

Winter Begins With Streak of Storms and Outages

Pattern of Wet, Heavy Snow Continues Through December

Early Monday morning after the Thanksgiving holiday, a winter storm brought wet snow and power outages to Vermont. WEC territory saw six to eight inches of heavy precipitation on average, and far more in pockets. More than 34,000 outages were reported across Vermont. WEC counted 6,287 outages, affecting approximately half the membership. WEC, Green Mountain Power (GMP), Vermont Electric Co-op (VEC), several municipal utilities, and mutual aid crews worked Monday and Tuesday, November 27 and 28, to restore power. The last WEC members had their power restored Thursday, November 30.

“We had outage reports come in all day Monday,” reported General Manager Louis Porter. As WEC and mutual aid crews made headway in one section of Co-op territory, new outages would occur elsewhere, generally caused by the weight of snow causing trees to bend or break near the lines. As a result, even as repairs were made, the number of known WEC outages rose over the course of the day Monday. The Walden substation lost power; when it was restored around 11 am, crews discovered several more areas requiring repair downstream of the substation.

A week later, on December

4, more than 12,000 Vermont households again woke up to no power – almost a third of them WEC members. This time, wet, heavy snow affected municipal utilities, as well as GMP, VEC, and WEC, and sections of Vermont lost internet. And once again, WEC crews worked around the clock, for several days, to restore lines damaged by trees bending and breaking under very wet snow.

A week later, on December 11, another winter storm. Central Vermonters could have been forgiven for thinking they were trapped in a scenario like that in the classic Harold Ramis movie *Groundhog Day*, where Bill Murray’s character is forced to endlessly repeat the same day. However, this time, fewer WEC members — about 1,000 — endured another outage, and all were brought back online within 24 hours. “This storm hit our territory differently, and we were able to restore power faster than our neighboring utilities. Which meant we were able to supply mutual aid crews to help Vermont Electric Co-op restore power to their members,” said Porter.

Why are some outages longer than others?

For one thing, Porter pointed out, weather systems land hard where

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Summoning his inner raptor, Amos Turner arranges sticks on a platform high in the sky to entice osprey to build a nest there – instead of on an H-frame carrying transmission lines from WEC’s landfill gas-to-electricity generation plant in Coventry. Learn about WEC’s osprey relocation project on page 8.

2024 Annual Meeting is May 2

Board Candidacy and Bylaws Petition Deadlines Due Feb/March

The 2024 Annual Meeting will be held on **Thursday, May 2** at WEC’s warehouse in East Montpelier. More event details will follow in future issues of *Co-op Currents*.

Every year, the Annual Meeting marks the election of three members to WEC’s Board of Directors. Any member of the Co-op is eligible to run for election.

Considering running for a seat on WEC’s Board of Directors? Contact Administrative Assistant Rosie Casciero at 802-224-2322 or rosie.casciero@wec.coop to request an informational packet. All deadlines and details are included in the packet.

Candidates have the opportunity to introduce themselves and their positions to the general membership through biographical and policy statements published in *Co-op Currents* and online.

The deadline to submit candidate biographies for inclusion in the February-March print issue of *Co-op Currents* is **Friday, February 2**.


The deadline to submit all candidacy materials, including a petition signed by a minimum of 25 WEC members, is **Sunday, March 3**. All candidates’ policy statements will be printed in the April-May issue.

Members of the Co-op have the right to petition for changes to the Co-op’s bylaws. The bylaws are available on wec.coop, or you may contact WEC for a hard copy. To petition for a change, members are required to collect signatures in support from a minimum of 50 fellow members of WEC. Petitions for bylaws changes are due Saturday, February 10.

Washington Electric Cooperative
 East Montpelier, VT 05651

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WEC lineworkers slog through heavy snow to restore power after winter storms. System Maintenance Technician Mike Gray, file photo.

David Young

President's and General Manager's Message

Proactive Changes In WEC's Major Outage Communication; Winter Storms Hit WEC Territory Hard

Truck Accident Causes Coventry Plant Shutdown; GMP's Zero Outages Initiative

Irasburg truck accident

Steve: Members may have heard about the truck accident in Irasburg where a propane truck drove into the Black River and burned. What was not included in most coverage was that the accident impacted our generation plant at Coventry.

Louis: The morning of December 4, a propane tractor trailer went off the bridge on Route 14 in Irasburg. It bumped our transmission pole, though amazingly, it didn't damage it. The truck fell into the river, caught on fire, and burned for two days, melting the bridge. We had to shut off our transmission line from Coventry, which meant an emergency shutdown

for the plant. An emergency shutdown is hard on infrastructure and can damage wires. Fortunately, our lines were not damaged, so we could re-energize them without replacing any of them. But we did lose a few days of production at Coventry. We are working out what legal or financial steps Washington Electric is likely to take to resolve this. No one was injured, which is the most important thing.

