

# CIRCUITS

NEWS FOR DAKOTA ELECTRIC MEMBERS



## COOLING SYSTEM REBATES

### ✓ Tuneups

- \$25 rebate on a cooling system tuneup by a contractor of your choice.
- \$79.95 guaranteed price for a cooling system tuneup by a contractor assigned by Dakota Electric.

### ✓ Central Air Conditioner

- Up to \$330 rebate on a central air conditioner quality installation.

### ✓ Heat Pumps

- Up to \$630 rebate on an air-source heat pump quality installation.
- \$400/ton rebate on a ground-source heat pump quality installation.

### ✓ Cycled Air Conditioning®

- Bill credit of \$13 in June, July and August.

Learn more at [dakotaelectric.com](http://dakotaelectric.com) or call 651-463-6243.

## Enjoy the best of both worlds with an air-source heat pump

Able to deliver hyper-efficient home heating and air conditioning, air-source heat pumps (ASHP) help members realize savings in energy consumption as well as cost. According to the U.S. Department of Energy, an ASHP can reduce electricity use associated with home heating and cooling by up to 72 percent. Since heating and cooling account for more than half the total energy consumed in a typical household, members can realize tremendous savings by making the switch.

### How it works

Air-source heat pumps use the same technologies that are found in refrigerators and air conditioners, and deliver cooling and heating by moving heat to and from the outdoor air. During the summer, the ASHP works just like a central air conditioner, moving heat from inside your home and transferring it outside. It has the ability to reverse this process for heating: the ASHP harvests heat from outside air and transfers it into your home.

The result is that homeowners are able to run their furnace less and get extremely efficient heating from their ASHP.

### Benefits to you

Members can see savings of up to 30 percent on home cooling expenses by installing an ASHP instead of other conventional air conditioning units. And by moving heat, the ASHP is able to transfer a greater amount of energy than it consumes, which means an ASHP can have effective heating efficiencies of 300 percent or more.

The heat distributed by an ASHP is distributed more evenly and holds its moisture better, resulting in more natural, comfortable warmth.

To learn more, contact the Energy Experts® at 651-463-6243 or visit [dakotaelectric.com](http://dakotaelectric.com) > Programs & Rebates.

## In This Issue

Study shows new heat pump technology works well in cold climates . . . . .	2
First highway corridor in Minnesota electrified with EV fast chargers. . . . .	3
How much does it cost to run my A/C? . . . .	4
Area students traveling to D.C. in June . . . .	5

### Upcoming events

GreenTouch . . . . .	May 5
Energy Trends Expo . . . . .	May 10
MN Twins Play Ball Youth Clinic . . . . .	May 19
Memorial Day - Office Closed . . . . .	May 28
Board Meeting . . . . .	May 31, 8:30 a.m.

Dakota Electric Association® is a registered service mark of the cooperative.

May 2018



# Recent study shows new heat pump technology works

Unlike traditional heat pumps, cold-climate air-source heat pumps (ccASHP) can provide heat

Air-source heat pump technology has been available for many years and has the potential to deliver energy and peak savings as well as reduce reliance on fossil fuels. Traditional systems typically heat homes during the shoulder season (spring and fall) down to about 30 degrees. However, newer generations of ASHPs have had a significant advancement in cold-climate performance. This advancement has the potential to offer energy-efficient heating solutions to a market segment that historically has not had a lot of efficient and cost-effective options, such as customers without natural gas.

The Center for Energy and Environment (CEE) recently concluded a two-year study on cold-climate air-source heat pumps (ccASHP) with six residential homeowners throughout Minnesota.

“This technology had not been studied and tested in a climate as cold as Minnesota,” said Ben Schoenbauer, senior research engineer with CEE. “We thought it was important to verify the system’s performance before advocating for this technology to customers throughout the state.”

In cold-climate applications, a backup heating system is still necessary to provide heat when cold outdoor air temperatures

limit the heat pump capacity, or prevent the system from operating. Ducted systems typically use a propane furnace as a backup. These backups take over the load of the system at an outdoor air temperature when heat pump capacity is no longer sufficient — as low as 5 degrees.

Schoenbauer says ccASHPs work well and can be a benefit to many customers across the state, even in northern Minnesota. But the installation and setup of the equipment is important.

“The new systems have similar components and installations to past generations, but the setup and integration with the backup heating system are often very different,” said Schoenbauer. “These operational parameters can have a huge impact on the system’s savings, comfort delivered and general system performance.”

