



Electric heat pumps: The safe, affordable, efficient choice

by General Manager Steve Strohane and Member Services Manager Todd Schulte

If you are in the market for a new heating system or looking to upgrade your existing system, make sure you take a look at electric heat pumps. Heat pumps—air source and geothermal—are the most reliable and energy efficient way to heat and cool your home. Member Services Manager Todd Schulte answers frequently asked questions to help members evaluate the pros and cons of heat pumps for your home or business.

Q: Why would you heat a home or business with electricity?

Schulte: Today's electric heating equipment is efficient and competitive with other fuel sources. Electric heat is clean, consistent and safe.

Q: Can an electric heat pump save you money?

Schulte: Yes, if you are building new construction or replacing a furnace, I recommend researching an electric heat pump. An ENERGYSTAR-certified heat pump provides highly efficient heating and cooling. Replacing or adding a system that both heats and cools is an all-in-one solution that can help reduce your energy bills.

An air source heat pump is 150 to 300% efficient. A geothermal heat pump is 400% efficient, and can even go higher.

Here's a simple cost comparison: If you have a high-efficiency propane furnace, you'd have to purchase LP at \$1.05/gallon or less to compete with an air source heat pump on Polk-Burnett's winter electric rate. A geothermal system compares at about \$0.62/gallon for propane.

Q: How does a heat pump work?

Schulte: Heat pumps capture the heat that naturally occurs in the air or ground. Like your refrigerator, heat pumps use electricity to move heat, making your home cooler in the summer and warmer in the winter.

Q: How does an AIR SOURCE heat pump work?

Schulte: In summer, an air source heat pump acts as an air conditioner that draws heat from your home's air and transfers it outside. In winter, the direction is reversed. The system transfers heat from the outside air into your home, using a liquid refrigerant and evaporation through coils (see chart below).

A heat pump has two major components: the condenser, also called a compressor, circulates refrigerant through a system of copper or aluminum coils; and an air handler, which distributes the conditioned air. Most heat pumps are split systems, with the condenser outside and the air handler inside.

Q: Do air source heat pumps work in extremely cold weather?

Schulte: The best time of year for an air source heat pump is during shoulder months: March, April and May in the spring and September, October and November in the fall. Air source heat pumps may need alternate heat for extremely cold days.

As the outside temperature drops, the efficiency of air source heat pumps and the delivery air temperature also drop. The most common air source heat pumps operate down to temps of 10 to 20 degrees. With advances in technology, some heat pumps can now operate well below zero, while maintaining efficiency and comfort. I recommend discussing options with your heating contractor.

Q: How does a GEOTHERMAL (ground source) heat pump work?

Schulte: Geothermal loops are installed below the soil's frost line, which has a year-round temperature around 50° F. Compared to weather above ground, this temperature feels cool in summer and warm in winter. A non-toxic fluid flows through the system's underground coils. In winter, the liquid pulls heat from the ground into the home, where it helps warm inside air. In summer, the process reverses, pulling heat from the home. This warms the fluid in the geothermal loop, which is cooled as it flows through the underground coils before returning to the house.

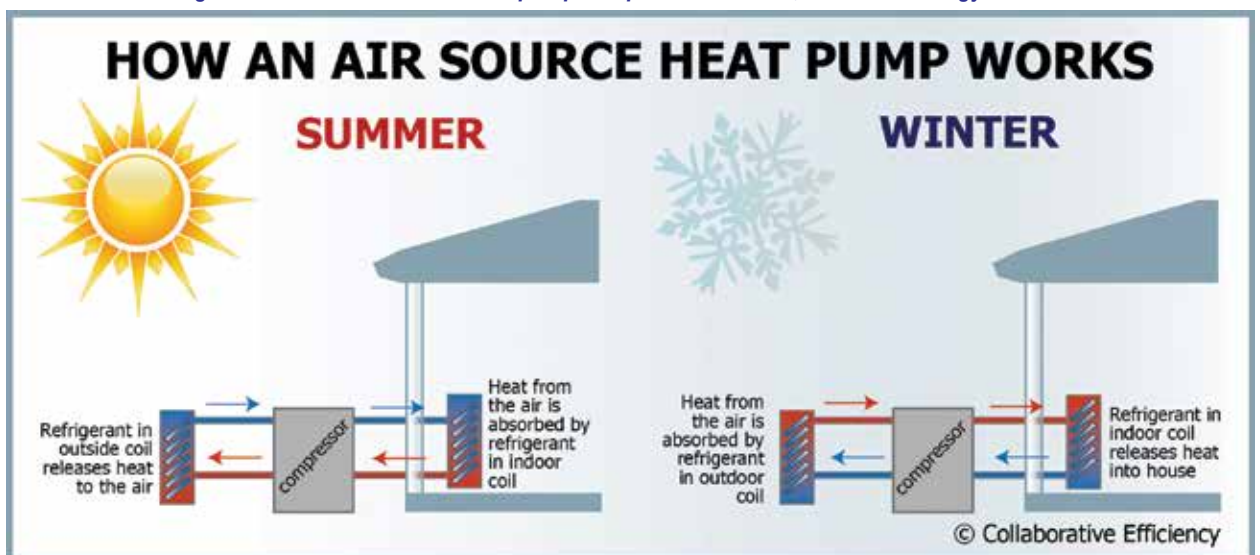
The most common geo systems use vertical or horizontal loop systems.

