



TWIN VALLEY ELECTRIC CO-OP

NEWS

TWIN VALLEY ELECTRIC COOPERATIVE, INC.

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Monday-Friday
8 a.m. to 4:30 p.m.

CONTACT US

1511 14,000 Road
P.O. Box 368
Altamont, KS 67330
866-784-5500
www.twinvalleyelectric.coop

FROM THE CEO

Battery Innovation Will Result in Better Reliability, Resilience

Not long ago, when people talked about “batteries,” they meant the kind that powered flashlights, phones or watches. Today, batteries are transforming the way we power our homes, farms and even the electric grid that keeps our lights on. Across the country, battery energy storage is helping electric cooperatives keep power more reliable, affordable and resilient.

The journey began with early rechargeable batteries like lead-acid models, which were used in vehicles, tractors and backup systems for lighting or telephones. These systems were bulky, short-lived and required frequent maintenance. Later, nickel-cadmium and nickel-metal hydride batteries became popular in cordless tools, early electronics and hybrid vehicles. While they marked a step forward, they remained expensive and weren’t well-suited for

large-scale energy applications.

A major turning point came with the development of lithium-ion batteries. These are lighter, longer-lasting and capable of storing more energy in less space. Initially used in laptops and mobile phones, lithium-ion technology now powers most electric vehicles and many of the grid-scale systems that can keep thousands of homes running for hours. And innovation hasn’t stopped there. Researchers are now exploring solid-state and sodium-ion batteries, which use safer, more abundant materials and promise to make battery energy



Angie Erickson

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SAVE THE DATE 79TH ANNUAL MEETING APRIL 23, 2026

Labette County High School Cafeteria
Meal and Registration at 6 p.m. | Meeting at 6:30 p.m.

Tornado Safety and Electrical Hazards

Tornadoes can strike with little warning, leaving behind downed power lines, damaged electrical equipment and dangerous debris. Preparing before a tornado — and knowing how to stay safe afterward — can help prevent electrical shock, fire and injury. Make sure your emergency plan includes electrical safety steps so you and your family are ready to act quickly and safely.

BEFORE A TORNADO:

- ▶ Prepare an emergency kit with water, battery-powered flashlight, radio, extra batteries and portable phone charger.
- ▶ Keep your electric utility's phone number handy in case you need to report an outage or downed line.
- ▶ Fully charge cell phones and backup power banks before severe weather hits so you can use them in an emergency.

DURING A TORNADO:

- ▶ Seek shelter immediately in a basement or a small, interior room with no windows, such as a bathroom or closet.

- ▶ Turn off and unplug appliances and electronics to protect them from power surges. Leave one light on so you'll know when power is restored.
- ▶ Do not stay inside a vehicle or try to outrun a tornado. Exit the vehicle and seek shelter in a sturdy building. If none are available, lie flat in a low-lying area away from the vehicle and power lines.

AFTER A TORNADO:

- ▶ Stay away from downed power lines and anything they could touch, such as trees, fences or debris. Always assume they are energized.
- ▶ If you see a downed line while driving, do not exit your vehicle. Call 911 and your utility and warn others to stay away.
- ▶ Do not touch anyone who is in contact with a power line. Call 911 immediately and wait for emergency responders.
- ▶ Do not enter damaged buildings until electricity and gas are shut off by professionals. Never attempt to turn off power if you must stand in water to reach the breaker.

- ▶ Avoid flooded areas with electrical outlets, appliances, or cords, and never touch electrical equipment when wet or standing in water.
- ▶ Have all water-damaged electrical systems, appliances and devices inspected by a licensed electrician before use.

POWER OUTAGES AND GENERATOR SAFETY:

- ▶ Never use a generator indoors or in partially enclosed spaces such as garages or porches, or near open windows and doors. Place a generator at least 20 feet away from your home to prevent carbon monoxide poisoning.
- ▶ Keep the generator dry by placing it on a tarp or under a canopy and follow all manufacturer's instructions.
- ▶ Never plug a generator directly into a wall outlet. This can inadvertently energize power lines and pose a lethal risk to you, neighbors and utility workers.

