

ASSOCIATED ELECTRIC COOPERATIVE INC.

# POWER WITH PURPOSE

MEMBER-LED • RELIABLE • AFFORDABLE



## RELIABLE POWER FOR RURAL MISSOURI

Turney Energy Center Project Guide

# TOP 5 TAKEAWAYS

- 1. Associated Electric Cooperative — the wholesale power provider for Missouri-based NW Electric Power Cooperative Inc. — must add new natural gas generation to maintain the reliability of its power supply.** NW Electric transmits this electricity to seven Missouri-based distribution cooperatives, including Platte-Clay Electric Cooperative and United 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 Missouri and one in Oklahoma — that will each provide 420-445 MW of power when needed.** An 82-acre parcel was purchased by Associated near Turney, Missouri, and prioritized as the site for a new natural gas generation facility: Turney Energy Center.
- 4. Turney 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.** Turney Energy Center will be the most advanced natural gas generation facility in Missouri, employing 300-400 employees during construction and six to eight permanent employees.
- 5. The permitting process for Turney 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 2025, and it will be commercially operational in 2027.

## Project timeline



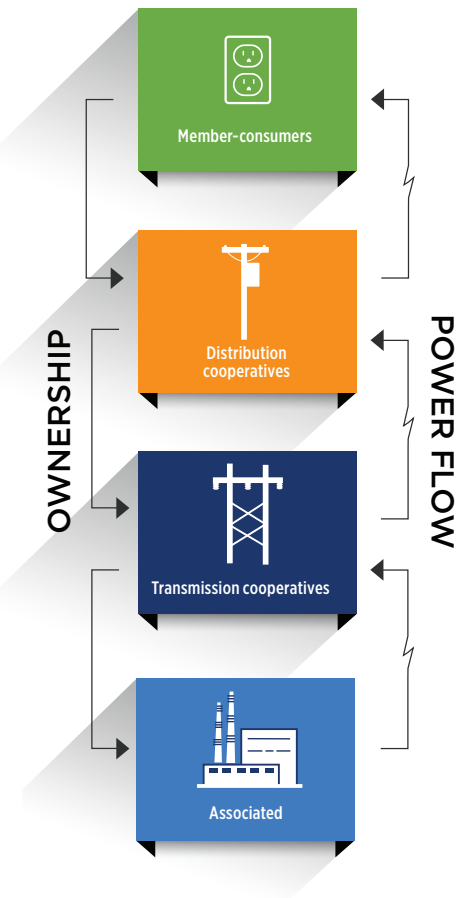
\*Pending regulatory approval

# POWERING DAILY LIFE IN RURAL MISSOURI

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 Missouri, southeast Iowa and northeast Oklahoma.

Associated works every day to generate a reliable, low-cost and responsible wholesale power supply for NW Electric Power Cooperative Inc., headquartered in Cameron, Missouri. In turn, NW Electric transmits electricity to seven Missouri-based distribution cooperatives, including Platte-Clay Electric Cooperative and United Electric Cooperative, who deliver power to members in Missouri and southwest Iowa.

Supporting the rural 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:** Kelsey Anderson, a Callaway Electric Cooperative member, raises the next generation on her family farm near Williamsburg, Missouri.





## RELIABLE POWER UNDER PRESSURE

A balanced generation portfolio of natural gas, coal, fuel oil, 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 set new records for peak energy use from 2021-2023. 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 Missouri, 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 dedicated employees, like Michelle Hopkins, warehouseman at New Madrid Power Plant, take pride in generating power for friends, family and neighbors in rural Missouri. **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 Missouri and one in Oklahoma - 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 a plentiful domestic 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:** Missouri co-op members like John West, owner of Liberty Church Cattle Company, depend on reliable, affordable energy to power daily life and make an honest living.





## A POWERFUL SOLUTION: TURNNEY 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 more than 2,600 MW. The new generation project will be Associated's first construction in Missouri since 2002, when Holden Power Plant was built in Holden, Missouri.

The all-new **Turney Energy Center**, to be built near Turney, Missouri, will meet the energy needs of members across the region with a net output between 420 and 445 MW. When complete, Turney 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.

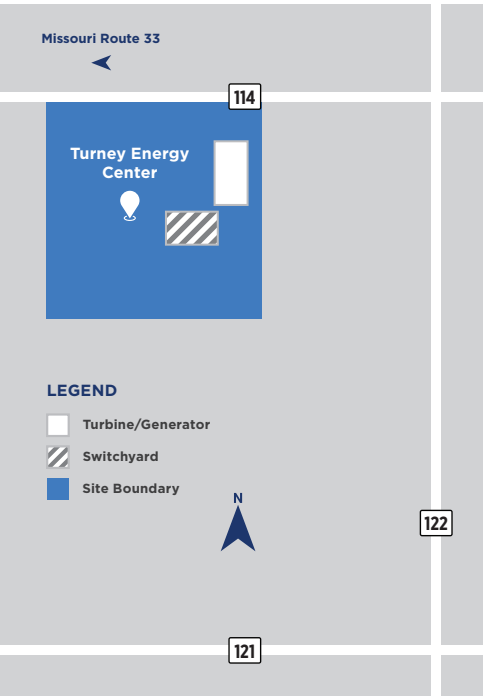
### Strategic location

- The ideal location, approximately 2 miles southwest of Turney, Missouri, 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.

### Turney 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 Rockies Express pipeline, owned and operated by Tallgrass Energy Partners.
- Unit can burn fuel oil as a back-up if natural gas is unavailable or a more expensive resource. The unit will also be capable of blending up to 30% hydrogen if it can be delivered to the site affordably and reliably.
- Energy center online in 2027, with an estimated total project cost of more than \$500 million.

**Top left:** 3D rendering of Turney Energy Center, which will generate between 420 and 445 MW of reliable power for members regionwide. **Bottom left:** Map of the Turney Energy Center site in rural Clinton County, located west of the intersection of Highways 114 and 122 southwest of Turney, Missouri.



## COMMITTED TO OUR COMMUNITY

Associated's accountability for safeguarding the environment and well-being of the communities it serves has remained steadfast over a 63-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 Turney Energy Center's permitting, construction and operation.

### Land stewardship

Approximately 37 acres of the 82-acre site will be allocated for the energy center's footprint, with the remaining tract kept in agricultural production. Existing wetlands on the property will be left intact. To prevent disturbing culturally-significant land, Associated conducted more than 800 shovel tests with archaeologists.

### 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 Clinton County Public Water Supply District No. 4, a non-profit rural water district based in Lathrop, Missouri. Water will be safely returned to the environment through an outfall, with discharge regulated by a water permit from the Missouri Department of Natural Resources.

### 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 300-400 jobs on-site, with six to eight permanent positions. Generation will rely on existing natural gas pipelines crossing Missouri, further supporting the state and local economy.

**Top right:** Rural electric cooperatives are owned by the members they serve, like these members of Platte-Clay Electric Cooperative.





A Touchstone Energy® Cooperative 

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