

ALTERNATIVE TRANSPORTATION NEWS (ATC eNEWS)

EXTRA! * * * EXTRA! * * * EXTRA!

February 18, 2009

From the Alternative Transportation Club &
Electric Auto Association of Northern Nevada

On the web at <http://ElectricNevada.org>
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an ATC eNews - EXTRA!

We missed it, but a little over a month ago
vehicle-to-grid (V2G) technology was implemented in the
state of Delaware! (See below for details, the article,
and as a bonus, you'll learn how many congresspeople it
takes to plug-in a car.)

BUT FIRST: tomorrow's meeting - *WHICH WILL BE AT A
NEW LOCATION!* (see website for details
<<http://ElectricNevada.org>>) - will be an open discussion
about EVs and whatever other topics you'd like to
discuss regarding transportation, energy, or our club.
ATC co-Chair Chuck Swackhammer, unfortunately, will not
be available to deliver his presentation on
ultra-capacitors as we had planned. Please call Bob with
any questions: 775.826.4514.

*** NOW FOR THE BREAKING NEWS!*** -

This news is stupendous - a vehicle-to-grid (V2G)
<<http://www.udel.edu/V2G>> pilot program was implemented
in the state of Delaware! This small and overlooked - but
milestone of epic portions - ushers in a new era of how
Americans will interact with energy.

V2G - where your car will be able to deliver electricity
upstream to the utility - is a crucial component of
smart-garage <<http://tinyurl.com/akut4f>> technology where
buildings, transportation, and the electric grid come
together. This means that electric transportation will
provide a number of crucial - and very costly ancillary
services - to utility operators. The utilities may even
pay you to plug-in you car!

In the future, though V2G and smart-garage technology,
buildings will morph from energy pigs into energy
producers, while transportation will serve as mobile
storage for electricity produced from intermittent
renewable resources such as wind and solar. With V2G and
smart-garage, the electric grid will move into the 21st

Century to become more efficient, reliable, less costly
to operate, and much cleaner.

The following news story is destined to be cited often in
the history books of the future.

an ATC eNews - EXTRA!

Newark goes electric with grant for cars: Allowing a Two-Way Flow Between Vehicles and the Grid!

By AARON NATHANS
The News Journal, January 13, 2009
<http://tinyurl.com/bafnyg>

NEWARK -- The City of Newark has become the first electric utility to allow a two-way flow of energy between vehicles and the grid.

That became a rallying point Monday for supporters of an electric-car initiative at the University of Delaware who celebrated Monday with a ceremonial push of the plug from the state's congressional delegation.

A recent \$730,000 grant from the U.S. Department of Energy will allow the state to buy four of the cars, the university to buy one more, and the project to add six people to its research team.

Willett Kempton, a University of Delaware associate professor, has been working on his vehicle-to-grid electric-car project since he published a paper detailing the concept in 1997, and the full-scale project since 2005.

The electric car, a retrofitted Toyota Scion xB, sets itself apart by being equipped with software that communicates with regional energy grid PJM Interconnection.

It fuels up by being plugged in, but also has the capability of sending electricity back into the grid, if PJM Interconnection, the regional grid manager, needs it. Typically, this service is provided by fossil-fuel plants that can be fired up on short notice; Kempton says his team of researchers has found a way to do it without emissions.

Officials from PJM said that's just one form of "smart grid" technology that promotes interaction between devices that require electricity and the grid itself.

But what's missing, Kempton said, is a critical mass of vehicles. The demonstration vehicle, plugged into a single 208-volt, 50-amp outlet, can use or send onto the grid 10.4 kilowatts of electricity, a relatively small amount. With a different outlet, it can almost double that.

But if there were a few hundred such vehicles on the road, that would be enough to make a palpable difference, he said. That might even allow car owners to make money when PJM buys their electricity back.

Some of the federal research dollars will go toward developing computer software that allows many car owners to communicate with the grid through a single "aggregator." The researchers have had a basic version of this software up and running for about a month.

With more money, Kempton said, more can be done. AutoPort at the Port of

Wilmington stands ready to retrofit 300 to 3,000 cars per year with the technology.

What's also missing, noted Kenneth Huber of PJM, are garages, apartment parking lots and city streets outfitted with the right size plugs. But the grid itself is ready to go, said Huber, manager for advanced technology.

The project has been financially supported by Delaware Energy Office, the U.S. Department of Energy, Google.org, and Delmarva Power parent company Pepco Holdings.

When it came time to inaugurate the vehicle's first legal use as an energy provider, Rep. Mike Castle, R-Del., held the outlet flap open, as Sen. Tom Carper, D-Del., tried to push in the plug. But a prong was bent, and Carper struggled to get the plug into the outlet.

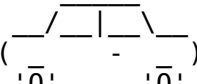
"How many members of Congress. ... " Carper joked. Kempton helped him put the prong back in place, and turned on the vehicle.

Later, Carper drove Castle around the University of Delaware transportation services building in the silent car, accelerating so fast he was lucky there were no state troopers in attendance at the news conference.

"On to Dover Downs," Carper said. "Ride of a lifetime."

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