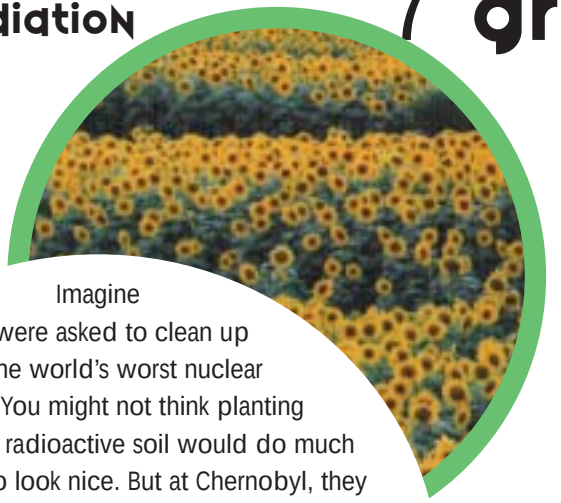
7 green wonders OF

1. bioremediation



Imagine you were asked to clean up after the world's worst nuclear accident. You might not think planting flowers on the radioactive soil would do much good, except to look nice. But at Chernobyl, they have been doing precisely that: using sunflowers to clean up the contamination. It's a growing practice, as you might put it. Poplar and willow trees are being used to clear petrol from old gas stations from groundwater. And geraniums are particularly good at taking up polluting heavy metals like nickel, copper and chromium from contaminated soil: the metal can then be recovered to use again.

2. solar power

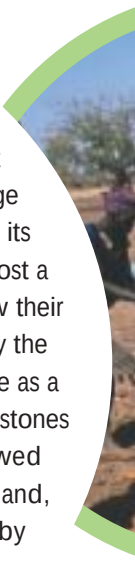
Every year the equivalent of some 90,000 billion tonnes of coal lands on the surface of the Earth as solar energy. Capturing and using just one twentieth of 1 per cent of it could give everyone on Earth a good standard of living. It is distributed free by nature – without oil tankers, pipelines or electricity grids – and most goes to the world's poorest areas. Increasingly we are beginning to capture it with solar cells, originally developed for the space programme. The number of solar cells in the world has been doubling every two years, and their cost has been tumbling. They still only provide less than 1 per cent of the world's electricity, but with more research and development for this clean form of energy, it is likely to power the future.

3. enviro tax

We are used to governments taxing goods. How about them taxing 'bads', like environmental damage, instead. Green taxes are growing in popularity. Income tax levies a toll on jobs – good things, which we want to increase. The new taxes penalize pollution and wasteful energy use, which we should reduce. So switching from one to the other both makes the environment cleaner and increases employment. Some European countries have now begun to do this. Finland and the United Kingdom, for example, have cut taxes on jobs to penalize dumping rubbish; Germany, Italy and Spain to tax fuel; Sweden and France to crack down on pollution; and Denmark to tax pesticides. It is all fairly small scale so far. But it is likely to increase as politicians realize that these may be the seemingly impossible – popular taxes.

4. on the level

How could a piece of transparent hosepipe, filled with water and tied between two sticks, save a whole people? It happened in Burkina Faso, on the southern edge of the Sahara. Twenty years ago many villages in its Yatenga region faced disaster because they had lost a third to half of the precious soil in which they grow their crops, washed away by the rain. Then, helped by the charity Oxfam, the local farmers used the hosepipe as a crude spirit level to allow them to lay level lines of stones along the contours of their fields. The stones slowed down the speed of the rainwater running off the land, and held back the soil it carried. Harvests rose by 40 per cent, the technique spread to 400 villages, and the area even began exporting surplus food.



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THE WORLD

5. poverty-fighting banks

Would you lend money to a very poor person? The banks won't; they don't think they'll get their money back. But so called 'microcredit' schemes, providing loans to some of the Earth's poorest people, are beating back destitution all over the world. The idea started when a Bangladeshi economist, Muhammed Yunus, lent 62 cents each to 42 craftsmen, so that they could buy materials in advance, and sell the finished products when they were offered a good price. It worked so well that he went on to found the Grameen Bank, which now serves 40,000 villages in his country, helping people buy equipment and start businesses. It has lifted a third of its clients out of poverty. By 1999 over 23 million people worldwide had received loans from similar 'banks': the aim is to reach 100 million by 2005.

6. Hydrogen cars

His great-great-grandfather, Henry Ford, brought the mass-produced petrol-driven car to the market in 1903. Now William Clay Ford, the present CEO of the Ford Motor Company, says that cars fuelled by hydrogen 'will finally end its 100-year reign'. Big car companies including Toyota, BMW, DaimlerChrysler, Honda, General Motors and Nissan are all developing hydrogen cars that do not cause pollution, or add to global warming; they only emit water. DaimlerChrysler estimates that one in every four new cars will be driven by the gas by 2020; BMW puts it even higher at one in three. But to be truly non-polluting, the hydrogen must be made using renewable fuels, not oil, gas or coal.

7. greenfreeze

It is, you could say, a cool way to save the planet. Eleven years ago, the environmental group Greenpeace – usually a critic of industry – went into business itself, promoting environmentally friendly fridges. Until then, fridges were all cooled by chemicals that attack the Earth's ozone layer, or help cause global warming. Instead the group backed a new invention, using non-polluting gases, which they called Greenfreeze. Immediately big fridge-making companies attacked, trying to stop the new development. But the public backed it, and soon the companies had to start making them themselves. Now there are 80 million Greenfreeze fridges humming away around the world. The whole of German industry has converted to the technology, and more than half the 10 million-plus fridges sold in China each year are Greenfreeze ones.