Nebraska Energy Quarterly

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NDEE releases 2024 Annual Energy Report

The Nebraska Department of Environment and Energy has released its 2024 Annual Energy Report to the legislature. It can be found in its entirety on the agency's website.

This report fulfills obligations set by Neb. Rev. Stat. §81-1607, which requires NDEE to submit an annual report that identifies emerging trends in energy supply, demand and conservation within the agricultural, commercial, residential, industrial and transportation sectors, along with other sector information that may be useful.

Information on NDEE's energy programs is also included in this report. There are summaries of FY2024 activities for NDEE's Weatherization Assistance Program, Dollar and Energy Saving Loans Program, State Heating Oil and Propane Program and other special projects.

Questions or comments on this report may be submitted to neo.energy@nebraska.gov.

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Planning improves energy security

Energy security planning and emergency planning are critical to protecting and improving the resiliency of the energy sector. That is why the Nebraska Department of Environment and Energy (NDEE) is involved in emergency preparedness in multiple ways.

The first is by participating in energy security planning. The second is by providing manpower for the Emergency Support Function (ESF) 12. Emergency Support Functions work with the Nebraska Emergency Management Agency (NEMA) to prepare for emergencies and to provide support when emergencies happen. In addition to this work, NDEE's energy team also participates in the Midwest Regional Collaborative – a group that developed a regional framework in the event of a petroleum shortage that crosses state lines.

Both energy security and the ESF 12 are about ensuring energy supplies. Energy security is an everyday goal, and ESF 12 coordinators work with NEMA in training sessions, emergency exercises, and during incidents to ensure energy continuity.

Energy security involves both responding to energy supply disruptions and, in the longer term, working to enhance the resiliency of energy infrastructure, according to NDEE Statistical Analyst Doris Jansky.

Photo by Will on Unsplash

NDEE participates in energy security planning and the Emergency Support Function 12 to help prepare for emergencies and respond when they happen. These actions can help keep the lights on at home.

"The goal of energy security planning is to achieve a robust, secure, and reliable energy infrastructure that is also resilient," Jansky said.

Jansky also serves as the primary ESF 12 coordinator for energy, with a team of seven alternate coordinators from NDEE who also assist during emergencies. ESFs can be activated by NEMA to coordinate emergency response when local-level emergency managers request state resources. There are 15 ESFs in all, which focus on different aspects of critical infrastructure; NDEE also coordinates ESF 10, which focuses on oil and hazardous materials response.

Energy Security

Energy security plans, previously referred to as energy assurance plans, are important tools to help jurisdictions respond to energy supply disruptions and plan ahead to enhance the resiliency of their energy infrastructure. Nebraska has a state energy security plan, and eight Planning, Exercise, and Training (PET) regions that cover the state have their own local energy security plans.

Jansky said it's important to have an all-hazards energy security plan in place before an incident occurs. The plan also includes having relationships formed with key organizations. With the response steps and relationships in place, less time is wasted in an emergency situation.

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The ESF 12 team collects information on energy prices, fuel supply inventory, stakeholder requests for assistance during emergencies, and NEMA requests for information and communications. They use this information and the lessons they've learned to maintain the state's energy security plan, Jansky said.

ESF 12

Jansky said in addition to monitoring energy prices and fuel supplies, NDEE maintains an energy data repository, which ties into the state's energy security plan as well as the ESF 12 work. If there is an emergency incident, the coordinators are responsible for ensuring fuel supply, helping with tasks assigned to them by NEMA, and alerting NEMA to emergency needs from the energy sector.

Midwest Regional Petroleum Shortage Response Collaborative

In 2023, NDEE joined other energy and emergency management agencies from Nebraska, Wisconsin, North Dakota, Missouri, Indiana, Iowa, Tennessee, Kentucky, Michigan, Kansas, and Minnesota to form the Midwest Regional Petroleum Shortage Response Collaborative.

The Collaborative works to share resources and strengths to assist each other in the event of regional energy emergencies. The group created a regional framework to guide the development of a region-wide petroleum shortage response plan and leverage peer expertise and enhance coordination among states.

In addition to this regional approach, the Collaborative also helps coordinate updates to states' energy security plans, which each state individually maintains to account for their unique needs and differences.

