

How industry pressures impact the price you pay for electricity

BY CALLY PETERSON



COST OF YOUR POWER

A four-part series examining electric industry pressures and how they may impact the price you pay for the electricity your electric cooperative provides.

NEXT MONTH: SUPPLY CHAIN AND INFLATION

Demand growth for electricity is now higher than any point in the last two decades. Americans are requiring more electricity in their homes and on the road. Large industrial and commercial users are requiring more electricity for their operations.

Across the United States, thousands of people work every minute of every day to keep the power flowing 24/7/365. From the coal miner to the lineworker and everyone in-between, it takes an immense amount of people, resources, coordination and planning to ensure you can charge your cellphone, heat your home, dry your grain or turn on your lights.

Many never think about the long journey electricity takes to get to us. Fewer consider the challenges encountered along the way. In some ways, that's OK. It's a signal your electric cooperative is good at its job. It means you're getting the reliable, affordable electricity you need when you need it.

So, when do we think about electricity? When it doesn't work and when we pay for it.

In this four-part "Cost of Your Power" series, which begins this month and ends in April, *North Dakota Living* takes a big-picture look at the electric industry. We'll examine how industry-wide pressures may impact the price you pay for the electricity your electric cooperative provides.

SUPPLY CHAIN AND INFLATION

Over the past few years, North Dakota's electric cooperatives have seen huge upward swings in price, demand and wait time for materials. Supply chain issues, coupled with record inflation, are impacting utilities.

In the five years preceding the COVID-19 pandemic and resulting supply chain disruptions, North Dakota co-ops experienced a 2% increase in the cost of pad-mounted transformers (which step down electric voltage for safe use in members' homes). Between 2020 and 2022, the price of those transformers increased by 50%.

Substation transformers and high-voltage breakers, both crucial components for infrastructure, have a current wait time of two years. The wait time for bucket trucks, which rural electric lineworkers log many miles in each day, is 2.5 years.

Electric cooperatives have adjusted to supply chain challenges by carrying more inventory on hand. Having materials ready to deploy is critical for power restoration after a storm and serving the energy needs of members, who may be planning a new construction project, building a farm shop or expanding a business.

WHOLESALE POWER

The bulk power system and wholesale power market is complicated.

In the early electric system, a power provider would build and maintain its own generating unit or facility to serve its member load. Many North Dakota lignite coal facilities, for example, were built to generate electricity for cooperative members across a multistate region.

In the 1990s, the energy industry shifted to a market-based system. Every day, utilities forecast the amount of electricity needed to serve their loads. Then, that load is bid into the market.

Increasing demand, a changing resource mix, the retirement of reliable baseload generation and lagging transmission infrastructure impact today's wholesale power costs, creating market volatility.

Wholesale power costs account for the majority of an electric distribution cooperative budget – roughly 70% to 80% on average. Many wholesale power providers in the region have recently announced rate increases, which are passed on to power purchasers.

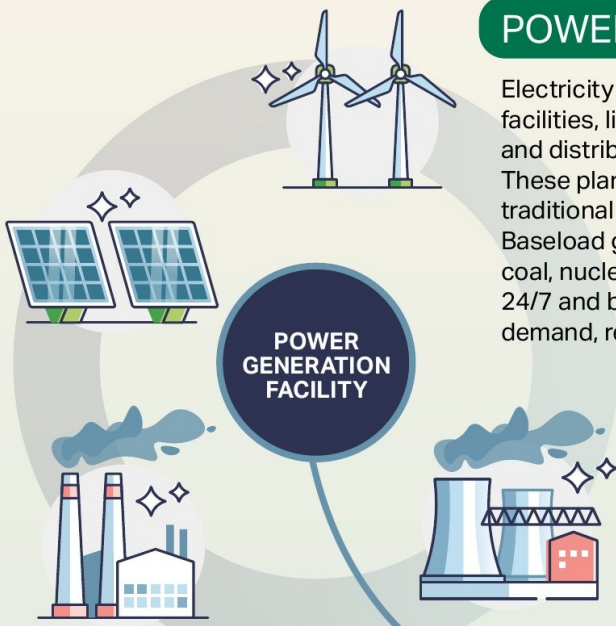
BALANCING SUPPLY AND DEMAND

Reliable electricity relies on a delicate balance of supply and demand. Many links in the power supply

