Sustainability & Climate Change Reporter

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August 30, 2011 by Mike Nesteroff

Taking the Great Leaf Forward into the EV World

Electric cars are back according to Jerry Hirsch in the L.A. *Times*' August 28 Consumer Guide to Electric Vehicles. Deliveries of Nissan's Leaf, in particularly, have ramped up considerably after a slow start due to the Japan earthquake and a technology glitch. With EVs becoming more readily available, the *Times'* Guide discusses several factors to consider when shopping for an EV or plug-in hybrid -- cost, philosophy, economics, usage, charging and incentives. Having just taken delivery of a new Leaf, our experience is both similar and different to the *Times'* and, for us, favors the EV side of the equation.

Purchase price

The *Times* says an EV costs more, and that's true to a point. The sticker price for an EV certainly is higher than a gasoline or hybrid car, but federal and state incentives can offset that partially:

- EVs qualify for up to a $7500 federal tax credit. Edmunds.com has a good summary of the in's and out's of the federal credit. Some important caveats to note -- one, the credit only offsets taxes owed for the year of purchase and if you owe less than $7500 in tax, the unused credit will not show up as a refund; second, the credit applies only to the original buyer; and third, the credit will not be around forever.
- Most states also have incentives for EVs. For example, here in Washington an EV purchase is exempted from the state sales tax, which at .095 percent is a significant savings on a $30,000+ EV. California, by contrast, requires payment of sales tax, but

offers a $2,500 rebate for battery electrics. The U.S. Energy Department has a handy, interactive chart to find out about the various state incentives.

Usage

The *Times* article says you'd be better off with a hybrid or high-efficiency gas vehicle if you have a mega commute (and in L.A. is there anything other than a mega commute?). L.A. excepted, 90 percent of U.S. cars are driven less than 30 miles each day, and more than half of all U.S. vehicle trips are under six miles. For example, our commute (Bellevue to Seattle and back) is 26 miles round trip each day. So, for us, and for most people, an EV makes sense.

There is the inevitable argument made about "range anxiety," but frankly that's more of an excuse than a realistic factor unless you live in L.A. or somewhere with a mega commute. Not only do most of us not have to drive LA-scale distances on a regular basis, but according to a 2008 study, nearly 35 percent of Americans have three or more cars, and 31 percent have two cars. That means many people already have non-EV backup available for longer trips. Even so, while we're not planning on making a habit of long trips in our Leaf, we are going to be testing its limits with some carefully planned outings and the handy trickle charge cord that came with the car. If nothing else that should give us many fine adventures for blogging!

Charging

The *Times* notes one important difference between an EV and a gasoline-powered car is the estimated $2,000 cost of a home charging unit. That's a valid consideration because you can't own an EV without a home charger, particularly until public charging stations are more readily available. With federal stimulus funding, the EV Project is working on the public infrastructure, deploying approximately 14,000 charging stations in Washington, Oregon, California, Arizona, Texas and Tennessee and, for now at least, installing home units to qualifying residences for free. The latter, however, won't be available for much longer, and so the charging unit cost is not to be overlooked.

Electricity rates are another item noted by the *Times*. EVs come out ahead in the article comparison of the annual fuel costs -- $571 for the Leaf (at 11.2 cents/kWh) versus $991 for a Prius (at $3.67/gallon for gas) and $1,906 for a Fusion gas-powered car. The EV advantage is even better in the Seattle area where electricity costs through Puget Sound Energy are slightly lower than the *Times'* figure (8.3518 cents for the first 600 kWh and 10.15 cents above 600 kWh), while the average price for regular gas in Seattle today is $3.797.

Taking the Leap

The *Times* points out that it's always risky adopting a new technology, but EVs really are not that new. A hundred years ago, in the early days of the automobile, electric cars were popular. For example, according to the website, Conceptcarz.com, the original EVs, such as the 1903 Baker

Electric Stanhope,  were popular with "fashionable women and urban professionals, who used the cars to visit acquaintances, go shopping or to work, and other short trips." The website notes that some city business districts had charging stations installed to allow drivers to 'refuel' while they completed errands. That's not much different from today, although today's EVs represent a quantum leap in technology and performance over the electrified buggies of 1903 (just see how the Leaf responds when you step on the accelerator)!

The *Times* suggests that a good way to go is to lease an EV and in three years, when the lease is up, you can either see what the latest EVs are like or "maybe you will be ready to check out the first of the hydrogen fuel-cell autos." Technology, particularly with battery storage and range is bound to improve. But, on the hydrogen fuel cell point, see Dan Neal's February 2009 *Times* article that summarized the hydrogen future: "Hydrogen fuel-cell technology won't work in cars. It's a tragic cul-de-sac in the search for sustainable mobility, being used to game the California Air Resources Board's rules requiring carmakers to build zero-emission vehicles. Any way you look at it, hydrogen is a lousy way to move cars."

Dan Neal and Jerry Hirsch can wrestle it out on the pages of the *Times,* meanwhile we'll be motoring along in our Leaf happy, in the words of Firesign Theatre, that the future is now and it's electric!

Lane Powell PC | Your Pacific Northwest Law Firm®

Seattle
1420 Fifth Avenue
Suite 4100
Seattle, WA 98101-2339
Phone: 206.223.7000
Fax: 206.223.7107

Portland
601 SW Second Avenue
Suite 2100
Portland, OR 97204-3158
Phone: 503.778.2100
Fax: 503.778.2200

Olympia
111 Market Street NE
Suite 360
Olympia, WA 98501
Phone: 360.754.6001
Fax: 360.754.1605

Anchorage
301 West Northern Lights Blvd.
Suite 301
Anchorage, AK 99503
Phone: 907.277.9511
Fax: 907.276.2631

London
Office 2.24
148 Leadenhall Street
London, EC3V 4QT, England
Phone: 020.7645.8240
Fax: 020.7645.8241