

# Family Guide



## Dear Family,

The **Be Wattsmart, Begin at home** program assists teachers and families to learn about energy, discuss important energy topics and engage in energy efficiency actions now. Your child has participated in a presentation addressing natural resources, energy basics and energy efficiency. Your participation in this program will help you be Wattsmart, enhance energy efficiency in your home and help save money on your utility bills. Here are three simple ways that you can help:

- Review this **Be Wattsmart, Begin at home** booklet with your child.
- Assist your child with completing the activities on page 7.
- Have your child complete the **Home Energy Worksheet** (HEW) online at [thinkenergy.org/Wattsmart](http://thinkenergy.org/Wattsmart) or return it to your child's teacher.



Thank you for being Wattsmart and for your participation!

## What's inside?

This booklet is divided into three sections that will give you the power to:

1. **Learn** about sources of energy, how they get to your home and why they are important in your life.
2. **Discuss** Wattsmart energy efficiency tips that will help you use energy wisely and save money.
3. **Engage in energy efficiency** by determining how energy can be saved in your home through a simple audit activity and the HEW.

### About Rocky Mountain Power

Rocky Mountain Power is committed to the delivery of reliable electric service that's safe, low-cost and increasingly from clean, renewable resources. Serving more than 1 million customers in Utah, Idaho and Wyoming, the company is one of the lowest cost energy producers in the nation. Rocky Mountain Power is moving toward a sustainable energy future that includes increased use of solar, wind and other renewable resources; and provides customers with more choices to meet their energy needs.

### About the National Energy Foundation

The National Energy Foundation (NEF) has empowered millions of students and families to make energy wise choices for over four decades through its nonprofit mission to cultivate and promote an energy literate society. A community of volunteer classroom teachers and staff educators brings unique educational integrity to NEF's K - 12 energy education programs, with many programs resulting in national recognition like the award winning energy efficiency program, Think! Energy. Energy utilities and organizations partner with NEF to address critical topics such as efficiency, safety and electric transportation. NEF recognizes the importance of education in making informed energy decisions.

## I have the *power* to be Wattsmart.

- Being Wattsmart is all about taking steps to save energy, which in turn can help you save money.
- You have the power to become more energy efficient. Rocky Mountain Power can help with Wattsmart programs and incentives for homes and businesses. Saving energy also saves money and is good for the environment.



# I have the power to *learn*.

## The importance of energy:

Energy is the ability to do work or produce change. Virtually everything we do or use at work and home uses energy.

- Heating and cooling systems
- Computers
- Electronic equipment such as gaming and entertainment systems and TVs
- Charging electronic tablets, music players and cell phones
- Appliances
- Lights
- Food storage and preparation
- Security systems



## Where does energy come from?

Our energy comes from natural resources. There are two general categories of natural resources: nonrenewable and renewable. A nonrenewable resource is not capable of being renewed, replaced or takes a very long time to replace. A renewable resource is capable of being renewed or replaced.

**Primary natural resources** are used to convert energy into electricity. They can be either nonrenewable or renewable.

**Nonrenewable** examples are:



**Coal** is the most abundant nonrenewable energy source in the world. The United States has more coal reserves than any other country in the world, but the reserves are shrinking.



**Oil** can be both refined and unrefined. Refined oil is transformed into petroleum products and unrefined oil remains as crude oil.



**Natural Gas** is usually captured alongside oil deposits and is a major source for electrical generation.



**Uranium** is the fuel most widely used by nuclear plants. Nuclear energy is the energy inside the nucleus (core) of the atom of uranium.

**Renewable** examples are:



**Solar** is energy from the sun.



**Wind** is energy from the wind captured by a group of wind turbines (generators).



**Geothermal** is energy derived from the heat of the earth.



**Hydropower** is energy from water that generates electricity.

**Secondary energy resources** are created by using nonrenewable and renewable resources of energy.



**Electricity** is the most abundant **secondary energy resource** used. It is the flow of electrical power or charge. It occurs in nature as lightning and static electricity. A generator uses energy resources to create mechanical energy that is then converted into electrical energy.

## Energy efficiency

Energy efficiency is using less energy to accomplish the same amount of work. We call it being Wattsmart. There are many technologies we can use today that decrease the amount of energy needed to do work. Good examples are ENERGY STAR® products and LED lighting.

