

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

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Now affiliated with EAA

EEVC PRESENTS AT AUDUBON SOCIETY EVENT Oliver Perry

The Audubon Society (the original bird watchers) asked the EEVC to join them with a few other presenters to present a green transportation program, open to the public, Sunday afternoon, Nov 8th on the grounds of the Mill Grove Audubon Society in Audubon, PA.

Vincent Smith, the president, greatly appreciated our willingness to bring the Tesla and the Olympian to the event.

On the grounds they have several large old buildings suitable to host group lectures including the restored original home of the original John James Audubon (1785-1851), the famous bird sketcher. Audubon was sent to America by his rich French father to check out a mining property that he had purchased in the King of Prussia area.



EEVC member Don Auker presents his Tesla to the Audubon Society at their Mill Grove park in Audubon PA., Sunday Nov 8th. The EEVC brought two electric vehicles for the green transportation presentation.

Audubon stayed in the house for several years as a young man, fell in love with the area's wildlife and began sketching birds as well as stuffing them. He also fell in love with a very wealthy girl next door whom he later married. The home serves



EEVC presidential assistant Jay Beckman addresses the Audubon Society.

as a museum containing many original sketches and artifacts of Audubon. The Audubon Society purchased the home and the adjacent land for preservation a number of years ago.

**TRENDS IN THE MARKETPLACE
(As viewed by *Wall Street Journal*
writers)
Oliver H. Perry**



Electric Vehicles

Wednesday, November 4, 2009: *The Wall Street Journal*, page D2. Coaxing Auto Makers to go Electric.

Question, “What will it take to get more electric cars on American Roads?”

Answer, “Lots of federal cash and maybe the auto-industry version of a buy one get one free deal.”

Joseph White writes that the Obama Administration is proposing to spur production of electric cars with a “build one, get one free” offer. The car companies would get credit for two vehicles toward figuring up the average fuel efficiency of a new-fleet vehicle. He continues, “The details of the federal fuel economy rules are what those of us who refused to take math and science classes in college will be forced to read in purgatory.”

Assume Green Motors builds 200 cars that emit 300 grams of carbon dioxide a mile, and 50 electric cars which are zero emission. The 50 cars will be considered as 100 cars in the equation that determines the fleet-wide average circulation. In this case, instead of averaging 300 grams per mile Green Motors could now average 200 grams per mile per vehicle.

The Alliance of Automobile Manufactures, which represents 11 of the biggest auto makers

in the US market, has testified for the plan above as proposed. “The ability to earn, trade, and bank credits,” by producing electric and hybrid vehicles, “is essential to meeting the goals of the national program which calls for auto makers to boost the average fuel efficiency of their fleets to 35.5 miles per gallon by 2016 says Charles Territo, an Alliance spokesman.

One reason car makers are racing to get electric vehicles into the market is that advanced technology vehicles produced before 2012 can generate credits that auto makers can bank and use to reduce their overall fleet average in the future. They will have some breathing room if they fail to achieve fuel efficiency targets in the real world. And if they accumulate more credits than they need they can sell them to a rival.

More than a dozen car makers have announced plans to offer battery-powered vehicles in the US by 2013. Ford Motor Co, Nissan Motor Company, Chrysler and Volkswagen are the more familiar companies to do so according to the Electric Drive Transportation Association in Washington DC. But these companies are worried that electric cars will cost too much to sell profitably, especially if gasoline remains comparatively cheap. They are looking to the government for help.

Nissan Aims to Cut Electric-Car Cost

Page B2 *WSJ*, Oct 30, 2009. “Nissan Motor Co. chief executive Carlos Ghosn said that the Japanese auto maker aims to eventually overcome the high cost of producing advanced batteries and to make its “all” electric cars price competitive without government subsidies by increasing production.