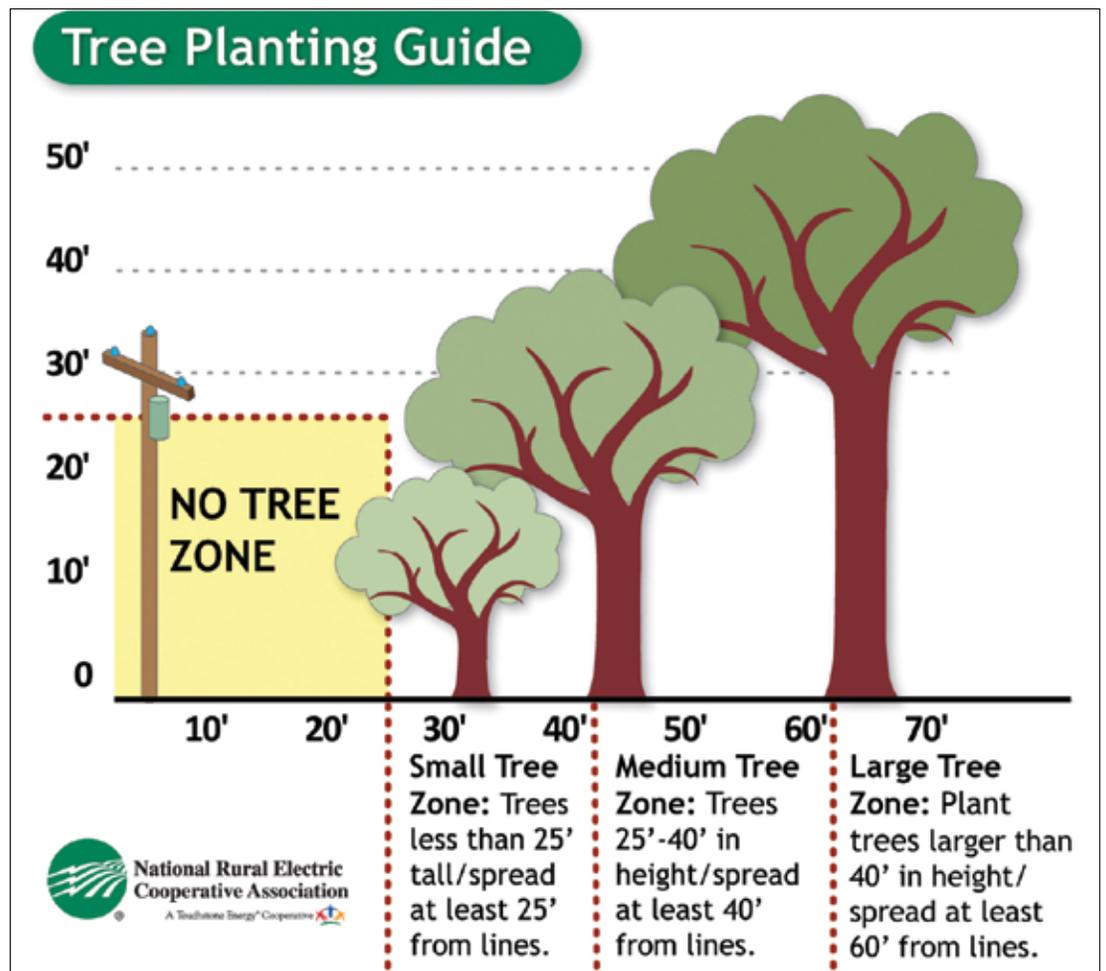
The ccASHP study was supported in part by a grant from the Minnesota Department of Commerce, Division of Energy Resources through a Conservation Applied Research and Development (CARD) program, and received additional funding from Great River Energy and the Electric Power Research Institute.

## Plan ahead when landscaping and planting trees

It’s not always easy to visualize how a few years will change your landscaping. That’s why you must plan ahead, especially when planting trees.

Consider the height the tree will reach at maturity. They must not grow to within ten feet of power lines. Anything closer is not safe and the mature tree might eventually need to be removed. You can avoid this by planning ahead. Research the size the tree will become and calculate how far away from the power line it should be planted.

Please do not landscape or install fences near the cooperative’s pad mount transformers, junction boxes or the base of power poles. Our crews need plenty of space to access this equipment.



