OtterTail
POWER COMPANY

YOUR ELECTRICITY

Fuel sources
Air emissions
Minnesota CIP
Components of electricity

2023
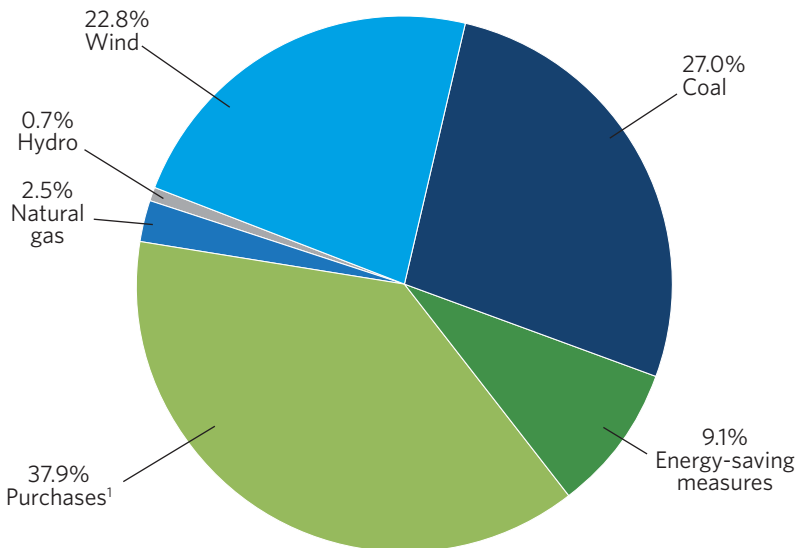
Use electricity wisely

Fuels used to generate electricity have different costs and air emissions

How are your electricity needs met?

The following chart shows the primary fuel sources used to produce electricity for Minnesota customers in 2022.

- 22.8% Wind
- 0.7% Hydro
- 2.5% Natural gas
- 27.0% Coal
- 9.1% Energy-saving measures
- 37.9% Purchases[1]

[1] We purchase electricity from various fuel sources (nuclear, coal, natural gas, etc.) throughout the region.

How do air emissions affect the environment?

Carbon dioxide (CO_2) is the principal greenhouse gas linked to global warming. **Nitrogen oxides** (NO_x) and **sulfur dioxide** (SO_2) contribute to acid rain; nitrogen oxides also contribute to smog. **Particulate matter** (sometimes called soot) contributes to asthma attacks and other respiratory illness. **Mercury** accumulates in some fish to levels exceeding current health department guidelines.
The Minnesota Pollution Control Agency is responsible for ensuring that emissions from utilities meet air-quality standards for nitrogen oxides, sulfur dioxide, and smog.
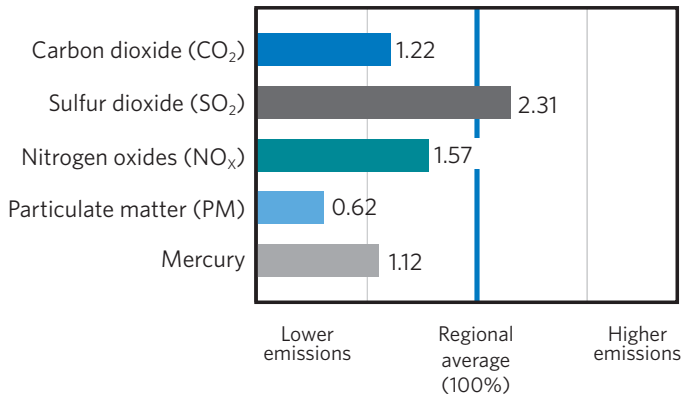
Wind and solar power produce none of these air emissions. Nuclear energy does not produce these air emissions but does produce both high- and low-level nuclear waste. Large hydropower may alter ecosystems and cultural resources, depending upon the location and design of the facility.

