

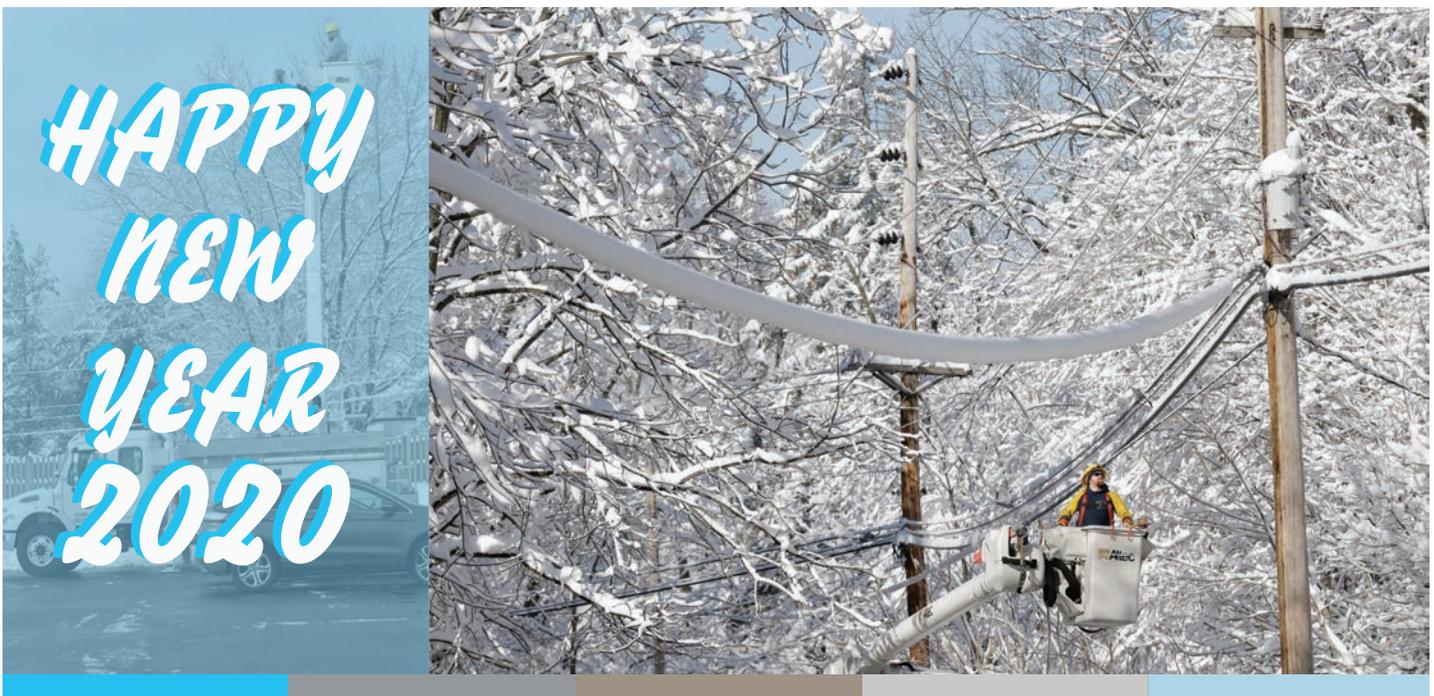


# Currents

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[www.sussexrec.com](http://www.sussexrec.com)



## Restoring an Outage

We often take electricity for granted. It makes our homes comfortable day-in and day-out, and it's at the ready with little more than the flip of a switch. Sussex Rural linemen are always out there maintaining an intricate system of power lines around the clock.

What goes on behind the scenes once that switch is thrown is far more complex. The power grid, which can be described as the largest, most complex machine ever built, involves an intricate network

of power lines crisscrossing neighborhoods and open country, over mountains and through towns. It has evolved over the last century to supply consumers with safe, reliable, and affordable electricity.

The tricky thing about electricity is that it must be used, or moved to where it can be used, the second it's produced; it generally can't be stored like water or gas. What's more, electricity moves at the speed of light along the path of least resistance. This basic principle calls

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for a carefully monitored, intricate system to move it 24 hours a day.

The major cause of power outages is damage caused by fallen trees, whether they are blown down by high winds or weighed down by snow and ice. That's why Sussex REC has an ongoing right-of-way maintenance program cutting and trimming trees to keep power line pathways as clear as possible.

# Restoring an Outage

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We take tree trimming very seriously, constantly trimming every mile of primary line in our territory on a four-year cycle. We occasionally receive some resistance from our membership about how much we trim, but we do need to trim a tree for four years' worth of growth. Tree trimming is the largest expense for the Cooperative, aside from the cost to purchase our power.

Restoring power after a major outage is a big job that involves much more than simply throwing a switch or removing a tree from a line. The main goal is to restore power safely to the greatest number of members in the shortest time possible. We typically restore power after a major disaster or storm, such as an ice storm or a hurricane, following the steps outlined in the graphic below.

