



EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

Peter Cleaveland, Editor

Club Address: P.O. Box 134, Valley Forge, PA 19481-0134

email: easternev@aol.com. Web site: www.eevc.info

President: Oliver Perry, 5 Old Stagecoach Turn

Shamong, NJ 08088, (609) 268-0944

Copyright © 2016, Eastern Electric Vehicle Club, all rights reserved

Vol 36 No 12

DECEMBER, 2016



Affiliated with EAA

TEST DRIVING THE PRIUS PRIME AT THE SF AUTO SHOW

My oldest son (who is looking for a way to declare independence from fossil fuels) and I went to the San Francisco Auto Show on November 26. As we had already registered for a test drive in a Prius Prime PHEV,



A publicity photo of the Prius Prime in an environment quite different from the editor's recent test drive

we decided to do that before entering the show.

I let my son drive, because, as a long-time Prius driver, he is in a better position to evaluate the driving experience of the car under test. I sat in the back (which, unlike some other plug-in hybrids, I could actually fit into) and took notes.

Unlike our two previous test rides (Chevy Volt and Ford Fusion Hybrid), the Prime actually had a good charge in the propulsion battery, so the test would show more typical behavior than we had seen from the Chevy and Ford.

We set off in EV mode, and the performance appeared in all ways similar to that of a top-of-the-line Prius, although it was hard to

check the performance in downtown San Francisco traffic on a rainy day. Acceleration from 0 to 20 mph seemed adequate; what it would have done entering a freeway was impossible to tell.

As with other cars we've tried, this one had every bell and whistle you can imagine, including a heated steering wheel, which was inexplicably turned on when we got into the car. My son was favorably impressed by the vertically oriented 11.6-inch HD multimedia screen, which could be seen clearly even from the back seat. I would consider it a distraction (you're supposed to keep your eyes on the road, aren't you?), but what do I know?

What he didn't like was the 25-mile electric-only range, which would not help him meet his goal of carbon-free commuting, but the Toyota guy who rode along with us suggested that next year's model may be considerably better in that regard.

A look at the show

The show was filled with cars aimed at young buyers with more money than sense, or at least at young people aspiring to be so, with lots of high-end BMWs, Lamborghinis, Ferraris, Jaguars and the like, as well as more normal cars from the major makers. There was an area crowded with Smart cars; I guess they're what you'd want to get around the crowded streets of SF. I especially enjoyed the display of classic cars belonging to the Academy of Arts University (lots of 20s and 30s Packards, plus a few others like an Allard racer). There were also some interesting classic street rods.

All in all, not a bad time, especially since we then went to the 39th-floor View Lounge at the downtown Marriott for a drink and a look out over the city. Then BART home (nobody but a fool would want to drive from the East Bay into downtown SF and pay to park the day after Black Friday).

CHRISTMAS MESSAGE FROM THE EEVC PRESIDENT

**Oliver Perry (who hopes the position
is not for life)**

I may have more to say about the future direction of the EEVC in our next January newsletter. December is more the time for celebrating the good things we find in our lives and reflecting on the the peaceful and joyful experiences that we have experienced throughout the past year. Planning for the future can introduce stress and tire one out.

Looking back over the past year the EEVC has faced the fact more than once that our surroundings have been quickly changing. Over the past ten years information has become more accessible to everyone from what it was when we formed this organization. As has been mentioned previously, the Internet and access to information through a few taps on an iPhone screen has made much of what the EEVC was originally set up to do, obsolete. Most affected was our monthly EEVC Newsletter.

What can those of us who write for the newsletter bring to our readers that is new and unique? Is there any need for our newsletter?

Our monthly meetings have also been drastically affected by the internet. Some

affects of the internet have been wonderful to us and strengthen our meeting presentations, but others have, once again, rendered our knowledge based sharing of information, outdated and unneeded.

A question Pete and I have is, how many readers of the EEVC Newsletters are there? And, how much technical information do our readers want?

A writer wants to produce lines that are unique and will be read. Who wants to print information that most of the readers have already received via our information-laden electronic devices?