You can save even more money if you start thinking about using energy wisely. Try turning off the lights when you leave the room, take shorter showers or turn off your electronics when you are not using them.

## Using electricity



For more than 100 years, electricity has made our homes more comfortable and industries more productive. Today electricity is powering a world of electronics.

How is electricity generated? It begins with a fuel that heats water and turns it to steam. The steam drives the turbine that turns the generator motor to produce electricity.

How is electricity transmitted? Once the electricity is produced, the current flows from the generator to the power plant transformer where the voltage is increased to boost the flow of the electric current through the transmission lines. The transmission lines transport the electricity to Rocky Mountain Power's substations where the voltage is decreased. Power lines then carry the electricity from the substations to be used in our homes and businesses.

ELECTRICAL GENERATION		
Energy Source	Rocky Mountain Power (2021 Basic Fuel Mix)*	United States (U.S. EPA, 2021 data)
Natural Gas	18.4%	38%
Coal	46.8%	22%
Nuclear	0.00%	19%
Petroleum	0.00%	.5%
Other/misc.	9.2%	.3%
Renewables (total)	25.6%	20%
Hydropower	3.9%	6.3%
Wind	15.2%	9.2%
Biomass	0.4%	1.3%
Solar	5.8%	2.8%
Geothermal	0.3%	.4%

\*This information is based on Federal Energy Regulatory Commission Form 1 data. Rocky Mountain Power's "basic fuel mix" includes owned resources and purchases from third parties. It is based on energy production and not resource capability, capacity or delivered energy. All or some of the renewable energy attributes associated with wind, solar, biomass, geothermal and hydro facilities in the fuel mix may be: (a) used to comply with renewable portfolio standards or other regulatory requirements, (b) sold to third parties in the form of renewable energy credits and/or other environmental commodities or (c) not acquired. The 2020 fuel mix includes energy production associated with 157 megawatts of solar resources acquired through customer partnerships supported by a customer's purchase of 100% of renewable energy attributes generated by those solar resources.

# I have the power to *discuss* energy use to help save money and improve the environment.

Saving energy happens in two ways. First, you can use less energy through wise behaviors that conserve energy. Second, you can install energy-efficient products and appliances that use less energy to accomplish the same task. Let's talk about the following areas of your home that have the largest potential to save energy.

## Home heating and cooling

- Install a programmable thermostat or smart thermostat. Set your thermostat to 78 F or higher in the summer and 68 F or lower in the winter.
- Make sure your house is properly insulated. If you have less than 6 inches of insulation in your attic, you would benefit from adding more.
- You can save 10% or more on your energy bill by reducing the air leaks in your home with caulking and weather-stripping.
- To help your furnace run more efficiently and cost-effectively, keep your air filters clean.
- For windows with direct sunlight, close your blinds in the summer to keep the heat out. Open them on winter days to let the warmth in.
- Small room fans are an energy-efficient alternative to air-conditioning.
- For information about energy saving programs and cash incentives, visit [Wattsmart.com](http://Wattsmart.com).



## Water and water heating



- Check your faucets for leaks that can cost you hundreds of dollars each year.
- Install a water-efficient shower head and save money on your utility bills and more than 2,300 gallons of water per year.
- Set the water heater at 120 F.
- Install faucet aerators to decrease water use.

## Lighting

- Let the sun shine in. Use daylight and turn off lights.
- Replace your incandescent bulbs with LEDs (light-emitting diodes) and save about \$225 in energy costs each year. These bulbs use up to 90% less energy than incandescent bulbs and last much longer.
- Use lighting controls such as motion detectors and timers.
- Turn off lights when you leave the room.
- Always use the lowest wattage bulb that still gives you the light you need.
- Keep your light bulbs clean. It increases the amount of light from the bulb and reduces the need to turn on more lights.



## Electronics

- Turn off your computer and game consoles when not in use.
- Home electronics are made to turn on and off many times. Always turn them off to save energy.
- Electronics with the ENERGY STAR® label use as much as 50% less energy while providing the same performance.
- Beware of phantom loads which continue to draw electricity when they are plugged in but not in use. Examples are phone chargers, electronic games and cable boxes.
- Use advanced power strips for household electronics. One button will turn off multiple appliances, which conserves electricity.