During a major outage, other cooperatives in areas not affected by the storm are prepared to help. If requested, they send line crews to assist with restoring power. A small, localized storm may mean mutual aid crews don't have to come from too far of a distance away. When the storm is of large scale significance, like a hurricane, the mutual aid crews may be coming from a much further distance, requiring a day or even two, just to reach the affected co-op. After Hurricane Sandy, SREC received assistance from co-ops in Florida and South Carolina. Sussex REC crews have travelled as far as Georgia and Mississippi over the past few years.

Local conditions may lead to deviations and variations in this restoration plan. Every restoration has its own characteristics. Multiple crews are typically working on multiple areas simultaneously. Damage in one area may not be as severe as another area. This can result in one area that has damaged three-phase lines appear to get restored after an area that only has a few single-phase lines down. Timing of repairs has an effect on the duration of the outage, as does ease or difficulty of repairs and what is involved with the repair.

Members themselves (not the co-op) are responsible for damage to the service installation at the home or building, which includes the service entrance cable and the meter pan on the building. Your co-op can't fix this and you will need to call a licensed electrician to make the necessary repairs first. Then, the co-op will come and re-establish the connection to the service wire from the pole.

It's a big job, but our line crews are absolutely up to the challenge. If there is an outage in your area, you can help crews pinpoint damage by calling us at 877-504-6463. Even if your neighbors have already called, every bit of information we have helps get the power flowing smoothly again.

## Powering Up After an Outage

When the power goes out, we expect it to be restored within a few hours. But when a major storm or natural disaster causes widespread damage, extended outages may result. Our line crews work long, hard hours to restore service safely to the greatest number of consumers in the shortest time possible. Here's what's going on if you find yourself in the dark:

**Sussex Rural Electric Cooperative, Inc.**

- 1. High-Voltage Transmission Lines:**  
Transmission lines supply power to one or more transmission substations. These lines seldom fail, but they can be damaged by falling trees or storms. Tens of thousands of people could be served by one high-voltage transmission line, so if there is damage here it gets attention first.
- 2. Distribution Substation:**  
A co-op may have several local distribution substations (Sussex REC has six), each serving a thousand or more members. When a major outage occurs, the substations are checked first. A problem here can be caused by failure in the transmission system supplying the substation. If the problem can be corrected at the substation level, power may be restored to a large number of people.
- 3. Main Distribution Lines:**  
Main distribution supply lines (also known as circuits or "three-phase lines") are checked next if the problem cannot be isolated at the substation. These supply lines carry electricity away from the substation to a group of consumers (usually in the hundreds). When power is restored at this stage, all consumers served by this supply line could see the lights come on, as long as there is no problem farther down the line.
- 4. Tap Lines:**  
The final supply lines, called tap lines or "single-phase lines," carry power to the utility poles or underground transformers outside houses or other buildings. Line crews fix the remaining outages based on restoring service to the greatest number of members.
- 5. Individual Homes:**  
Sometimes, damage will occur on the service line between your house and the transformer on the nearby pole. This can explain why you have no power when your neighbor does. Your co-op needs to be informed if you have an outage here so a service crew can repair it.

