

Reading

- A** Take the quiz and compare ideas with a partner. Then scan the reading to check your answers.

SOLAR ENERGY Quiz

- | | | |
|---|---|---|
| 1. The sun generates more energy than humans can use. | T | F |
| 2. Worldwide, most electricity is produced using solar energy. | T | F |
| 3. Solar energy generates a lot of pollution. | T | F |
| 4. Solar energy can only be used in places that get a lot of sunlight all year. | T | F |

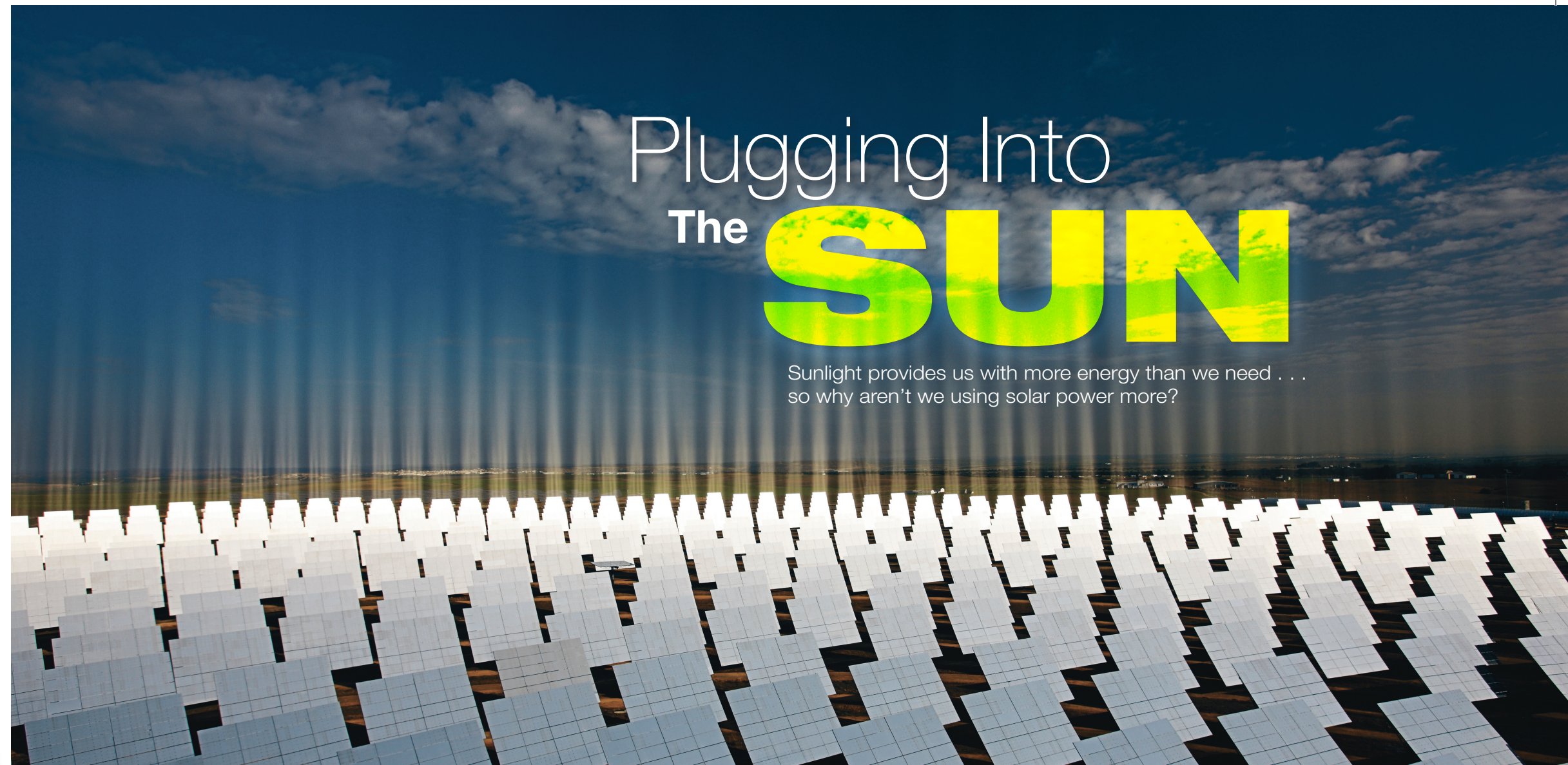
- B** Why aren't we using solar power more? List some of your ideas. Then read the passage to check your answers.
- C** Read the passage again. On a separate piece of paper, list at least two advantages and two disadvantages of each method of gathering solar energy (steam generation and PV panels).

Reading Strategy

Identifying key details The article compares two ways of gathering solar energy. As you read, watch for keywords like *advantage*, *disadvantage*, *drawback*, *however*, *(al)though*, and *on the other hand* to help you identify key details.

- D** Use your answers from Exercise C to act out this role-play.

- Student A:** Imagine that you work for a solar energy company. You need to persuade the mayor of your city to invest more money in solar power. Give two or three reasons why this is a good idea.
Student B: Listen to your partner's argument and ask at least two questions about the disadvantages. Did your partner convince you to invest more money?
- Switch roles and practice again.



Plugging Into The SUN

Sunlight provides us with more energy than we need . . . so why aren't we using solar power more?

1 Our sun is the most powerful source of energy on Earth. Worldwide, humans use about 16 terawatts¹ of energy a year. The sun produces 120,000 terawatts annually—much more than we consume. Today, though, solar power is used very little; it generates less than one-tenth of 1 percent (0.1%) of the world's electricity each year.

Why don't we use solar power more? To answer this question, it's important to understand the two main ways we gather energy from the sun. The first way is to place flat, computer-guided mirrors in a field. The mirrors focus sunlight onto a receiver on a tower and this produces steam. The steam is then used to produce electricity. The second way of gathering energy from the sun is to use PV (photovoltaic) panels. The panels collect sunlight and convert² it into electricity. Most people have seen PV panels on buildings; small ones are also on some handheld calculators.

20 Both ways of gathering solar energy have their advantages. Unlike oil or coal, solar power

generates "clean" energy that produces very little pollution. However, the steam-generation method³ is more efficient than the PV panel method because it converts more sunlight into electricity. The steam generation method requires a lot of open space, though (for example, a big field). Long cables are also needed to transmit⁴ the power from an open space to the city, which can be expensive. PV panels, on the other hand, can easily be placed on rooftops where the power is needed. There is no extra cost to transmit the energy in this way.

Both methods have a similar disadvantage: they are unable to produce enough energy when it's cloudy or dark. Engineers are working on this problem. For now, though, people who use PV panels as their main source of energy must rely on batteries at night or when the weather is bad.

40 One of solar energy's biggest drawbacks is cost. PV panels are still very expensive to buy. In some places, though, people are earning their money

back. Wolfgang Schnürer lives in Freiburg, Germany. He powers his home using solar energy. In the winter, the panels on the roof of Schnürer's apartment do not produce enough energy. But on a sunny day in May, the panels can generate *more* energy than he and his family consume. When this happens, Schnürer can sell the extra power back to the energy company in his city. In 2008, he made 2,500 euros (\$3,700) from the extra power his solar panels generated.

50 Despite the challenges, solar energy use is increasing worldwide. In Germany, Japan, and the United States, governments are trying to make solar power more affordable for everyone. And as people find that they can save money—and even make money—using solar power, the number of countries using this energy source will surely grow.

¹watt the standard measurement of electrical power

²convert change

³method a way of doing something

⁴transmit send from one place to another place