

\$4.16
average annual
daily cost of
electricity

Electricity Remains a Good Value Today

Electricity is one of the most valuable and reliable products we use every day. Take a look around - everything is either powered by electricity or produced with the help of electric power.

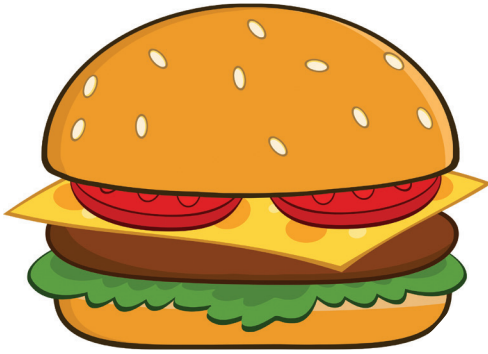
As consumers, we directly or indirectly use electricity almost all the time. From powering our homes and businesses to energizing entire communities. Most of the time we don't even think about it. We trust electricity will be there to power our smart phones or alarm clocks so we can wake up on time, brew our first cup of coffee each morning, and have a warm shower before heading out the door. Televisions, game consoles, ovens, refrigerators, computers, Wi-Fi routers, water heaters, and many other appliances all need electricity to run. It is also the energy behind the clothes you wear, the food you eat, and the cooled or heated air you breathe.

According to the Energy Information Agency (EIA), the typical U.S. household now uses more air heating and cooling, appliances and consumer electronics than ever before. The

average home also contains 10 or more internet-connected devices. Your energy bill is no longer just the "light bill".

Considering everything that is powered by electricity, it's no wonder we occasionally might wince at our monthly bill. But, even in the country's shifting energy climate, with the high cost of fuel causing rates to climb, it is important to understand that electricity remains an undeniable value and one of life's great conveniences, especially when compared to other consumer goods.

Typically when demand goes up, so too does the price, as is the case with most goods or services, like cable or even your favorite specialty coffee. However, that's not true with electricity. Let's take a look at how the value of electricity compares to other common expenses. Over the last five years, nationally the cost of rent increased 3.4%; medical care increased 2.8%; and education increased 2.2%. But the cost of electricity only increased 1%.



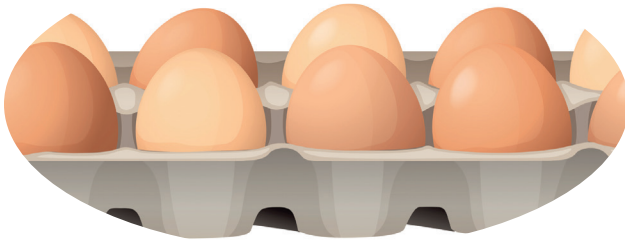
\$5.62

average cost of a Big Mac®



\$4.75

average cost of a specialty coffee

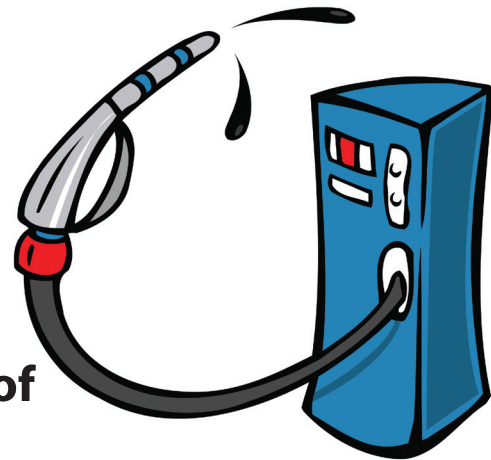


\$4.99

average cost of an 18 pack of eggs

\$4.49

average cost of a gallon of unleaded gasoline



In today's world, you won't find many items that cost less than \$5. In some cases you can purchase a gallon of milk, a gallon of gas, a loaf of bread, a carton of eggs, or a cup of coffee to go; but did you know that an average day's worth of electricity also costs less than \$5? At \$4.16, the average cost of electricity per day is actually consistent with or lower than all the items just mentioned.

While this doesn't take the sting out of high costs, it does demonstrate that electricity has remained a good value, especially considering its increased importance in our lives.