How the Grid Works

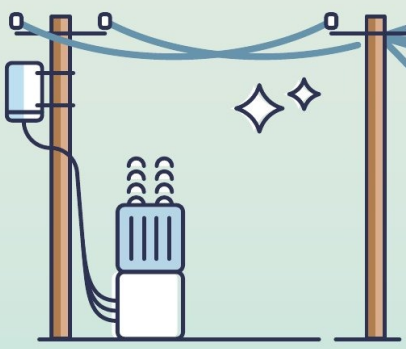
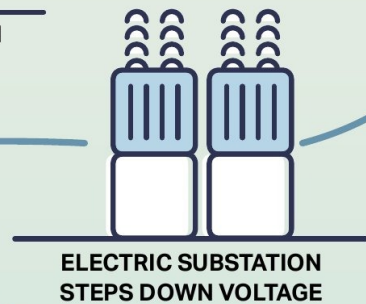
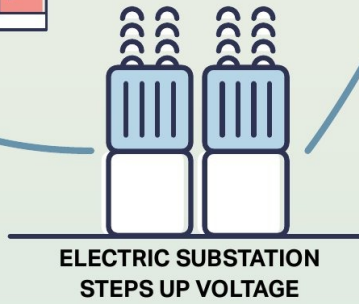
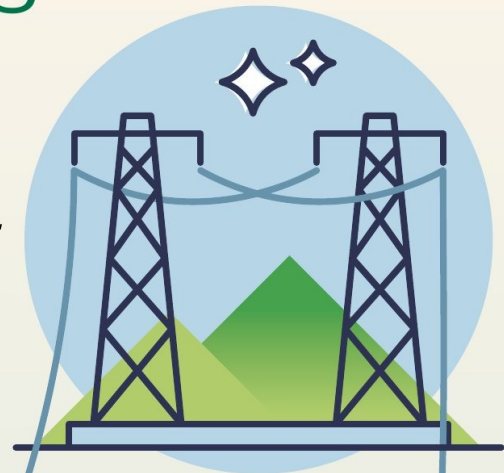
POWER GENERATION

Electricity is generated at power generation facilities, like a coal plant or solar installation, and distributed to a wide group of users. These plants often use a diverse mix of traditional and renewable fuel sources. Baseload generation resources, such as coal, nuclear and natural gas, can operate 24/7 and be dispatched as needed to meet demand, regardless of factors like weather.



TRANSMISSION AND SUBSTATION

Electric power from generating plants is carried via high-voltage transmission lines to substations.



DISTRIBUTION

After an electric substation steps down the voltage, distribution lines safely deliver power to cooperative member-owners, which include large industrial users, businesses, farms and homes.



INDUSTRIAL CONSUMER



DOMESTIC CONSUMER



COMMERCIAL CONSUMER

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Where Do You Find Value?

Did you know the average daily cost of electricity is \$4.57, or about \$140 per month?

Electricity fuels our daily life essentials, from heating/cooling equipment to entertainment devices and appliances. Think of how vital power is compared to other everyday purchases. **That's real value.**



Morning To-Go Latte



Fast-Food Combo Lunch



All-Day Power

Sources: Energy Information Administration, MoneyGeek and CNET

chain must work in harmony to achieve a stable electric system, far before electricity is distributed to members' homes, farms and businesses. And, factors impact both supply and demand.

Factors impacting supply include the transition away from fossil-fuel generation toward renewable, intermittent resources, the disorderly retirement of baseload generation, siting and permitting delays, lagging infrastructure development and government regulation.

The demand side of the equation is impacted by the electrification of our homes and the transportation sector, large loads from industrial users, data centers and artificial intelligence, and increasing peak demand.

ELECTRIC COOPERATIVE DIFFERENCE

Ultimately, the combination of these industry factors may (or may not) affect you as an electric cooperative member. Electric co-op boards will consider these factors and others when determining rates. Across the country, cooperatives are weighing how to absorb these costs or adjust rates.

If you are concerned about your electric bill, contact

your electric cooperative. They are your local energy experts who can discuss programs you may qualify for, ways to reduce your energy usage and technologies which could yield energy savings.

The good news is you are an electric cooperative member, which is different from being a customer of an investor-owned utility. Electric cooperatives are not-for-profit utilities, which operate at cost and are owned by the consumers they serve. They are not in this business to make money. They do not return profits to far-away shareholders. At the end of the year after all operating expense are paid, any margins ("profits") are returned to cooperative members as capital credits, based on the amount of electricity used.

The other good news is North Dakota electric cooperative members enjoy some of the lowest electric rates in the country. When you think of your electric bill in this way, electricity remains a good value.

Find the second feature in the "Cost of Your Power" series in the February issue of North Dakota Living. ■

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EDITOR'S NOTE:

In North Dakota, rate making is a function of local electric cooperative boards of directors, which are democratically elected from the membership by the co-op members. Electric co-op boards weigh many factors when determining rates.

Across the country, many electric cooperatives (though not all) have implemented, are considering or will consider

a rate increase. The Cost of Your Power series will present some of the current industry-wide, high-level pressures which factor into rate-making decisions by electric cooperative boards. This series will not include information specific to your local electric cooperative. Contact your local electric cooperative for information about your electric rates.