

The Sun and the Wind: Clean Energy for Everyone

Every day, people need power for homes, schools, and factories. For many years, most of that power came from **fossil fuels**, like coal and oil. Burning fossil fuels creates **pollution** that can **harm** the air, water, and land. Today, more countries are looking for a cleaner **source** of power. Two of the best options are the sun and the wind. Both are natural, and both will never disappear. Governments and scientists want to use these resources to **protect** the planet for future generations. Clean energy is not a new idea, but interest in it is growing faster than ever before.

Solar energy starts with a special **panel**. These panels are usually placed on rooftops or in open fields. Inside each panel are small cells that **absorb** light from the sun. Once the cells capture that light, they **convert** it into a form we can use. This process depends on strong **sunlight**, so solar panels work best in bright, open places. The energy created can be turned into **electricity** for homes and businesses. On a sunny day, a single house can make more power than it needs. Extra power can even be sent back to the local grid for other people to use.

Wind energy works in a different way. A wind **turbine** looks like a large fan standing high in the air. Each turbine has three long **blades** that catch the moving air. When wind pushes against the blades, they begin to **spin**. That spinning motion turns a machine inside the turbine, which helps **generate** electricity. A steady **breeze** is enough to keep the blades turning for hours. Some wind farms have hundreds of turbines working together in open fields or out at sea. Together, they can power entire towns without burning any fuel at all.

Not every place is equally good for solar or wind power. A sunny **desert** with clear skies is often perfect for solar panels. A windy **coast**, on the other hand, is often perfect for turbines. Engineers study the **climate** of a place before building a new project there. They also look closely at the surrounding **region** to see how much sun or wind it usually gets. A location with strong, steady wind or bright sunshine almost every day is **ideal** for clean energy. Choosing the right spot can make a huge difference in how much power a project produces each year.

Clean energy offers many important **benefits**. First, it can **reduce** the amount of pollution released into the air. Second, using less coal and oil means fewer harmful **emissions** enter our atmosphere. Third, solar and wind power come from **renewable** sources, so we will never run out of them. Finally, cleaner air can **improve** public health, especially for people who live near cities. Around the world, more schools, hospitals, and homes are adding solar panels or supporting nearby wind farms. Every small change adds up, helping communities move toward a healthier and more hopeful future for everyone.

Of course, clean energy still faces some real challenges. Sunlight and wind are not always available, so power must be **stored** for later use. A large **battery** can hold extra electricity for cloudy or calm days. Many communities still **depend** on fossil fuels as a **backup** when solar or wind power runs low. Building new solar and wind projects can also be **expensive** at first, even though they save money over time. Engineers are working hard to build better batteries and lower costs. As technology improves, clean energy is becoming easier and cheaper for more people to use.

Beyond the Headlines

Here is something **amazing**: some solar panels actually **float** on water! In parts of Asia, huge floating solar farms spread across lakes and reservoirs, saving valuable land for farming. Meanwhile, wind turbine blades keep getting bigger. Some blades are so **giant** that a single one is longer than a soccer field! One of the largest wind farms on Earth can **cover** an area larger than a small country. Engineers keep breaking **records** as they build bigger, stronger, and smarter machines. Clean energy technology is growing faster than most people realize, and the future promises even bigger surprises.

Vocabulary

Paragraph 1

fossil fuels (n. phrase)	(n. phrase) Coal, oil, and natural gas, formed from ancient plants and animals. <i>"Cars and factories often burn fossil fuels for power."</i>
pollution (n.)	(n.) Dirty or harmful substances that damage the air, water, or land. <i>"Pollution from cars can make city air unhealthy."</i>
harm (v.)	(v.) To hurt or cause damage to someone or something. <i>"Loud noise can harm your ears over time."</i>
source (n.)	(n.) A place or thing that something comes from. <i>"The sun is a natural source of light and heat."</i>
protect (v.)	(v.) To keep someone or something safe from harm. <i>"Recycling helps protect the environment."</i>

Paragraph 2

panel (n.)	(n.) A flat piece of material used for a special purpose. <i>"The workers placed a solar panel on the roof."</i>
absorb (v.)	(v.) To take in or soak up something, like light or liquid. <i>"Dark colors absorb more heat from the sun."</i>
convert (v.)	(v.) To change something from one form into another. <i>"Machines can convert sunlight into electricity."</i>
sunlight (n.)	(n.) The light that comes from the sun. <i>"Plants need sunlight to grow."</i>
electricity (n.)	(n.) A form of energy used to power lights, machines, and other devices. <i>"The city uses electricity to power streetlights at night."</i>

Paragraph 3

turbine (n.)	(n.) A machine with blades that spins to produce power. <i>"The wind turbine stood tall in the open field."</i>
blades (n.)	(n.) The long, flat parts of a machine that move through air or water. <i>"The turbine's blades turned slowly in the wind."</i>
spin (v.)	(v.) To turn around quickly and smoothly. <i>"The wheels began to spin faster and faster."</i>
generate (v.)	(v.) To produce or create something, like power or electricity. <i>"Wind farms generate electricity for nearby towns."</i>
breeze (n.)	(n.) A light, gentle wind. <i>"A cool breeze moved through the trees."</i>

