



# The Sun's In Our Grasp

by Diane Walsh

**S**OLAR ENERGY IS VIABLE – not only as an accepted energy option for heating homes but also as an energy source for charging car batteries. Louis Palmer, Swiss owner of the first solar-supported car ever to drive around the globe, is rallying for change on the environmental front.

Not having spent a penny on fuel, Louis Palmer's purpose is to demo what he's calling the Solar Taxi and in so doing, get Americans excited and on the bandwagon to mobilize support for increased funding for solar technology. His round-the-world historic trip has given impetus to this lofty goal.

It's a fact, energy absorbed from the sun into solar panels can generate enough power to charge an electric car's battery system. Palmer's car, a compact sporty model cruising at speeds of 55 mph and producing zero emissions, is a strong case in point. It pulls a trailer of solar panels from which it gets its energy. The energy feeds two high-quality batteries, which are contained in the actual car.

In short, the car gets to use a significant

amount of the sun's power. Can't get anymore environmental than that. Of course, since the sun does not shine all the time, the car has to have enough energy (stored in the batteries) to function on cloudy days, and it does. Palmer adds, "Because the sun is not shining all the time, with my array I can produce enough energy to drive close on 8,000 miles a day in Switzerland. Anywhere in the U.S., it would be more [i.e. there's more direct sunshine]."

Moreover, solar-assist technology offers the opportunity to give back to the grid what we don't need to use. That's the added benefit for the environment – the advantage of un-used current going back into the grid.

Down the road, when governments get on board and reward solar 'purchasers' with tax breaks and incentives you would have the option to buy solar panels for your house roof—at a reasonable cost. With this in place, you could not only replace and/or supplement (depending on your wishes) your existing heating system but you could also charge your vehicle at home. The charge would give you many miles a day.

Sounds good in sunny California where the vast majority of people do less than 150 miles daily, commuting.

The Solar Taxi 'experiment' shows us it's possible to depend on the sun, exclusively. Highlighting the environmental benefits of marrying solar and electric power use, Palmer says, "I can demonstrate just how dire the global climate situation has become and how many sophisticated solutions to lower greenhouse gas emissions already exist."

So, if at one time or another you've considered installing devices on the roof of your house to make better use of the power the sun has to offer consumers, but didn't do so because of the out-of-reach cost of solar panels, you just might be given a second chance to go green.

Barack Obama's recent nomination speech suggested that he is serious about funding solar technology. Should he become the next U.S. president, new initiatives at a federal governmental level may entail tax breaks for people willing to seek energy alternatives.

David Goldstein, president of The Electric Ve-

hicle Association of Washington D.C., which is cosponsoring Palmer's visit to Washington with the Swiss Embassy, also highlights the critical need "to educate people about the benefits of electric/solar transportation. Electric vehicles are much more efficient than internal combustion engines."

Exorbitant fuel prices make even the die-hard SUVer consider other energy possibilities. Despite evidence of a slight fall in the price of oil [announced September 9, 2008] costs remain at an irrational level for any forward-thinking economy. Things have to change, and they are. Lawmakers in Washington, D.C. met with Louis Palmer on September 2, 2008. He's called upon government to introduce incentives for industry to boost production of products, which will make electric cars more available, and with added credits for those choosing the solar-assisted options.

Many people, in fact, would like to make new choices for energy alternatives, if only they could locate them. But options don't exist to the extent they should. Many, quite logically, are still asking the question: Who killed the electric car anyway? Why is it that charge stations were left dormant in CA? And, why is it so, that only the hybrids are promoted with any

intensity in the market place, when this vehicle still depends on gasoline?

The cost of electric cars is still too pricey. It's hard to be green these days, it takes money to eat organic and drive electric. It's fair to say that being green is, expensive. A better environmental future aside, drivers are desperate to find a way not to have to buy gas at today's prices.

Consumers will be driven by what's a bargain. Bringing down the costs to buy into solar technology is, key.

The hybrid is one of the most touted options in the car industry. The hybrid vehicle provides a gasoline engine and fuel tank plus electric motor and rechargeable battery. When the gas engine is running, it also charges the battery.

However, as Palmer clarifies, "the charging energy amount from the gas engine when driving downhill is very, very little. A hybrid vehicle is still consuming more gas than a small car. In city traffic, it has an advantage, but on highways, it is using more gas than a VW Golf Diesel."

He goes on to say, "A hybrid car has a higher motor efficiency because the motor is always running with the ideal RPM (rotation per minute) of (if I'm not mistaken) 3000 RPM. No matter if you drive slow or medium speed or if the car stands still, with this RPM the motor may be

(I am guessing) 35% efficiency. On a highway this RPM must be increased, so the hybrid uses much more petrol (gas) and has less efficiency (25% maybe)."

Thus, rightly defending the advantages of the Solar Taxi, Palmer adds, "it consumes 8 KWH per 60 miles. Three times less than a conventional car because of its aerodynamic and weight benefits, and three times less because of its motor efficiency. Therefore, all in all, it consumes 1/9 of the energy compared to a conventional car. Eight KWH is an equivalent of 0.25 of a gallon (0.8 litre) of petrol [gas] for 60 miles."

It's hard to argue with the numbers. Constructed over three years with the help of four Swiss universities, the displaying of the Solar Taxi demonstrates to the average person on the street the innovation that is here.

The potential exists. Now we just have to take the innovation seriously. Governments from many countries must mobilize and support electric, supported by solar energy, vehicles. If only the US could take the lead, what a wonderful world it could be. CLOUT

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