

ASSOCIATED ELECTRIC COOPERATIVE INC.

POWER WITH PURPOSE

MEMBER-LED • RELIABLE • AFFORDABLE



RELIABLE POWER FOR RURAL OKLAHOMA

Ripley Energy Center Project Guide

TOP 5 TAKEAWAYS

- 1. Associated Electric Cooperative — the wholesale power provider for Oklahoma-based KAMO Power — must add new natural gas generation to maintain the reliability of its power supply.** KAMO Power transmits this electricity to nine Oklahoma-based distribution cooperatives, including Central Rural Electric Cooperative, who deliver power to members.
- 2. Extensive analysis shows additional generation capacity is needed to serve members reliably during peak weather conditions** (winter storms or extreme summer heat). The need for additional generation has been underscored as the Associated system set four new all-time and summer peak demand records from 2021–2023. In response, Associated’s member-led board of directors authorized the cooperative to add up to 900 megawatts (MW) of new natural gas generation.
- 3. To best serve member needs for reliable power, Associated will construct two new natural gas-fired, simple-cycle energy centers — one in Oklahoma and one in Missouri — that will each provide 420–445 MW of power when needed.** A 160-acre parcel was purchased by Associated near Ripley, Oklahoma, and selected as the first site for a new natural gas generation facility: Ripley Energy Center.
- 4. Ripley Energy Center’s strategic location near gas pipelines, water supply and transmission lines allows for the new facility to be built at the lowest cost to members.** Ripley Energy Center will be the most advanced natural gas generation facility in Oklahoma, employing up to 200 employees during construction and six to eight permanent employees.
- 5. The permitting process for Ripley Energy Center is underway, with site studies focused on land, air and water protection, as well as connections to existing gas supply and high-voltage transmission lines.** Pending final regulatory approvals, construction on the energy center will begin in 2024 and it will be commercially operational by 2026–2027.

Project timeline



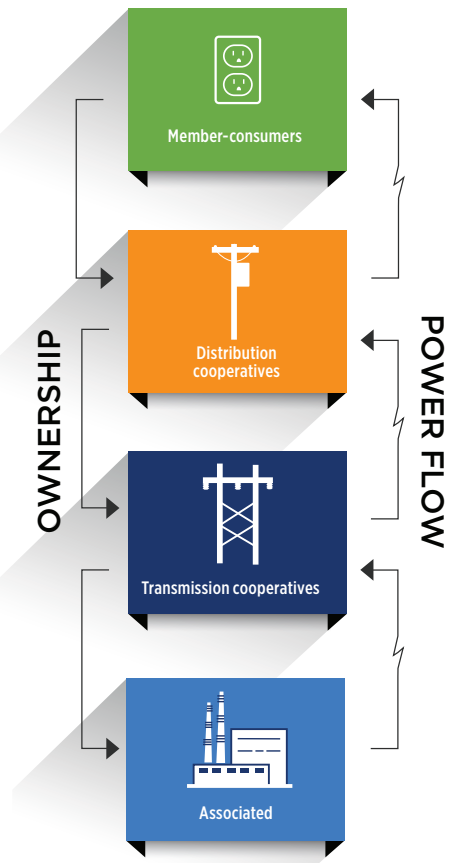
*Pending regulatory approval

POWERING DAILY LIFE IN RURAL OKLAHOMA

Associated Electric Cooperative — a member-owned, member-led, not-for-profit electric cooperative — proudly generates electricity for more than 2.1 million people across rural northeast Oklahoma, Missouri and southeast Iowa.

Associated works every day to generate a reliable, low-cost and responsible wholesale power supply for KAMO Power, headquartered in Vinita, Oklahoma. In turn, KAMO Power transmits electricity to nine Oklahoma-based distribution cooperatives, including Central Rural Electric Cooperative, who deliver power to members in Payne County and northeast Oklahoma.

Supporting the rural way of life for homes, farms and businesses is a foundational commitment of electric co-ops. Associated’s mission to safeguard a reliable, low-cost wholesale power supply for its members requires vigilance to meet energy needs — today and well into the future.