I find it ironic that a fossil fuel truck knocked out the renewable energy plant.

– Stephen Knowlton

Steve: I find it ironic that a fossil fuel truck knocked out the renewable energy plant. Shutting off the transmission line is something that would normally impact many members, but the accident happened during storm conditions, when the Co-op had a major outage. So many members may not have realized the power outage was connected to a transmission outage in Coventry.

Winter storms cause days-long outages

Louis: On November 27 and again on December 4, Washington Electric territory got hit by significant winter storms. In fact, weather has caused outages every Monday in December, and it is flooding as we go to press.

The November 27 storm was the worst in Washington Electric's service area. More than half of our members lost power, and we had damage across our entire service area. While precipitation fell as rain in western and southern parts of the state, our region is higher in elevation, and temperatures were just cold enough so that precipitation fell as the wettest, heaviest possible snow. This kind of snow wreaks havoc in our territory, almost as bad as an ice storm. Pines get weighed down and, with their shallow root systems in our rocky soil, break or fall over on the lines.

We had hundreds of different events on our lines. As power is restored in one place, all the locations downstream where the lines are damaged become apparent. Meanwhile, trees all over the place are thawing out by light of day, unloading their snow, and snapping or springing into lines, causing new damage. This is why the number of outages can climb over the course of a day, as we saw over the Monday after Thanksgiving.

You know how difficult it can be to untangle a knot? Imagine trying to untangle a wire that's pinned under

a huge wet log. Now imagine that on a giant scale, at four in the morning, 32 degrees and precipitating, and the wire is potentially electrified. Our lineworkers face this challenge hundreds of times in order to restore power from a single storm. They go out with chainsaws, snowshoes, and all kinds of heavy equipment, sometimes for twelve to sixteen hours at a time. We know it can take days for members to have their power restored, and that takes a lot of patience. But many of our members also understand the unique difficulty of restoring power in Washington Electric's territory, and I'm grateful for that.

Steve: I don't have much to add to this report, as I spent much of these outages down-periscope at home, shuttling generators between our house and our neighbors' houses, being glad for the precautions we took and rueing the ones we hadn't gotten around to this early in the season. Our houseguest from Québec assured us they often have storm outages in the eastern townships, so I guess she took it all in stride, and maybe even felt at home.

I had some satisfaction trying out a low-cost Rube Goldberg battery project to power low-wattage appliances, like an internet router, for several days without having to run a generator, in lieu of waiting for the power to come back on. I imagined many old-time New Englanders would do the same, had the internet existed then.

Of course, I knew that the power would come on again in due time, because the line crews were hard at work, and that patience was all that was really required of me. In a large outage, if WEC needs additional crews from other utilities, we bring them in. WEC quickly assesses the need for additional crews if the outage appears to be shaping up to be a major one. It may prove to cost more in the long run, but WEC feels its members want their power back on as soon as feasible.

These weather-related outages seem to be more common, and more intense, these days. One has the sense that with regard to weather, change is in the air and that the shape of things to come is not likely to be

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Co-op Currents

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The Board of Directors' regularly scheduled meetings are on the last Wednesday of each month, in the evening. Members are welcome to attend. Members who wish to discuss a matter with the Board should contact the president through WEC's office. Meeting dates and times are subject to change. For information about times and/or agenda, or to receive a copy of the minutes of past meetings, contact Administrative Assistant Rosie Casciero, at 224-2322, or visit wec.coop/board.

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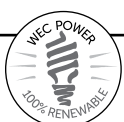
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the same as yesterday or even today. It behooves us to figure out how best to adapt to this challenge as individual residents, as a cooperative, and as a society.

Changes in outage response

Louis: There were two major pieces coming out of last year's Christmas storm for us. One is the need to better use our digital tools and software tools during outages, both for our internal operations and for visibility to members. The other is more communication about when we plan to restore certain parts of the territory to power.

First, Washington Electric uses NISC software [National Information Solutions Cooperative], like most utilities in the country, for outage management. We're working to make sure we're using this software to its potential.

For a long time, Washington Electric has been largely paper-based in its operations. We're moving to be digital in a wide variety of ways, but one of the important ones is outage management. That means expanding the ability of crews in the field to communicate more information, more frequently, and also to operate on more information out in the field. Washington Electric territory doesn't have universal cell phone coverage, so that's hampered where there isn't a signal, but the system is set up to upload and download when someone enters signal range. So, that's one piece.

