Nebraska Energy Quarterly

NEBRASKA
Good Life. Great Resources.
DEPT. OF ENVIRONMENT AND ENERGY

June 2023

NDEE submits workplan for Climate Pollution Reduction Grant

The Nebraska Department of Environment and Energy submitted its workpan for the Climate Pollution Reduction Grant to the U.S. Environmental Protection Agency ... **Continue...**

NDEE participates in Midwest Collaborative

The Nebraska Department of Environment and Energy is participating in the Midwest Regional Petroleum Shortage Response Collaborative — a new organization that aims to develop a regional framework in the event of a petroleum shortage.... **Continue...**

Technology and equipment can increase electrical safety in homes

Electricity is a major cause of home fires as Americans continue to use more energy, and outdated electrical systems are unable to handle the demands of today's electrical appliances and devices... **Continue...**

Energy Statistics

Nebraska by Numbers

This edition of Nebraska by Numbers focuses on total energy consumption in Nebraska by sector in 2020 and takes a closer look at the fuel types consumed by the residential sector in 2020... **Continue...**

Energy Tips

Use energy efficient computers, home office equipment and electronics

Many people work from home, and while that saves energy by cutting out the commute, but it may increase your home energy bills... **Continue...**

Photo by Chad Peltola on Unsplash

The Nebraska Department of Environment and Energy has submitted its Climate Pollution Reduction Grant workplan to the EPA. This workplan makes the state eligible to recieve $3 million to develop climate action plans. NDEE is contacting potential partners and stakeholders to develop common-sense action plans that fits Nebraska's needs.

NDEE submits workplan for Climate Pollution Reduction Grant

The Nebraska Department of Environment and Energy (NDEE) submitted its workplan for the Climate Pollution Reduction Grant (CPRG) from the U.S. Environmental Protection Agency (EPA).

This workplan/application makes Nebraska eligible to receive $3 million in grants to fund the development and implementation of climate action plans that reduce greenhouse gas emissions. NDEE submitted its application April 27, and the funds are expected to be available in August.

The grant will help NDEE develop a Priority Climate Action Plan (PCAP), due March 1, 2024, and a Comprehensive Climate Action Plan (CCAP), due in the late summer of 2025 (within two years of the award date).

NDEE's workplan summarizes how the state intends to develop its climate action plans. It is available on the agency's website, which the agency will update as the planning process continues.

After NDEE submits the PCAP, state and local governmental bodies in Nebraska will be able to apply for competitive implementation grants from the EPA to carry out proposed strategies in the action plan.

To develop the climate action plans, NDEE is working with partner agencies and stakeholder groups to request their input on the workplan. The Department anticipates a broad stakeholder group, including other state agencies, municipalities, public utilities, tribes, agricultural and business groups, and environmental and community organizations. NDEE is committed to an open, transparent, and inclusive engagement process for these planning activities, and stakeholder input is valuable in creating successful action plans.

Back to page 1

NDEE plans to work its partners and stakeholders to discuss potential GHG emission reduction measures and priority measures. While the plan is subject to change, the list of priorities could include:

- Agriculture
- Energy Production
- Transportation
- Buildings, housing and communities
- Energy-Intensive Industries.

Those interesting in providing comments on the workplan or joining a stakeholder work group can contact NDEE at:

Nebraska Department of Environment and Energy
Attn: Randy Smith – Waste and Air Grants Section
PO Box 98922
Lincoln, NE 68509

NDEE participates in Midwest Collaborative

The Nebraska Department of Environment and Energy (NDEE) has begun working with a group of states to share resources and strengths to assist each other in the event of regional energy emergencies. This new collaborative, which is named the Midwest Regional Petroleum Shortage Response Collaborative, aims to create a regional framework to guide the development of a region-wide petroleum shortage response plan. The Collaborative will also leverage peer expertise to improve states' energy security and response plans.

Photo by Jason Mitrione on Unsplash

The Nebraska Department of Environment and Energy and 12 other states are participating in the Midwest Regional Petroleum Shortage Response Collaborative. This group is developing emergency response plans and ways to assist each other in the event of a petroleum shortage.

The Collaborative includes energy and emergency management agencies from Nebraska, Wisconsin, North Dakota, South Dakota, Illinois, Missouri, Indiana, Iowa, Tennessee, Kentucky, Michigan, Kansas, and Minnesota.