Some writers gather a following by offering slants on news and information that are not available except through their keyboards. Other writers produce stories and opinions that can't be easily found on the Internet which produces a personal appreciation and demand for their work.

So what can I write for a Christmas message that first will be read, and secondly appreciated?

I hate to sit down and read paragraphs and paragraphs of e-mail. I skim long articles in the newspaper. Unread books are piled high all over my desk. So, why could I say in this article that would cause you or anyone else to take the time to read, appreciate and reflect upon? Not much... so let's keep it simple.

I heard an NPR report this morning that fully discussed the shifts in viewpoint and emotional feelings that one experiences when they look at earth from space. If all of the politicians were put on a spaceship and placed in orbit around the earth with large picture windows available, we might have a better chance of achieving PEACE ON EARTH and GOODWILL TOWARD MANKIND. Viewing an awe inspiring event can permanently transform us.

So this holiday season, as was advised by the producer of the NPR program, go to hear an organ play, watch a tremendous light show, tour a cathedral, attend a Christmas concert, or just go out to the Grand Canyon and meditate. Take advantage of this time of year and remember that the sages of old told us there is a better world to come. Seeing something awesome can lift your spirits.

I was sitting alone in my Mom's old farmhouse last Saturday night. What did I do? I

flicked through the channels on an old TV. and settled on two Christmas specials "Rudolf" and "Frosty the Snowman."

Yes there was "Magic" in that old silk hat they found! And, for anyone down on his or her luck... remember your swollen red nose can be the guiding light that saves the day for somebody in need.

There is an old old story... many claim it is etched in historical fact — the one that Radio City Music Hall in New York City still features every Christmas holiday. According to the account there were "Wise Men" who were searching for the ultimate Hope. And today... "Wise Men Still Seek Him!" There is something going on behind the scenes pointing to an undiscovered truth, one that every generation has to rediscover for itself.

Merry Christmas and Happy New Year !

Ollie's commentary on the news

Not that I keep track, but I couldn't help but notice this month that the following news clips that I chose to share with you were all written by women. That is interesting since our readers are predominately male.

A New Year's resolution, that I am practicing before it officially begins, is to better guard my tongue. Therefore I make no further comment regarding our latest international concern, "Gender!"

Electric Trucking Starts to Charge Up

By Erica Phillips, *Wall Street Journal*, Dec 9th, Technology section B, page 4

"Officials in Colorado are planning a public-road test of battery-charging technology capable of powering electric trucks while they drive.

"In the pilot project, believed to be the first in the U.S., vehicles equipped with receiving coils will draw power from another coil buried in the road."

The writer says that the experiment will be conducted in the area near Denver International Airport with a goal of launching the test in 2018.

The writer Phillips claims that heavy duty electric trucks remain a rare sight on the highway today in part because they need to make frequent stops to charge up plus the fact that they must carry heavy expensive batter-

ies just to drive short distances. The road charging test hopes to provide a method to reduce both concerns, the weight of batteries and need for frequent recharging. "It is one of those if you build it they will come scenarios," according to Peter Kozinski, director of Colorado's Road X program, a state funded program aimed at using new technologies to ease congestion and improve road safety.

"The cost of retrofitting roads around the country even if only one lane, would take a big effort and probably would be pretty expensive," says Lewis Fulton, director of Sustainable Transportation Energy Pathways at the University of California, Davis. "Still," he added, "it can work."

From your EEVC president's point of view, having listened to the rhetoric of the past presidential campaign, a suitable solution to taking such a route to highway energy independence might be to have the next Green Party candidate simply proclaim, "We are going to build it and get EXXON to pay for it!" Do you think he or she will have a chance to win with that proclamation?

Utility Says It's Ready to Buy Electric Trucks

Writer Rebecca Smith, *Wall Street Journal* (I clipped out the article for future use but failed to note the date or what section of the *WSJ* it was taken from. I am guessing late Nov or early Dec.)

"Electric utilities have obvious reasons to support the adoption of electric vehicles, but they have been slow to electrify their own truck fleets. That may be starting to change.