The other part relates to our members' expectations. Given the number of people who work from home, given the number of members who've moved here from places that are not as rural, and given our increasing use of electricity and internet for essential purposes as our members replace fossil fuel devices with electric ones, people have increasing expectations for receiving information about the causes of outages, and more importantly, when they can expect power to be restored.

We've increased the detail and specificity of our maps. We're increasing the level of information we put out to members in terms of when we expect to restore outages in certain areas, through maps, on our blog and website, and through the SmartHub system.

Those are the major categories of effort, and within them, there's a lot of detail. All this comes with two risks or costs. One is: WEC is a very small organization. The people who dispatch crews and make sure crews are working effectively to restore the most number of members as quickly as



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— Stephen Knowlton

possible, and are doing so safely, are also the same people gathering the info to go out to members. We need to make sure we're not sacrificing the primary objective in order to get more information out there. We need to protect their ability to do that essential work.

Second, those restoration estimates are certainly going to be wrong. It's very difficult to accurately assess what crews are going to find in the field when they find a problem area, and how time consuming that problem will be to repair, especially with our current metering system. We ask members to remember we're providing estimates, but they're invariably going to be wrong.

Steve: I doubt the estimates are all wrong! But there is a limit to how certain WEC can be about restoration times during the fluid situation of a major outage.

Louis: Let me put it this way: they won't all be wrong in the same direction.

Steve: I received an estimate that power would be restored at 2 pm, and was pleasantly surprised to have it restored hours earlier.

Louis: This is exactly the problem with estimates. We made that time estimate based on how long it would take to repair broken poles. Then we realized we could backfeed a section of line and get members back on sooner. As a result, Steve and his neighbors had power at 10 am. Although this was a welcome inaccuracy for the members who got their power on earlier than expected, sometimes it goes the other way.

Steve: I think the fact that you and your staff have instituted this system is good recognition of what some members have told us over the past several years, which is that this is the kind of information they'd like to have. It's a way WEC can let our members know we are aware of their needs as individuals. I think most members will appreciate the estimates even with the uncertainties embedded in them. Even if they're inaccurate, it's a good start, and we'll learn.

Louis: It's hard to test such a system until there are major outages. Steve recently cited a great Napoleon quote: "No plan survives contact with the enemy." We'll review how this is working after we complete cleanup from this last round of winter storms.

We do appreciate our members' feedback as we adjust both our processes and expectations.

Probably the most surprising thing to me after two years in this job is this: last year, near the end of the Christmas storm, we and all the other utilities called everyone who was still out of power. These are folks who'd been out of power for at least four days at that point. The vast majority of feedback we got was supportive and understanding. That was surprising to me. I would not have expected that people still had that feeling after that length of time without electricity. Most members do understand the challenges Washington Electric has, and the effort people put into not just restoration of outages, but their work in general.

Steve: Most of our members know how to weather the storms, and they are generally prepared. People check in on their neighbors, particularly those who need extra help. I'm really appreciative of our membership as a whole. They're pretty resilient to what nature throws at 'em, even if, like me, they grumble a bit.

GMP aims for no outages by 2030

Steve: Green Mountain Power [GMP] has publicly stated what I think a lot of us feel: that we need to think pragmatically about how to improve our systems so that they're more resilient to stress and they're more reliable in terms of overall service, and make appropriate investments. Overall, GMP's message helps Vermonters think about what they need in an electric system.

Many of our state policymakers promote increased use of clean electricity, as well as increased reliance on electricity for transportation and heating. This reliance highlights the increasing need of our members, and any ratepayer, to have access to electricity that is both reliable and affordable. Our polls and surveys regularly show that reliability and reasonable cost rank highest in what WEC members want from their electricity provider. This need for dependable electricity to support beneficial electrification comes at the same time as we respond to the stress to our grid from what seems to be a pattern of more damaging weather.

Louis: Green Mountain Power's plan is a very ambitious one: to use hardening of the grid infrastructure,



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— Louis Porter

primarily through undergrounding wires and deploying batteries, including in-home batteries, to eliminate outages.

While their area has a lot more areas in it that are more densely settled than Washington Electric's, they also have a lot of rural areas. So, there's a lot Washington Electric can learn from their approach, as regulators question it and if they implement it. Moving their plan wholesale to Washington Electric territory wouldn't work for a variety of reasons, but there are elements we'll learn from.