The Collaborative held its first meeting on March 7, 2023, and continues to meet monthly. During these meetings, the Collaborative developed three project goals:

1. Create a regional fuel response framework
2. Gain insights for enhanced state emergency fuel plans
3. Gain a developed network collaborative of trusted, established entities that can be leveraged for future regional planning initiatives and during real-world events

Back to page 1

The states also established seven priorities:

1. Establish structure and framework for collaboration
2. Enhance regional coordination and response to petroleum shortage emergencies among the participating states
3. Discover states' strengths to be leveraged
4. Share resources
5. Prioritize response actions and measures
6. Standardize information flows
7. Pre-identify tools and templates that may be necessary to respond to a petroleum shortage

The Collaborative has also discussed programs or measures from the Western Regional Framework that could be included or further developed for existing energy security plans. The Collaborative walked through a decision-making process that the Western states had developed as part of their regional framework.

The Collaborative is planning to help coordinate regional updates to states' energy security plans which each state individually maintains. Energy security plans are a comprehensive operating manual for state government leaders charged with the responsibility of ensuring the health and safety of its citizens during periods of energy emergencies that account for a state's individual needs and differences.

These flexible plans and frameworks give Nebraska and the Collaborative the ability to adapt to whatever the emergency demands.

In addition to improving coordination and enhancing state energy security plans, states participating in the Collaborative are also interested in increasing energy response capacity, both internally and regionally.

There will be virtual meetings each month from March through September with an in-person workshop in August. The target completion date for the collaborative is September 30, 2023.

Technology and equipment can increase electrical safety in homes

Information from Electrical Safety Foundation International

May was electrical safety month, but electrical safety should be practiced all year. Electricity is a major cause of home fires. As each year goes by, Americans continue to use more energy in their homes. At the same time, the electrical systems in many existing homes have become outdated and are unable to handle the demands of today's electrical appliances and devices.

The statistics are staggering. According to the National Fire Protection Association (NFPA), electrical failures or malfunctions were factors in an estimated 46,500 home fires in 2010. These fires caused 420 deaths, 1,520 injuries, and $1.5 billion in property damage. And fire is not the only danger. Thousands of children and adults are critically injured and electrocuted annually from electrical hazards in their own homes.

Back to page 1

But now, technology such as ground fault circuit interrupters (GFCI), arc fault circuit interrupters (AFCIs) and tamper resistant receptacles (TRRs) are preventing tragedy before it ever occurs. In fact, these devices have proven so effective that the 2008 National Electrical Code (NEC) significantly increased requirements for AFCI and TRR protection in all new homes.

Incorporating recent advances in technology into your home can help reduce the risk of fires and electrocutions.

Photo by Trinity Nguyen on Unsplash

Technology and equipment like ground fault circuit interrupters, arc fault circuit interrupters and tamper resistant receptacles can improve electrical safety in homes, reducing the risk of fire, injury, and death.

Ground Fault Circuit Interrupters

Since the 1970s, ground fault circuit interrupters (GFCIs) have saved thousands of lives and have helped cut the number of home electrocutions in half.

GFCIs are electrical safety devices that trip electrical circuits when they detect ground faults or leakage currents. A person who becomes part of a path for leakage current will be severely shocked or electrocuted. These outlets prevent deadly shock by quickly shutting off power to the circuit if the electricity flowing into the circuit differs by even a slight amount from that returning.

A GFCI should be used in any indoor or outdoor area where water may come into contact with electrical products. The National Electrical Code currently requires that GFCIs be used in all kitchens, bathrooms, garages, and outdoors.

Arc Fault Circuit Interrupters

Over the last 30 years, our homes have been dramatically transformed by modern electrical devices; however, these same devices have also contributed to the shocking number of electrical fires this country suffers every year. Many existing homes are simply overwhelmed by today's electrical demands, putting them at greater risk of arc faults and arc-induced fires.