Often, though, the value of electricity is taken for granted. The cost of a mocha or latte from your favorite coffee shop isn't often questioned even though it costs more than it takes to pay for a day's worth of power. People don't usually question the cost of a Big Mac®, but it costs \$1.46 more than power for an entire day. Most people don't hesitate to spend over \$2 on a 20 oz. soda, more than \$5 on a burger, between \$8 and \$14 on a movie ticket, or over \$25 for a pizza, but they are concerned when paying just over \$4 a day, on average, on their power bill.

It is nearly impossible for us to think about what our lives would be like if we did not have electricity.

If at times it doesn't seem that electricity is affordable, remember - even as the demand for electricity grows - the annual cost increases still remain low when compared to other consumer goods such as medical care, education, and yes, even Big Macs®.

Electricity is still a great bargain. So, the next time you crave your morning coffee or a tasty Big Mac®, or enjoy your favorite podcast, TV series, or Facebook video consider the value of electricity and how it enhances your quality of life for less than you pay for those luxuries. You still get a great deal for your dollar.

CVEA cares about you, the members we serve, and understand that electricity is more than a commodity—it's a necessity. That's why your Cooperative will continue working hard to power your life, reliably and affordably. ■

The average daily cost of electricity is based on 2020 combined average annual costs for Valdez and Glennallen. Other costs are based on current prices averaged between the Valdez and Glennallen districts. The cost of a Big Mac is based on Anchorage MacDonald's prices. Big Mac® is a registered trademark of McDonald's Corporation. McDonald's Corporation does not endorse or sponsor this material.

Help Your Child Succeed

Good reading skills are essential for success in school

Parents want their children to grow up to become well-adjusted, happy and successful adults. Most parents know that for their children to be successful, they need a good education.

Studies show children do better in school if their parents are involved in their education. Although small children are inquisitive and eager to learn, they need encouragement and reinforcement to start them off and keep them going in the right direction.

Good reading skills are necessary for success in school. Here are some tips to help your child develop good study habits and a lifetime love of learning.

- Start early by instilling a love for learning. Read to preschool children every day. It arouses their natural curiosity about the world around them and encourages them to want to learn to read for themselves.

- Provide books and supplies. Give your children the tools they need to improve their reading and to do projects.

- Work out a schedule. Decide how much time should be set aside for homework and establish a routine.

- Help your children get organized. Using a calendar gives students a sense of accomplishment.

- Designate a quiet, comfortable place for studying. Encourage youngsters to study in the same place every day, away from distractions.

- Provide reinforcement. Praise your children for working hard and completing assignments.

- Talk with your children about what is going on in the world around them. Encourage new ideas and interests.

- Set an example for them. Parents are, after all, the most important teachers in a child's life.



Watch for Kids as They Head Back to School

On average, 26 children in the United States are killed every year while getting on or off a school bus, or while waiting at the bus stop.

To avoid such tragedies, drivers are reminded to:

- Carefully back out of driveways. Watch for children walking to the bus stop.
- Slow down. Watch for children walking in the street and playing or congregating near bus stops—especially in the early morning hours, when it may still be dark.
- Be alert. Children arriving late for the bus may dart into the street without looking.
- Obey the law. Yellow flashing lights on a bus mean motorists should slow down and prepare to stop. Red flashing lights mean motorists must stop their cars and wait until the red lights stop flashing, the extended stop sign is withdrawn and the bus starts moving again. Unless there is a median, oncoming traffic also must stop.



Provide a quiet, comfortable place for your child to do homework each day to help instill good study habits.

Alaska's Islanded Power Systems

By Michael Rovito

Alaskans may be connected to the wider world through technology, but the state as a whole remains disconnected from the national electric grid.

This makes for a dual challenge when it comes to providing electricity to consumers: supply power in some of the harshest conditions on Earth and do it without the backup most electric utilities in the Lower 48 enjoy. They have led to crafty innovation in the 49th state, along with a reputation for a large number of microgrids.

Alaska's geographical distance from the contiguous United States—and its lack of electric connection to Canada—sets the Last Frontier's system apart from most electric cooperatives. With the state's vast tracts of wilderness and huge distances between communities, it's difficult and expensive to connect communities electrically.

In the Lower 48, there are two kinds of electric cooperatives. The closest to the consumer is distribution cooperatives. They do not generate power, but buy electricity to sell to members.

Numerous distribution cooperatives in a region form a generation and transmission cooperative to generate the power sold wholesale to distribution cooperative members. A spider web of transmission and distribution lines crisscrosses the Lower 48, connecting regions, cities and towns in one giant electric network.