Below: Patricia Crenshaw, an East Central Oklahoma Electric Cooperative member, carries on the legacy of her family farm near Slick, Oklahoma (USDA/Preston Keres).



RELIABLE POWER UNDER PRESSURE

A balanced generation portfolio of natural gas, coal, wind and hydropower enables Associated to provide reliable power at the lowest cost possible for its members.

As the cooperative looks to the future, this reliable, low-cost wholesale power supply is under increasing pressure.

Threats to electric reliability:

Regional retirement of baseload generation

Reliable coal-fired generation is being retired at a record pace in favor of intermittent resources like wind and solar. Nearly one-quarter of U.S. coal-fired plants are slated to retire by 2029 (source: Energy Information Administration).

Record peak energy use

During recent winter storms and summer heat waves, the Associated system has set new records for peak energy use every year since 2021. The current all-time peak record of 5,899 MW was set during winter storm Elliott on Dec. 23, 2022.

Member load growth

Associated continues to see member energy demand increase across the system. In Oklahoma, energy needs to support the oil and gas industry, as well as new commercial and residential demand, are identifiable contributors.

Aggressive environmental regulations

In Washington, D.C., policymakers advocating a speedy transition from reliable fossil fuel generation to weather-dependent renewables are prioritizing fast change over keeping the lights on.

Top left: Associated's combined-cycle, gas-based Chouteau Power Plant near Pryor, Oklahoma, generates 1,062 MW of power to reliably serve member energy needs.

Bottom left: During winter storm Elliott, Associated's system avoided rolling blackouts and kept the lights on while a new all-time peak energy use record was set Dec. 23, 2022.

ASSOCIATED TAKES ACTION FOR MEMBERS

Protecting a reliable, low-cost and responsible power supply for Associated's members is vital. Additional natural gas generation is required to maintain a reliable power supply for members during peak energy demand.

Associated will construct two new natural gas-fired, simple-cycle energy centers – one in Oklahoma and one in Missouri – that each will provide between 420 and 445 MW of power to ensure reliable power for members when needed most.

This natural gas project will:

Generate safe and reliable power

Natural gas generation facilities can start up and shut down very quickly to meet fluctuating energy demand safely and efficiently. The planned facilities will operate as peaking units, providing energy when needed during peak energy use.

Protect reliability at the lowest possible cost

Natural gas offers a competitive fuel price thanks to Oklahoma's plentiful natural gas supply, enabling Associated to use the lowest-cost generation option available. Natural gas generation facilities are less costly to build, operate, maintain and staff than other sources of reliable generation.

Reduce carbon, prepare for developing technologies

Natural gas is the cleanest of the fossil fuels (about 50% cleaner than coal), producing the least emissions of carbon dioxide, sulfur dioxide, nitrogen oxides and particulate matter. In addition to natural gas, the combustion turbines will be capable of burning up to 50% hydrogen, a developing technology and zero-carbon resource.

Contribute positively to surrounding communities

Associated is committed to bettering its home communities and being a good steward of the land, air and water. The new gas generation project will meet all environmental regulations, while also enriching the area with new job opportunities during and after construction.

Top right: Shonna and Bill Richardson, Central Rural Electric Cooperative members, sell from-scratch baked goods, jams and jellies at Permission Hill Farm & Bakery in Stillwater, Oklahoma (Oklahoma Living/Lance Shaw).



A POWERFUL SOLUTION: RIPLEY ENERGY CENTER

Associated currently operates a natural gas-fired generation fleet with three combined-cycle gas facilities and three peaking gas facilities with a total output of 2,795 MW. This new generation project will be Associated's first construction in Oklahoma since 2011, when additional capacity was added at Chouteau Power Plant in Pryor, Oklahoma.

The all-new **Ripley Energy Center**, to be built near Ripley, Oklahoma, will meet the energy needs of members across the region with a net output between 420 and 445 MW. When complete, Ripley Energy Center will be the most advanced commercially operated combustion turbine in the state. The facility will operate as a natural gas peaking unit, which will not run all the time, and will be available to quick-start and run on-demand during periods of peak energy use.