"Last week, Duke Energy Corp, one of the largest electric utilities in the U.S., signed a letter of interest to buy trucks from Workhorse Group Inc., a Cincinnati -based company that plans to start selling plug-in electric pickup trucks in 2018. Workhorse sells electric powered delivery trucks to companies including United Parcel Service Inc. and FedEx Corp., working with BMW AG and Panasonic Corp. for some of the technology.

"The infrastructure needed for electric trucks is growing, with government support. The Obama administration announced plans Thursday to turn 48 major highway routes in 35 states into vehicle-charging corridors."

Going back to politics, I am reminded by

reading of this ambitious Obama plan, that a future president might become famous for gathering a crowd on the interstate and yelling... "Tear down this corridor!"

Another point mentioned in the article; Workhorse plans to build its four-wheel drive trucks at a plant in Indiana purchased three years ago from Navistar International Corp.

Oil Firms to Fund Low-Carbon Tech

By Sarah Kent, *Wall Street Journal*, Nov 5-6th, Saturday/Sunday edition, page B4

"Ten of the world's biggest oil companies plan to invest an average of \$100 million annually over the next 10 years in low-carbon technologies.

"Royal Dutch Shell PLC and BP PLC, said its investments will initially focus on carbon capture and storage technology and efforts to reduce emissions of methane from the oil and gas industry.

"We've long been of the opinion that demand will peak before supply," stated Shell Chief Financial Officer Simon Henry.

"Simon caused a stir earlier in the week when he said that the company believes the demand for oil could stop growing within the the next two decades and as soon as five years.

"Known as peak demand, the arrival of this day when consumer demand for oil stops growing has become a central worry for the fossil-fuel industry."

NEWS UPDATE

Island runs on solar power



Living on a tropical island may seem like it would be an idyllic, but we must remember that the native islanders tended to live very simple lives — very different from the way

they live today. If you want any sort of modern conveniences (like electricity) it will cost you. With no local sources of hydropower and no fossil fuels, all electric power must come from diesel-powered generators, using fuel shipped in by sea at great expense — and if the delivery is delayed, things can get tight.

That was the dilemma facing the nearly 600 residents of the island of Ta'u, part of American Samoa.

To help with that, Tesla and Solar City have installed a microgrid: 1.4 megawatts of solar generation capacity from SolarCity and Tesla and 6 megawatt hours of battery storage from 60 Tesla Powerpacks. As a result, the local hospital, high school and elementary schools, fire and police stations and local businesses no longer need to worry about outages or rationing.

But the biggest advantage: The microgrid replaces "110,000 gallons of diesel fuel annually, and it can power the island for three whole days without sun."

Electric supercar from China



The Chinese-backed startup NextEV is showing off what it touts as the fastest EV in the world, and if what it says can be believed, it puts the Tesla Roadster to shame, with a top speed of 313 kph (195 mph) and a 0 to 200 kph (0 to 125 mph) time of 7.1 seconds.

The NIO EP9 has an output of 1 MW (1341 bhp) and did the 12.9-mile track at Nürburgring in Germany in 7 m 05.12 s, fastest for any EV and faster than all but a few conventionally-powered supercars.

How many cars the company will build, let alone sell from its San Jose U.S. headquarters, remains to be seen.

Apparently, says CNN, it has committed to

build six cars initially, “all reserved for the company’s initial investors.”

Another luxury EV startup



Lucid Motors (www.lucidmotors.com), headquartered in Menlo Park, CA, aims to compete in the super-luxury EV market currently occupied by Tesla, Faraday Future (if they ever get going) and a few others. The company recently announced that the car it has designed (a prototype is shown above) will be manufactured in Casa Grande, AZ, once a new factory is built. Plans are to break ground in the first half of 2017, and begin producing vehicles by 2018. The company has released no details about the car itself (other than that it will be very luxurious).

Good luck to them.

Google to go all-renewable in 2017

Google has been moving ahead in alternate energy for some time, adding a great deal of solar power to its facilities, for example, and investing in wind farms and other producers. Now a December 6 *New York Times* article by Quentin Hardy reports that the company has announced “that all of its data centers around the world will be entirely powered with renewable energy sources sometime next year.” Google plans to accomplish this by purchasing alternate-energy credits and by getting credit for its own wind farms.

A safer lithium-ion battery?