In Alaska, electric cooperatives are vertically integrated. This means they generate, transmit and distribute electricity. The only "grid" in Alaska is the Railbelt, which connects five electric utilities from the Kenai Peninsula to the Interior.

This configuration poses a dilemma for Alaska's electric utilities. Whereas in the Lower 48 an electric utility connected to the larger grid can draw power from elsewhere if its own generators have a problem—except for most parts of Texas, which is not connected to the national grid—Alaska's electric utilities are on their own.

Over time, electric utilities in the state have integrated new technology and

time-tested know-how to provide safe and reliable power in all conditions.

In the northwest Arctic community of Kotzebue, Martin Shroyer, general manager of Kotzebue Electric Association, points to redundancy as a key approach to reliability.

"We have at least double or triple redundancy of diesel generation," he says.

The co-op generates power from diesel, solar and wind. By having multiple generators on-site, Kotzebue has enough backup if one or two generators go down.

Redundancies in Kotzebue don't stop at generation. Martin says the co-op also keeps enough diesel fuel in storage to operate for four or five months if the yearly fuel delivery is missed.

These are all considerations electric cooperatives operating microgrids, and disconnected from a wider system, must consider when planning their operations.

At Copper Valley Electric Association, an isolated electric system that serves the communities of Valdez and Glennallen and the larger Copper River Basin area, CEO Travis Million says reliability takes on a different challenge.

In the Lower 48, a cooperative serving the number of people CVEA serves would likely be a distribution cooperative. Since CVEA is not interconnected to another electric utility, the co-op is on its own to generate and distribute power.

"Here, we have five power plants to generate enough electricity for the system and to provide reliability because of how spread out we are," Travis says.

When a community is electrically isolated, the challenge is ensuring the electric utility is ready for all situations.

"We try to plan everything with an N-1 contingency," Travis says.

This method of planning accounts for normal operations with one major problem, establishing a plan for operations should something go wrong.

"Reliability is difficult in an islanded system," Travis says.

Reliability is also on the mind of Frank Perkins, vice president of power supply at Golden Valley Electric Association. The



co-op provides power to Fairbanks and other Interior communities.

Even the Railbelt grid, to which GVEA is connected, doesn't have the redundancy of the Lower 48's grid, Frank says.

GVEA is connected to the rest of the Railbelt by the Alaska Intertie. The intertie is a 170-mile long, 345-kilovolt transmission line between Willow and Healy owned by Alaska Energy Authority, the state energy agency.

"It's our only source from down south," Frank says, referring to the connection to electric utilities in South Central Alaska. "So you can't put the proverbial eggs in one basket."

One way GVEA planned for potential problems is its battery energy storage system, known as BESS. The BESS, built in 2003, can provide 25 megawatts of power for 15 minutes—enough time to start other generation resources to fill the power gap.

Unlike the Lower 48, where electric cooperatives are generally part of a large pool of other electric utilities, Alaska's power providers must be prepared to go it alone in the face of any obstacles.

"You need to have enough backup for the largest generator in case you lose your largest generator," Frank says.

Alaska has many unique aspects, and its electric system is one of them. The men and women who work to provide safe and reliable power each day overcome a range of challenges to keep the lights on and the state moving. ■



Kim Keller, Hazel Meyer, Raina Wells, Merrick McCumby, Dylan Passage, Alaina Hoffman, and Ann Norris Photo courtesy Seed Media

Sixth Grade Science Class Provides Sound Perspectives

The CVEA Community Foundation was a proud contributor to the 2021 Gilson Middle School (Valdez) Sound Perspectives: 6th Grade Perspectives on Life in an Oil Town project. This collaboration, led by sixth grade science teachers Kim Keller and Ann Norris, brought students together with local digital media professionals to learn film production through the principles of science.

With financial help from the CVEA Community Foundation, Regional Citizens' Advisory Council, Copper Valley Telecom, Valdez Native Tribe, Petro Star Refinery, and the Valdez City Schools Migrant Education program, as well as time donated by Seed Media, 51 sixth grade students were able to participate in a multiple-week course of study that began with the general topic of human impact on the environment and culminated with each student producing their own documentary film about the Exxon Valdez Oil Spill.