Speaking in Beijing Ghosn gave a time frame of about three years for their cost cutting effort to take effect but he admitted that the price of oil would play a significant role. Nissan plans a big push for their all-electric car called the Leaf. Ramping up production to a large scale will enable the firm to reduce prices. Right now Nissan believes the demand for electric cars is going to go up along with fuel prices. Ghosn expects the electric cars to account for 10% of all new car sales globally by 2020. In the meantime Nissan is relying on government subsidies and consumer incentives to make the near term sale of electric cars

viable. Nissan is staking its future on electric cars even as their rivals express skepticism. In China, Nissan plans to make the Leaf price competitive in 2011 by making it available to government agencies and fleet holders in the city of Wuhan. (Interesting note: Of all of the many cities available in China for Nissan's venture, Wuhan is where my daughter and her family are currently living and one of the few Chinese cities I have visited.)

Battery Ventures

WSJ Nov 6, 09, Renault, Paris Form Venture on Batteries. Renault will make electric vehicle batteries in a venture with France's government. The French automaker and its partner Nissan Motor Company signed a letter of intent to set up a joint venture with the French government agencies. France's industry minister, Christian Estrosi, told reporters that the public authorities have a responsibility to back up the technological and industrial changes linked to the development of electric vehicles. Electric-vehicle development depends upon government support since the high price of batteries has prevented companies making new electrics a mass market product. (Carlos Ghosn, see article above, chief executive for Nissan, said that zero emission mobility needs special collaboration between the private and public sector.)

WSJ Nov 3, 09, Corporate News p B8, China Mulls Battery Sites For Vehicles. National Off Shore Oil Corp, a state owned oil giant is considering building battery-charging stations for electric vehicles. "We can't build a car but we can provide the energy," states Shan Lianwen, director of the corporate strategy. National Offshore Oil Corp invested \$732 million in Tianjin Lishen Battery Joint Stock Co last July. The company makes lithium-ion batteries for electric vehicles. The business model advocates providing battery swapping stations for Chinese electric cars, the same idea as that of Better Place company with similar plans in Denmark, Israel, and San Francisco, USA. Mr. Shan feels that the Chinese will support electric vehicles if gasoline remains 20% higher than current levels.

Chinese-Made Turbines Will Fill Texas Wind Farm

Rebecca Smith writes in the *WSJ*, Nov 30,

09, that contrary to the Obama administration's stated plan to inject new life into our US economy through shifting more to renewable energy, the deal to become the exclusive supplier to one of our largest wind-farm developments went to the Chinese. The Chinese seem to be aggressively capitalizing on America's clean energy push.

The 36,000-acre wind-farm in West Texas will receive \$1.5 billion in financing through Export-Import Bank of China and Shenyang Power Group will supply the project with 240 of its 2.5 megawatt wind turbines, among the biggest in the world. U.S. officials and domestic suppliers have been concerned that the U.S. wouldn't reap the full benefit of the country's rapid expansion in renewable energy. Sen. Jeff Bingaman (D., N.M.) has voiced concern the U.S. has outsourced much of its clean energy manufacturing. Cappy McGarr, managing partner of U.S. Renewable Energy Group, a private-equity firm that is lead partner on the 600-megawatt development, said the partnership would seek tax credits and support from the Federal stimulus package, which should amount to millions of dollars. The project should create 2800 jobs but noted that only 15% of them will remain in the U.S. and the rest will be in China. Mr. McGarr called it a "win-win-win for everyone. We're two great countries and we need to work together."

Shenyang uses wind turbine technology licensed from Germany's Fuhrlander AG; Denmark based Norwin and General Electric Co. The project still must garner the necessary permits but developers hope to have the turbines in service by March of 2011.

The Earth Cools, and Fight Over Warming Heats Up

WSJ Oct 30, 2009 p A21 Many Scientists Say Temperature Drop from Recent Record Highs Is a Blip, While a Few See a Trend: Inexact Climate Models. "Two years ago, a United Nations scientific panel won the Nobel Peace Prize after concluding that global warming is unequivocal and is very likely caused by man. Then came a development unforeseen by the U.N.'s Intergovernmental Panel on Climate Change (IPCC): Data suggested that the Earth's temperature was beginning to drop.

