

# Balancing Supply and Demand

Electricity is essential for nearly every aspect of daily life — so essential that we rarely think about how it’s produced and delivered to our homes.

We’re all connected to the electric grid, so ensuring the right amount of electricity for all involves a complex process of forecasting energy demand, planning for capacity and securing enough supply to meet Americans’ needs.

## POWERFUL SOURCES

First, electricity must be generated at a power plant using either traditional sources, such as coal, natural gas or nuclear energy, or from renewable sources, such as solar, wind or hydropower.

At BARC, we work closely with ODEC, our local wholesale power partner, to secure enough electricity for our communities, using a diverse mix of energy sources to generate the power we deliver to your home or business. By maintaining a diverse energy mix — coal, natural gas, nuclear, wind, hydro and solar — ODEC has options to ensure reliable power at a competitive cost.

On a larger scale, across the country, electricity supply and demand are managed through a market that includes long-term planning agreements, where electricity is bought and sold just like other common goods and services. Because BARC works with our wholesale power partner, which is also a cooperative, we are able to pool resources and expertise to deliver affordable power to our local communities.

Electricity supply changes throughout the day because demand fluctuates based on consumers’ needs. For example, BARC knows we need to ensure more electricity in the mornings when you’re starting your day, and in the evenings when you’re cooking dinner, running appliances and watching TV. Demand also increases when weather patterns change, such as extremely warm or cold temperatures. For instance, many cooperatives in Virginia are “summer” peaking systems, but BARC is a “winter” peaking system, meaning its highest load factor comes during the cold winter months.

## MANAGING SUPPLY & DEMAND

Across the country, other electric utilities are managing the same task of balancing supply and demand, which is why we have a larger network of key players in place to ensure enough power is delivered across the grid.

In most cases, the amount of electricity generated and how much is sent to specific areas are coordinated and monitored by regional transmission organizations (RTOs) and independent system operators (ISOs). In other areas,



individual electric utilities perform these tasks.

RTOs, ISOs and electric utilities act as air traffic controllers for the electric grid. They forecast when you, your neighbors and communities across a large region will need more power. These organizations take measured steps to ensure there’s enough supply to meet demand.

## LOOKING AHEAD

As the energy sector undergoes rapid change, it’s important for all consumers to understand the basics of electricity supply and demand.

Electricity use in the U.S. is expected to rise to record highs this year and next, with the demand for electricity expected to at least double by 2050. At the same time, energy policies are pushing the early retirement of always-available generation sources, which will undoubtedly compromise reliable electricity.

BARC remains committed to providing affordable, reliable energy to the members we serve. That’s why we are preparing now for increased demand and other challenges that could compromise our local electric supply. With concerns of demand projections

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and supply realities, we may likely see a cycle of controlled brown-outs and black-outs in the near future until the generation and transmission systems are able to meet the demand of the unimaginable data center growth stressing the resources needed to deliver the energy we all use in our homes and businesses.

BARC Electric Cooperative, in partnership ODEC, is committed to doing everything possible to prevent brownouts and blackouts for its members. Together, we are deploying innovative demand response (DR) and energy efficiency (EE) programs that reduce strain on the grid during peak periods, while also investing in new power generation and expanding capacity at existing facilities to ensure a stable and reliable energy supply. These efforts are designed to give BARC members more energy when they need it most, strengthening reliability, improving resilience, and helping meet growing energy demands across the region.

Managing the balancing act of electricity supply and demand is a complex job, which is why we have a network of utilities, power plant operators and energy traffic managers in place to direct the electricity we need and keep the electric grid balanced.



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## 5 WAYS to Reduce Use During Extreme Heat

During periods of extreme heat, the demand for electricity can skyrocket, placing additional strain on the grid. By working together to lower our electricity use, we can reduce pressure on the grid.

Here are five effective ways to lower use at home.

1. **Raise your thermostat setting a few degrees higher** than usual. Every degree can reduce cooling energy consumption.
2. **Cook with smaller appliances** to save energy and reduce heat gain in the kitchen.
3. **Keep blinds, curtains and shades closed** during the hottest part of the day to block direct sunlight.
4. **Use fans** to circulate air, which can make you feel cooler without needing to lower the thermostat.
5. Shift activities that require a lot of energy consumption to **off-peak hours** when demand is lower.