Understanding energy demand and purchasing

You may not think you need to have an understanding of energy demand and purchasing, but do you ever look at your energy bill and wonder what it all means? If your answer to that question is “yes,” then you might be interested to learn how demand impacts your utility bill.

To start, it is important to understand how electricity is made and how it is delivered to your home. Before Cumberland Electric Membership Corporation can send electricity to your home, that electricity needs to be generated by Tennessee Valley Authority. Once the electricity has been generated, it travels over high-voltage transmission lines to substations, where the voltage is reduced to a safer level. The electricity then travels over distribution power lines and finds its way into your home. So, while you pay your bill to us — your electric distribution cooperative — we don’t actually generate the electricity you use. That is the job of TVA.

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We do help determine how much electricity our members need to power their homes and businesses, and you play a big part in deciding how much electricity TVA needs to create in order to keep the lights on in our community. That is where these terms “consumption” and “demand” come in.

Consumption is measured in kilowatt-hours (kWh). Demand is measured in kilowatts (kW). A lightbulb “consumes” a certain number of watts, let’s say 100 watts per hour. If that light bulb stays on for 10 hours, it “demands” a certain number of kilowatts (in this case, 1 kW) from the generation station producing electricity. Now, if you turn on 10, 100-watt light bulbs in your home for one hour, you are still consuming the same number of kW. However, you are placing a demand on the utility to have those kW available to you over the course of one hour, instead of 10. This requires the generation and transmission plant to produce more power in less time in order to meet your demand.

TVA charges CEMC for the total kWh consumption and kW demand. Peak demand refers to the time of day when the demand for electricity is highest. This is typically during the evening when families return home from work or school, cook dinner and use appliances the most. Using electricity during this peak demand period often costs CEMC more.

Varying demand and consumption are the reasons your electricity bill fluctuates season to season and even year to year. Generating and distributing power can be a tricky and complicated business, but rest assured that CEMC will always work to provide safe, reliable and affordable electricity to your family.
Value of electricity

Check out this map of average electric prices across the country to see how our rates compare to those in other states.
Cumberland Electric Membership Corporation sent a group of rising seventh- and eighth-grade students from across its service area to the 26th annual 4-H Electric Camp June 27-30 on the University of Tennessee Knoxville campus. CEMC-sponsored campers joined hundreds of students from across the state in discovering the world of electricity by participating in various learning centers that provided hands-on activities, allowing 4-H’ers to “learn by doing.” Campers also enjoyed a trip to Dollywood, swimming, a pizza party and two fun and educational programs — Neil Spencer’s “Giants of Electricity” and Ben Roy’s “What is Electricity?”

This year’s learning activities were:

**Wiring an Extension Cord** — In this learning center, campers learned some basic wiring techniques used by electricians every day. They were then able to demonstrate what they learned by wiring up their own extension cords with Universal Serial Bus (USB) charging outlets to use in their homes.

**Home Energy Conservation** — We use electricity to light our homes, cook our food, play music and operate televisions. But as we use more electricity in our homes, our electric bills rise. In this activity, campers learned how conserving electricity in their homes not only helps lower their electric bills but also helps protect our environment and conserve resources.

**Green Energy Conservation** — Green energy will play an important role in the supply of energy in the future. When green energy sources are used, the demand for fossil fuels is reduced. This learning center educated campers on how we can harness the energy in wind to generate electricity.

**Electricity Party** — Campers learned Science, Technology, Engineering and Math (STEM) principles such as electromagnetism, alternating current (AC) and direct current (DC) electricity, electricity generation, electric circuits and other basic sciences through hands-on activities at this learning center.

**Electric Vehicles** — Campers learned about batteries, direct current and how direct current is used to propel electric vehicles. They also demonstrated their driving skills by maneuvering an electric golf cart through an obstacle course.

**Electric Safety** — Electric power does a tremendous amount of work for us; but, because it is such a powerful force we must be careful around it. This learning center taught campers how to play it safe around high-voltage power lines.

The 4-H Electric Camp is a joint venture of the Tennessee Electric Cooperative and its member cooperatives, including CEMC; University of Tennessee Extension; Tennessee Municipal Electric Power Association and its power systems; and the Tennessee Valley Authority.
In the Home Energy Conservation learning center, campers learn some easy and inexpensive ways to become more energy-efficient around the house. Above left, students install electric outlet sealers, and, above right, campers caulk around baseboards. Both activities illustrate the importance of air-sealing in the home.
Kitchen sizes, styles and configurations have changed dramatically through the years. As consumer lifestyles and tastes have changed, kitchen lighting has evolved to reflect these shifts. In the past, the norm for a typical American kitchen was a simple fluorescent ring placed in the center of the ceiling and operated by a single switch. Now, the proliferation of TV networks and shows devoted to every aspect of home decorating, remodeling, building and sales reflect current consumers’ higher standards and expectations for a home’s appearance. Lighting, once considered an afterthought, is now an integral part of home décor and function — particularly in a focal area such as the kitchen.

