

EarthTalk -- why hasn't solar caught on more?

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Question: Is it now feasible to provide all of a home's energy needs - including air conditioning - with solar power alone? If so, why hasn't solar caught on more, particularly in U.S. "Sun Belt" states from southern California east to Florida?

-- Tim Douglas, Burlington, Vt.

Answer: It has been possible for years if not decades to provide all of a home's energy needs with solar power. The technology is here and is only getting more efficient and less obtrusive every day. The only real stumbling block is cost: Solar systems capable of meeting all of an average U.S. home's energy needs start at around \$25,000. Given how inexpensive the grid-based power we now get all across the country remains - and, bear in mind that many utilities are working more and more renewable energy sources, like wind power, into their mix - going solar alone just doesn't pencil out economically for most people.

Of course, many of us are starting to think beyond our individual bottom lines when it comes to energy usage as global warming nips at our heels. The federal and many state governments feel likewise and have set up generous rebates and incentives to encourage homeowners (and businesses) to embrace alternative renewable energy sources (including solar but also, wind, geothermal, biomass and even tidal power, among other choices). The federal government offers up a 30 percent personal tax credit (with no ceiling) on the cost of photovoltaic or other solar installations. To find a list of what's available from states, check out the free listings at the website of the Database of State Incentives for Renewable Energy (DSIRE).

In the nation's top solar market, California, residents can cash in on some serious state-funded rebates as well. Thanks to the California Solar Initiative (CSI), a \$3.2 billion solar rebate program funded by electric ratepayers, Golden State homeowners can get as much as a third or more off the cost to install a residential solar system. CSI's website, Go Solar California, provides links to several online calculators that take into account home size and location as well as state and federal incentives to help you do the figuring.

In Arizona, homeowners can get 25 percent back (capped at \$1,000 per residence) from the state on the cost of installing photovoltaic panels or other solar harvesters. Some Arizona utilities offer incentives, too. In Texas, homeowners who install solar panels can get a tax credit (capped at \$2,000) for 30 percent of the cost of a system. Utilities in the Lone Star State also offer incentives for those who generate their own solar power, and some will buy the power back from customers via a program called "net-metering."

Meanwhile, the state of Florida offers a huge \$4/watt rebate (capped at a whopping \$20,000 for homeowners and \$100,000 for businesses) for purchasers of solar photovoltaic systems there. But the website SolarPowerRocks.com reports that funding is running out and the program could end any day. Like Texas, Florida offers solar customers the ability to sell excess power back to the grid.

Even with such rebates, and the fact that solar energy is essentially free once the equipment to harness it is installed, the costs of converting an existing home to solar power is tough to swallow for most people, given that the cost to instead connect to the existing grid is zero. But if you're building a new home, incorporating a solar system from the get-go is simply a matter of choosing solar over something else.