



Beginner's guide to the electric grid

Electricity plays an essential role in everyday life.

It powers our homes, offices, hospitals and schools. We depend on it to keep us warm in the winter (and cool in the summer), charge our phones and binge our favorite TV shows. If the power goes out, even briefly, our lives can be disrupted. The system that delivers your electricity is often described as the most complex machine in the world, and it's known as the electric grid.

What makes it so complex? We all use different amounts of electricity throughout the day, so the supply and demand for electricity is constantly changing. For example, we typically use more electricity in the mornings when we're starting our day, and in the evenings when we're cooking dinner and using appliances. Severe weather and other factors also impact how much electricity we need.

The challenge for electric providers is to plan for, produce and purchase enough electricity so it's available exactly when we need it. Too much or too little electricity in one place can cause problems. So, to make sure the whole system stays balanced, the electric grid must adjust in real time to changes and unforeseen events.

At its core, the electric grid is a network of power lines, transformers, substations and other infrastructure that spans the entire country. Within three regions, seven balancing authorities known as independent system operators (ISOs) or regional transmission organizations (RTOs) monitor the grid, signaling to power plants when more electricity is needed to maintain a balanced electrical flow. ISOs and RTOs are like traffic



controllers for electricity regulated by the federal government.

The journey of electricity begins at power plants

Power plants can be thought of as factories that make electricity using various energy sources, like natural gas, solar, wind and nuclear energy. Across the U.S., more than 11,000 power plants deliver electricity to the grid.

Egyptian Electric receives power from our generation and transmission (G&T) co-op, Southern Illinois Power Cooperative, located on Lake of Egypt south of Marion. We are a member-owner of SIPC and work together to provide electricity at the lowest cost possible. Being part of a G&T benefits members like you by placing ownership and control in the hands of your co-op, prioritizing affordability and reliability, supporting local economic development and fostering a sense of community.

To get the electricity from power plants to you, we need a transportation system

High-voltage transmission lines act as the highways for electricity, transporting power over long distances. These lines are supported by massive towers and travel through vast landscapes, connecting power plants to electric substations.

Substations are like pit stops along the highway, where the voltage of electricity is adjusted. They play a crucial role in managing power flow and ensuring that electricity is safe for use in homes and businesses.

Once the electricity is reduced to the proper voltage, it travels through distribution power lines, like the ones you typically see on the side of the road. Egyptian Electric is a distribution cooperative maintaining over 2,000 miles of poles and lines. Distribution lines carry electricity from substations to homes, schools and businesses. Distribution transformers, which look like metal buckets on the tops of power poles or large green boxes on the ground, further reduce the voltage to levels suitable for household appliances and electronic devices.

After traveling through transformers, electricity reaches you — to power everyday life

We're proud to be your local, trusted energy provider. From the time it's created to the time it's used, electricity travels great distances to be available at the flip of a switch. That's what makes the electric grid our nation's most complex machine — and one of our nation's greatest achievements.



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844-759-3977

Office hours 8 a.m. – 4:00 p.m. M-F
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- Off-site kiosks located at 2301 N. Reed Station Parkway and 1815 W. Main in Carbondale

Classroom Empowerment Grant winners 2023-2024

Congratulations to the ten winners of our \$500 Classroom Grants, awarded to exceptional teachers from various schools across our region! A heartfelt thank you to all participating schools for their support and encouragement during the application process. We also want to thank those who went the extra mile in preparing outstanding applications. You continue to make this program a success, and the programs within your school more valuable.

The winners for the 2023-24 Classroom Grants are:

- **Brandi Yates**, Special Education Teacher, **DeSoto Grade School** – Assistive Technology for Special Education
- **Cheryl Korando**, English Teacher, **Trico High School** – THS Book Club
- **Michelle Asa**, Special Education Teacher, **Carruthers School, Murphysboro** – Vermicompost: Giving Food Waste a New Purpose
- **Nina Maether**, 6th-8th Math/Science Teacher, **St. Andrew School, Murphysboro** – Maker Space
- **Rachel Henry**, School Social Worker, **Perandoe Educational Program, Red Bud** – Life Skills Cooking
- **Sabrina Jeremiah**, Kindergarten Teacher, **St. Marks Lutheran School, Steeleville** – 3D Pen & Coding
- **Steve Kidd**, Math Teacher, **Marissa Jr./Sr. High School** – Marissa Drone Club
- **Tammy Zimmerman**, Jr. High Math Teacher, **Coulterville CUSD 1** – Get Up! It's Time to Learn!
- **Taylor Harbaugh**, Speech-Language Pathologist, **Sparta Lincoln School** – Communication for All
- **Terri George**, Reading Specialist, **DeSoto Grade School** – Technology Sparks Bright Readers