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Some energy efficiency measures qualify for tax credits

Information from the U.S. Department of Energy

Homeowners (and renters, for certain expenditures) who purchase energy and other efficient appliances and products may qualify for tax credits. In order to get these tax credits, the U.S. Department of Energy (DOE) says those who qualify should fill out a Form 5695 to include when filing their tax returns. Be sure to include relevant product and services receipts.

See an FAQ and more details about which products are eligible for tax credit on the DOE's website.

Here is a list of tax credits from the DOE (updated July 2024):

Equipment Type	Tax Credit Available for 2023-2032 Tax Years
Home Electricity Products	
Solar (electricity)	30% of cost
Fuel cells	
Wind turbine	
Battery storage	
Heating, Cooling, and Water Heating	
Heat pumps	30% of cost, up to $2,000 per year
Heat pump water heaters	
Biomass stoves	
Geothermal heat pumps	30% of cost
Solar (water heating)	
Efficient air conditioners*	30% of cost, up to $600
Efficient heating equipment*	
Efficient water heating equipment*	30% of cost, up to $600
Other Energy Efficiency Upgrades	
Electric panel or circuit upgrades for new electric equipment*	30% of cost, up to $600
Insulation materials*	30% of cost
Windows, including skylights*	30% of cost, up to $600
Exterior doors*	30% of cost, up to $500 for doors (up to $250 each)
Home energy audits*	30% of cost, up to $150
Home electric vehicle charger	30% of cost, up to $1,000**

* Subject to cap of $1,200/year.
** See eligibility requirements from the IRS and a map of eligible locations.

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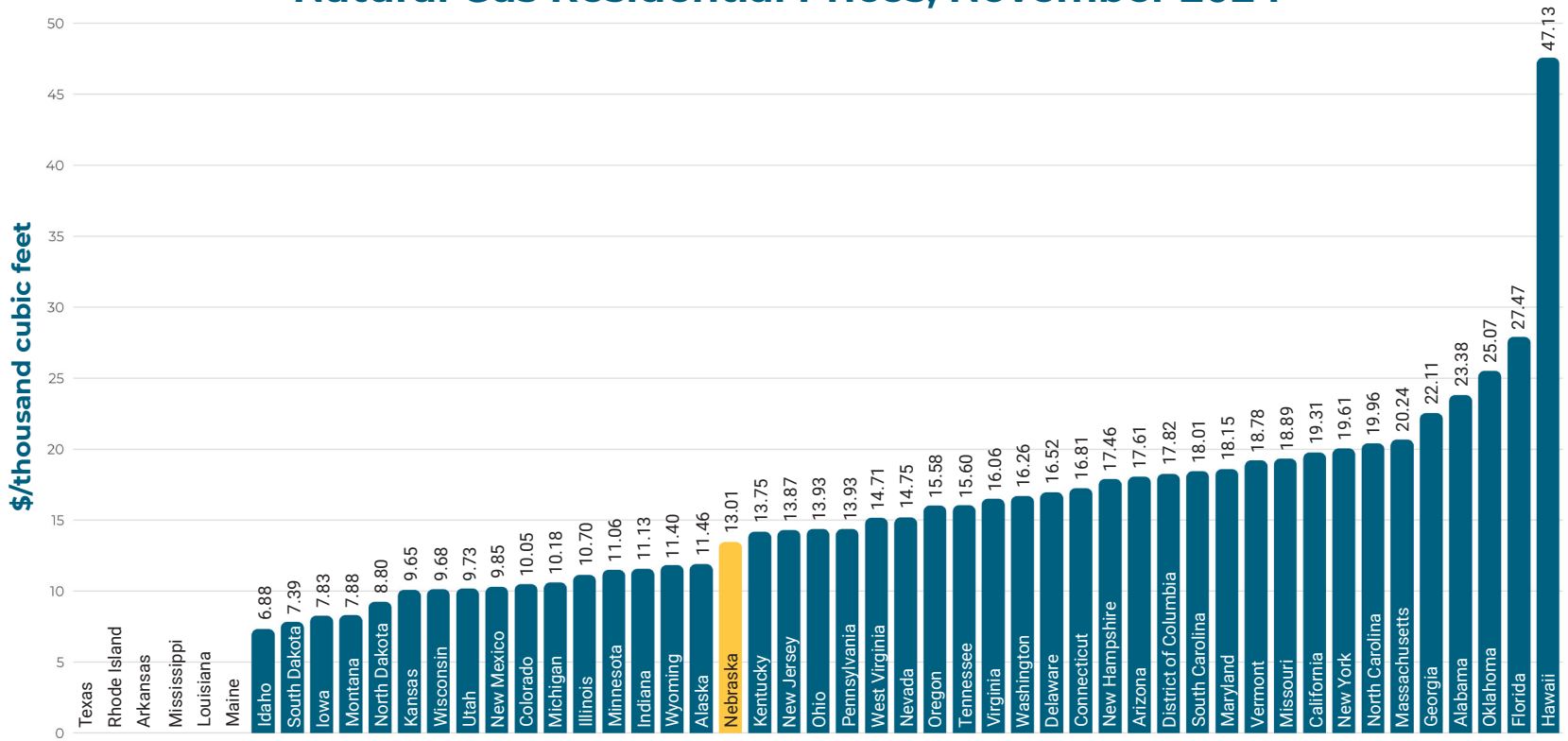
Nebraska by Numbers - Natural Gas Price

