. Responding to the vital infrastructure needs of our economy, we manufacture and distribute railway ties, utility poles, residential lumber, and industrial wood products across the continent.

Stella-Jones quality poles are made from a variety of premium wood species to suit a range of climates. Our custom manufacturing services meet the demands of our customers' unique specifications. As North America's leading supplier of wood utility poles, Stella-Jones provides over one million poles per year to replace, upgrade, and develop new electrical utility and telecommunications lines across the United States and Canada.

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**Mark Leaf**  
(715) 651-8801  
[mleaf@stella-jones.com](mailto:mleaf@stella-jones.com)

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*Have a Safe and  
Happy  
Thanksgiving!*



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