GMP is a fellow utility that faces a lot of the same cost and reliability challenges as we do, so we appreciate them taking the lead on this. And frankly, we appreciate they're spending investors' money on this system. Steve has said this before: the money investors are willing to put forward is a good

resource to test these new systems, and that's the benefit of having an investor-owned utility in the state. Cooperatively owned utilities like ours are necessarily risk-cautious, because all our money is our member-owners' money. Vermont benefits from having a variety of utilities with different investment plans. This is a bold investment we can learn from.

Steve: This is not business as usual. The practices that have served us well up to now may have to adapt to meet emerging threats. It would be good if we develop new ways to mitigate outages. As a Board member of this cooperative utility, I gravitate to an approach that improves resilience against storms for all members, if the results can be reasonably expected to justify the cost.

Louis: This is no surprise to any reader, but everything's a balance of how much money you want to spend versus the services you receive. Take undergrounding utility lines: new tech has made doing that more efficient and somewhat cheaper, but it's still more expensive than running lines overhead. That's particularly the case in territory where there's a lot of ledge, trees, forest land, and lines away from the road. Undergrounding lines is something Washington Electric does now, in areas where we're serving houses, and in other areas as well. It's something we consider.

There are also ways to make overhead lines more compact and

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Storm Outages

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WEC members live: along north-south ridges of mountains, clouds dump precipitation and wind picks up speed. In WEC's rural territory, which averages eight members per mile of line, repair often takes longer than in more densely populated areas. Lines travel over miles of ledge and through corridors of shaggy and weather-susceptible white pine in order to reach a few homes. Each "event," or place where damage is located on a line, may take crews hours to reach and repair, and in wet snow, there may be hundreds of events to locate and fix. Meanwhile, each repair may restore power to only a few members at a time.

But other utilities that service rural territories have the same challenges, as VEC did in the second December

storm of this year. Last March was Green Mountain Power's turn, with those in southern Vermont seeing an outage that left some without power for more than four days.

Distributed electricity flows from the substation to the "end of the line:" the farther away from a substation a member lives, the more likely it is there is damage to the line before it reaches their house. All that upstream damage must be fixed before the line serving that last house can be re-energized. The metering upgrades WEC has planned will eventually give the Co-op better information about where outages are located.

In the meantime, the Co-op is working to improve its outage communication and give members without power estimates as to when their power will be restored. The homepage of wec.coop runs a banner


and frequent updates to keep members informed about outage numbers and where crews are focusing their restoration efforts.

In an outage, these are useful resources:

- wec.coop/outage-center for WEC-specific updates and WEC's outage map
- vtoutages.org for outage updates

from all major state utilities

- newengland511.org/region/Vermont for road conditions
- Call 211 to access shelter, food, or other needs

To report an outage, please call WEC 1-802-223-5245 or 1-800-932-5245. Never go near downed lines or trees on lines, as they may still be energized. 



President & GM Message


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resilient, and less likely to suffer damage from trees. We're applying right now to FEMA for a grant to make that update to part of our system, and we will do more of that in the future. Again, it comes with a cost, but it makes sense to do in areas where we're overhauling lines.

The other element is battery storage. Washington Electric has applied with other utility partners for two grants for substation battery storage. Unfortunately, we did not get either of these. As far as home batteries, Washington Electric may get into the business of providing these. If we make it cheaper for a homeowner to buy batteries outright, that will come at the cost of being subsidized by other members. There

may be reasons to do that, but someone ultimately needs to pay the cost.

Steve: It would be inspiring if GMP succeeds at reaching their 2030 target. Being able to achieve zero outages with methods other northeast utilities could copy would be a positive adaptation to change.

We'll keep watch as this unfolds. WEC is a demonstrated regional leader in renewable electricity through our previous investments, and has already met the conditions of Vermont's Renewable Energy Standard. I believe our members would now appreciate it if we explore making investments targeted to the present challenge of resiliency and reliability of the system they own if the weather isn't going to cooperate. Let us know if you think otherwise. 

Members Write

To the Editor:

I want to sincerely thank all of the WEC employees who helped restore power to our 6,000 members who were without power. Most were restored in a little over two days, with mutual aid assistance from many of our neighboring utilities. It was a very wet, heavy snow with up to 15 inches in some parts of the WEC territory, which covers 1,300 miles of lines.

I know that Co-op is still trying to get the power back on for members that were still out as of Wednesday, but I hope everyone realizes the Co-op's territory is very rural and extremely hilly and wooded. I was out of town, and my propane wall furnace needs electricity to run, but having checked in with my neighbors, when the power went out, they made sure my wood furnace was fired up and kept an eye on the house. One of my neighbors was kind enough to shovel off my deck, which had close to two feet of snow, with the snow that came off the roof.

