

How affordable is alternative energy?

August 1 2012, By Roni Robbins

Alternative energy sources that are cost-competitive with fossil fuels may be closer than most people realize. Recent renewable energy research has shown that solar, hydropower, wind and other alternative sources are closing in on the cost of traditional electricity providers.

-Solar: The cost of [crystalline silicon](#) PV [solar panels](#) has fallen by more than 60 percent in the past two years to as little as \$1 a watt, which is competitive with residential electricity, according to a report released last month by the International Renewable Energy Agency (IRENA). Continued capacity growth in solar energy, along with other [renewables](#), is expected to contribute to further cost reductions, the agency reported.

-Hydropower: The most economical alternative energy source for [generating electricity](#) could be hydropower, the study showed. The levelized cost of electricity from a large hydropower plant, which considers costs distributed over the project lifetime, typically ranges from 0.02 to 0.19 cents per [kilowatt hour](#), IRENA reported.

-Wind: Wind-turbine prices also have started to fall, and the cost of electricity from wind energy sites in North America, for example, range from 0.04-0.05 cents per kilowatt hour. This is competitive or cheaper than gas-fired generation, according to the report.

Further alternative energy options that can cost less than electricity from the grid include using agricultural and forestry wastes, or biomass, as [feedstock](#) to provide power and heat. The most competitive projects produce electricity for 0.06 cent per kilowatt hour..

-Natural gas: Cheap natural gas also is gaining attention as a competitive alternative energy source in the United States. The price of natural gas is at a record low in the US. because of increased drilling of the country's vast shale gas formations. The U.S. Energy Information Administration (EIA) reported earlier this month that the natural gas spot price, which averaged \$4 per million British thermal units in 2011, is expected to average \$2.58 per MMBtu this year.

Crude oil prices, though, have also been falling. EIA has lowered the average regular gasoline retail price forecasts for the third quarter of 2012 to \$3.39 per gallon. Regular gasoline retail prices, which averaged \$3.53 per gallon in 2011, are expected to average \$3.49 in 2012 and \$3.28 per gallon in 2013, EIA said in its Short-Term Energy Outlook release.

Affordable [alternative energy sources](#) are more readily available, more abundant and generally less damaging to the environment, but skeptics say renewables might not be as efficient as fossil fuels, such as coal and gas. Still, growth in alternative energy continues at an impressive rate considering it has experienced so much competition, consolidation and government cuts.

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