Lithium-ion batteries have been much in the news lately, mostly on account of cheap Chinese-made units that tend to go up in flames (think of hoverboards and Samsung phones). That may change soon, according to a December 11 *New York Times* article by John Markoff, which talks about work done by a startup company in Woburn, MA called Ionic Materials. The company is replacing

the liquid-electrolyte designs commonly used in laptops and smart phones with solid-electrolyte designs, which can be physically damaged without causing fire or explosion: Dr. Mike Zimmerman, the company’s founder and CEO, likes to demonstrate by driving nails through battery cells.

It is perhaps worth pointing out that solid-electrolyte lithium cells are far from a new idea; De Alan MacDiarmid, of the University of Pennsylvania, who won the 2000 Nobel Prize in chemistry for his work on conductive polymers, worked on solid-electrolyte cells for quite a few years. He also gave talks at two EEVC meetings.

None the less, Zimmerman’s work is encouraging

First Chevy Bolt delivered near Tesla HQ

From David Bolt in the *San Francisco Chronicle* for December 13: “General Motors on Tuesday delivered the first of its eagerly awaited Chevy Bolt electric hatchbacks to three customers gathered at a Fremont dealership, less than 2 miles from the Tesla Motors factory.

“GM insists the event’s proximity to Tesla — maker of pricey and luxurious electric cars — was simply happenstance.

“General Motors wanted to release the battery-powered Bolt in the Bay Area, center of all things EV. And the dealership chosen, Fremont Chevrolet, sells more of the Bolt’s electric predecessor, the advanced hybrid Chevy Volt, than any other GM outlet in the country.

“But the decision to start the Bolt’s national rollout in Tesla’s backyard could hardly have been more apt. The Bolt could be the first electric vehicle to give Tesla a run for its money.”

Tesla Settles Norway Lawsuit Over Car's Performance

From Reuters, Dec 12: “OSLO — Electric carmaker Tesla Motors Inc has reached an out-of-court settlement with 126 Norwegian customers who claimed their cars' performance did not match promises made in the firm's marketing.

“Lawyers for the owners and the company told the Oslo District Court in a joint letter they wanted to withdraw the case which had

been due to start on Monday, a court spokeswoman said.

“Kaspar Nygaard Thommessen of Oslo-based law firm Wikborg Rein, who represented the car owners, told Reuters a settlement had been reached in recent days and the case had been resolved.

“He declined to provide details of the settlement.

“Norwegian business newspaper Dagens Naeringsliv (DN) said on Sunday Tesla had agreed to pay 65,000 Norwegian crowns (\$7,700) to each car owner, about half of what they demanded, or allow them to choose from alternative options, including car upgrades.

“Tesla did not immediately respond to a Reuters request for comment.

“The case involved Tesla's Model S P85D, which the car owners said had a lower horsepower than stated by Tesla. The company has denied misleading the buyers.”

EVs a money-loser?

From Reuters, December 15: “FRANKFURT — German automotive supplier Continental will continue to post losses with products for electric cars until at least 2019, its Chief Executive Elmar Degenhart told German weekly magazine WirtschaftsWoche.

“The shift from combustion engines to electro-mobility will only massively take off between 2025 and 2030. Sometime between there, the number of combustion engines around the world will peak and then moderately decline,’ the magazine quoted Degenhart as saying.

“The necessary development costs are the biggest challenge for our industry,’ he added.

“Continental said last month it would increase spending on electric-car components in coming years but expects to avert any major impact on its earnings through additional sales from new R&D projects.

“Degenhart told WirtschaftsWoche that Continental has invested more than 1 billion euros (\$1.1 billion) into its electro-mobility business over the past few years and has concrete orders from all major markets such as Asia, America and Europe.”

PG&E: MORE CHARGERS COMING IN BAY AREA

By California Pete



Pacific Gas & Electric recently applied to the Public Utility Commission to add 7500 public EV chargers in its territory, according to a December 8 column in the *San Francisco Chronicle*. At this time there are only 5000 level-2

chargers in the area, “[e]ven though California is home to nearly half of the nation’s 537,734 plug-in hybrids and electric cars,” the article points out. “PlugShare, a company that helps EV drivers locate stations, counts 7,143 level-two charging ports in all of California. The state also has 987 DC fast chargers, high-speed charging stations that can top off a typical electric car’s battery in 20 to 30 minutes, versus four to six hours for a level-two charger.” There are also 409 Tesla Superchargers around the state.

