

MotorWeek Transcripts
AutoWorld 'Plug in Electric Hybrid Vehicles – Are We There Yet?'

JOHN DAVIS: We've been hearing about the promise of plug-in hybrid-electric vehicles for years. That is, hybrids that can have their batteries recharged by simply plugging them into the electrical grid. A proper PHEV should use even less petroleum fuel than today's hybrids. But, while we've seen a lot of plug in concepts, how close are they to being reality.

Most full or two-stage hybrid vehicles, like the Ford Escape and Toyota Prius, can operate for short distances-- usually at low speed only-- on pure electric power. But add a larger rechargeable battery pack into the mix-- one that can be plugged into the electrical grid-- and you can now drive that same vehicle for many more miles before the combustion engine ever starts.

How *many* miles depends on the capacity, or kilowatt-hours of the battery pack, but it's possible for one of these vehicles to peg well over 100 miles per gallon with little penalty in weight or lost cargo space.

Right now there are about 600 plug-in electric hybrid vehicles in the U.S. Most are converted from standard hybrids by one of a dozen or so small companies, but nearly every major carmaker has or is developing their own plug-in with an eye towards near-future production.

But decisions made now can have an impact 10 or 12 years down the road, so engineers and manufacturers are scrambling to include the very latest battery and power management technology into these vehicles before they commit to the mass market.

Jim Francfort, with the DOE's Idaho National Labs, is tasked with keeping tabs on over 200 PHEV's in a nationwide study to track how a variety of these designs fare in real-world driving.

JIM FRANCFORT, DOE'S IDAHO NATIONAL LABS: We're tracking not just the concept, their design concept, but also the overall concept of plug-ins. We're trying to find out: will people plug them in? Why won't they plug them in? How far they drive per charge, how far they drive each month, how many kilowatt hours... there's lots of interest in not just the individual vehicles, but the overall concept.

DAVIS: The DOE program cars are equipped with on-board data loggers, many of which give real-time fuel economy and system information. But it's not just manufacturers that are looking for this valuable feedback.

FRANCFORT: We actually have 75 testing partners. The majority, probably the single largest segment are electric utilities. And there's lots of interest in the electric utility industry in what this will do.

DAVIS: Virginia Dominion Power has added two plug-in Prius hybrid conversions to their fleet of 1000 vehicles, which include biodiesel and clean natural gas vehicles as well as traditional hybrids.

CHRIS GRIFFITH: Dominion Virginia Power is chose to do these two Plug In Electric Hybrid Vehicles to measure the impact on the electric grid should the technology become more prevalent.

DAVIS: It costs about 50 cents, and 5 hours time, to fully charge one of these Priuses through a standard household outlet. But what happens when there's 2 million of them running around, and everybody wants to plug in at 5:00?

Small utilities like Dominion Virginia Power are looking ahead to answer these questions today, so they don't become a problem 5 or 10 years from now.

The one fact that makes plug-in hybrids so appealing to consumers and manufacturers alike, is that the electric grid is already in place from coast to coast, unlike the delivery and dispensing infrastructure that would need to be built for mass distribution of hydrogen or many other alternative fuels.

One manufacturer who's betting heavily on plug-in hybrids is Henrik Fisker. His Fisker Karma luxury sedan intends to be the first volume-production plug-in hybrid vehicle when it goes on sale next year.

HENRIK FISKER, MANUFACTURER: The upside of the market for a Plug In Hybrid Electric Vehicle is almost endless... Almost every car company will have a plug in hybrid electric vehicle eventually. And that's maybe in 5 or 6 or 7years down the line because they just make so much sense.

DAVIS: So, while viable plug-in hybrids are being tested on the road today, it's fair to say that battery technology has not yet evolved to where most manufacturers would like it to be.

Still, the promise of plug-in hybrids is real... and that bodes well for a cleaner driving future for all of us.