Future Energy

WHERE WILL WE GET OUR ENERGY?

It's a bright sunny day. I put the last solar panel on my roof, I switch it on, and I have electricity. I'm free! Now, I won't have to worry about electric bills or oil prices, and I won't feel guilty about pollution. But what's this? A cloud passes in front of the sun and my lights go out! I'm going to have to start my generator and burn some more gasoline. This isn't going to be easy after all.

We are going to have a big energy problem in the future. Today, the world uses 320 billion kilowatt-hours of energy a day. That's equal to about 22 light bulbs burning nonstop for every person on the planet. By 2100 we will use three times as much energy. How will we get the energy? At the moment, we get most of our energy from fossil fuels: coal, oil, and natural gas. But fossil fuels are dirty and they will not last forever. In the long term, we will have to find **alternatives**. We will need **renewable** energy.

SOLAR POWER

On a cloudy day near the city of Leipzig in the former East Germany, I walked across a field with 33,500 solar panels. It produces enough energy for 1800 homes.

One problem with solar power is that it is expensive, but the cost of solar will fall as technology improves. "Thirty years ago it was **cost-effective** on satellites," says Daniel Shugar, president of PowerLight Corporation. "Today it can be cost-effective for powering houses and businesses." He tells us that in the future most houses will have solar panels.

There are other problems with solar power. It needs a lot of space and, of course, it doesn't work at night.

WIND POWER

One afternoon I stood in a field in Denmark under a dark, cloudy sky. My solar panels produce very little energy in this weather. But above me a wind turbine was producing clean, renewable electricity. At the moment, wind power is the best of all the alternative energy sources. But again, there are problems. First, they are **ugly**; people don't like to see wind turbines in fields. And of course the wind doesn't blow all the time.

So, will our grandchildren get their energy from the sun, wind, or some other source? "We're going to need everything we can get from solar, everything we can get from wind," says Michael Pacheco, director of the National Bioenergy Center, part of the National Renewable Energy Laboratory (NREL) in Golden, Colorado. "And still the question is—can we get enough?"