Over the course of three weeks, students read articles from

Voices of the Spill, completed laboratory projects, visited the Valdez Museum hands-on Exxon Valdez Oil Spill display and activities, researched topics of student choice, and wrote essays in the form of movie scripts. Students then received instruction from Seed Media, a local media and production company, in iMovie production through development of interview skills, camera skills, and video editing. Seed Media developed and has held the Seed Media Camp for the last 14 years; this was the third camp with Gilson Middle School.

Ultimately, students created individual documentaries, but to do this they had to draw conclusions about the Exxon Valdez Oil Spill based on their research and newly developed knowledge. Many students uncovered the importance of remaining diligent in oil spill prevention and mindful of the environment during use and transport of crude oil.

The project's completion was celebrated with a red carpet event for students, parents and invited guests. The top five Sound



Perspectives documentaries, created by students Raina Wells, Merrick McCumby, Hazel Meyer, Dylan Passage, and Alaina Hoffman, were showcased during the event. They can also be found, along with a highlight reel of the project, on YouTube by clicking the QR code below.

Sound Perspectives was an important project for the students and the community, and an opportunity to educate students about an event that not only affected the local environment, native populations and subsistence living, but also industries that employ many local people – oil industry, oil transport, US Coast Guard, oil spill response, tourism, and commercial fishing.

Students benefited from the project in many ways. They gained important digital skills that will be useful to them for future projects, personal confidence by completing a long-term project that was demanding of their talent, time, and creativity, and knowledge, skills, and confidence engaging with professionals and experts from outside of their school. Student participant Merrick McCumby provided, “I learned a lot of tips about creating an iMovie, how to edit clips, about A roll and B roll, and how to take better pictures. I got to interview a wildlife expert and learned how to do good interviews; asking open ended questions so I got more than one word answers.”

The Valdez Middle School sixth grade science teachers and students hope to continue this project in 2022. Merrick weighed in on this as well saying, “I liked this project, not just because I won an award, but because I learned a lot of things. I got to show off my talents and how much I learned. It’s an amazing project and I hope it continues.”

For additional information on this project, please contact Kim Keller at Gilson Middle School, PO Box 398, Valdez, AK 99686, 907-835-2244, or email kkeller@valdezcityschools.org. ■


Thanks to Ann Norris as the primary contributor to this story.



Top left, students practicing shooting movie clips
Top Right, Vince Kelly interview
Middle, the Seed Media team teaching interview and camera skills
Above left, students learn the art of interview with subject Mike Wells
Above right, use this QR code to access student documentaries and the project highlight reel

Photos courtesy Seed Media



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Important Dates

August

Community Foundation Contribution Request Deadline: The deadline to submit contribution request forms is 6 p.m. Thursday, August 19, 2021.

CVEA Member Tour: The 2021 Member Tour will be held in the Valdez District on Tuesday, August 24. Advanced registration is REQUIRED! **The deadline to register is 6 p.m., Tuesday, August 10.** Please call 907-835-7005 or email sscheidt@cvea.org.

CVEA Board Meeting: The August meeting of the Board of Directors is 12 p.m. Thursday, August 26, 2021, in Glennallen

September

CVEA Offices Closed: The CVEA offices will be closed Monday, September 6, 2021, for Labor Day

CVEA Board Meeting: The September meeting of the Board of Directors is cancelled

AK-34



Right-of-way clearing is an important part of Copper Valley Electric's goal of delivering safe, reliable, cost-effective electric service. Tree and brush clearing can help reduce the number and length of outages especially during severe weather conditions. The nice summer weather has caused a lot of growth. If you have a tree that is within 10 feet of a power line, please call CVEA at 822-3211 or 835-4301 for removal. For additional information on right-of-way clearing or electrical safety, visit www.cvea.org.

Construction Season Will Soon Come to an End

When summer comes to an end, so will construction season. If you are planning new construction or a service upgrade before the end of the season, don't wait. Please email construction@cvea.org or call your local office as soon as possible.

Pay Your Bill and Manage Your Account Online Using Smarthub

Are you looking for convenient ways to make your life easier? If so, log on to www.cvea.org. You can pay your CVEA monthly bill directly from your bank account or by using your debit card or Visa, Mastercard, or Discover card. You can also see your billing and payment history and track your monthly usage and cost as well as daily averages. This is a great way to manage your CVEA account. Just go to cvea.org and click the *Smarthub* button on the home page.