Sabrina Jeremiah, St. Mark's Lutheran School, Steeleville



Steve Kidd, Marissa Jr./Sr. High School



Brandi Yates, DeSoto Grade School



Cheryl Korando, Trico High School



Tammy Zimmerman, Coulterville CUSD 1



Taylor Harbaugh, Sparta Lincoln School



Terri George, DeSoto Grade School



Rachel Henry, Perandoe Educational Program, Red Bud



Michelle Asa, Carruthers School, Murphysboro

EECA office closures

- Jan. 1 - New Year's Day
- Jan. 15 - MLK Jr. Day
- Feb. 19 - Presidents Day

February Blood Drive

Tuesday, Feb. 6,
10 a.m.-3 p.m.

1732 Finney Road,
Murphysboro



Walk-ins welcome, but registration preferred at redcrossblood.org.



Nina Maether, St. Andrew School, Murphysboro

MEMBER PRIZES

Every month we will have three member names hidden throughout our Egyptian Electric News section. If you find your name, call our office and identify yourself and the page that it is on and you will win a \$10 credit on your next electric bill.

Youth to Washington 2024 — Accepting Applications!

Applications for the 2024 Youth Tour are now available! Youth Tour was established to inspire and empower our next generation of leaders.

Since 1964, more than 50,000 young Americans have taken advantage of this unique opportunity offered by electric cooperatives across the nation. Youth Day will be held on March 20, 2024, when winning students will have an opportunity to meet with their elected senators and representatives at the State Capitol in Springfield alongside their counterparts from other schools and Illinois communities. From their Youth Day participation, two students will be selected for the National Rural Electric Cooperative Association (NRECA) Youth to Washington trip, or Youth Tour, as it is also called. Youth Tour takes place June 14-21, 2024, when hundreds of electric



co-op student participants travel to Washington, D.C., to learn about the co-operative business model, our government and our nation's history. During the week students will experience the best of the best in our nation's capital with their newfound friends. While in D.C., participants will meet with their local congressmen and discuss issues important to the students.

Without a doubt, Youth Tour has established itself to be an invaluable leadership program that gives our young Americans an experience they will never forget. Students have repeatedly shared that this experience has helped them grow into successful professionals. Youth Tour participants return home with a deeper understanding and a skillset of what it takes to be a leader. As a result, they seek networking opportunities and can put these skills to use right here in our communities.

Help us share this Youth Tour opportunity with a student leader! If you are or know a standout high school sophomore, junior, or senior interested in traveling to Washington, D.C., to experience the all-expenses-paid trip of a lifetime, please visit eeca.coop to learn more or contact us for more information. **Deadline to apply is Feb. 2, 2024.**



Make a positive impact in Southern Illinois by joining Operation Round Up!

Embark on a mission to make a positive impact in southern Illinois this new year by joining our efforts to support charitable organizations. By rounding up your monthly bill through our Operation Round Up program, you contribute to a collective effort to provide financial assistance to local organizations. On average, members contribute just \$0.50 monthly and never more than \$11.88 annually.

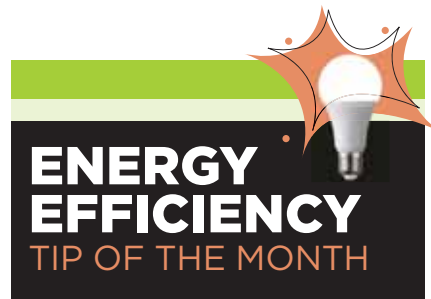
Here's how it works: voluntarily opt into the program, allowing Egyptian Electric to round up your bill to the next whole dollar. Your monthly statement reflects the Operation Round Up amount, with the year-to-date total, which is tax-deductible. These funds go to our Egyptian Electric Charitable Fund, a 501(c)(3) organization, with 100% of

collected funds directly supporting community organizations.

In just three years, Operation Round Up has supported initiatives that provide southern Illinois children with backpacks and school supplies, as well as toys and books on Christmas morning. It has also contributed vital funds to a local animal shelter and organizations that provide meals to those in need.

Organizations can apply for funds year-round, and donations are awarded quarterly.

To sign up or learn more, visit eeca.coop/roundup, check the box on your bill, or call or email us. Members can also mail in the form (found on page 6) to our office to enroll. Your consideration and participation make a difference — thank you!



During winter months, ensure your home is well sealed to reduce the need for excessive heating. Seal air leaks around your home and add insulation where needed to save up to 10% on annual energy bills.

Install weather stripping on exterior doors and apply caulk around windows. Check attic insulation levels and hire a qualified contractor if additional insulation is required.

Source: energystar.gov