It was not the fact that the temperature dropped that upset scientists as much as the

fact that their climate models did not predict a drop. This finding united all scientists, both those who feel fossil fuels are primarily responsible for global warming and those who do not. Regardless of one's viewpoint on man made global warming it is clear that all climate models are imperfect. "There is a lot of room for improvement in the models." Says Mojib Latif, a climate scientist in Germany and co-author of a paper predicting that the earth will, cool for perhaps a decade before starting to warm again.

The success of a model depends upon the soundness of the assumptions. The effects of clouds are unclear. They can either trap heat or reflect it. Ocean currents play a major factor. The hottest year on recent record was 1998. A strong shift in ocean temperature known as El Nino occurred that year. Enigmatic ocean currents are not fully understood. It is difficult to map significant quantities of ocean temperatures scattered beneath the massive ocean surface. We have a long way to go before we will have a comprehensive climate model that will be truly predictable. (For this reason many politicians are reluctant to forge policy involving climate change regulations at economic risk when our economy is equally unpredictable.)

Think About Climate Model Limits, a letter to the editor regarding the above article. *WSJ*, Nov 5, 09.

"Your excellent article (The Earth Cools, and the Fight Over Warming Heats Up) wittingly or unwittingly unveils the truth about global warming: Nobody knows and nobody can know what the climate will be like five minutes from now, much less in 100 years. While it doesn't directly say so, the article demonstrates that all attempts to understand and predict the climate, are, and always will be hopeless, and all climate models are worthless. Most, if not all, complex systems-such as the stock market and the climate-can't predicted with any useful precision."

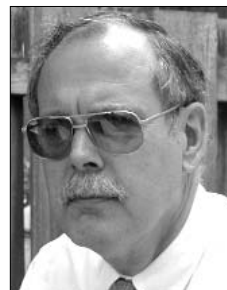
Another letter to the editor regarding the Climate Change Article. *WSJ*, Nov 5, 09. "The purpose of the meeting in Copenhagen isn't to try to hash out an agreement to reduce carbon-dioxide emissions. Every physicist in America knows or should know that the alternative renewable biofuel will emit more carbon dioxide than gasoline. The purpose of the

Copenhagen meeting is to try to make oil and coal extinct in order to benefit certain special interest groups. The Copenhagen crowd has thrown the scientific method under the bus."

Editor's comment

I do not necessarily agree fully with the last two individuals who commented on the *WSJ* article. Their remarks represent the feelings of many people. It appears as if there is a growing reaction to a perceived political agenda in the environmental world. I think that the failure of everyone to accept global man-made warming is due to insufficient documentation, incomplete evidence, and a very incomplete understanding of the dynamics of climate change. Statements that come across as cock sure like "Madam, even God Himself could not sink this ship" are perfect for unleashing cynical responses. Better to keep the question open, steadfastly do good science weighing all of the evidence, while at the same time keeping an open mind, and encouraging even more research, until eventually even critics cannot dispute the real truth, whatever it turns out to be. We all want to propagate the truth but the problem is that we too frequently think we know it before our opponents do.

THE STREETS OF SAN FRANCISCO By California Pete



The 1970s TV crime show by that name dealt mostly with people killing other people with evil intent, but recent news stories show that it's easy to get killed in San Francisco by accident, as well, either walking or in your car.

First the walking part: San Francisco is a good city for walking despite the hills, and many people do it. And many of them do it with total disregard for vehicular traffic. The California driving code states that pedestrians always have the right of way, and while they may not jaywalk quite as often as, say, New Yorkers or Philadelphians do, they tend to enter crosswalks without looking, and often, it seems with their heads in the clouds (and, in S.F., you can pretty much guess the active ingredient in those

clouds) or busily texting. And the drivers let them jaywalk without even honking at them or at least flipping them the bird. *San Francisco Chronicle* columnist C.W. Nevius recently quoted Ana Validzic, pedestrian and traffic safety coordinator for the Department of Public Health that “more than half of all traffic fatalities in San Francisco involve pedestrians,” compared to 15 to 20 percent in most other cities. About two pedestrians are hurt every day, and more than a dozen die every year.