## Refrigerators and freezers



- When looking to replace your old refrigerator, do so with an ENERGY STAR® model, which requires approximately 9% less energy than conventional models and provides energy savings without sacrificing the features you want.
- Clean door gaskets with warm water or a detergent that leaves no residue.

## Dishwashers

- Only run dishwashers when full and use the air-dry or no heat-dry settings.
- ENERGY STAR® dishwashers use less energy than the federal minimum standard for energy consumption.
- Try running your dishwasher before 3 p.m. or after 8 p.m. to avoid peak demand.

## Laundry

- Buy a moisture sensitive dryer that automatically shuts off when clothes are dry.
- Use a drying rack whenever possible.
- To avoid peak demand, wash and dry clothing before 3 p.m. or after 8 p.m. when possible.

## Cooking

- Use a microwave oven, toaster oven or slow cooker instead of a conventional oven.
- Use the right size pan for the stove top element.
- Cover pans with lids to keep heat from escaping.

## Reduce

- Use less.
- Purchase products with little packaging.

## Reuse

- Use something again.
- Reuse a box or a grocery bag.

## Recycle

- Make something into another new item.
- Participate in the recycling programs in your community.



I have the power to *engage* in energy efficiency.

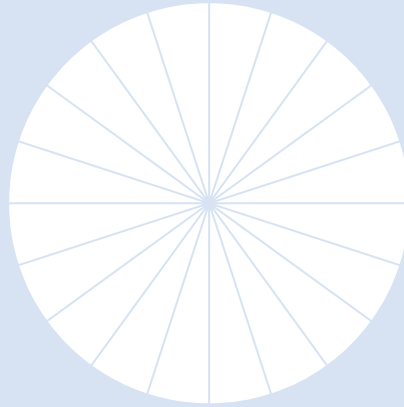
### Parents, be Wattsmart and watch the energy savings add up.

An individual with a combined electric and heating fuel bill of \$2,500 per year could save 20% or \$42/month by using these and other energy efficiency tips. That is like getting a pay raise without having to work harder or longer.

### Your Home's Electricity Use

Most families in the U.S. use about 54% of their electricity for lighting and to power appliances and electronics, 32% to heat and cool their homes and 14% of their energy to heat water.

Choose three colors and create a pie chart with the percentages above. You may need to round each number. Each segment on the chart shows 5%.



- Lighting, Appliances and Electronics
- Heating Water
- Heating and Cooling

(Source: [eia.gov/todayinenergy/detail.php?id=36412](http://eia.gov/todayinenergy/detail.php?id=36412), accessed April 2022)



### Your Home's Electricity Use

Let's go on an energy scavenger hunt! Search for each item in your home.

I FOUND IT HERE.

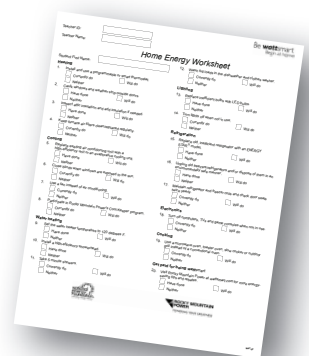
 Ceiling Fan	 Water-efficient Shower Head
 Door Sweep Under Exterior Doors	 Caulk, Foam Spray or Weather-stripping
 Dishes or Clothes Air-drying	

## I have the *power* to be Wattsmart.

Together with your parent(s)/guardian(s), complete the separate HEW. Return the completed worksheet to your teacher or submit it online at [thinkenergy.org/Wattsmart](http://thinkenergy.org/Wattsmart) to receive your Wattsmart nightlight. You may find you are already practicing ways to be energy efficient but there is always room to do more.

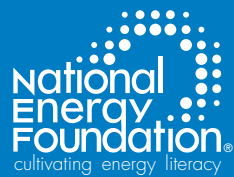
Challenge yourself and your family to commit to practice energy efficiency by making wise energy choices and being Wattsmart. You will not only help extend the life of our natural resources, but save money too!

For other energy saving ideas and incentives, visit [Wattsmart.com](http://Wattsmart.com). Congratulations to you and your family for making a difference.



# WATTSMART®

BEGIN AT HOME



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