Is solar power cheaper than nuclear power?

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Image source: Wikipedia.org

One of the issues associated with shifting from using fossil fuels to alternative energy sources is the cost. While adherents of alternative energy tout its benefits, many are skeptical, pointing out that such alternatives are just too expensive. Advocates of nuclear power point out that it is less polluting (if you don't count storage of spent fuel) than fossil fuels, and that it costs less than alternatives like solar power.

A new study out of Duke University, though, casts doubt on the idea that nuclear power is cheaper than solar power. Using information from North Carolina, the study shows that solar power may be more cost efficient than nuclear power. With costs dropping on the production of photovoltaic cells, and with solar cells becoming increasingly efficient, it appears that -- in North Carolina at least -- solar installations offer a viable alternative to nuclear power, which is the source for about 20% of the electricity in the U.S.

The Energy Collective reports that some of the issues not addressed in the Duke study. Issues that may further support the idea that solar power could become a viable, cheap form of power in the not so distant future:

Two factors not stressed in the study bolster the case for solar even more:

1) North Carolina is not a "sun-rich" state. The savings found in North Carolina are likely to be even greater for states with more sunshine -Arizona, southern California, Colorado, New Mexico, west Texas, Nevada and Utah.

2) The data include only PV-generated electricity, without factoring in what is likely the most encouraging development in solar technology: concentrating solar power (CSP). CSP promises utility scale production and solar thermal storage, making electrical generation practical for at least six hours after sunset.

Power costs are generally measured in cents per kilowatt hour - the cost of the electricity needed to illuminate a 1,000 watt light bulb (for example) for one hour. When the cost of a kilowatt hour (kWh) of solar power fell to 16 cents earlier this year, it "crossed over" the trend-line associated with nuclear power.

Of course, fossil fuels still represent about 70% of the electricity production in the U.S., and there is probably still some way to go before solar power (and other alternatives) reach a level of cost efficiency that would result in more widespread use. But perhaps this study offers encouragement -- and justification -- for using resources for further development of solar power technology.

More information: Osha Davidson, "Study: Solar power is cheaper than nuclear," The Energy Collective (July 27, 2010), theenergycollective.com/oshada … ower-cheaper-nuclear .

John Blackburn and Sam Cunningham, "Solar and Nuclear Costs - The Historic Crossover", www.ncwarn.org/wp-content/uplo … larReport_final1.pdf