But you can also get killed driving, as recent incidents on the Bay Bridge point out.

As you may recall, the Oakland-to-San Francisco bridge over the Bay failed during the 1989 Loma Prieta earthquake, with part of the upper deck falling onto the lower deck. Only one person was killed, but it was clear that the bridge needed work.

Well, it’s been 20 years and the retrofiting still isn’t complete, but as part of the job a 100-yard section was removed and temporarily replaced by another with an S curve in it and a 40 mph speed limit. Drivers, of course, ignore the reduced speed. Right after the new section went in a tractor-trailer flipped onto its side and tied up the whole westbound side for several hours. Then a couple of days ago at 3:30 a.m. another tractor-trailer tried to make the curve at 50 mph; the cargo of pears shifted and the truck hit the 3-foot side barrier and went over the edge, falling 200 feet to the ground below.

CALTRANS is working on bigger and better warning signs, but most drivers apparently can’t be bothered to slow down, and there have been more than 40 accidents so far, mostly fender benders.

Another thing may have been weighing on drivers’ minds. Shortly before Labor Day a major structural element on the unmodified section of the 72 year old bridge was found cracked and a hastily-designed patch was slapped in place. Near the end of October the patch came apart and 5000 pounds of steel fell onto the roadway, totalling a couple of cars but not killing anyone. CALTRANS put the patch back (better, this time, they insist), but some drivers remain unconvinced and, according to a poll, some actually speed up when they come to the S curve.

NEWS UPDATE

Lots of EVs at the Tokyo show

EVs are showing up all all the major car shows. The recent show in Tokyo featured the Yamaha EC-f electric motorcycle; the Nissan Leaf EV and Landrider mini EV that holds two and leans into corners; the Mitsubishi I-MiEV; the hydrogen-powered Mazda Premacy; and a fleet from Honda: the Skydeck hybrid, the CR-Z, a hybrid with a six-speed manual transmission, the EV-N BEV, and electric scooter and the U3-X electric unicycle.



One standout was the Toyota FT-EV II is a battery-powered spin-off of the iQ minicar sold in Europe and Japan. It

has drive-by-wire joystick steering and sliding doors and makes extensive use of solar panels, according to *The New York Times*.

Fisker to Buy Former GM Plant

In late October Fisker Automotive, maker of luxury EVs, announced that it was buying a shuttered assembly plant in Delaware from General Motors. According to an October 27 story by AP’s Randall Chase, “Fisker, which recently won approval for \$528.7 million in government loans to develop plug-ins, expects to spend another \$175 million to refurbish the facility before production of next-generation hybrids begins in late 2012.

“Fisker expects Project NINA will create or support 2,000 factory jobs and more than 3,000 vendor and supplier jobs by 2014, with full production capacity of between 75,000 and 100,000 vehicles per year. More than half the cars will be exported, the largest percentage of any domestic manufacturer.”

Sound effects?

Years ago this Newsletter carried an article on EEVC Treasurer Tullio Falini’s then-new Llectric Leopard, an early EV converted from a Renault Le Car. While were looking at and photographing the car a passerby asked if an electric car wasn’t perhaps *too* quiet, and hence a danger to pedestrians who might not

hear it coming. We put the questioner off with a flip answer that the vehicle was equipped for that eventuality with a special device controlled by a button in the center of the steering wheel, but apparently some people are really concerned that the new generation of EVs and electric-only mode hybrids might present a real danger, especially to blind pedestrians.

An October 13 *New York Times* story by Jim Motavalli reports that Fisker is equipping its Karma hybrid with speakers in the bumpers to emit a sound that will be, according to company founder Henrik Fisker, “a cross between a starship and a Formula One car.”