Geothermal heat pumps are the most energy efficient, environmentally clean and cost-effective systems for heating and cooling buildings; homes, offices, schools and hospitals can use geothermal heat pumps. In fact, our co-op building in Centuria is heated and cooled with a geothermal system.

While the initial installation and cost of equipment is expensive, the energy savings from a geothermal heat pump results in a payback for most homeowners in about 10 years.

We offer rebates to help members make the switch to energy efficient heat pumps. Tax credits may also be available. Give us a call; we're happy to help compare which option is best for you. We also recommend you work with a certified HVAC contractor and your tax adviser.

Learn more about geothermal and air source heat pumps on polkburnett.com, under the Energy Savers & Solutions menu.



2022 work plan: Investing in reliability

by Operations Manager Ed Johansen



This year, Polk-Burnett Electric Cooperative will invest \$5.9 million in the electric system, with a focus on upgrades to ensure reliable power during winter and summer peaks. In 2020-21, the electric grid experienced high demand during extreme weather days across the region. We also saw demand for electricity grow for our residential and seasonal members, as families spent more time at home as a result of the pandemic. Energy sales to our commercial and industrial members saw a slight downturn, but overall the co-op saw increased demand and sales last year. We expect moderate growth in energy demand and sales in the next 10 years, with some growth offset by energy efficiency.

Our 2022 work plan includes projects to deliver reliable power with efficiency:

- Convert 19.8 miles of overhead line to underground line
- Rebuild 14 miles of overhead power line
- Construct 2.5 miles of three-phase line connecting Jackson and Poquette substations
- Upgrade substation equipment, so power can be rerouted quickly during outages
- Clear trees and brush from right-of-way to improve safety and reduce outages

In addition, we will complete the 2021-22 meter upgrade across our system. This two-year project invests an additional \$4.9 million in the system.

Please let us know if you have questions or if we can assist with your electric service.

Average outage hours per member per year: 4.93.
Less than one hour when you take out storm-related outages.

Co-op linemen maintain:
1,646 miles of overhead line
1,805 miles of underground
38,000 poles

❄ Winter weather is here! ❄

ENROLL TO RECEIVE OUTAGE TEXT ALERTS

If the power goes out at your location.



Save energy and money with co-op rebates

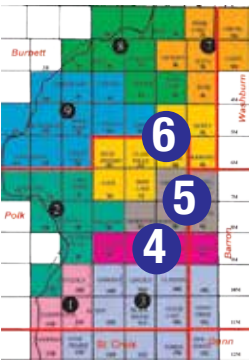


Polk-Burnett's EnergySense rebate program has helped members conserve and save since 2008. Again this year, we're pleased to offer rebates and incentives to help you improve energy efficiency and comfort in your home, while lowering your electric bills.

For rebate forms and information, visit polkburnett.com or call 800-421-0283, ext. 595.

2022 EnergySense Rebate Program

- Appliance and Appliance Recycling Rebate
- HVAC, Air Source and Geothermal Heat Pump Rebate
- Lighting Rebate
- Commercial and Ag Efficiency Rebate
- Renewable Energy Systems Rebate
- EV Charger Rebate
- Marathon Water Heater Special Member Price
- Rebate on Home Performance Testing and Subsequent Home Improvement Upgrades



Run for a seat on the co-op board

Polk-Burnett holds elections each spring for the co-op board of directors. This year, board positions in co-op districts 4, 5 and 6 will be on the ballot. Members in those districts are encouraged to make their voices heard by voting.

Members also have an opportunity to get involved in co-op decision making by running for a position on the co-op board. Directors serve three-year terms and represent all co-op members at monthly meetings.

If you are interested in running for an open board position in District 4, 5 and 6, contact the general manager's office, 800-421-0283, ext. 313. The deadline to apply is March 4, 2022.

For a district map and more details about board elections, visit polkburnett.com.

Keep your propane tank clear of snow and ice



As a courtesy to your propane driver, please maintain a path to your LP tank and keep your tank clear of snow and ice to allow propane to vaporize properly.

Polk-Burnett Propane reminds you to check your tank percentage from time to time this winter, even if you're on auto-fill, and contact us if your tank is at 30% or less.

Call Polk-Burnett Propane if we can assist with propane deliveries to your home or business, 800-421-0283, ext. 378 or 411.

Respect private property in the right-of-way



Please be aware that the utility right-of-way under power lines is NOT public land. The utility right-of-way is owned by private landowners. We thank these landowners for granting us an easement to use their property to build and maintain power lines.

Please be respectful: Do not dump garbage, leaves or brush in the right-of-way. This is private property, not public land.

IF YOU RECEIVE AN EMAIL SURVEY, WE APPRECIATE YOUR FEEDBACK TO HELP US IMPROVE.

All members who submit a survey will be entered in a drawing for a \$50 bill credit.

Polk-Burnett is your local Touchstone Energy Cooperative. Reliable power with efficiency and extraordinary service.

Like us on Facebook. Follow us on Twitter.

800-421-0283 • polkburnett.com



Equal Opportunity Provider and Employer | Member Owned | Community Focused