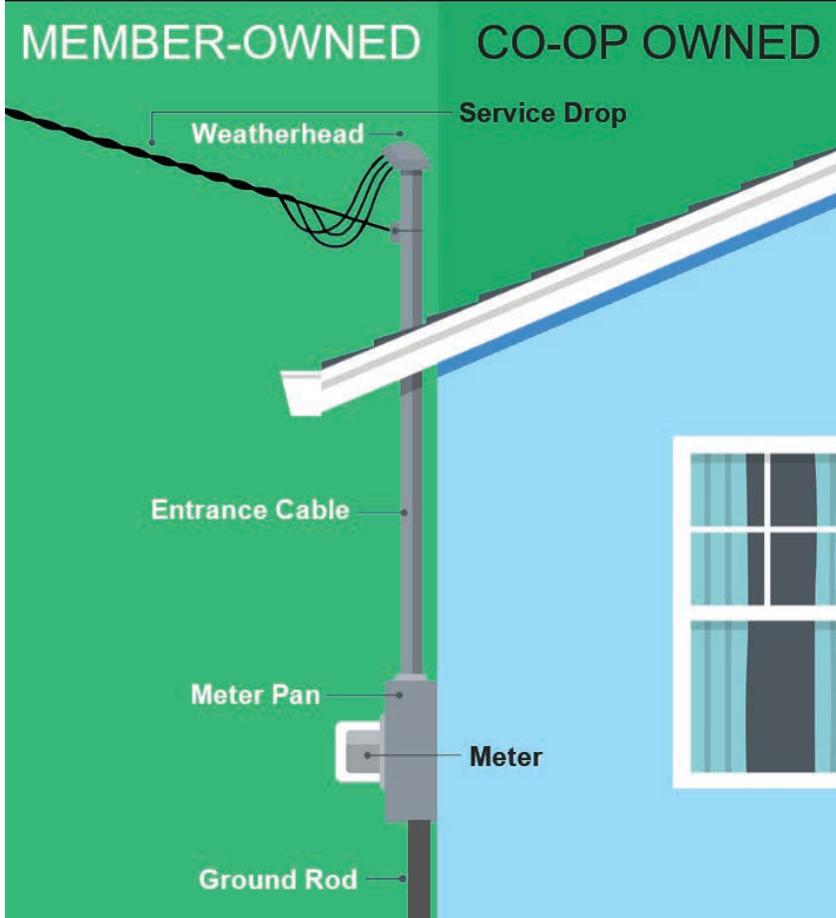
# A Personal Message

By: Chris Reese, President & CEO  
contacttheceo@sussexrec.com

The December 2nd ice and snow storm was a tough one for our area after about 12" of heavy wet snow fell on top of anywhere from 0.1-0.3" of freezing rain glaze. The weight of the snow and ice was no match for many trees in the area, and Sussex REC (along with the rest of Sussex and Warren counties) experienced extensive outages as a result. In terms of outages, this storm was worse than the March 7, 2018 nor'easter that hit the area, and was the worst our system has experienced since Hurricane Sandy in 2012. Driving around neighborhoods the past couple of weeks, it is easy to still see evidence of all of the damaged trees that fell, were split, or lost large branches.

I'd like to thank our members for the outpouring of support we received as our company, with assistance from five other PA co-ops, worked around the clock to restore power in often difficult and dangerous conditions. I'm thankful for your patience as we tried to safely get every single service restored in a timely fashion. We learn from every storm, and this one was no exception. We'll continue to improve our response and serve our members safely, reliably, and affordably!

Determining who owns each piece of electrical equipment attached to your home can be confusing. This graphic lays out which items are yours and which are owned by the Co-op. If you have an issue and aren't sure if it's up to the Co-op to fix or if you should call an electrician, please send us an email (with photos, if possible) at [askoperations@sussexrec.com](mailto:askoperations@sussexrec.com)



*On December 4th in Vernon, we had to call in the help of IP&E Rigging to help remove large trees that had fallen on distribution lines feeding into Pleasant Valley Lake. Attempting to cut these trees would have damaged or broken the wire.*



*During December's storm, we received aid from our sister co-ops from Pennsylvania. We would like to thank New Enterprise Rural Electric Cooperative, Inc., Adams Electric Cooperative, Inc., REA Energy Cooperative, Inc., Valley Rural Electric Cooperative, Inc., and Warren Electric Cooperative, Inc. for all their help.*



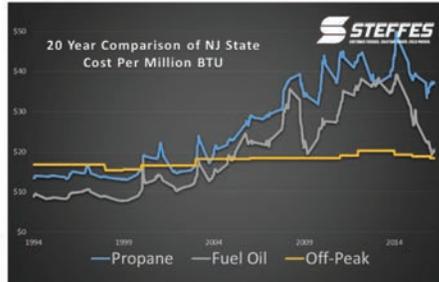


# It's not magic, it's Electric Thermal Storage Heating

The "magic" of the cost effectiveness of  
Electric Thermal Storage (ETS) is the ability to store heat during  
off-peak billing hours for use during higher priced on-peak billing hours.

A variety of furnace sizes are available  
to fit your home ranging from  
19.2kW—45.6kW.

For more information go to  
[www.sussexrec.com](http://www.sussexrec.com) or  
call 973.875.5101



## Energy Efficiency Tip of the Month



Let the sunshine in! For additional warmth, open drapes over windows that receive sunlight during the day. Close them at night, which can reduce heat loss from a warm room up to 10%.

Source: [energy.gov](http://energy.gov)

## DRIVE ELECTRIC

WANT TO LEARN MORE  
ABOUT ELECTRIC VEHICLES?

READ OUR INFORMATIONAL  
PAGE!

ALREADY DRIVE AN EV?

FILL OUT THE QUESTIONNAIRE  
TO SHARE YOUR EXPERIENCE!



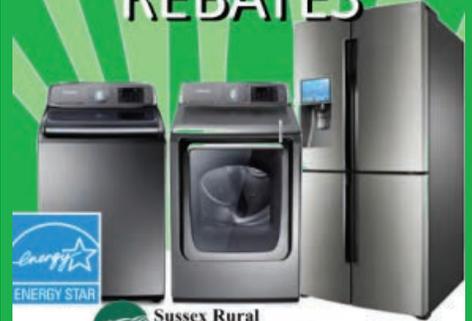
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## APPLIANCE REBATES



Sussex Rural  
Electric Cooperative, Inc.  
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**\$50.00 Rebate for Appliances**  
For a list of eligible appliances, go to  
[www.njcleanenergy.com](http://www.njcleanenergy.com)

# The Season of Giving



In November we took part in Family Promise of Sussex County's holiday collection drive to benefit children in our community affected by homelessness. Many of our members turned out to offer new toys and winter clothing to help make the holidays in Sussex County a little bit brighter!



For the holidays, we kicked our Food Drive into overdrive! Our employee food drive resulted in 311 pounds of food being delivered to the Division of Social Services, along with many pounds of food donated by our members. We collect year-round, so we encourage everyone to make a contribution at our office!