

EVs Forcing Utilities to Adjust

By Jim Stickford
Staff Reporter

The inevitability of change was one of the topics discussed at the recent Business of Plugging In conference held at the Renaissance Center on Oct. 12 and 13.

The discussion was moderated by Tim Carey, U.S. Clean Tech Leader, PricewaterhouseCoopers. Tony Earley, chairman and CEO of DTE Energy, Mark Little, senior vice president and director, GE Global Research and Dan Reicher, director, climate change and energy initiatives, Google, were the speakers.

The premise of the discussion is that trends outside the auto industry will drive, or even determine, the success of Plug-in Electric Vehicles (PEVs).

Carey said the Chevrolet Volt, for just one example, is a transition vehicle that eliminates range anxiety. People will be much more likely to buy an electric car if they know they can gas the vehicle up for extended traveling. They no longer have to worry about the proverbial "101st mile."

He said public recharging infrastructure is one variable OEMs can't control. It's possible that places like Wal-Mart and McDonalds will put in charging stations as a way to attract customers.

Reicher added that it is still important for the marketplace to play its role. There are different technologies out there such as biofuels that are competing and should continue to compete with PEV technology.

There is no single silver bullet, Reicher said. But even so, Electric Vehicles (EVs) are an area where the United States can come out the winner. But there has to be value in the marketplace. The government can't just anoint a technology, participants said.

Little agreed that biofuels do exist, but they will be expensive. He said while Brazil gets about half its fuel needs from biofuels, the United States isn't Brazil. It will take

a lot of time and money for biofuels to become more popular, but EVs are here and now, so they have that growing advantage.

Earley said the plug-in vehicles of today bridge the gap between technological infrastructure. He recently drove a Ford hybrid to Notre Dame University in Indiana to show what's out there right now.

He was able to charge the vehicle using a standard electrical socket. He didn't need a special recharge station. Granted, he had to park the car up on the grass and use an extension cord to complete the process, but it was possible and do-able. In the future people will want faster recharging, so the standard 120-volt sockets will probably be replaced by the faster 220 charging stations as time goes on.

Carey then mentioned that if PEVs became widely used, the need for charging stations would be tremendous, with the number of them required dwarfing the number of gas stations currently in existence.

Little said that wouldn't be as big a problem as many believe because most people on any given day drive less than 40 miles, so a recharge at night would fit their needs most of the time.

Reicher said it comes down to a matter of design choices made in public venues. In the past those wishing to use their cell phones and laptop computers at airports had to be careful lest their batteries run out. But designers have noted to this change in public behavior and adjusted their product designs accordingly.

Now airports feature many public areas where it's possible to plug in your laptop or smart phone.

Carey then asked about the "smart" grid and its future. Earley said people in his business should be leery because there are security issues.

"My company owns a nuclear reactor," Earley said. "I don't anyone wants people rooting around that grid."

Earley said he recently

spoke with colleagues from Sweden who installed smart meters in peoples' homes. For about 90 days people really changed their power consumption behaviors based on what they learned from their smart meters. But then they fell back into their old consumption patterns. People like to turn on their lights even if it's at top power consumption times.

Reicher said smart meters and similar technology is where the Internet was in the dial-up age. Right now no one has invented the equivalent of Youtube or Facebook, but he figures it's only a matter of time.

Meanwhile, public utilities have been sending something of a mixed message about EV cars accessing the grid. Some utilities claim that thousands or hundreds of thousands of EVs consistently recharging from the grid will cause spot shortages. Other utilities have said that with mainstream businesses and residential having cut back their electric power use, they'd welcome the new business.

Carey concluded the talk by asking if the PEV movement needed a "moon shot" mentality in order for the U.S. and Detroit to lead the way.

Reicher said to have a moon shot mentality, they needed a moon – something to actually shoot for.

The question then becomes what is the objective, what is the measure of success. He said a sense of mission right now would be good because it seems to him that things are in a bit of a funk.

Little said that his visits to colleges have shown him that young people are enthusiastic about EVs and PEVs. Once they can be shown these vehicles aren't toys, things should take off in terms of both sales and larger public acceptance.

Earley said setting big goals shouldn't obscure the need for smaller objectives. What is the "Moore's Law" of the PEV field? The need to keep things on track and moving is as important as shooting for the moon.

EPA OKs Higher-Content Ethanol Fuel

By Christine Snyder
Staff Reporter

High gasoline prices can be disheartening, but now there's more allowable alternatives thanks to a new Environmental Protection Agency (EPA) decision.

The EPA waived a limitation on selling gasoline fuel with ethanol content higher than 10 percent.

The waiver applies to fuel with 15 percent ethanol content (E15) and only for model year 2007 and newer cars and light trucks.

This is the first of a number of actions that are needed from federal, state and industry towards commercialization of E15.

"While we made this decision, there are still many decisions that need to be made . . . some on a state level," said Gina McCarthy, assistant administrator for air and radiation at the EPA. "It does send a signal to states who want to look at the use of E15."

McCarthy was clear that EPA does not, and had no authority to, require the use of E15 at pumps.

"The EPA is not requiring the use of E15," said McCarthy. "This is not a mandate. It will be up to ethanol producers . . . retailers."

"We don't mandate use, we just talk about what is allowable."

The Department of Energy testing of 2007 and newer vehicles found there was no damage to emissions control equipment and engine durability from use of E15, which led to the EPA's decision.

"We think because they (2007 and newer models) were designed to meet rigorous (emissions) standards . . . they were more likely to be able to burn E15 without hurting engine durability and emissions equipment," said McCarthy.

DOE testing of E15 for models 2001-2006 is ongoing, and McCarthy said the EPA will make its decision on a waiver for those vehicles after the testing is completed in November.