One thing I've learned over all these 52 years I've been on the Co-op lines, is to always have a backup plan when I'm out of town, and have a mutual aid arrangement with my neighbors. One of my neighbors has a generator that goes on automatically and always offers any of us on the road to get water, and even shower if need be.

It's really important for all of us individually to be prepared in the event of a storm with the battery radio, a plug-in wall phone, and flashlights, with gallons of stored water.

Again, thanks to WEC employees and Board.

Barry Bernstein
East Calais

Barry Bernstein is a former Board member and President of WEC. He submitted this letter after the winter storm of November 27, 2023.

Recommended Reading

Vermont Public: Vermont lawmakers want to require utilities to source 100% renewable electricity by 2030

"Lawmakers last session created a special panel – called the Renewable Energy Standard Reform Working Group – to draft legislation in advance of the 2024 session. Along with legislators, it includes representatives from utilities, energy developers, manufacturers and environmental watchdogs.

Bray said there's general consensus on setting the 100% by 2030 goal. Different constituencies are split, however, on how to achieve the target."

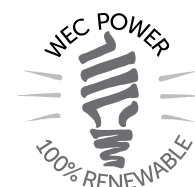
– Peter Hirschfeld, Nov. 2
vermontpublic.org/local-news/2023-11-02/vermont-lawmakers-want-to-require-utilities-to-source-100-renewable-electricity-by-2030

The Bridge: Power Outages Strike Over 25K Statewide — Washington County Hit Hard

"And for all the work people do to get power back up and running, Porter praised the line workers who leave their homes in the middle of the night – homes that may also be without power – to work in the cold, wet darkness to repair service. 'They are a remarkable group of people,' he said."

– Carla Occaso, Nov. 27

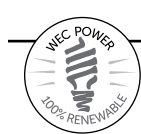
montpelierbridge.org/2023/11/power-outages-strike-over-25k-statewide-washington-county-hit-hard



Have Your Finances Taken a Hit?

Don't let your WEC bill go past due, or grow beyond what you can manage. **Help is available:** A Member Services Representative will help you put together a budget that works for you. Plus, there are state programs that may help pay down your bill.

Call us today, and we'll help you put together a plan: 802-223-5245 or toll free at 1-800-WEC-5245.



Making A Difference In Our Communities

2023 started in the aftermath of a major winter storm that caused a lot of damage, and for a lot of members, a lengthy outage. Halfway through 2023, a major summer storm caused flood damage beyond what many central Vermonters had ever seen.

Through the Community Fund, which is funded entirely by voluntary member contributions of capital credits, WEC aims to support the nonprofits that serve the communities in the Co-op's service area. The application process is fast and easy, and when there is great and specific need, the Community Fund can quickly shift its giving focus.

This happened before, when the Community Fund made major grants to food security programs during the COVID stay-at-home period, and it happened again after the July floods, when the Community Fund pivoted to offer low-barrier, thousand dollar grants to impacted nonprofits.

WEC staff also organize support for donation drives that brighten holidays and help Vermonters through the winter.

Most of all, the Co-op's commitment is to meet its members' needs as well as possible. This year, WEC put out a reminder call that member households with someone who has severe medical needs should alert the Co-op, to ensure someone

is checking on them in the event of an outage. Every day, Member Services Representatives are available to help members with past-due accounts create budgets that keep the lights on. Leaders partner with community action agencies to design resource programs that prioritize access and equity.

The East Montpelier Fire Department has organized a donation drive since 2012 that supports families with children in the East Montpelier and Calais elementary schools. Funds raised go to purchase gifts and holiday meals. WEC's Community Fund supported this holiday tradition in 2023.

Veterans, Inc. is a regional nonprofit with a mission to end homelessness among military veterans. WEC staffers and vendors have a longstanding tradition of helping sponsor the holidays for veterans and their families served by the Bradford, VT office. In 2023, WEC employers and vendors contributed to support 14 veterans who are housing-insecure. WEC's office provided basic needs, including winter clothing and groceries, as well as holiday gifts. To learn more: veteransinc.org

WARMTH

WARMTH is Vermont's emergency home heating assistance program. It's funded mainly through voluntary

contributions from electric utility customers, and operated through local community action agencies. In WEC territory, that's Capstone and Northeast Kingdom Community Action, or NEKCA.

To donate, initial the Operation Round-Up box on your electric bill to round up each bill to the next dollar and send the change to WARMTH. If you'd like to contribute more each month, write in the amount. If you bill through SmartHub or would prefer to call, contact Member Services to arrange your donation: 802-223-5245 or 1-800-932-5245.

