

This piece stresses the cost differential between electricity as fuel and gasoline, encouraging solar companies to sell PV as a transportation fuel solution.

The 80 cent kilowatt-hour

Eighty cents! Why would anyone pay that much for a kilowatt-hour?!

Surely the average is about 12 cents across the U.S.?

Actually the average, as of 2012, according to the U.S. Energy Information Administration, is 11.88 cents for a kilowatt-hour of residential electricity.

OK, so some jurisdictions are much higher than that, for example top tier rates in Pacific Gas and Electric territory reach as high as 49.5 cents (E-6 rate schedule, during peak periods) and Hawai'i rates reach similar levels (Molokai is up to 49.8 cents) but who in their right mind would pay 80 cents?

Well, it turns out millions of Americans are paying around 80 cents for a kilowatt-hour every day! How can this be?

Well, if the vehicle you drive gets 20 miles per gallon and you're buying gas for around \$4 a gallon then the math is straightforward. Each mile costs you 20 cents. Now given that the typical electric vehicle or plug-in hybrid (when driven in electric mode) uses about 1/4 of a kilowatt-hour per mile, each one of those gas-powered miles at 20 cents is like paying 80 cents per kilowatt-hour!

Let's run those easy-math approximations again, using \$3.608, the U.S. average cost of a gallon of gasoline (as of 8th April 2013, again according to the EIA) and 24.6mpg, the fleet average sales-weighted mpg number for new vehicles sold in March 2013, according to the University of Michigan's Transportation Research Institute. Those numbers give an average cost of 58.7 cents for an equivalent kilowatt-hour, higher than even the highest utility electric rates. Remember, that's the fleet average for **new** vehicles sold last month, not the figure for the nation's entire fleet of vehicles - that's significantly less.

Now why is it that solar companies are focused on selling PV against utilities' rates and asking questions about reaching grid parity? Admittedly this is a relatively easy sell against those high rates in Hawai'i and at the top tiers of PG&E in California, but millions of gas car drivers are paying rates equivalent to 50-100% higher than those highest utility rates and drivers of new vehicles are paying the equivalent to almost five times the nationwide average price for electricity!

Those potential solar customers just need a car with a plug!

If they're infected with the media-reinforced range anxiety or insist that they "need" more range than a pure EV can deliver (despite the availability of the 265-mile EPA-rated Tesla model S) then encourage them to get a plug-in hybrid. There are several to choose from on the market and more arriving soon. Then they'll start driving electric and want to drive more electric miles. They will also gain an appreciation of the significance of generating their own "fuel" right on their rooftop or in their backyard.

Of course, putting together PV and EV also opens up the possibility of FREE fuel once the solar system is paid off. Now, with greatly reduced solar equipment prices, that pay-off time can be under 10 years. So, we're not just talking about reducing the eighty cent kilowatt-hour to 12 cents but eliminating it altogether. "Get your free fuel here, folks!"

Imagine how the large oil companies feel about that possibility, especially when they're making up to \$100 million per day in profit. Yes, that's right, \$100 million... per day. Every day. Actually, ExxonMobil made over \$120 million profit for every day of 2012 (\$44.9 billion for the year). Do you still feel the need to contribute to those profits? Instead, "Go Solar and Drive Electric!"