A big questions is, who will pay, and what will the effect on competition. PG&E ratepayers would see, on average, a 22-cent increase in monthly bills. What would be the effect on the market? “It’s about using customers’ money to muscle its way into the new market from its advantageous position as a monopoly with a guaranteed income and profit stream: us,” say Elise Torres and Eric Borden in the *Sacramento Bee*. What PG&E wants, says Scott Mercer of the *Crunch Network*, is “broad control over the market in a way that will crowd out private investment, stifle innovation, and harm customers.”

We’ll see what happens and let you know

The Ghost Ship fire

I just couldn’t bring myself to lead with the awful fire in Oakland that killed 36 people, mostly because every news outlet in these parts (and many national ones as well) have been covering it for weeks. Suffice it to say that the skyrocketing housing costs in the Bay Area have not spared Oakland, which is rapidly gentrifying. While the influx of high-end restaurants, galleries and so on has helped the fortunes of the city, it has not contributed much to the housing stock — especially at the lower end. The city publicizes its

vibrant art scene, but doesn't bother to recognize that, as always, most artists don't make any money with their art: there was a reason that the artists in Puccini's *La Boheme* were starving in a garret. In Oakland they tend to cluster in old warehouses; the owners are glad to get some kind of rent from what would otherwise be an empty building, and because no one ever applies for a permit to convert a warehouse to an artists' live-work space, the woefully understaffed fire department doesn't come to inspect the building. Records show that the last visit by a fire inspector to the building involved in the recent fire was never. Needless to say, nobody had paid much attention to fire codes, and the result was inevitable.

More fires to come?

Taking a look at the outdoors, we note that, although fire season has been dampened by the recent rains, an estimated 102 million trees have died in the drought since 2010. There is some disagreement on what, if anything, to do about it, says a Nov 21 item by Mike McPhate in the *New York Times* California Today section. Some favor logging the dead trees, both to make some money and to reduce the fire danger they represent, while others advocate leaving them where they are, to fall or burn, and go back into the soil.

California the worst state for drivers?

So says the headline of a December 13 *CNN Money* piece by Peter Valdes-Dapena.

"It's got beautiful roads that hug the Pacific coastline, but don't be fooled. It turns out California is actually the worst state for drivers, according to a new study.

"On the other hand, Iowa, a mid-western state not generally known for stunning roadway vistas, is the best state for car owners. That's according to a Bankrate.com study that looked at six criteria, including fuel expenses, insurance costs, car thefts and auto-related fatalities.

"Driving conditions: California commutes average about 26 minutes, compared to Iowa's relatively short 19 minute drive. (New York has the longest average commute at just over 33 minutes, according to Bankrate.com.)

"Costs: Insurance costs much more in California than it does in Iowa, which has the

lowest average premiums in the country. Repairs are also pricier in the Golden State according to data from CarMD, averaging \$895 in California compared to \$637 in Iowa.

"Crime: California has the nation's highest auto theft rate, with 437 cars stolen for every 100,00 residents. In Iowa, only 139 vehicles were stolen per 100,000 population, while Vermont had the lowest theft rate with just 28.4 vehicles stolen per 100,000.

"Safety: Iowa and California are roughly the same when it comes to driving fatalities, with about one death per 100 million miles driven. Massachusetts is the safest state in which to drive, while South Carolina is the most deadly, according to Bankrate.com.

"To arrive at an overall ranking, Bankrate.com translated each of six criteria into numerical zero-to-ten scores then averaged all the scores."

This seems odd, because according to the study by Bankrate.com, that dubious title actually goes to Louisiana: "Not only did the Pelican State rank as the worst in the country, it scored worse than average in nearly all of the categories.

