

Solar Energy

by Barbara Kramer

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Energy keeps us running. We use it to light, heat, and cool our homes. It powers our televisions, microwave ovens, and computers. We depend on energy every day, and our need for it is always growing.

Most of the energy used in the United States comes from burning **fossil fuels** such as coal, oil, or natural gas. Fossil fuels come from the remains of plants and animals that lived millions of years ago. Once those fuels have been used, they are gone and cannot be replaced. As supplies of fossil fuels shrink, it is important to look for **renewable** sources of energy. These energy sources can be replaced naturally.



Imagine the amount of energy required to light up a big city at night.

Amplify Atlas™

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Level Z

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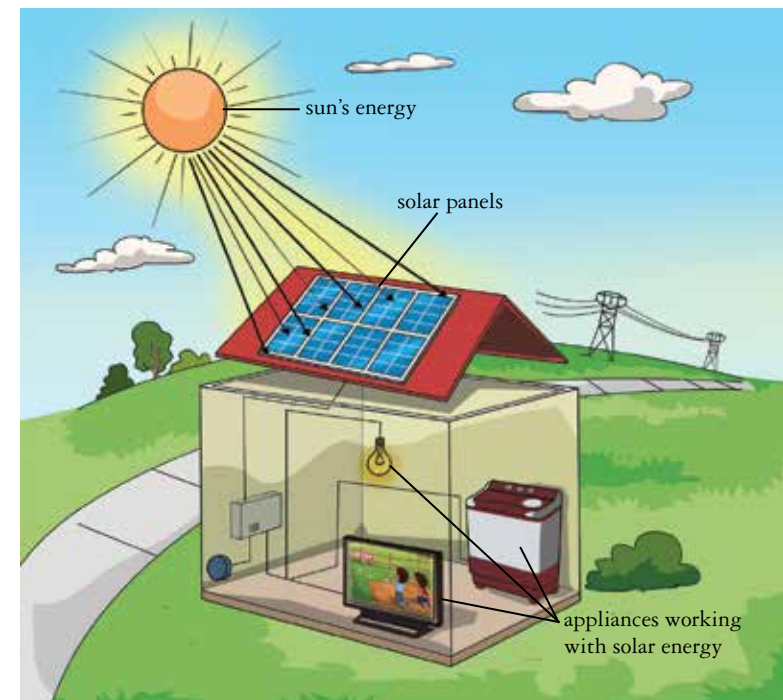
Solar panels on this roof collect the sun's rays to create electricity.

Solar energy, or energy that comes from the sun, is one example of a renewable energy source. As long as the sun is in the sky, its energy is available, and it is always being replaced. Some homeowners and businesses already use solar energy to light and heat homes, offices, and factories but that number needs to grow.

There are two main reasons why solar energy has not become more popular. One of them is the high cost. The sun's rays are free, but collecting them and turning them into energy we can use is not. One way to absorb the sun's rays is with solar **panels**, which are large blocks that look like glass windows. These can be placed on roofs or in open spaces such as parking lots and fields. Unfortunately, the main **substance** in the cells that make up solar panels is expensive. There is also the cost of making and installing the panels and the frame that holds them.

Another reason more people are not turning to solar energy is because it only works when the sun is shining. It is not available at night, and there is much less of it during cloudy or foggy days. Even people who have solar energy must rely on electricity made by burning fossil fuels when sunlight is not available.

Solar Energy in Action



Researchers are already working to solve these problems. New solar panels are smaller and produce more electricity than earlier models, and scientists have also created thin, flexible solar sheets that use less expensive materials. The solar sheets can be woven into a building's roofing materials. It might one day be possible to spread the sheets across whole parking lots or even highways, turning them into large solar panels. Researchers are also looking for ways to store energy from the sun to be used during times when sunlight is not available.

These developments are a start, but we must do more, because the sun has such great possibilities for meeting our future energy needs. Just one hour of sunshine over the surface of Earth gives enough energy to supply the world's needs for one whole year, but we are using only a fraction of that power now. We need to continue to work on new ideas that will make solar energy less expensive and more available to everyone. Our future depends on it.

Glossary

fossil fuels (n.): fuels, such as coal, oil, and natural gas, that come from the remains of plants and animals that died millions of years ago

panels (n.): large, flat pieces of material used to build something

renewable (adj.): something that can be replaced

substance (n.): a certain kind of material

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Informational

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