



Green technology that you can't afford to ignore

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The world consumes 15,000 gigawatts of energy a year, with that number expected to double by 2050; non-renewables oil, coal, and gas are leaned on heavily to meet these demands. Speculation, mixed in with some maneuvering by OPEC, have caused oil prices to surge upwards, out of control, dragging its other conventional energy brethren right along with it. Take into account that the largest coal-powered plant can only generate 1 gigawatt, and that the world consumes about 6.2 billion tons of coal each year and growing, and you see the beginnings of a very expensive trickle-down effect that will displace the burden directly onto consumers. .. and that's ignoring health and environmental concerns.

The strategy then is to reduce reliance on these non-renewable resources that are getting more expensive by the day to save us money in the long-term, and potentially even make us money. The main argument against alternative energy sources has been the relative high cost in comparison to conventional sources. Luckily, as countries around the world are exponentially expanding their alternative energy initiatives and as the technology behind the harvesting of these alternative sources becomes more efficient, manufacturing companies are committing to longer production runs of these products and their components, driving prices down. The head of clean technology investment banking at Morgan Stanley in California, David Chen, expects solar power to be cost competitive with conventional electricity by 2012. The Wall Street Journal pegs the total cost, including installation, of a typical residential photovoltaic (solar) system around \$32,000, with the solar pricing survey website Solarbuzz confirming this (about \$8,000 per kilowatt, with the average home needing a 4-kilowatt system). The good news is you can expect your energy reliance to drop up to 60%, and any excess energy generated can be sold back to the power company.

Wind power is another strong alternative, especially when used in conjunction with another technology, such as photovoltaic. The majority of the development in this field seems to be geared towards industrial-level applications, where massive multi-million dollar turbines can be deployed across vast wind-prone geography. However, because of the simplicity and availability of the components that comprise a wind turbine, websites such as Indestructible, Otherpower, and Smallwind offer detailed instruction on how to build your own DIY wind turbine. If your HOA doesn't take too kindly to your self-developed and deployed wind farm, companies such as Helix Wind offer aesthetically-pleasing vertical-axis wind turbines that use a helical (think DNA structure) blade design. This innovative shape allows for maximum wind harvesting in environments where wind direction changes are common, such as in urban environments. A 2-kilowatt Helix Wind system can be had for about \$6,500 before installment.

Expect prices to drop 10 to 20% in the next year or two on all these technologies, and check local and federal programs for potentially significant rebates. However, if you aren't convinced mounting solar panels to your roof and erecting wind turbines in your backyard is the way of the future, there

are plenty of other ways to save some money, save the Earth, and remain a closet environmentalist. Appliance manufacturers are embracing Energy Star ratings as yet another feature to gain an edge over competitors. An Energy Star appliance can use between 10 to 66% less energy and/or water than a normal appliance. Another option, a tankless water heater that not only provides about 30% better energy efficiency over conventional storage tank systems, but also virtually eliminates the fear of running out of hot water. Finally, solar-heated water pipes can be used for hot water or to heat the home. No matter the path you choose, any step away from non-renewable energy is a step in the right direction, as it is our collective mass reliance on conventional sources which is driving energy prices through the roof.

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