Members can also donate directly to fuel assistance through their community action agencies: visit capstonevt.org or nekca.org

WEC's Community Fund

Co-op members have the option to donate their capital credit refunds. This money is pooled and distributed to worthy causes in WEC's service area. Throughout each year the fund grants tens of thousands of dollars to small local nonprofits.

To donate your capital credits to the

Community Fund, call Rosie Casciero at 802-224-2322.

How you can help

The Co-op's list of Community Fund grantees is a good resource. Each organization on this list makes a difference right here in central Vermont. The full list of 2022 recipients is in the August-September 2023 issue of *Co-op Currents*.

If you need help

- Call 211 to find any emergency resource you need: food, mental health, fuel, shelter, and anything else.
- If you need help paying your WEC bill, call Member Services: 802-223-5245 or 1-800-932-5245
- If you are in danger of running out of fuel, call the toll-free Emergency Fuel Assistance number: 1-800-479-6151
- For food, housing, weatherization, and other services, contact your local Community Action Agency: either Capstone (capstonevt.org) or Northeast Kingdom Community Action (NEKCA, nekca.org)

EV News: Equipment Upgrade Makes Supercharger Network Accessible to Non-Tesla EV Drivers

Tesla is upgrading its Supercharger network with a device called the Magic Dock. Like a universal outlet adapter used by international travelers, the Magic Dock can be used by drivers to make Tesla's NACS (North American Charging System) equipment work with CCS (Combined Charging System)-aligned vehicles. Tesla's NACS design is surpassing CCS as an industry standard; before now, drivers needed to seek charging stations compatible with their electric vehicle service equipment (EVSE).

Meanwhile, the Ford F150 Lightning – which is NACS-compatible – remains by far the best-selling electric truck on the market, continuing the long popularity of the F150 across gas and electric models.

For more on the Magic Dock: electrek.co/2023/11/01/tesla-reveals-how-magic-dock-works-patent-filing

EV News: Vehicle-to-Grid Pilot Will Test EV Role In Crushing Grid Peaks

Polestar, the Swedish EV brand, launched a multi-year pilot in Sweden and Santa Monica, California to test a virtual power plant with its new Polestar 3 SUV, which is capable of bidirectional charging. The cloud based virtual power plant allows the electric grid to connect to Polestar vehicles by way of "smart charging tech," per Polestar.

As humans use more electricity and power prices rise – say, on a hot summer day – the virtual power plant may access vehicle batteries en masse to discharge stored electricity back to the grid. This could have the effect of lowering peak power prices at market using a non-fossil-fuel source of power, as well as providing income to vehicle owners willing to dedicate some of their stored charge to the grid as needed.

For more about Polestar's Virtual Power Plant trial: media.polestar.com/us/en/media/pressreleases/675426

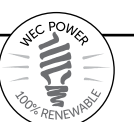
See also "When Your EV is Also Your Outage Battery Backup" *Co-op Currents*, June-July 2023: washingtonelectric.coop/2023/06/when-your-ev-is-also-your-outage-battery-backup-looking-ahead-to-bidirectional-charging

2024 Energy Efficiency Charge

The Energy Efficiency Charge (EEC), set by the Vermont Public Utility Commission to fund Efficiency Vermont's statewide energy efficiency programs, is increasing 2.5% for residential customers, 3.6% for commercial customers, and 5.9% for industrial customers. For the average household, this will result in a \$0.16 increase in their monthly electric bill. To learn more, visit efficiencyvermont.com/2024-eec-rates.

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Budgeting for 2024? Two “Plugs” from the Energy Coach

Plug-and-play heat pump water heaters; federal \$7,500 point of sale incentives for EVs

When you're thinking about making household upgrades and reducing your fossil fuel footprint, it's a great idea to call or email Bill Powell, WEC's Energy Coach. New tech comes along all the time – and so do new incentives. Before you make a big purchase, check with the Energy Coach to look at how you use power, what you want to change, and how you can do it.

New heat pump water heater tech

Powell is excited about new technology in heat pumps for water heaters. Water heaters traditionally draw a lot of power; even heat pump water heaters usually have electric elements for quick heating and require a 240 volt outlet. The new tech is different. “It's a pure heat pump. It has no electric

element in it,” said Powell. It's not as robust as heat pump water heaters that have been on the market – it lacks electric elements – though the cost is about the same. Nevertheless, the heat pump provides specific benefits that may match specific households' needs.

Not only does the heat pump eliminate the use of propane, but new tech can be plugged right into a 120-volt outlet. That means you won't need to rewire your circuit breaker or – if your transformer can't support any more electric use – wait and pay for a transformer upgrade in order to upgrade your water heater.