The story adds that Nissan is also working in this area, and quoted a spokesperson from BMW that perhaps the vehicle owner will be able to choose his/her own noise.

Back when the EEVC met at the PECO gas plant in West Conshohocken we were visited by a guy selling a sound-effects device that hooked to a car’s radio and ignition and gave off a choice of sounds, including a stock car, an Indy racer and the like. He wanted to know if EV users would be interested. Perhaps we should have taken him more seriously.

Ugly EV concept from Peugeot



Peugeot has come up with a car that could win prizes for ugly design. Called the BB1, it can hold four

people while being only 2.5 meters (a little over 8 feet) long. According to the company, “Imparting values of freedom, optimism or ‘altruism,’ the concept BB1 is the promise of a new driving experience.” Especially if you like being stared and/or laughed at.

Electric dirt bikes



Ed Kreibick has found a company selling some interesting-looking electric dirt bikes. The company is Zero Motorcycles, and the Web site is at www.zeromotorcycles.com/dirt/. Two models

are offered, the Zero X for trails and the Zero MX for tracks and jumps. They use 2 kWh Li-ion batteries with motors that put out 50 ft-lb of torque and up to 23 hp peak hp. Rated range is 2 hours or 40 miles.

Improved fuel cell design

Product Design & Development reports that chemists at the University of Calgary have found a material for PEM (polymer electrolyte membrane) fuel cells that will work at higher temperatures than previous types and may increase cell efficiency and decrease costs. The new material allows cells to operate at 150°C compared to the previous 90°C. “This could ultimately make the fuel cell cheaper to produce because at a higher temperature less expensive metals can be used to convert hydrogen into energy. Currently, platinum is used which is extremely expensive. Also, reactions at a higher temperature would be faster thus increasing efficiency.”

Largest U.S. solar plant goes on line

On October 27 President Obama joined Florida Power & Light for the inauguration of the largest photovoltaic plant in the U.S. The 90,000-panel Desoto Next Generation Solar Energy Center is rated to deliver 25 MW and cost \$150 million. The company is also working on another 10 MW PV facility and a 75-MW solar thermal facility.

New storage material improves lithium-ion battery energy density

Another story from *Product Design & Development* reports that “researchers at the Institute for Chemistry and Technology of Materials have developed a new method that utilizes silicon for lithium-ion batteries. Its storage capacity is ten times higher than the graphite substrate which has been used up to now, and promises considerable improvements for users.”

“In the newly developed process, researchers utilize a silicon-containing gel and apply it to the graphite substrate material. ‘In this way the graphite works as a buffer, cushioning the big changes in volume of the silicon during the uptake and transfer of lithium ions,’ explains [battery researcher Stefan] Koller.”

“Silicon has a lithium-ion storage capacity some ten times higher than the up-to-now

commercially used graphite. The new material can thus store more than double the quantity of lithium ions without changes to the battery lifetime.”

“This method is far cheaper than the previous ones in which silicon is separated in the gas phase. The challenge lies in the poor storage density of materials in the counter electrode in the whole battery, something which we have been doing intensive research on,” says Koller.”

Building the EV infrastructure

On October 21, the Edison Electric Institute, which represents 70 percent of U.S. electric utilities, pledged to move forward aggressively to create the infrastructure to support the full-scale commercialization and deployment of plug-in electric vehicles. “Our industry acutely recognizes that now is the time to redouble our ongoing efforts to lay the groundwork for making plug-in electric transportation in this country a reality, not just a vision,” said Anthony F. Earley, Jr., Chairman and CEO of DTE Energy and Chairman of the Edison Electric Institute. “We, as an industry, are eager to collaborate with the auto industry and others to bring PEVs to market.”

Ethanol plants major GHG emitters

On October 12 Chem.Info carries a story by Jim Lane of Biofuels Digest that reported that under newly proposed EPA rules “‘nearly all’ US ethanol plants will qualify as ‘major emitters’ of greenhouse gases and be required to obtain Title V permits.”