## well in cold climates

in temperatures down to 5 degrees or lower

### Key research findings

- Ducted ccASHPs can heat below 5 degrees, ductless below -13 degrees.
- Can provide 70 to 80 percent of a home's heating needs.
- When compared to traditional electric heat and LP furnaces, study showed energy reduction ranging from 36 to 49 percent. That equates to savings of approximately \$450/year in the metro area and up to \$850/year in northern Minnesota.
- Freeze protection and integration with auxiliary heating are important.
- ccASHPs have more efficient cooling as well. Typically SEER increases from 13.0 (baseline) to 16.5+, which results in about 300-500 kWh saved per year or \$50/year.
- Paybacks are attractive when existing heating or cooling system needs to be replaced.

To hear more about the ccASHP study, be sure to attend Dakota Electric's **Energy Trends Expo** on **Thursday, May 10** and hear CEE present the research findings. More info on pg. 6.

## REMEMBER: Power lines are underground as well.

State law requires anyone  
planning to dig to contact  
**Gopher State One Call.**

Doing so protects you and your  
property. Call **811** or visit  
[gopherstateonecall.org](http://gopherstateonecall.org).



Know what's below.  
Call before you dig.



## First highway corridor in Minnesota electrified with EV fast chargers

Minnesota's first electric corridor is paving the route for electric vehicle owners to experience the North Shore in ways they have never been able to before.

From the Twin Cities to Tettegouche State Park, and all of the places in between, it's possible to go farther than ever in an electric vehicle (EV). Charging stations are now located along the I-35 corridor and Highway 61, allowing drivers to plug in and head out for new adventures.

Specifically, the recent addition of a DCFC (Level 3 DC Fast Charger) at Sturgeon Lake makes the trip accessible to all electric vehicles — even first generation versions with smaller ranges. Before now, an EV driver would have to charge up at a Level 2 station, which takes more time.

"A common barrier to driving electric is range anxiety. It's a paradigm shift to think about refueling (charging) at home and at your destination versus on your way to the destination," said David Ranallo, manager, member services and marketing at Great River Energy. "Although many newer makes and models of EVs don't even need a charge on their way between Minnesota's beautiful North Shore of Lake Superior and the Twin Cities, now there are fast chargers available for the whole route so they don't even have to think about which car to take — that's something to celebrate."

Proving it's not just about the destination but the journey in getting there, EV drivers are able to charge up in locations such as Pine City, Sturgeon Lake, Duluth, Two Harbors and Lutsen, and take in sights and experiences they may have normally missed. For route planning purposes, all EV charging station types and exact locations on any route in Minnesota can be found at [plugshare.com](http://plugshare.com).

# How much does it cost to run my air conditioner?

During the summer cooling season, air conditioners can use 20 to 50 percent of the energy in your home. If you have a 20- to 30-year-old air conditioner, you may be surprised at just how much it costs you every summer. Efficiencies in equipment have greatly increased cost savings.

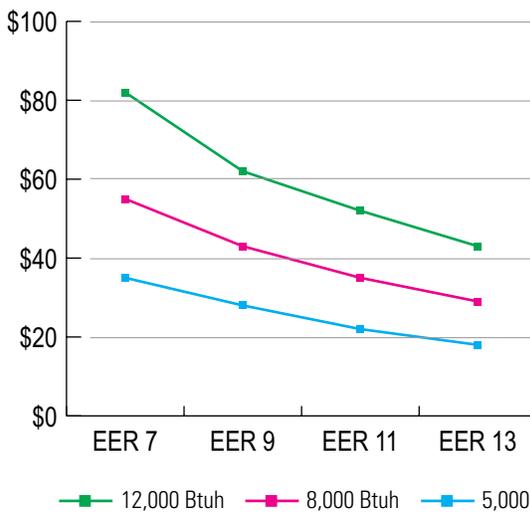
The graphs below are a good representation of how new, high-efficient equipment equates to lower electricity bills. A new air conditioner versus your 25-year-old air conditioner could save you close to \$100 or more per season.

So whether you are ready to upgrade your central air conditioner now, or you know the time is coming when your old unit is going to fail, contact the Energy Experts® at 651-463-6243 and start saving! We have rebates available up to \$330 on central air conditioners, and up to \$630 on air-source heat pumps. And to maximize your energy savings, you can join our Cycled Air Conditioning® program and receive a \$13 bill credit in June, July and August.