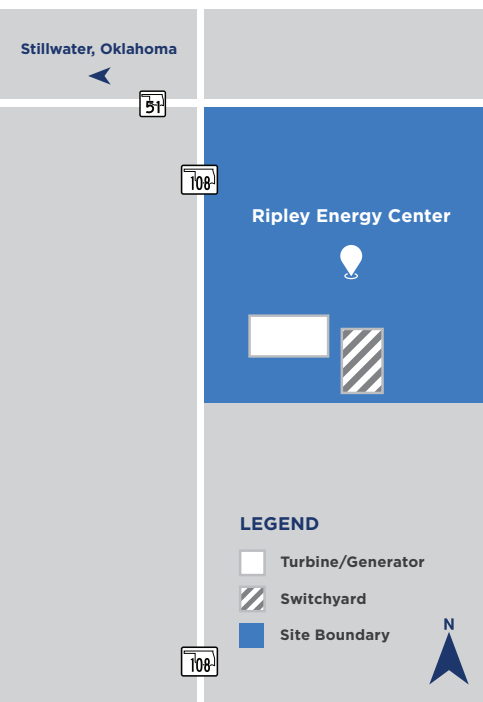
Strategic location

- The ideal location, approximately 6.5 miles due north of Ripley, Oklahoma, offers the best proximity to natural gas supply lines and cooperative high-voltage transmission lines, allowing Associated to construct the energy center at the lowest-cost possible to members.

Ripley Energy Center details

- Efficient, powerful, simple-cycle combustion turbine technology.
- Quick-start capability to meet peak energy needs, taking just 13 minutes to reach full capacity.
- Net output of 420-445 MW to reliably serve member energy needs.
- Selective catalytic reducers (SCRs) installed to reduce nitrogen oxide emissions.
- Natural gas will be supplied by the Enable Oklahoma Intrastate Transmission (EOIT) pipeline, owned and operated by Energy Transfer LP.
- Unit can burn fuel oil and up to 50% hydrogen as a back-up if natural gas is unavailable or a more expensive resource.
- Energy center online by 2026-2027, with an estimated total project cost of \$520 million.

Top left: 3D rendering of Ripley Energy Center, which will generate between 420 and 445 MW of reliable power for members regionwide. **Bottom left:** Map of the Ripley Energy Center site in rural Payne County, located near the intersection of Oklahoma State Highways 108 and 51.



COMMITTED TO OUR COMMUNITY

Associated's accountability for safeguarding the environment and well-being of the communities it serves has remained steadfast over a 62-year journey marked by evolving regulations, shifting political and cultural landscapes and changing member expectations.

Balancing a reliable, low-cost power supply with clean air, land and water resources is important to Associated's members and is at the forefront of Ripley Energy Center's permitting, construction and operation.

Land stewardship

Approximately 20 acres of the 160-acre site will be allocated for the energy center's footprint, with the remaining tract kept in hay production. Existing wetlands on the property will be left intact. To prevent disturbing culturally-significant land, Associated conducted more than 700 shovel tests with archaeologists, returning no findings.

Air quality

The latest emission-reducing technology will ensure the energy center meets all regulations for air quality. Selective catalytic reducers will be installed and capable of providing an industry-best reduction of nitrogen oxide emissions.

Facility water usage

Water used by the energy center will be treated, potable water supplied by Fifty-One East Water, Inc., a non-profit rural water district based in Stillwater, Oklahoma. Water will be safely returned to the environment through an outfall, with discharge regulated by a water permit from the Oklahoma Department of Environmental Quality.

Noise

The energy center will be equipped with features to reduce noise. Associated's goal is to keep sound levels at homes in the vicinity equivalent to the volume of a typical person-to-person conversation.

Lighting

The energy center will have exterior lighting for safety and security. Outdoor lighting will be shielded and directed downward to minimize its visibility from nearby properties.

Economic impact

Construction of the energy center will bring approximately 200 jobs on-site, with six to eight permanent positions. Generation will rely on natural gas pipelines from Oklahoma, further supporting the state and local economy.

Top right: Margarita Munoz, a Central Rural Electric Cooperative member, built a successful cattle operation from the ground up on her ranch near Perkins, Oklahoma (USDA/Preston Keres).





A Touchstone Energy® Cooperative 

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