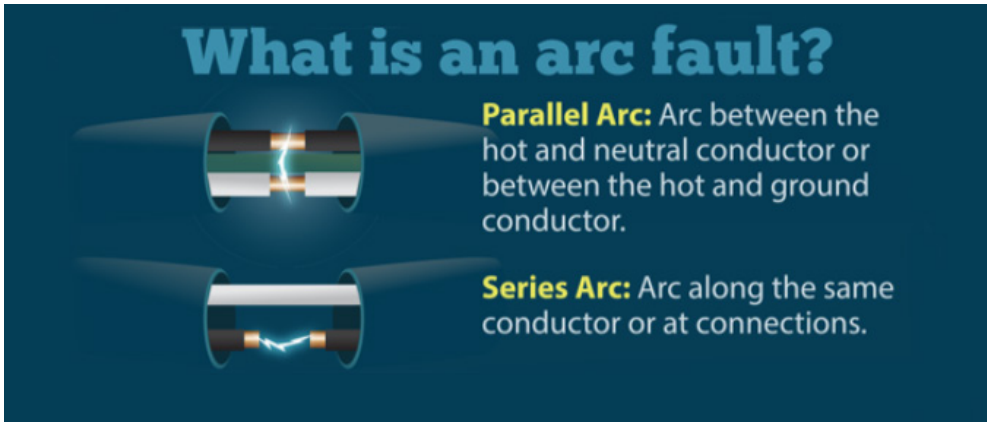


Image from ESFI

An arc fault is a dangerous electrical problem caused by damaged, overheated, or stressed electrical wiring or devices. Arc faults can occur when older wires become frayed or cracked, when a nail or screw damages a wire behind a wall, or when outlets or circuits are overburdened.

In the United States, arcing faults cause more than 30,000 home fires each year, resulting in hundreds of deaths

Back to page 1

and injuries and more than $750 million in property damage. The solution to this problem is a combination arc fault circuit interrupter, or AFCI. The CPSC estimates that AFCIs could prevent more than 50% of the electrical fires that occur every year.

Safety advocates maintain that the added cost for AFCI protection is well worth the benefits the technology provides to the homeowner. Depending on the size of a given home, the cost impact for installing additional AFCI protection in a home is $140 – $350.

Tamper Resistant Receptacles

Each year, approximately seven children a day suffer severe shock and burns when they stick items into the slots of electrical receptacles, also referred to as outlets. It is estimated that there are six to 12 fatalities a year related to this. Nearly one-third of these injuries are the result of small children placing ordinary household objects, such as keys, pins, or paperclips into the outlets with disastrous consequences.

Located in practically every room in every house throughout the United States, electrical outlets and receptacles represent a constant and real danger wherever young children are found.

But now, new technology called tamper resistant receptacles, or TRRs, provide a simple, affordable, reliable, and permanent solution to help prevent these kinds of injuries.

TRRs look just like ordinary outlets, but are designed with spring-loaded receptacle cover plates that close off the receptacle openings, or slots. When equal pressure is simultaneously applied to both sides, the receptacle cover plates open to allow the standard plug to make contact with the receptacle contact points.

Without this simultaneous pressure, the cover plates remain closed, preventing insertion of foreign objects and protecting your children from painful, traumatic electrical injuries.

Although not widely used in homes until recently, TRRs have been required in hospital pediatric care facilities since the early 80s. In fact, TRRs have proven to be so effective that the NEC now requires them to be installed in all new home construction. Existing homes can be easily retrofitted with TRRs using the same installation guidelines that apply to standard receptacles.

Image from ESFI

This outlet is a tamper resistant receptacle. It has cover plates in the slots that open when pressure is simultaneously applied to both sides. This allows the outlet to be used as intended, while protecting children who may try to stick items into the slots.

TRRs should only be installed by a licensed electrician. TRRs are the only device specially tested by UL and other Nationally Recognized Testing Laboratories to meet requirement set by the NEC, plastic receptacle or outlet covers are not tested by NTRLs for tamper resistance.