## CENTRAL AIR CONDITIONING



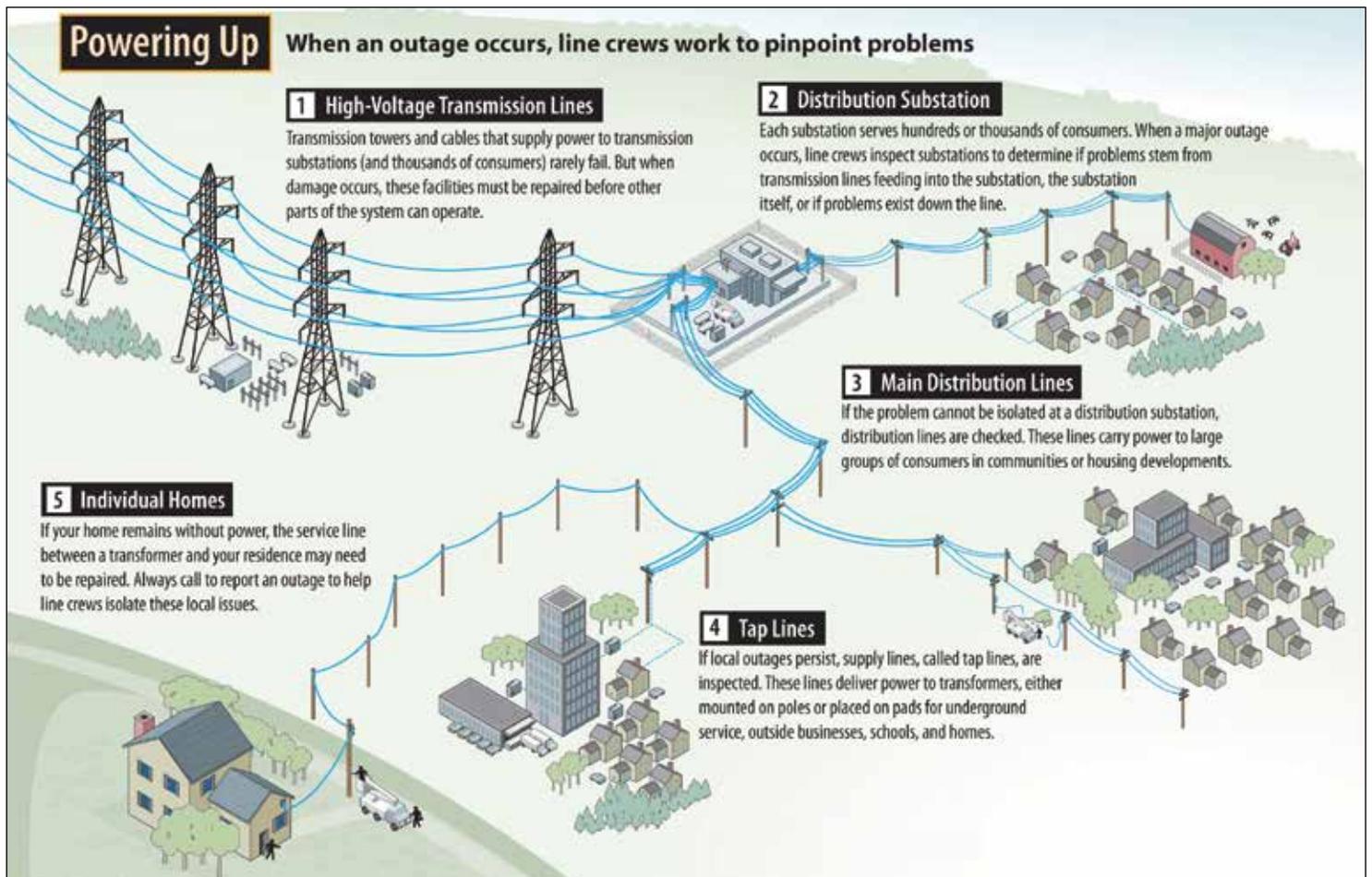
## ROOM AIR CONDITIONING



These cost estimates are based on a central air conditioner in good working condition used with a programmable thermostat. Calculations are based on 414 cooling hours in a season.

**SEER** = Seasonal Energy Efficiency Ratio. Higher SEER means more energy efficient.

**EER** = Energy Efficiency Ratio. Higher EER means more energy efficient.



## Area students traveling to Washington, D.C. in June

Five local high school students were recently selected to receive a trip to Washington, D.C., sponsored by Dakota Electric Association. The winners are Mitchell Conzemius, Hastings High School; Emily Hull, Eagan High School; Sarah Most, Eastview High School; Michelle Quan, Rosemount High School; and Jacob Widen, Burnsville High School. Mya Hillerud, Eagan High School, was selected as an alternate. A panel of judges selected students after reviewing their applications and interviewing them.