Besides the waiver, the EPA

also announced its proposal for pump labeling to ensure consumers easily identify the correct fuel for their vehicles.

McCarthy said pump labels must clearly and visibly specify the ethanol content. E15 pumps need to specify that it is only for use in models 2007 or newer.

McCarthy said one-third of the U.S. gasoline consumption is from models 2007 and newer, so the allowance of E15 could make a significant impact in use of renewable fuels.

"This decision was a step in a direction to allow more renewable fuels to become available," said McCarthy. "It (shows) renewable fuels will continue. It is a step towards

increasing the use of renewable fuels.

"The President has been clear we need to move towards a cleaner energy future. This is part of that."

Growth Energy and 54 ethanol manufacturers petitioned the EPA to waive E15 prohibition in March 2009.

The petition was submitted under the Clean Air Act provision that allows the EPA to waive the act's prohibition against the sale of a significantly altered fuel if the petitioner shows that the fuel will not damage the engine parts that ensure emissions compliance. Also to note is that many motorists are unaware that gasoline has 10 percent ethanol content to begin with.

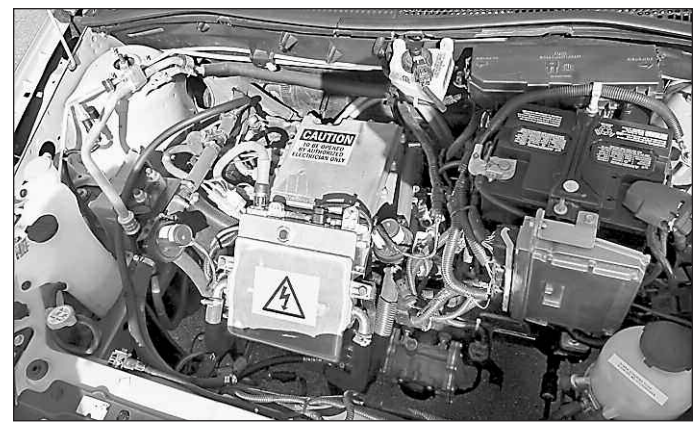


PHOTO: GERALD SCOTT

Pop the hood on the 2012 Ford Battery Electric Focus and what you get is considerably different than the internal combustion engine compartment. Welcome to the brave new world of EVs.

'12 Battery Electric Focus Uses Not One Drop of Fuel

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"Then it can also go down and charge the motor: the motor then will be converted to three-phase, AC power, and power to the wheel. That's your path through electricity in the car."

She explained the iterations of prototypes that Ford takes a product through before final release.

"Powertrain is representative because it has the longest lead items," she said.

"Then our next series of prototypes will be VPs at Ford – Verification Prototypes."

The high-voltage battery is in the trunk and under the vehicle.

Meanwhile, the "brains" are under the hood – the Powertrain Control Module, or PCM, she said.

It understands the inputs that the driver is giving, it knows the state of the battery and it tells the inverter how much power to send to the traction motor.

"The people that do this are really smart people, not me," D'Annunzio said with a laugh.

"This is a program, the Fo-

cus Battery Electric vehicle is a program. It's targeted to be out late 2011, 2012 time frame on the road in mass production.

"We're going to be producing this here in Michigan, right on the same line as the Focus is. If, all of a sudden, gas prices shoot up through the ceiling . . . let's produce more of these battery electric vehicles (BEVs)."

Following Verification Prototype, the final product will emerge.

D'Annunzio, a 25-year Ford veteran employee, is at the cutting edge of where Ford's alternative fuel vehicle fleet is heading.

She has a bachelor of science in chemical engineering degree, a master's in mechanical engineering degree, and an MBA.

"I work in AEC, Advanced Electric something, we just moved buildings. It's a fun place to work, it really is. I joined the team about six-seven years ago and I wouldn't leave it – it's a great team to work with."

It all has a good working chemistry for D'Annunzio, you might say.

General Services Admin. Seeking 100 New EVs

By KEN THOMAS
Associated Press Writer

WASHINGTON (AP) – Wanted: Cars and trucks that plug into electrical outlets instead of filling up at gas stations.

The General Services Administration, which oversees a fleet of more than 650,000 federal vehicles, has for the first time asked auto companies to bid on supplying about 100 electric cars for the government to purchase. The request was part of an Obama administration plan outlined earlier this year to increase the number of green vehicles used by federal workers on the job.

While symbolic to a certain degree, government fleet operators said it will allow them to examine how federal agencies could best use the vehicles for jobs like shuttling passengers, moving equipment and maintaining buildings. The bulk buying is happening as automakers release mass-produced plug-in electric hybrid vehicles and electric cars later this year.

"The new technology lends itself to the multiple functions that the government does in its day-to-day business," said Bill Toth, director of the GSA's Office of Motor Vehicle Management. The government is expected to spend about \$4 million on the vehicles.

Gas-electric hybrids and electrics only make up a small

sliver of the cars and trucks owned or leased by the federal government – less than 2 percent.

More than 11,000 vehicles are hybrids, including about 5,600 bought earlier this year. Through the fall of 2009, the government had 57 electric vehicles, with more than half deployed to the U.S. Postal Service.

Automakers are submitting bids this month and the GSA expects to award contracts by the end of the year. New electric vehicles could begin appearing in the fleets by next April or May, Toth said.

Brian Wynne, president of the Electric Drive Transportation Association, said adding the electric cars to government fleets would give manufacturers and suppliers more certainty as they increase their volume of vehicles and attempt to lower production costs.

And the variety of electric cars – including vehicles running only on batteries or "range extenders" that shift into hybrid mode when the battery is depleted – could be used for different purposes in a fleet.

"Fleet operators live and die by cost per mile so I think there will be a real motivation about this technology," Wynne said.

Several automakers hope to sell vehicles through the program.

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