The new heat pump water heater is best for one- or two-person households with relatively low hot water use. It also requires plenty of ambient air space, a high enough ceiling to fit, and access to a 120-volt outlet.

If your propane water heater is on the way out, your household hot water use is relatively low, and you have the space for it, consider this option. The sticker price may not be an incentive on its own, but installation costs are likely to be much lower than a hybrid hot water heat pump, and operating costs are far lower as well. Plus, there are tax credits available. “If you want to drop that fossil fuel enabled water heater for a completely electric one, here it is,” said Powell.

New incentives from the Inflation Reduction Act

A lot of the beneficial electrification money in the federal Inflation Reduction Act will flow through entities, like Efficiency Vermont, that are set up to promote and distribute incentives at the state level. Many incentives will take the form of tax credits, which are helpful for those members who have federal tax exposure.

One change, recently announced in *Co-op Currents*, is an update to make the federal incentive for buying a new electric vehicle. Starting in 2024, electric vehicle purchasers will be able to claim the federal \$7,500 incentive at point of sale – which means buyers benefit right away, whether or not they

have tax exposure.

The incentive was previously available as a tax credit. That credit was popular – and will be even more accessible now, Powell said, noting that the previous \$7,500 tax credit was set to expire before the IRA passed. “And the EV market has changed, because there's a lot more product. There are a lot more vehicles that are eligible, especially those that are domestically produced.”

The EV benefit is a big one, but you may still need to work with the Co-op to manage what your transformer can handle before WEC installs your Level 2 charger at no cost to you. See below for the Energy Coach's steps to plan ahead in 2024 for home electric upgrades.

For more information about the 120-volt heat pump water heater:

<https://cleantechnica.com/2023/10/25/our-new-120-volt-plug-in-heat-pump-water-heater-is-one-of-the-first-in-the-country/amp/>

For more information about the EV tax credit change:

electrek.co/2023/10/06/ev-tax-credit-changes-mean-low-income-buyers-can-now-get-full-7500

ASK THE ENERGY COACH

Why can't I get my Level 2 charger for my EV now?

I bought an EV and have been making do with Level 1 charging. According to the load sheet, I need a transformer upgrade, but my EV has a 7.2 kw onboard charger, which isn't close to the 12 kw load of the Level 2 charger that would overload my transformer.

What gives? Why can't I have a Level 2 charger set to 7.2 kw now?



Member, I hear you. It's annoying to be in your position. First, let's make sure we all know what equipment we're talking about here: the onboard charger is the device within your EV that changes AC power from your home electricity to DC power in order to recharge your EV's battery. When you charge at a “fast-charging” station, you apply DC power directly to your battery, bypassing your onboard charger; but when you charge at home, you use AC power and the EV's onboard charger.

The reason you're on the transformer upgrade list is because your cooperative utility must assume that the maximum capacity your device or vehicle can handle is what it will handle. So even if you're at 7.2 kw, the Level 2 charger can power up to 12 kw. WEC, along with any other electric utility, has to assume that you will use 12 kw, because that's what the charger can handle. For comparison purposes, a Level 1 charger powers 2.4 kw or less.

So our offer to our members is based on an additional 12 kw demand. And that offer is this: we'll provide you with a Level 2 charger, at no cost to you, which has six settings up to 12 kw. That's the good news. The bad news is, if the assumed new maximum demand of 12 kw of new load is more than your transformer can handle, you need to get on the list for an upgrade. And because the supply chain is still pinched, it may take a while.

There's a workaround. I want to be honest with you, since I understand the urgency, and I also want you to understand that it carries risks.

Since you're waiting for a transformer upgrade, you may decide you don't want to wait for the 12 kw charger WEC will give you. You'll buy your own, and you'll install it at 7.2 kw to avoid imposing the 12 kw load. And you can do that, though I encourage extreme caution and a thorough understanding of what you're doing. If you do overload your transformer, and you blow the fuse, you will cause an outage. Crews will have to come fix it. And this will cost you money.

That's the takeaway. If you buy your own charger and install it so you're well within your load capacity, you've got your Level 2 charger, and you're ahead of the game. But if you blow the fuse, you're behind the game, and you paid out of pocket for a Level 2 charger.

