

The Balance of Power

The Bulk Power System (BPS) can be hard to understand. While electricity is often taken for granted, the feat of getting it to our doorsteps is remarkable. It starts with a power generation facility, often at an out-of-the-way, unnoticed location. It ends with an appliance or device making our lives easier.

Along the way, Regional Transmission Organizations (RTOs) administer the flow of power across the BPS. Arkansas Electric Cooperative Corporation (AECC), interfaces with the RTOs and delivers electricity from the BPS to the 17 electric cooperatives in Arkansas. Once it is received by Carroll Electric, it is reliably distributed to over 112,000 accounts.

AECC is focused on meeting the needs of the future by providing and maintaining a reliable and diverse portfolio of energy resources that will create a balanced generation mix. These diverse energy resources include coal, natural gas and hydropower that provide baseload energy 24 hours a day, seven days a week, 365 days a year. The remainder of AECC's energy resources include intermittent wind and solar resources that currently receive federal subsidies, which enable these supplementary resources to provide low-cost energy.

Challenges facing our cooperatives:

- Generation resources must be utilized based on reliability and cost, while owned and purchased resources must also be used in the most responsible, appropriate way.
- Evolving national, regional and statewide legislative policies, regulations and federal mandates could adversely

impact our ability to deliver an effective, dependable balance of power to our members at an affordable price and in a reliable manner.

- Historically, electric generation has not been stored. Generation operations must exactly balance the amount of energy produced with the amount of energy consumed while keeping power voltage and frequency constant.

- Energy from wind and solar facilities is completely dependent on environmental factors like the amount of wind and sunlight, which is why energy storage is important.

- Energy storage is a technical challenge, as even the most capable lithium-ion battery storage levels are measured in hours, not days or weeks.

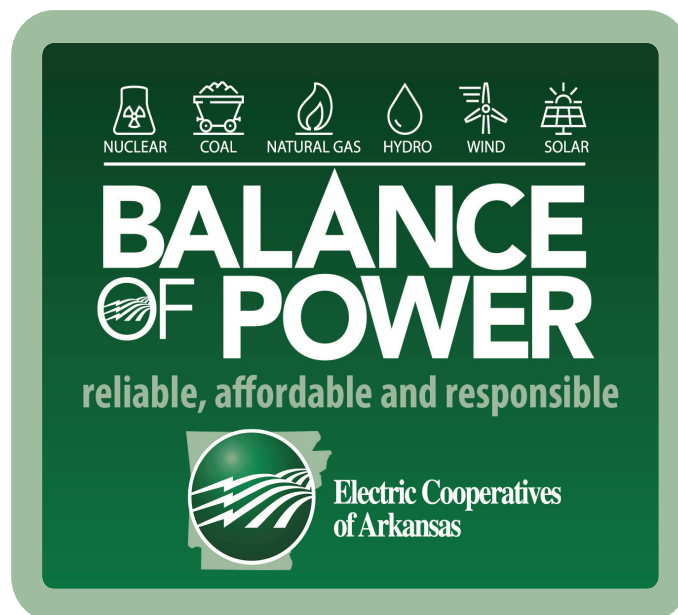
- More robust storage capabilities need to be developed in order to make intermittent generation a reliable electric power supply resource.

- As demand for electric load increases

relative to available electricity supply, higher prices will result, which will impact cooperatives and consumers. Increased demand with insufficient supply could potentially create rolling blackouts or load curtailments.

- A misconception in the debate about energy generation is that if a megawatt of nuclear, coal or natural gas capacity is removed from the grid and replaced with a megawatt of an intermittent resource like solar or wind, it is an equal swap. This is simply not true, even though it gives the perception of being a net-zero transfer, resulting in an electric grid that is just as capable, and somehow cleaner.

- Utilities in our region have announced the closure of 24,000 megawatts of generation resources over the next decade, with plans to shut down an additional 10,000



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megawatts of capacity by 2030. To put that into perspective, a megawatt will power about 650 homes, so the level of announced regional power plant closures represents the loss of capability to supply more than 15 million homes in our region.

- Arkansas is scheduled to eliminate 3,337 megawatts of baseload power by 2030.

While the Electric Cooperatives of Arkansas' wind and solar portfolios are growing, these intermittent resources cannot singularly provide the baseload power needed when the sun goes down and the wind stops blowing.

Energy resources are often reduced to being labeled as either "good" or "bad." The Electric Cooperatives of Arkansas only view energy resources by their strengths and weaknesses, balancing both to deliver a steady stream of reliable, affordable power at all hours of the day and in any season.

AECC continuously evaluates wholesale energy resource options to

serve the state's electric cooperative members. The cooperatives are technologically indifferent and support all forms of energy. The Electric Cooperatives of Arkansas work to select an energy portfolio that best balances all three components of our mission of being reliable, affordable and responsible.

The development of carbon capture and storage (CCS) and advanced nuclear technology, as well as other emerging generation resources and adding more intermittent resources to the electric grid, are critical to the future of the nation. Overall, it is critical to maintain the Balance of Power — electrically, economically, militarily, socially and politically.

At Carroll Electric Cooperative, our commitment to you is finding ways to keep your power Affordable, Reliable and Responsible.

Learn more at: aecc.com/the-balance-of-power/.

my co-op

LIHEAP program helps qualifying members pay electric bills

The Low-Income Home Energy Assistance Program (LIHEAP) provides assistance with paying cooling costs in summer months to qualifying individuals and families.

Applications are now being accepted on a first-come, first-served basis, as long as funds are available. Businesses are excluded from receiving the benefit.

LIHEAP is not administered by your local cooperative, but rather through the U.S. Department of Health and Human Services (DHHS), and it is operated by Community Action Agencies (CAA).

The amount of financial help available varies based on income, the number of people in a household and other factors. LIHEAP eligibility in Arkansas is based on both 60% of State Median Income and 150% of Federal Poverty Guidelines.

The program is designed to lower the energy burden for low-income households that pay a high proportion of income for home energy costs, according to DHHS.

Contact your local CAA to check eligibility. For a list of CAA offices around Arkansas, visit acaaa.org/local-community-action-agencies.



**STAY BACK.
STAY SAFE.**

Always assume a downed power line is energized. Downed lines can energize the ground up to 35 feet away.



August is
**BACK TO
SCHOOL
SAFETY
MONTH**

Stay alert!
Slow down and be alert in residential areas and near schools. Be especially watchful of kids in rural areas without sidewalks.