**Try the layering effect**

The effect of a single overhead light source can be too much light in one area and not enough in others. Layering different types of light from different sources is not only a smart plan, but it makes good sense from an efficiency perspective.

Task-lighting such as an under-counter fixture illuminates a particular work surface without a shadowing effect. Energy-efficient options typically feature LED-powered puck lights that can be placed precisely where they are most needed under the cabinets. Another option is the thin-diameter fluorescent tubes that use about 25 percent of the electricity of halogen or incandescent bulbs and have a much greater life span. Regardless of the type of light selected, when installing the lights, place them toward the front of the cabinet so they illuminate the whole countertop rather than the wall. Most types of under-counter lights can be plugged into a standard outlet. Overhead lights — whether from a central fixture, track lights or recessed — can offer indirect illumination and complement the task lights. Where possible, utilize ENERGY STAR and LED options.

**Versatility matters, too**

Efficient lighting in the kitchen does not necessarily mean more lights but rather more versatile lighting.

Dimmer switches create more flexible options for existing lights. There are times when maximum illumination is required for tasks such as food preparation or cleanup. At other times, it makes more sense to turn down the lights to create a cozier ambiance. By placing different sets of lights on dimmer switches, you increase your options, minimize the energy used for lighting and thereby allow for greater energy efficiency. However, when installing dimmer switches, make sure they are compatible with LED lights.

Lighting accounts for up to 15 percent of a home’s energy use, and since the kitchen is a high-traffic hub, it makes sense to focus here. For basic energy efficiency in the kitchen and elsewhere, sometimes small adjustments can make a big impact.

The simplest area on which to focus is the light itself. LED lights use a small fraction of the energy of CFL, halogen or traditional incandescent bulbs and are known for their longevity and efficiency. ENERGY STAR-rated LED bulbs typically are the most efficient.

At its best, a good kitchen lighting plan is functional, attractive and energy-efficient. Whether your kitchen is large or small, old or new, one reliable recipe for energy savings is utilizing more efficient lighting in the heart of the home.

Anne Prince writes on cooperative issues for the National Rural Electric Cooperative Association, the Arlington, Virginia-based service arm of the nation’s 900-plus consumer-owned, not-for-profit electric cooperatives.
CEMC to participate in Oct. 5 Electric Co-op Day of Service

Electric cooperatives across the state have designated Thursday, Oct. 5, as the first Tennessee Electric Co-op Day of Service. The initiative is to become an annual event that encourages community outreach through organized service projects. The event gives co-op employees the opportunity to serve their communities while also demonstrating that co-ops are different — we care about our members, and we show it through our actions. In honor of this event, Cumberland Electric Membership Corporation will host a community food drive.

CEMC employees and members are encouraged to participate by bringing nonperishable food items to any CEMC business office on Oct. 5 between 9 a.m. and 3 p.m. Members who donate five or more items will receive free light-emitting diode (LED) bulbs — limited to one per member, while supplies last.

If you would like to take part in this community-wide event, consider picking up an extra one (or more) of the following suggested items as you’re doing your grocery shopping over the next few weeks:
- Peanut butter
- Canned meat (chicken, tuna, etc.)
- Canned vegetables
- Canned fruits
- Dry pasta
- Pasta sauce
- Rice
- Dried beans
- Canned soup or chili
- Bottled drinks (juice, water, sports drinks, etc.)

All items collected will be distributed to those in need through local food banks.

Thank you in advance for your support of this community project.
Be sure to keep an eye out for October’s issue of The Tennessee Magazine. It will contain everything you need to know about Cumberland Electric Membership Corporation’s 79th annual membership meeting. We hope you will join us Saturday, Oct. 21, at Rossview High School for our cooperative’s biggest event. Director elections will be held, a complimentary breakfast will be served, musical entertainment will be provided and some exciting door prizes will be given away. Mark your calendar for Oct. 21, and make plans to join us.

Join Cumberland Electric Membership Corporation for a FREE do-it-yourself energy-efficiency workshop in September to learn easy energy-efficiency improvements that anyone can do at home.

Each two-hour workshop will cover how electricity is consumed and billed and include suggestions on low- and no-cost upgrades that can be completed by homeowners to lower energy costs. Hands-on training will teach how to properly caulk, replace weather stripping, install spray-foam sealant and more.

These sessions are limited to the first 25 households that register, and each will receive a FREE energy-saving tool kit valued at $25 to help you get started.

Register at www.cemc.org for the workshop in your area.

Energy Efficiency Tip of the Month

Cooler temps will be here soon! No matter what kind of heating system you have in your home, you can save money and increase your comfort by properly maintaining and upgrading your equipment. Contact a licensed professional to inspect your system before the winter chill arrives.

Source: U.S Department of Energy

Cumberland Electric Membership Corporation will be closed Monday, Sept. 4, in observance of Labor Day.

CEMC personnel will be available in the event of an emergency by calling 1-800-987-2362.

CEMC wishes you a safe and happy Labor Day!