"Its insurance costs took the cake, though. At a 5-year estimate of \$1,279, premiums in Louisiana are the highest in the country and almost 40% higher than the U.S. average. Drivers in the state are more likely to be involved in a fatal crash than the typical American and they spend more time in the car commuting. They also pay \$36 more per job to maintain their vehicles and \$68 more each year on gasoline than other U.S. motorists."

Bleeding-heart NIMBYism

An op-ed piece by Vincent Woo in the *San Francisco Chronicle* for December 12 helps to explode the idea that San Franciscans are uniformly in favor of protecting illegal (or, I guess, the current term is "undocumented) immigrants: they balk at having them in their neighborhoods. "We pride ourselves on our rejection of plans to tighten immigration controls and deport undocumented immigrants," Woo writes. "Yet take that same conversation to the local level and all bets are off. City meetings have become heated, divisive and prone to rhetoric where we openly discuss exactly which kinds of

people we want to keep out of our city.”

In one neighborhood, he goes on, “[g]onsider the San Francisco Board of Supervisors’ decision to challenge the environmental review of a proposed housing project at 1515 Van Ness Ave. Despite the project’s plan to rent 25 percent of its units at a below-market rate, many members of the neighborhood preservation group, Calle 24, expressed anger that the project might bring tech workers into the Latino Cultural District.

An in another, more upscale area: “[M]embers of the Forest Hill homeowners association opposed a project that would build affordable housing for seniors and the formerly homeless on a site now occupied by a church. One of the grievances aired was that it might bring mentally unstable or drug-addicted people into the neighborhood.

That’s a pretty good description of hypocrisy. These people — be they illegal immigrants, tech workers from other parts of the United States or H1-B workers from India or China — must be welcomed and accommodated, but by someone somewhere else. Can’t allow my precious neighborhood to undergo any change at all.

COMING EVENTS

Motor & Drive Systems 2017

Jan 18-19, Orlando. Go to www.e-driveonline.com/conferences/

National Biodiesel Conference and Expo

Jan 16-19, San Diego. For info, go to <http://bioconf.us/default.aspx>

2017 IEF Solar Car Conference

Feb 3-5, Overland Park, KS. A prime topic of the conference will be the regulations for the 2018 American Solar Challenge. For info, go to <http://americansolarchallenge.org/get-involved/solar-car-conference/2017-ief-solar-car-conference/>

SAE 2017 Hybrid and Electric Vehicle Technologies Symposium

Feb 7-9, 2017, San Diego-Mission Valley, CA.

Green Truck Summit

March 14-17, Indianapolis. Held in conjunction with The Work Truck Show; go to www.worktruckshow.com/WTS/GreenTruckSummit/WTS/GTS/GreenTruckSummit.aspx

WCX 17: SAE World Congress Experience

April 4-6, Detroit. www.wcx17.org/

Earth Day 2017

April 22. www.earthday.org

3rd International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS)

April 22-24, Porto, Portugal. www.vehits.org/

6th International Conference on Smart Cities and Green ICT Systems (SMART-GREENS)

April 22-24, Porto, Portugal, colocated with the above. Go to www.smartgreens.org.

7th China International New Energy Vehicle Forum 2017

April 24-25, Shanghai. www.ecvinternational.com/2017ChinaVehicle/

ACT Expo 2017 - Alternative Clean Transportation

May 1-5, Long Beach, CA. For info go to www.actexpo.com/

Electric Vehicles: Everything is Changing

May 10-11, Berlin. www.idtechex.com/electric-vehicles-europe/show/en/

National Drive Electric Week

Sept 9-17, nationwide. At press time no events were listed for the eastern PA-NJ area; for more information go to <https://driveelectricweek.org/>

2017 Bridgestone World Solar Challenge

Oct 8-15, Darwin to Adelaide, Australia. Go to www.worldsolarchallenge.org

NOTICE ON DUES

Annual dues are \$20 with electronic delivery of the Newsletter, or \$25 for a printed copy. Make checks payable to EEVC and mail to James Natale, 3307 Concord Dr, Cinnaminson NJ, 08077, or pay via PayPal to www.paypal.me/EEVC.

MEETING SCHEDULE

Meetings are held in Room 49, Plymouth-Whitmarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m.

January 11

February 8

March 8

April 12