

# Making Sense of Renewable Energy

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Imagine taking a shower with water heated by the sun. Imagine watching your electric meter spin backward. Imagine cleaner air and energy independence. Renewable energy makes these scenarios a reality. However, for all the talk about renewable energy, accessing it still seems out of reach for most people. What is renewable energy, and how can homeowners reap its benefits?

Renewable energy takes many forms: solar, wind, biomass (such as wood, manure, or ethanol), geothermal, hydropower, even methane gas from landfills. The common denominator: all these forms of energy renew themselves, some at a faster rate than others, providing an endless supply of energy. The concept of renewable energy seems new, but people have been using it to power their lives for millennia.

Renewable energy's advantages reveal themselves as we consider the uncertain future of oil, coal, and natural gas. If more of us would use renewable energy now, we would depend less on foreign fossil fuels, we would have a much healthier environment, we would better steward God's land and his creatures, and we would reduce our energy costs.

All right, it's a good idea—how do we get started? We've seen wind turbines towering on hillsides, solar collection stations stretching for acres in the desert, not to mention the Hoover Dam, but what about systems scaled for households?

Here are a few ideas for incorporating renewable energy into your personal power grid. First, survey

your site. As with real estate, renewable energy's mantra is location, location, location. Wind power is suited to rural areas. Solar power depends on how much sunlight your area receives. Geothermal systems require access to land or water. It's best to do your research and talk to a professional before you decide to install anything. Even if you don't think your site is a good candidate, you can still benefit from renewables. For example, if you don't want to heat your whole house with solar energy, a solar water heater will dent your monthly water bill.

Second, discover the technology. Collecting renewable energy is more efficient, less expensive, and less intrusive than it used to be. For instance, the newest solar panels install just like shingles, and are barely visible from ground level. Sleek wind power systems are small enough to perch on buildings or line a property's edge but still catch the breeze. Geothermal systems, once installed underground, are out of sight. There are even residential-sized micro-hydroelectric systems if you have access to a moving water source.

Third, acquaint yourself with your utility. What services will they offer if you switch to renewable energy? More and more utilities are cooperating with customers who make their own energy. In a practice called net metering, at the end of each billing cycle, your electric meter reports the net difference between the electricity that you purchased from the utility and the power your system produced. If your system produced more energy, then the utility pays you back with

a credit on your bill. States that benefit from fossil fuels are resisting net metering, so the practice is not universal—check with your utility to see what they allow.

Fourth, count the cost. Renewable energy systems are still considered an investment, as the cost still runs in the thousands of dollars for initial installation of most systems. However, with renewable energy you could potentially expect a payback in just a few years. And what a payback: cheaper energy and a cleaner world! ■

## RESOURCES:

I found both these books to be basic but very comprehensive: ***The Complete Idiot's Guide to Renewable Energy for Your Home***, Harvey Bryan and Brita Belli (2009), and ***Ed Begley Jr.'s Guide to Sustainable Living: Learning to Conserve Resources and Manage an Eco-Conscious Life***, Ed Begley Jr. (2009).

**Consumer Energy Center** at [consumerenergycenter.org](http://consumerenergycenter.org). This California-based organization provides tips on conserving energy, sheds light on the costs, and also can help you tap into renewable energy resources.

**National Renewable Energy Laboratory** at [nrel.gov](http://nrel.gov). This site provides maps and data to help you find your own solar and wind potential.

**Database of State Incentives for Renewables and Efficiency (DSIRE)** at [dsireusa.org](http://dsireusa.org). This site will give you information about federal and state incentives and rebates available for various renewable energy purchases.

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