Each June, more than 1,800 high school students from around the United States travel to Washington, D.C. for the NRECA Youth Tour. The participants are selected and sponsored by their local electric cooperatives, and during the week, they learn about government and electric cooperatives. The students will have the opportunity to tour many of Washington, D.C.'s sites, including the Smithsonian, the U.S. Capitol and the Vietnam Memorial, and they also have a chance to meet their elected officials.

The students will participate in the National Rural Electric Association's (NRECA) annual Washington, D.C. Youth Tour, scheduled for June 9-14.

Each January, Dakota Electric makes applications available for high school juniors and seniors to apply for the Youth Tour program. Students wanting more information can email [pjohnson@dakotaelectric.com](mailto:pjohnson@dakotaelectric.com).



**Mitchell Conzemius**  
Hastings High School



**Emily Hull**  
Eagan High School



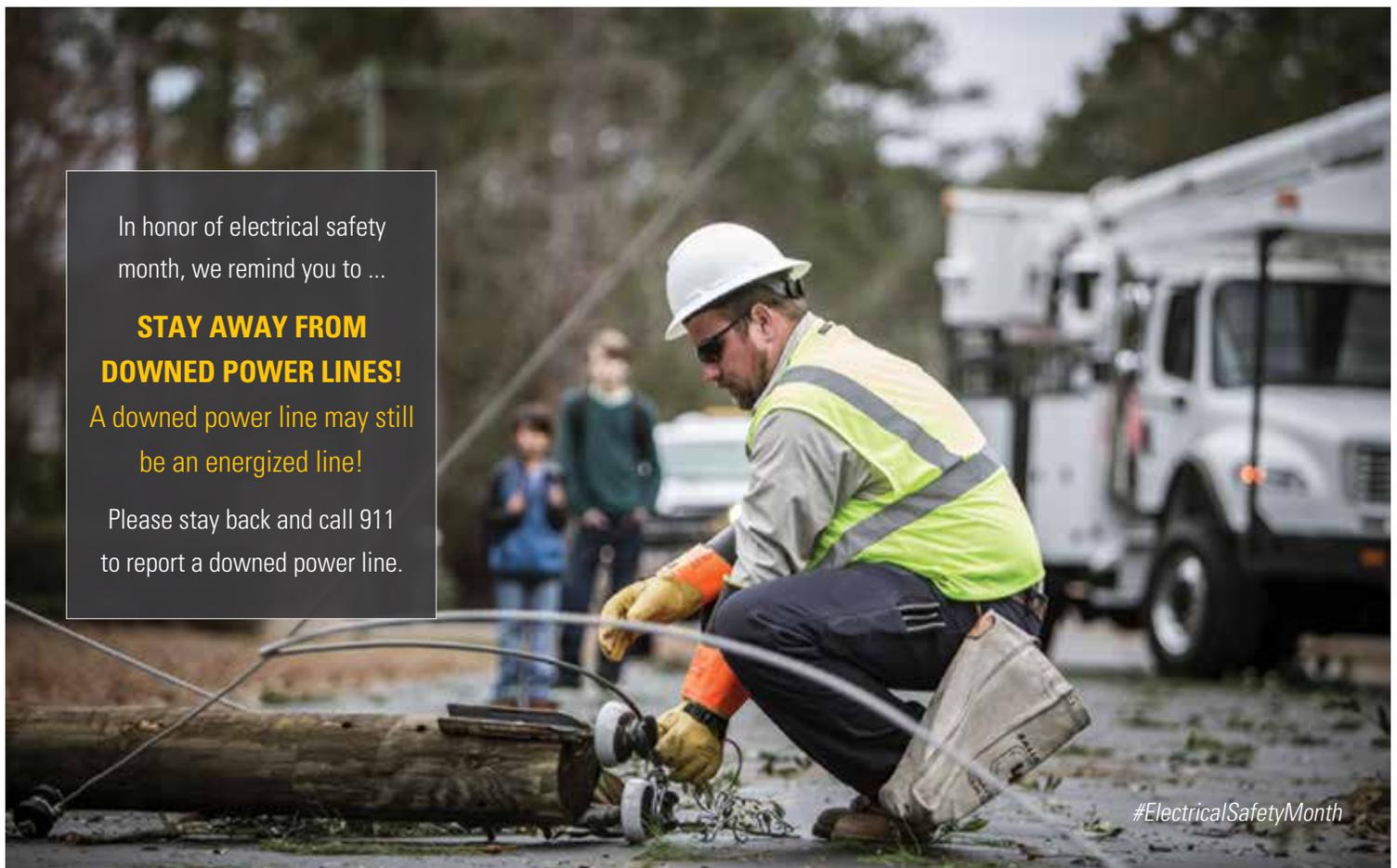
**Sarah Most**  
Eastview High School



**Michelle Quan**  
Rosemount High School



**Jacob Widen**  
Burnsville High School



In honor of electrical safety month, we remind you to ...