Statewide, electric utilities in Minnesota generate 34 percent of all sulfur dioxide pollution, 17 percent of all carbon dioxide pollution, 7.5 percent of all mercury pollution, and 4.7 percent of all nitrogen oxides pollution.[2]

[2] Pollution also is emitted from other sources, such as industrial and commercial sources, cars, trucks, and home heating.

What air emissions were produced in 2022?

Air emissions by fuel type (measured in pounds per 1,000 kilowatt-hours)

Fuel type	Carbon dioxide	Sulfur dioxide	Nitrogen oxides	Particulate matter-10	Mercury
Coal	2,509	4.95	2.66	0.03	0.000015
Fuel oil	3,909	1.14	13.85	1.41	0.000011
Purchases	973	0.775	0.701	0.0564	0.00000622
Natural gas	1,214	0.006	0.75	0.07	0.000000009

How did Otter Tail Power Company compare with the regional average in 2022?

The chart below shows how our company's air emissions compare with the regional average.

Emission	Value
Carbon dioxide (CO_2)	1.22
Sulfur dioxide (SO_2)	2.31
Nitrogen oxides (NO_X)	1.57
Particulate matter (PM)	0.62
Mercury	1.12

Lower emissions — Regional average (100%) — Higher emissions

Regional emission averages are developed by the Minnesota Pollution Control Agency (MPCA).

What can you do to help reduce air emissions?

You can participate in our company's energy-conservation programs. Minnesota customer participation in these programs over the last ten years reduced the need to produce 560,347,457 kilowatt-hours of electricity in 2022.

These annual savings resulted from both new and ongoing participation in our energy-conservation programs. By not producing this electricity, we avoided the following air emissions:

Air emission	Tons
Carbon dioxide	331,974
Sulfur dioxide	502
Nitrogen oxides	308
Particulate matter	10
Mercury	0.002

Minnesota CIP incentives

The Conservation Improvement Program (CIP) plays a key role in meeting Minnesota's future energy plan by helping customers use energy more efficiently and reduce the need for our investment in new generation facilities.

All customers

Heat pump: Install a qualified air-to-water, cold-climate, or geothermal heat pump and receive a $400- to $1,200-per ton rebate.

Appliance recycling: Get $50 and eight LED bulbs when you let us pickup and recycle your old, but still functioning, fridge or freezer that's wasting energy. Add a working, but inefficient, window air-conditioner or dehumidifier to the same appointment, and you'll earn even more.

Commercial and industrial customers

Rebates: Get rebates for installing qualifying high-efficiency refrigeration, lighting, motors, and adjustable-speed drives.

Custom grants: Get incentives for process improvements, cooking equipment, chillers, compressed-air system upgrades, and more.

CoolSavings: Receive a $6 bill credit per ton of connected air-conditioning load June through September when you allow us to cycle your system during peak periods. This applies to small commercial customers only.

Residential customers

Appliance rebates: Get a $50 rebate when you purchase a new standard sized ENERGY STAR®-rated refrigerator, freezer, clothes washer, or electric clothes dryer.

House Therapy: Use our home weatherization program for income-qualified households.

CoolSavings: Receive an $8.25 bill credit June through September when you allow us to cycle your central air conditioning during peak periods.

Lighting: Receive an in-store instant rebate on qualifying ENERGY STAR® LEDs at participating retailers.

Insulation: Get rebates for 20 percent of material and installation costs (up to $1,400) for air sealing and wall and attic insulation projects on existing electrically-heated structures.

Smart thermostats: Customers with primary electric heating or cooling receive a $35 to $150 rebate on a qualified Tier II or Tier III thermostat.

Programs may change at any time.

Energy-saving tip

Don't overload your washer. Always adjust the water level to fit load size. Overloaded washers don't clean clothes as effectively and they may need to be rewashed.

Find more energy-saving ideas at **otpco.com/tips**.