Stay informed, stay alert, and share this information to help protect your family and community during severe weather events.

Big Data, Bigger Demands

Companies are choosing rural areas for their data centers because of available land, low energy costs and economic incentives. Data centers require significant amounts of electricity to operate, presenting new opportunities and challenges for electric co-ops.

- 1 **HVAC:** Constant cooling is needed to ensure the servers function properly.
- 2 **SERVERS:** Servers run applications and process data 24/7.
- 3 **INFRASTRUCTURE:** Data centers often require new electrical infrastructure to meet their power needs.
- 4 **WATER SOURCE:** Many large data centers are deploying evaporative cooling, which is more efficient than compressor-based systems.
- 5 **BACKUP POWER:** On-site generators keep data centers running during power outages and can also help lower demand when electricity use spikes.



READ THE ARTICLE "POWERING PROGRESS RESPONSIBLY" IN THE FEBRUARY 2026 ISSUE OF *KANSAS COUNTRY LIVING* TO LEARN MORE.

Flood Safety and Electricity

Protecting yourself and your home before and after water rises.

Flooding can happen quickly, and water and electricity are a dangerous combination. Taking steps to protect your family, home and electrical equipment before a flood — and knowing what to do afterward — can help prevent fires, shocks, injuries and costly damage.

BEFORE A FLOOD

- ▶ Move electrical items to higher ground. Unplug and move small appliances, cords and surge protectors to higher ground, above potential water levels, before a flood. Move them up to a second floor if possible.
- ▶ Shut off power if flooding is likely. If it's safe to do so, switch off electricity at the main breaker or fuse box. Never attempt this if you must stand in water to reach it.
- ▶ Elevate outlets and wiring. Consider having a licensed electrician raise outlets, switches and wiring above expected flood levels — especially if you live in a flood-prone area.

AFTER A FLOOD

- ▶ Never enter a flooded basement or room if water may be in contact with outlets, appliances or cords. Do not touch electrical equipment or electrical wires, switches or fuses if they are wet or you are standing in water.
- ▶ Never attempt to turn off power at the breaker box if you must stand in water to do so. If you cannot turn off the power safely, call your electric utility to shut off power at the meter to prevent electric shock.
- ▶ Have all electrical systems inspected. All electrical systems must be completely dry before returning them to service. If water has risen above the electrical outlets, baseboard heaters, furnace or electrical panel, wiring and outlets that have been submerged should be checked by a certified electrician and replaced if damaged.

Water can corrode connections and create hidden shock risks.

- ▶ Have water-damaged devices examined. Don't attempt to dry out and reuse wet electronics, extension cords or appliances. If an electrical appliance has been in contact with water, have a professional check it out before using. It may need to be repaired or replaced.
- ▶ Watch out for downed power lines in flood-affected areas. Avoid wading or driving through standing water. If you see a downed power line, stay away and call 911 and your local electric utility to report it. Be careful around downed branches and debris, which can hide dangerous electrical equipment.
- ▶ Use generators safely. Operate portable generators outdoors and away from windows, doors or vents to prevent carbon monoxide poisoning. Plug appliances directly into the generator rather than through your home's wiring.

STAY SAFE, STAY CONNECTED

Even after the water recedes, hidden electrical dangers can remain. When in doubt, call your utility or a licensed electrician before turning power back on. Taking precautions before and after a flood can protect your family, your home and your community from electrical hazards.

Taking steps to protect your family, home and electrical equipment before a flood — and knowing what to do afterward — can help prevent fires, shocks, injuries and costly damage.