Paragraph 4

desert (n.)	(n.) A dry area of land that gets very little rain. <i>"The desert stays hot and sunny most of the year."</i>
coast (n.)	(n.) The land that is next to the ocean or sea. <i>"Strong winds often blow along the coast."</i>

climate (n.)	(n.) The usual weather pattern of a place over a long time. <i>“Scientists study the climate before building new energy projects.”</i>
region (n.)	(n.) A large area of land with certain features. <i>“This region gets plenty of sunshine every summer.”</i>
ideal (adj.)	(adj.) Perfect or the best possible for a certain purpose. <i>“A sunny, open field is ideal for solar panels.”</i>

Paragraph 5

benefits (n.)	(n.) Good or helpful results from something. <i>“Clean energy offers many benefits for the planet.”</i>
reduce (v.)	(v.) To make something smaller or less in amount. <i>“Solar power can reduce the need for coal and oil.”</i>
emissions (n.)	(n.) Gases or substances released into the air, often by burning fuel. <i>“Cars and factories release harmful emissions into the sky.”</i>
renewable (adj.)	(adj.) Able to be used again and again without running out. <i>“Wind and sunlight are both renewable sources of energy.”</i>
improve (v.)	(v.) To make something better. <i>“Cleaner air can improve people’s health.”</i>

Paragraph 6

stored (v.)	(v.) Kept or saved for later use. <i>“Extra electricity can be stored in a battery.”</i>
battery (n.)	(n.) A device that holds and provides electric power. <i>“A large battery can power a home during a storm.”</i>
depend (v.)	(v.) To need or rely on someone or something. <i>“Many towns still depend on fossil fuels for backup power.”</i>
backup (n.)	(n.) Something kept ready to use if the main plan fails. <i>“The city uses coal power as a backup on cloudy days.”</i>
expensive (adj.)	(adj.) Costing a lot of money. <i>“New solar panels can be expensive at first.”</i>

Beyond the Headlines

amazing (adj.)	(adj.) Causing great surprise or wonder. <i>“It is amazing how fast clean energy technology is growing.”</i>
float (v.)	(v.) To rest or move gently on top of water. <i>“Some solar panels float on lakes and reservoirs.”</i>
giant (adj.)	(adj.) Extremely large in size. <i>“The giant wind turbine blade was longer than a soccer field.”</i>
cover (v.)	(v.) To spread over or across an area. <i>“The wind farm can cover an area larger than a small country.”</i>
records (n.)	(n.) The best or highest results ever achieved. <i>“Engineers keep breaking records with bigger, stronger machines.”</i>

Language Review

Exercise A — True or False

Read each statement. Write True or False on the line.

1. Wind turbines usually have three blades. _____
2. Solar panels work best in dark, cloudy places. _____
3. A desert with clear skies is often ideal for solar power. _____
4. Clean energy always produces harmful emissions. _____
5. Wind farms can only be built on land, never at sea. _____
6. Most power used to come from fossil fuels like coal and oil. _____
7. New solar and wind projects are always free to build. _____
8. Batteries can store extra electricity for cloudy or calm days. _____

Exercise B — Matching

Match each word in Column A with its meaning in Column B. Write the correct letter.

Column A	Column B
1. turbine	a. gases or substances released into the air
2. panel	b. land next to the ocean
3. breeze	c. a machine with blades that turns wind into power
4. desert	d. a flat object that captures sunlight
5. coast	e. able to be used again without running out
6. battery	f. a light, gentle wind
7. emissions	g. a dry area with very little rain
8. renewable	h. a device that stores electric power

Exercise C — Multiple Choice

Choose the best answer (a, b, c, or d) for each question.

1. What did most power come from in the past, according to the article?
 - a. Solar panels
 - b. Wind turbines
 - c. Fossil fuels
 - d. Batteries
2. What do solar panel cells do to sunlight?

- a. Absorb it
 - b. Block it
 - c. Ignore it
 - d. Store it only
3. How many blades does a typical wind turbine have?
- a. Two
 - b. Four
 - c. Five
 - d. Three
4. Where does the article say wind farms can be built?
- a. Only underground
 - b. In open fields or at sea
 - c. Only inside buildings
 - d. Only in cities
5. What kind of place is often ideal for solar power?
- a. A sunny desert with clear skies
 - b. A dark cave
 - c. A cold, cloudy forest
 - d. A snowy mountain
6. According to the article, what is one benefit of clean energy?
- a. It always costs more money
 - b. It creates more pollution
 - c. It never works on cloudy days
 - d. It reduces harmful emissions
7. What can store extra electricity for cloudy or calm days?
- a. A blade
 - b. A desert
 - c. A battery
 - d. A coast
8. According to Beyond the Headlines, where do floating solar farms exist?
- a. In outer space
 - b. On lakes and reservoirs
 - c. Under the ocean floor
 - d. In dry deserts only

Exercise D — Discussion Questions

Talk about these questions with a partner or in a small group.

1. Do you think your city or country uses solar or wind power? Why or why not?

2. Would you like to live near a wind farm? Why or why not?
3. What are some ways your family could save energy at home?
4. Why do you think clean energy is important for the future?
5. If you could choose, would you rather use solar power or wind power? Why?