Components of electricity

Learning more about electricity

Most people don't know a lot about electricity even though it's an essential part of our everyday lives. That's why we'd like to help you understand this intangible commodity.

Here's some useful information about the cost of the components of electricity and how these components contribute to your total electric service bill.

How do utilities determine the price of electricity?

The cost of electricity has three main components: generation, transmission, and distribution. The costs associated with each of these components are allotted to the various customer groups (residential, small commercial, and large commercial) based on the electrical needs of each group. Then rates are calculated based upon this allotment of costs.

The table below illustrates the cost breakdowns by component for each customer group. These cost percentages vary based on our company's average investment to serve each customer group.

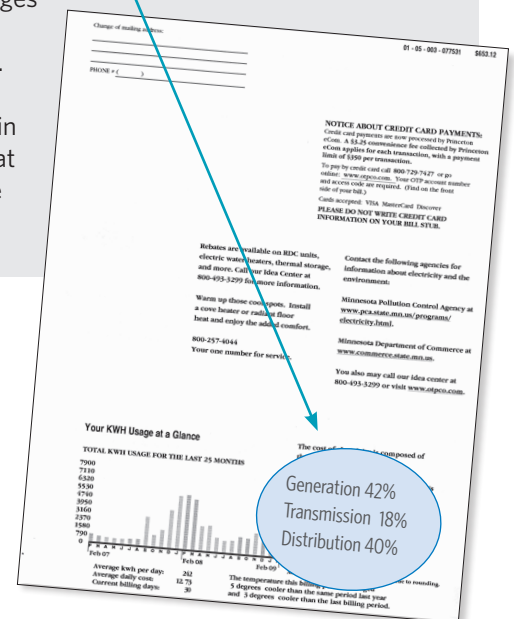| Components	Customer groups		
	Residential	**Small commercial**	**Large commercial**
Generation	42%	50%	74%
Transmission	18%	18%	20%
Distribution	40%	32%	6%
Total	100%	100%	100%

If you're a residential customer, for example, the following information will appear on the back of your monthly electric service statement:

The cost of electricity is composed of three main parts: generation, transmission, and distribution. For residential customers, each component's share of the total cost is:

Generation   42%
Transmission 18%
Distribution 40%

These percentages are residential group averages. Your individual use may result in percentages that vary from these averages.

Cost breakdowns are calculated and updated annually.

Where does electricity come from?

Generation

Various generation resources produce electricity, while transformers adjust the voltage.

Transmission

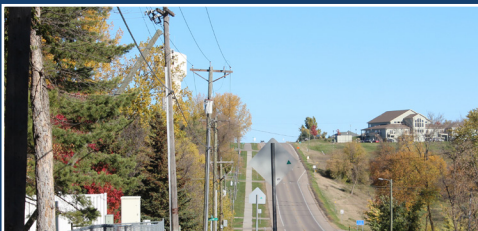*High-voltage power lines transport electricity to your community.*

Electricity flows through a substation to reduce the voltage to a usable level.

Distribution

Lower-voltage power lines transport the electricity to its final destination.

Electricity enters homes and businesses through a meter that measures how much is being used.

Tail*Winds* renewable wind energy

Emission-free wind-generated electricity is part of our company's resource mix. You can provide additional support for advancing wind power through our TailWinds program.

TailWinds subscriptions are available in 100-kilowatt-hour (kWh) blocks for a small additional premium of $3.39 or less per block. One 100-kWh block of TailWinds electricity is enough energy to power a typical residential refrigerator for a month.

Learn more about your electricity

Check out these resources:

otpco.com/WaysToSave or call 800-493-3299 for more information about our programs described in this brochure.

http://mn.gov/commerce or call 800-657-3710 for energy-saving tips from the Minnesota Department of Commerce.

www.pca.state.mn.us or call 800-657-3864 for information about air emissions from the Minnesota Pollution Control Agency.

Have questions?
Please call **800-257-4044** or **218-739-8877** or visit **otpco.com.**