

# Ten interesting things about energy

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Water rushes through a dam in Georgia. Inside the dam is a hydropower plant. It uses the water's energy to generate electricity. Photo by: U.S. Army Corps of Engineers.

Energy is the ability to do work. Another word for energy is "power." It is what makes things move, work and grow. Energy powers the lights in our schools and homes and fuels our cars and buses.

A lot of the energy we rely on each day comes from materials dug up from deep in the earth, such as coal and oil. These are nonrenewable sources of energy. This means once we use all of them, they are gone forever.

Today, scientists and other experts are learning more about renewable sources of energy, such as wind, water and sunlight.

Here are 10 fascinating facts about energy.

## **Always Turn Off Lights When You Leave The Room?**

You should always turn off the light when you leave a room because it saves energy. But if you have special light bulbs called CFLs, you don't always have to turn them off. Turning these bulbs on and off too many times shortens their lifespans. You should turn them off if you'll be gone for 15 minutes or more. If you'll be right back, you can leave them on.

## **Coal Is King, But Not Everywhere**

In the United States, coal makes almost half of our electricity. First, coal is burned in a power plant. The heat is used to boil water. Then steam moves a turbine and generates electricity.



But burning coal is harmful to the planet. Coal plants create carbon dioxide, which is the main cause of global warming. Global warming is the rise of Earth's temperature. This changes our planet forever and is harmful to animals, plants and people, too.

In West Virginia, more than 90 percent of the electricity is generated from coal. In California, only 1 percent of electricity is generated from coal.

## **Daylight Saving Time Is Good For The Planet**

In the spring, many places move the times on their clocks forward one hour. This is moving an hour of daylight toward the end of the day. This saves electricity -- more than you might think. Scientists did the math one year. Daylight saving time saved enough energy to power 100,000 houses for a whole year.

## **Every State Uses Hydropower For Electricity**

Rivers are powerful, and their flow can be used to make electricity. Today, every state uses hydropower, which is electricity from the flow of water. In Washington state, 70 percent of the electricity comes from hydropower.

## **The United States Is A World Leader In Wind**



Wind has been a source of renewable energy since the invention of the windmill thousands of years ago. Today's wind power is made from big wind turbines, some of which are more than 300 feet tall with 8,000 parts. The United States uses wind to generate lots of electricity. So do China, Germany, Spain and other countries.

## The First Solar-Powered Satellite Is Still In Orbit

The sun gives us a ton of energy. Every day, it gives us 10,000 times the world's total energy use. That means solar power is a great source of energy. The space industry has used solar power since the 1960s. A spacecraft called Vanguard 1 was the first to be powered by solar energy. This satellite is still in orbit around Earth today.

## We Can Get Energy From Trash

All that waste we flush down the toilet and put in our trashcans doesn't have to go to, well, waste! When waste breaks down, it can release methane, which is a natural gas. We can trap that gas and use it to make electricity. This is also helpful because methane is a greenhouse gas, like carbon dioxide. If we use it, we keep it out of the atmosphere. This is great for the environment.

## Electric Vehicles Are Great, But Not Everywhere



Cars that run on electricity instead of gas don't release pollution. But when you charge the car at home, where does that electricity come from? If the electricity comes from renewable sources, electric cars are great for the environment. But if you charge a car with electricity made from coal, it's not as good. The car does not pollute, but the power plant that makes energy from coal does.

### **We Need Better Batteries**

To use solar power and wind power, we need to be able to store a lot of energy. This is how we can still have electricity on cloudy days with no wind or direct sunlight. Scientists are working on batteries that last longer and hold more energy.

### **We Measure Energy In BTUs**

Just as we might use feet or meters to talk about length, we need a unit for energy. Energy is measured in BTUs, which stands for British Thermal Unit. It's the amount of energy needed to raise the temperature of a pound of water by one degree Fahrenheit.

## Quiz

- 1 Which of the following are two main ideas from the article?
  - (A) People need energy to power their homes and their transportation; it is important to turn off lights before leaving a room to save energy.
  - (B) Most of the energy we use today comes from nonrenewable sources; scientists are trying to find new ways to use sources of renewable energy.
  - (C) The United States uses coal to power almost half of the country's electricity; burning coal releases a gas that causes global warming.
  - (D) Wind is a renewable resource that has been used for thousands of years; the sun is a powerful energy source that powers spacecraft.
  
- 2 What is the MAIN idea of the section "Daylight Saving Time Is Good For The Planet"?
  - (A) Changing the clocks saves energy.
  - (B) Daylight saving time is in the spring.
  - (C) There is more light in the spring.
  - (D) You can power 100,000 houses in the spring.
  
- 3 Why does the author include the section "We Can Get Energy From Trash"?
  - (A) to show that humans create too much waste that is harmful
  - (B) to show that methane is a gas that causes global warming
  - (C) to show that the atmosphere is affected by methane and carbon dioxide
  - (D) to show another way that we can get energy and also help the planet
  
- 4 What is the connection between the section "Coal Is King, But Not Everywhere" and the section "Electrical Vehicles Are Great, But Not Everywhere"?
  - (A) Both explain why some states get almost all of their energy from coal.
  - (B) Both state that burning coal causes pollution that is harmful to our planet.
  - (C) Both describe ways in which electricity is important for making cars run.
  - (D) Both give many examples of other types of energy sources besides coal.