peder norby
guest columnist

During the past six years, my wife Julie and I have generated 60 megawatt hours of electricity with our 7.5 kW home solar system – and we’ve driven more than 60,000 of what SolarChargedDriving.Com calls Sun Miles® , meaning miles driven by an electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV) whose batteries have been charged using solar energy and/or using electricity from kWh credits amassed via solar offset generation.

Differently put, for the past six years, we’ve owned our own solar micro power plant.

By July of 2012, the $30,000 we spent on our solar PV system was completely recovered by the savings in utility and gasoline cost.

Sungas Station

In late 2007 we installed our first 4.5 kW (21 panels) system when we built the house. That system generated 7,500 kWh per year here in sunny Southern California. We installed our “Sungas Station” when we became BMW Mini-E drivers in 2009, adding an additional 3 kW of solar for a total system size of 7.5 kW (35 panels).

Our solar PV system now generates approximately 11,700 kWh per year on average. Our home uses 8,000 kWh per year and our ActiveE uses 4,000 kWh for 15,000 miles of driving. With the benefits of Time of Use (TOU) pricing from our utility, according to which the energy is cheaper at night when we charge the car, we have accumulated a small credit from our utility over the last couple of years.

This year with the addition of a Honda Fit EV, which uses 3,000 kWh, we will now have a yearly bill of about $500 from SDG&E.

That home solar electricity will power the BMW i3 in normal everyday life more 1.5 million miles. This is the equivalent of 74,000 gallons of gasoline at an approximate cost of $296,000 at today’s cost of fuel for a similar gasoline car.

Gas savings pile up

Our solar PV system and two EVs cover $4,000 per year in home electricity cost, $3,000 in gas savings for Julie and $2,200 in gas savings for me for a total of $9,200 worth of savings per year. You can see the $8,700 in annual savings can quickly pay for a $30,000 solar PV system.

We expect our solar system to produce for another 30 years -- with one inverter change out. That’s a future savings of $250,000 at the cost of gasoline and electricity today. If -- and it’s a small if -- in the future the cost of gasoline goes up, then the savings will be far greater.

Do you think gas will go up in price in the future?

What can the 60 megawatt hours of electricity we have generated to date do, if thought of in terms of electric vs. gasoline driving?

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It can ultimately power the BMW Active E in normal everyday life about 210,000 miles. This is the equivalent of 10,000 gallons of gasoline at approximately $40,000 in gasoline costs for a similar gas car.

What will the 345 megawatt hours of electricity that we'll generate in the future do?

1.5 million Sun Miles®

That electricity will power the BMW i3 in normal everyday life more 1.5 *million* miles. This is the equivalent of 74,000 gallons of gasoline at an approximate cost of $296,000 at today's cost of fuel for a similar gasoline car.

Together, past and future, that's *$336,000* in avoided fuel cost for a $35,000k investment, allowing for an inverter or two in the future.

Only electric cars can drive on solar energy. Where we live, Driving on Sunshine is one-tenth the cost of gasoline and we will end up saving hundreds of thousands of dollars.

That's what we refer to as "Sunny Money" -- and yeah, it feels good!

Cheers,
Peder & Julie Norby
65,000 solar-powered miles

Peder Norby is a long-time solar-charged driver from Carlsbad, Calif. SolarChargedDriving.Com would like to thank him for allowing us to re-publish this column, which originally ran on Peder and Julie Norby's Electric BMW, ActiveE Blog .

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