Have an energy question? Ask the Energy Coach: energycoach@wec.coop

Adding New Electric Devices? Follow the Energy Coach's Checklist

*Buying an EV? Installing a new heat pump water heater?
Before you plug in, follow these steps.*

1. Look at your circuit breaker box. Is it a 100 or 200 amp box? How many remaining slots are there? Take a photo.
2. Call the Energy Coach to inquire about adding an EV to your peak load. What's your historic peak load? If you email, attach the photo. You will need to complete a Load Sheet (look for it on the Energy Coach section at wec.coop) to be eligible for a no cost Level 2 charger from WEC (to be installed by your contractor).
3. WEC's team will assess your service. You'll learn what, if any, work needs to be done to prepare your home electrically for EV load, about how long it will take, and how much it will cost. Service upgrades typically involve separately hiring a qualified contractor, and coordinating with WEC to make electrical improvements to increase capacity of the member's equipment. WEC will begin performing elective service upgrades again as supply chain issues are resolved.

“Electrify Your Fleet” State Incentives

Vermont businesses, municipalities, and nonprofit organizations seeking cleaner transportation options may now apply for the Electrify Your Fleet incentive program to support the transition to plug-in electric fleet vehicles.

Applicants may receive up to \$2,500 for each internal combustion engine vehicle replaced or avoided (maximum of 20 incentives allowed per fleet). Awards may be applied toward the purchase or lease of new plug-in electric vehicles (PEVs), electric bicycles, electric cargo bicycles, adaptive electric bicycles, electric motorcycles, or electric snowmobiles.

Details and application: vtrans.vermont.gov/planning/climate-change/Electrify-Your-Fleet

Birds on a Wire

Osprey often build their nests on human-made structures. This can cause big problems when the structure they choose is a utility pole with energized wires. The nest becomes a fire hazard, the birds risk electrocution, customers can experience unexpected outages, and line crews may have trouble identifying the issue.

That's what happened in Coventry in 2022, when a young osprey couple decided to locate their nest on top of a utility H-frame that WEC shares with VELCO. The nest shorted out electrical service close to midnight, which led

to a multi-hour outage as line crews checked and rechecked the transmission lines in vain. After the nest was located and power was restored, WEC consulted with Vermont Fish and Wildlife about how to avoid a repeat incident.

This time last year, WEC lineworkers installed an osprey nest atop a 40-foot, non-energized utility pole at the north end of the solar field across from the Coventry landfill. The four-foot square wooden box is located at the highest point on the hillside – a desirable piece of real estate for reproducing osprey – and was furnished with sticks to encourage nest construction.

"We spoke with the game warden, who said that there probably weren't any eggs in the nest" when the

outage occurred, said WEC Director of Engineering and Operations Dave Kresock. "Osprey like to play house for a year before they actually start to lay eggs and start a family."

He added that the new osprey pole should have the twin benefits of allowing the osprey to reproduce safely and preventing another outage. A year later, osprey have stayed off the H-frame, and have shown signs of investigating the new platform.

Once endangered in North America, osprey have rebounded and flourished in recent years. Widespread use of the chemical DDT ravaged the osprey population during the 1950s and 60s: as the pesticide made its way up the food chain, osprey eggs became so thin that they'd crack before hatching. This led to a population crash in the raptor species before the Environmental Protection Agency banned DDT in 1972.

Over the last three generations, there's been a dramatic increase in the North American osprey population. This is great news for the birds and our ecosystem, but they still face human threats, which is why WEC is doing its part to help protect them.



Members of WEC's operations team built a platform on a 40-foot pole on the highest point of a hill in Coventry across from the landfill and WEC's landfill gas-to-electricity generation plant. The new platform is intended to attract nesting osprey away from their first choice – an H-frame transmission pole.



Left: First Class Lineworker Donnie Singleton gives branches with nest potential to Construction Foreman Amos Turner. Right: Armed with nest material, Turner prepares to rise.



Turner arranges sticks on a four-foot-square platform to entice nesting osprey.

A sheath around the base of the pole keeps raccoons from climbing up to pester the nesters.



WEC Offers Presentations

Want a visit from WEC for your school, office, neighborhood association, or community group? As a member-owned cooperative, WEC staff love opportunities to help our community learn about power and electrical safety.

- **Safety demonstrations:** David Young: 802-224-2340 or david.young@wec.coop
- **New technologies and how our grid works:** Energy Coach Bill Powell: 802-224-2329 or energycoach@wec.coop

Fluorescent Bulbs Phase Out

As of January 1, 2024, mercury-containing fluorescent lighting is restricted from sale in Vermont. This includes residential-use twist bulbs as well as four-foot tube lighting.

Efficiency Vermont ceased offering point-of-sale discounts on LED bulbs on January 1, but will continue to offer custom rebates for large-scale retrofits from fluorescent to LEDs through 2026. To learn more, visit efficiencyvermont.com/bizlighting.

Fluorescent bulbs are banned from the trash and must be recycled. There are free bulb recycling dropoff locations throughout Vermont. For information about recycling fluorescent bulbs, visit VTRecycles.org.

