Reading

1 Read the text. What advantages do organic solar cells have?

Solar power — the future



Scientists around the world are doing their best to ensure that they will work differently too. Cars which use more sustainable energy are gradually replacing traditional petrol or diesel-powered cars. These are electric cars, which use electric energy stored in rechargeable batteries, or hybrids, which use a combination of petrol or diesel with an electric motor.

However, there's an alternative which is even more appealing from an environmental point of view. Solar energy — using the heat of the sun — is already used to heat buildings and provide electricity. Researchers are now trying to apply this technology to vehicles.

A solar vehicle is an electric vehicle which takes all, or most, of its power from solar energy. The car has photovoltaic (PV) cells in solar panels, which are made of silicon. These convert the sun's energy into electrical energy. For instance, Ford are designing a car with a solar panel system on the roof, which will soon be able to draw the same amount of power as a four-hour charge from a battery.

Other options include replacing a car's sunroof with a panel which has organic solar cells within it. This is a clever idea and may mean that existing cars can convert to solar energy.

Organic solar cells don't work quite as well as silicon cells, but they have the advantage of being more flexible. They are also transparent, so you can see through them.

Some scientists are also doing research into solar paint. It's possible that cars could be painted with material which converts solar energy into electrical energy.

The Abu Dhabi Solar Challenge, part of Abu Dhabi Sustainability Week, aims to promote research in this area of technology. This is a race of 1200 kilometres over four days. Teams from universities around the world take part, and they have to design, build and drive solar-powered cars. The first challenge was held in 2015 and the team from the UAE, whose name was Yas, came second.

Vocabulary

3 Read the text again. Match the words to the meanings.

1 rechargeable	a energy from the sun
2 hybrid	b a section of a car roof which you can remove to let light in
3 solar energy	c describing a battery that can be refilled with electric power
4 transparent	d a chemical element, found in rocks and sand, and used in making glass and transistors
5 silicon	e describing something that can move and bend
6 sunroof	f describing something you can see through
7 flexible	g a competition to design and build devices powered by solar energy
8 solar challenge	h describing something which is made by combining two or more different things

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