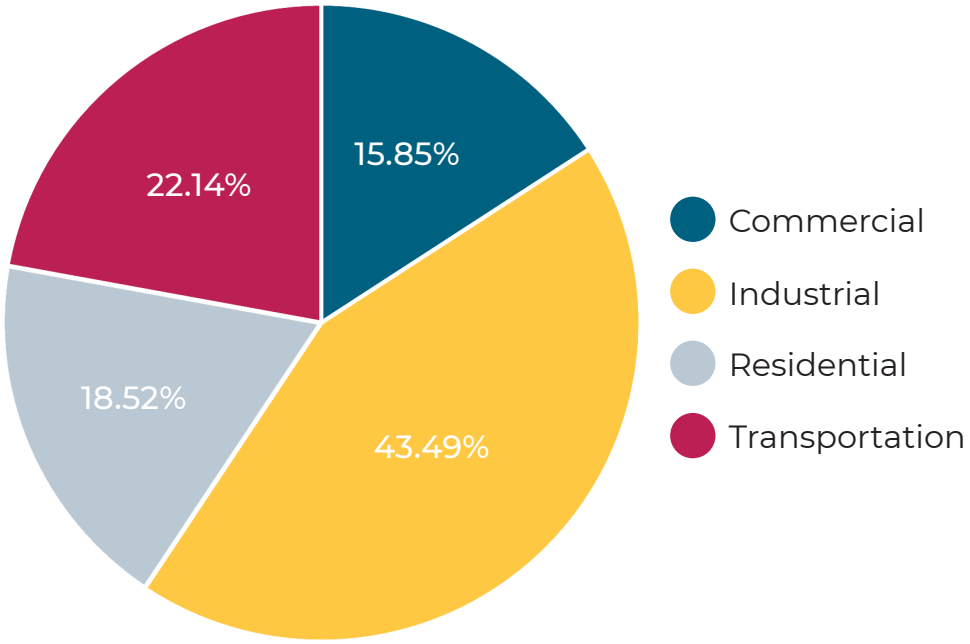
Back to page 1

Nebraska by Numbers

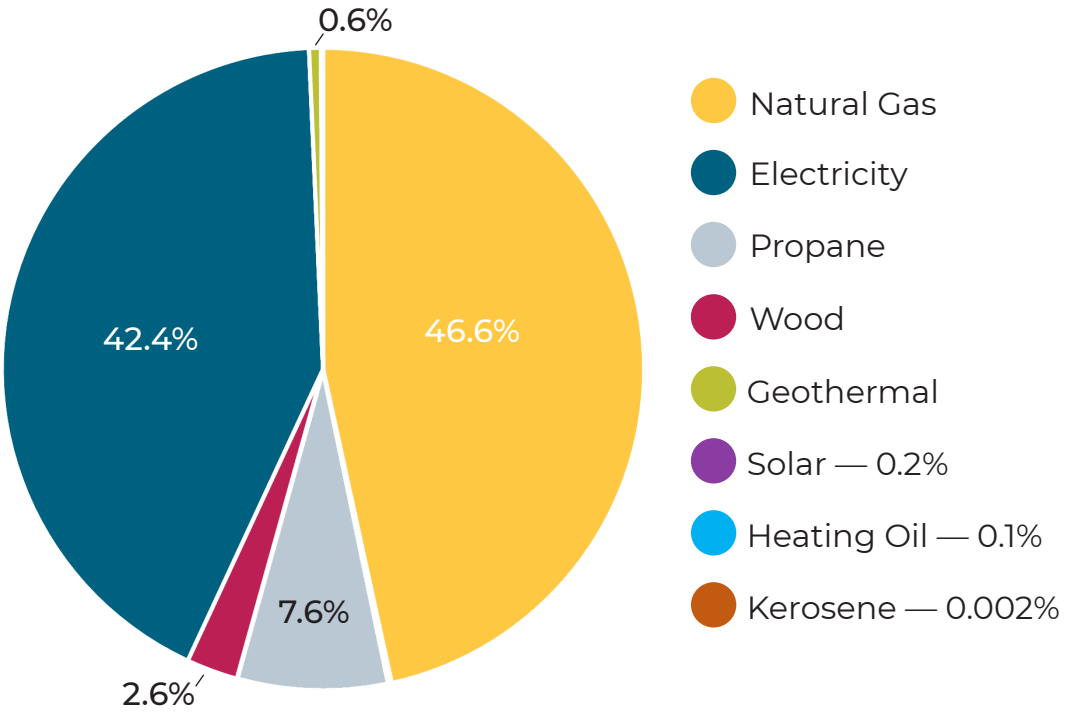
This edition of Nebraska by Numbers focuses on total energy consumption in Nebraska by sector (commercial, industrial, residential and transportation), and takes a closer look at the fuel types consumed by the Residential Sector in 2020. See a future edition of the Nebraska Energy Quarterly to view similar pie charts for the transportation sectors. Previous editions included information on the Commercial and Industrial sectors.

Information used to create these graphs comes from The Nebraska Department of Environment and Energy and the Energy Information Administration.

Total energy Consumption by sector, 2020



Net energy consumption by fuel type Reisdential Sector, 2020



Back to page 1

Use energy efficient computers, home office equipment and electronics

Information from the U.S. Department of Energy

Many people work from home at least one day per week. Working from home saves energy and time by cutting out the commute, but it may increase your home energy bills unless you use energy-saving office equipment.