**STAY AWAY FROM  
DOWNED POWER LINES!**

A downed power line may still  
be an energized line!

Please stay back and call 911  
to report a downed power line.

#ElectricalSafetyMonth

# Spring COMFORT SPECIALS



**HOT and HUMID weather is just around the corner!**

Call now for savings up to

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*Schedule your FREE, no-obligation, in-home estimate today!*

\*Combination of Controlled Air discount and utility rebate. On qualifying Trane equipment.



We service ALL brands!

Enjoy up to **\$40 OFF A/C Tune-Up\***

when combined with qualifying Dakota Electric rebate\*\*

\*Offer expires 5/31/18. \*\*Air conditioners over three years of age and not had a tune-up in the last two years. Rebate for tune-ups only, not for other repairs. Contact Dakota Electric for details.



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# IT TAKES

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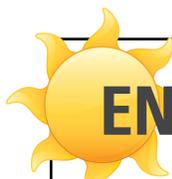
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\*In-Home Estimate Needed, Offer Expires May 31, 2018



## ENERGY TRENDS EXPO

**Thursday, May 10, 2018 • 6 - 8 p.m.**  
**Eagan Community Center**

1501 Central Parkway • Eagan, MN 55121

**Vendor trade show**

**Ride Minnesota's first electric school bus**

**Electric vehicle car show**

**Breakout sessions**

- 6:45 p.m. **Energy-efficient home design**  
Locus Architecture
- 7:15 p.m. **Cold-Climate Air-Source Heat Pumps**  
Center for Energy & Environment (CEE)

**100% Electric**

"This is undoubtedly the bus of the future. Here today."

**FREE EVENT!**  
**DOOR PRIZES**

# Circuits Quick Clips

## Dakota Electric adds another all-electric vehicle to its fleet



The 2017 Chevy Bolt will be used by employees to get to and from member meetings and appointments. The Bolt gets approximately 200 miles per charge. It is the second all-electric vehicle in the cooperative's fleet.



## Thank you for reporting streetlight outages!

Eric Wisti of Inver Grove Heights has reported the most streetlight outages in the past year using Dakota Electric's outage app. As a token of our appreciation, John Thurmes, Dakota Electric's system control manager, recently visited Wisti and gave him a \$25 gift card.

Wisti says he appreciates the convenience of using the app to report the outage rather than calling the outage line. By simply standing next to the streetlight, the app's GPS technology pinpoints the location of the streetlight, and the outage can be reported with the touch of a button.

If you notice a streetlight out in your neighborhood, please report it by calling 651-463-6287 or using Dakota Electric's outage app. To learn more about the outage app, visit [dakotaelectric.com/power-outages](http://dakotaelectric.com/power-outages).



## REMEMBER:

### LOOK UP AND OUT FOR POWER LINES!



#ElectricalSafetyMonth

## Board of Directors

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Greg Miller, President & CEO  
Tanya Wolfs, Editor



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## SAVE BIG ON AIR-SOURCE HEAT PUMPS

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You Can Do,  
I Can Do Better!

No  
You Can't!

Yes  
I Can!



It's the best of both worlds. Air source heat pumps provide home cooling and supplemental heating with 72% less electricity than conventional air conditioners and furnaces.

## Contact Us

Member service & drive-up window  
7 a.m. – 7 p.m. Monday - Friday  
651-463-6212 or 1-800-874-3409  
Minnesota Relay Service 711

Lobby 7 a.m. – 4:30 p.m., Monday - Friday  
4300 220th Street West, Farmington, MN 55024

24-hour outage & emergency service  
651-463-6201 or 1-800-430-9722

Underground cable locations  
Gopher State One Call 811 or 651-454-0002 or  
1-800-252-1166

Tree trimming & street lights 651-463-6287

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affirmative action employer

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Program information and offers in this newsletter  
are subject to change without notice.

ASHP	Rebate
14.5 SEER	\$480
15 SEER	\$580
16+ SEER	\$630

Read more inside about  
the benefits of heat  
pump technology!