One of NDEE's duties is to maintain a collection of energy data to assess trends in the availability, consumption, and development of all forms of energy. This information can be found on NDEE's statistics pages. This edition's Nebraska by Numbers will focus on natural gas residential prices from November 2024 and how Nebraska stacks up against other states and Washington, D.C. This information and more can also be found on the Energy Information Administration's website. Several states' data has been witheld for data quality reasons.

Natural Gas Residential Prices, November 2024



$13.01/thousand cubic feet —
Nebraska's average natural gas residential price in November 2024.

Of the states with reported data, Nebraska had the 17th lowest natural gas residential price that month.

$14.83/thousand cubic feet —
U.S. average natural gas residential price in November 2024.

Idaho had the lowest natural gas residential price at $6.88/thousand cubic feet, and Hawaii had the highest price at $47.13.

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Landscaping for water conservation

Information from the U.S. Department of Energy

Photo by Faith Crabtree on Unsplash

Landscaping choices can not only save water, it can save energy, too. Mulch keeps plant roots cool and minimizes evaporation, reducing the need to water, among other benefits.

As lawn and garden season begins, you can design a landscape that conserves water as well as energy. Here is a brief overview of some water-conserving landscaping strategies.

Watering

If you can determine how much water your plants actually need, then you won't overwater them and waste water. It is important to not only understand a plant's particular watering requirements, but also evapotranspiration.

Evapotranspiration (Et) is the amount of water that is evaporated from the soil and transpired through the plant's leaves. This amount of water needs to be replaced through watering. If you know your area's Et rate, you can plan the amount of water to be replaced through irrigation. Call your local water district or Nebraska Extension and ask about your Et rate. Your particular microclimate will also affect evapotranspiration in different areas of your yard.

It's best to water or irrigate your plants in the early morning when evaporation rates are low. This also provides plants with water before mid-day when the evaporation rate is the highest.

Xeriscaping

Xeriscaping is a systematic method of promoting water conservation in landscaped areas. Although xeriscaping is mostly used in arid regions, its principles can be used in any region to help conserve water. Here are seven basic xeriscaping principles:

1. **Planning and design** provides direction and guidance. Map your water and energy conservation strategies, which dependents on your regional climate and microclimate.
2. **Selecting and zoning plants appropriately.** Base your plant selections and locations on those that will flourish in your regional climate and microclimate. Always group plants with similar water needs together.
3. **Limiting turf areas.** Reduce the use of bluegrass turf, which usually requires a lot of supplemental watering. Consider substituting a turf grass that uses less water than bluegrass.
4. **Improving the soil.** This enables soil to better absorb water and to encourage deeper roots.
5. **Irrigating efficiently.** Encourage using the irrigation method that waters plants in each area most efficiently.
6. **Using mulches** to keep plant roots cool, minimize evaporation, prevent soil from crusting, and reduce weed growth.
7. **Maintaining the landscape.** Keep plants healthy through weeding, pruning, fertilizing, and controlling pests.

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