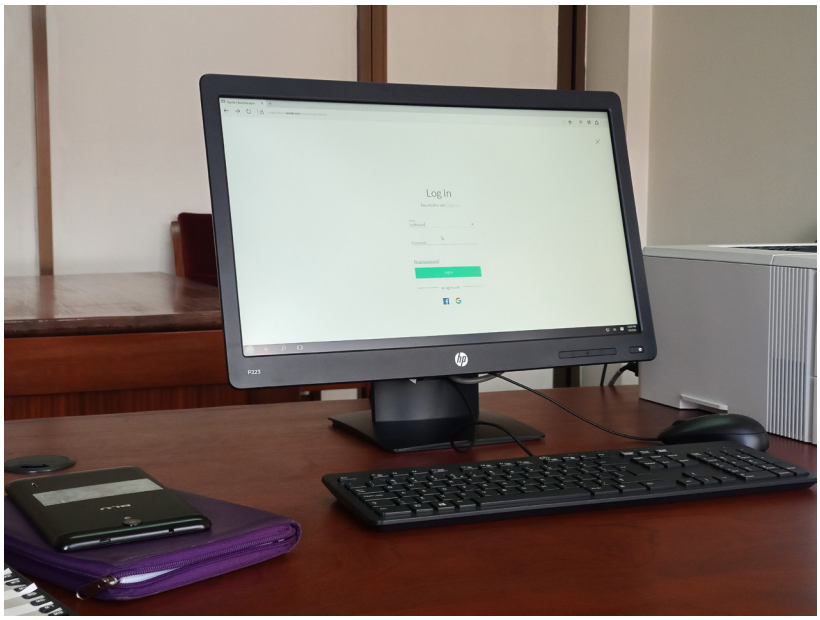


Photo by Keith Kasaija on Unsplash

The U.S. Department of Energy recommends using ENERGY STAR office equipment, letting the computer go to sleep, and turning off the computer when it's not in use to save energy while working from home.

ENERGY STAR-labeled office equipment is widely available. It can provide dramatic energy savings—as much as 75% savings for some products. Overall, ENERGY STAR-labeled office products use about half the electricity of standard equipment. Find ENERGY STAR products and standards.

To avoid "vampire" loads, unplug non-critical equipment, or better yet connect them to a smart power strip to and use the switch on the power strip to cut all power to the appliances. Many appliances continue to draw a small amount of power when they are switched off. These vampire loads occur in most appliances that use electricity, such as DVD players, TVs, stereos, computers, and kitchen appliances. Unplug battery chargers when the batteries are fully charged or the chargers are not in use.

Use rechargeable batteries for products like cordless phones and digital cameras. Studies have shown they are more cost effective than disposable batteries. If you must use disposables, check with your trash removal company about safe disposal options.

Computers

If you wonder when you should turn off your personal computer for energy savings, here are some general guidelines to help you make that decision.

Let your equipment "go to sleep" after a period of inactivity. This is the single most effective means of saving energy. Though there is a small surge in energy when a computer starts up, this small amount of energy is still less than the energy used when a computer is running for long periods of time. Spending a large portion of time in low-power mode not only saves energy but helps equipment run cooler and last longer.

One misconception, carried over from the days of older mainframe computers, is that equipment lasts longer if it is

Back to page 1

never turned off. For energy savings and convenience, consider the following guidelines:

- Enable the sleep mode on your monitor if you aren't going to use your PC for more than 20 minutes.
- Switch off both the CPU and monitor if you're not going to use your PC for more than two hours.

Make sure your monitors, printers and other accessories are on a power strip/surge protector. When this equipment is not in use for extended periods, switch off the power strip to prevent them from drawing power even when shut off. If you don't use a power strip, unplug extra equipment when it's not in use.

Most PCs reach the end of their "useful" life due to advances in technology long before the effects of being switched on and off multiple times have a negative impact on their service life. The less time a PC is on, the longer it will "last." PCs also produce heat, so turning them off reduces building cooling loads.

ENERGY STAR-labeled computers use 30%-65% less energy than computers without this designation, depending on usage. Consider buying a laptop for your next computer upgrade; laptops use much less energy than desktop computers.

Sleep Mode and Power Management Features

Many computers available today come with a sleep mode or power management feature. ENERGY STAR® estimates that using these features will save you up to $30 each year on your electricity bills. Make sure you have the power-down feature set up on your PC through your operating system software. This has to be done by you; the power management features usually are not already enabled when a computer is purchased. Learn how to activate the power management features on your computer.

ENERGY STAR monitors consume two watts or less in sleep mode. Follow the instructions for your particular model to ensure power management features are enabled so your monitor will automatically go into sleep mode after a period of inactivity. You can save even more by manually turning off your monitor when you're not using it; ENERGY STAR qualified monitors consume 1 watt or less when off.

Note that screen savers are not energy savers. Using a screen saver may in fact use more energy than not using one, and the power-down feature may not work if you have a screen saver activated. In fact, modern LCD color monitors do not need screen savers at all.

The Nebraska Energy Quarterly is funded, in part, by the U.S. Department of Energy through the State Energy Program.

Back to page 1