AFTER A FLOOD: Electrical Safety **FIRST**

Water and electricity are a deadly mix. If your home or basement has flooded, **TAKE THESE PRECAUTIONS BEFORE USING ANY ELECTRICAL EQUIPMENT.**

STAY AWAY UNTIL IT'S SAFE

- ▶ Do not enter a flooded area until power has been disconnected by your utility or a licensed electrician.
- ▶ Never enter water that could be in contact with electrical outlets or cords.
- ▶ When in doubt, have your utility or an electrician confirm it's safe before restoring electricity. Restoring power too soon can cause fires, shocks or further damage.

GET A PROFESSIONAL INSPECTION

- ▶ Have a licensed electrician inspect your wiring, outlets and service panel before restoring power.
- ▶ Replace or check appliances, furnaces and water heaters that have been submerged.
- ▶ Don't attempt to dry out and reuse electronics, extension cords or appliances that have been wet.

USE CAUTION WITH GENERATORS

- ▶ Run portable generators outdoors only, away from windows, doorways and vents.
- ▶ Plug appliances directly into the generator, never into a wall outlet.



REMEMBER: "DRY" DOESN'T MEAN SAFE

Even if items look dry, hidden corrosion can make them dangerous. Always replace or have electrical devices inspected before use.

Battery Innovation

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storage even more affordable and accessible. Each advancement brings batteries closer to becoming a foundational part of everyday life.

Across the country, electric utilities are deploying battery energy storage systems to support grid operations and manage local demand. Batteries can store excess electricity from renewable sources like solar and wind, then discharge it when demand rises, which can help balance supply and demand and improve grid stability. They also provide an alternative to traditional infrastructure upgrades. In areas where energy use is growing, a strategically placed battery can handle short-term peaks in demand, reducing the need for new substations or extended power lines. This can lower capital costs and reduce construction timelines.

More than 70 electric cooperatives in 24 states have installed or are testing battery energy storage systems, according to the National Rural Electric Cooperative Association. Most systems currently in use are designed to deliver power for two to eight hours. However, long-duration energy storage (LDES) technologies are emerging that can store energy for 10 hours or more, and in some cases, multiple days.



JACKSON EMC

Utility-scale storage technologies are helping electric co-ops improve reliability, integrate renewable energy and manage infrastructure costs.



BASE POWER

Often paired with rooftop solar panels, residential battery storage systems can provide backup power during outages, keeping essential equipment like lights, refrigerators and medical devices running.

These battery storage systems could help utilities manage extended periods of low renewable generation or respond to prolonged grid stress events, especially in remote or weather-sensitive areas.

Battery innovation is also being driven by the growth of electric vehicles. Manufacturers are working to improve battery performance, extend battery lifespan, reduce charging time and lower costs. These improvements are influencing the broader energy storage market. Some EVs now include vehicle-to-home (V2H) or vehicle-to-grid (V2G) capabilities, allowing a car to supply power to a home during an outage or send energy back to the grid during peak demand.

From early lead-acid batteries to today's advanced lithium-ion and emerging long-duration systems, battery energy storage has evolved into a practical tool for modern power systems.

These technologies are helping electric co-ops improve reliability, integrate renewable energy and manage infrastructure costs. For co-op members, batteries offer greater control over energy use and added resilience during outages. Together, these developments can contribute to a more flexible and dependable electric system that supports entire communities.

ENERGY EFFICIENCY TIP OF THE MONTH

As spring arrives, take advantage of milder temperatures to save energy at home. Open windows on pleasant days to bring in fresh air instead of running your HVAC system. It's also a great time to replace dirty air filters, which helps your system run more efficiently and improves indoor air quality. As daylight increases, turn off unnecessary lights and rely on natural sunlight when possible. Small seasonal adjustments like these can reduce energy use, lower monthly bills, and help keep your home comfortable as winter transitions into spring. SOURCE: NRECA

Spring Forward

DAYLIGHT SAVING TIME

SET YOUR CLOCKS AHEAD ONE HOUR

Sunday, March 8, 2026