“The new rule, proposed by EPA Administrator Lisa Jackson after a landmark 2007 Supreme Court ruling permitting EPA to classify and regulate CO₂ as a pollutant, requires emitters of more than 25,000 tons of CO₂ to obtain new EPA permits at time of construction or modification.

“The EPA said that 86 facilities would qualify as major emitters, and only 38 plants with capacities under 40 Mgy would be exempted, but said that new data suggests that the overall final number of plants could be higher.”

COMING EVENTS

2009 Fuel Cell Seminar & Exposition

Nov 16-19, Palm Springs, CA. www.fuelcellseminar.com

SAE 2010 Government/Industry Meeting

Jan 26-29, Washington, DC. For info go to www.sae.org/govind.

2010 SAE Hybrid Vehicle Technologies Symposium

Feb 10-11, San Diego, CA. www.sae.org/events/training/symposia/hybrid.

CALSTART-NTEA Green Truck Summit

March 9-10, St Louis, Mo. http://www.calstart.org/events/calstart-events/09-08-01/CALSTART-NTEA_Green_Truck_Summit_2010.aspx?Events=EventItem.

NHA Hydrogen Conference & Expo

May 3-6, Long Beach, CA. www.hydrogen-conference.org.

Energy Efficiency Global Forum & Exposition (EE Global)

May 10-12, Washington DC, http://www.calstart.org/events/calstart-events/09-07-29/Energy_Efficiency_Global_Forum_Exposition.aspx?Events=EventItem.

The Time Trial eXtreme Grand Prix electric motorcycle race

May 14-16, Sonoma, CA. Go to www.infineonraceway.com

SAE 2010 World Congress

April 13-15, 2010, Detroit, MI. www.sae.org/congress/

10th Challenge Bibendum

May 30- 2 June 2, in Rio de Janeiro. <http://www.challengebibendum.com/challengeBib/AfficheServlet?Rubrique=20070807132926&Langue=EN>

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. As in previous years, there will be no July or August meetings.

December 9

January 13

February 10

***** FOR SALE *****



Lester Electrical 12/96 volt Battery Charger, 208/230 volt input, 96 volt 30 amp output, used by Jet Industries in converted trucks. \$50.00

Contact Edward F. Kreibick, 215-396-8341, ekreibick@verizon.net

***** FOR SALE*****

1994 US Electricar S-10 pickup truck, 3 Phase AC Motor - Not a DC Conversion. This is a factory Electric Vehicle with only 17,275 miles on it. Current range is 30 to 35 miles depending on driving style and conditions.

It charges from 120VAC directly and 240VAC with a buck transformer. The Buck Transformer is included with it.

The truck does have an inductive paddle Magne charger port and includes a standup outdoor 6KVA Magne Charger. I have never gotten this to work but believe I know where the problem is.

There is also more information about the truck at www.evalbum.com/2550.

\$8500 or best offer.

What you get is as follows:

1994 White US Electricar S-10 EV with the following upgrades/modifications:

- 6 added fuses to protect the Dolphin CPU board
- Pulsetech onboard battery de-sulphators
- Smoked Lexan see-through cover on main battery box
- 5000 lb tow bar, tow bar stores behind seat

Also included with the truck is:

- Buck transformer for charging from 240VAC
- Special adapter cord for 208 VAC charging
- Spare Dolphin CPU board
- Standup outdoor 6 KVA Magne Charger
- Two manuals
- Drawings and Wiring Diagrams
- Small spare parts, two Encoders and more
- Whatever else I find that goes with it.

Contact Jim Bartlett, jbartlett1@yahoo.com

***** FOR SALE*****

I have 14 Saft NiMH batteries for sale. They are in good condition and would work well for a conversion EV and achieve a much better range than lead acid. 105 Amp hrs and weigh about 40 lbs. I am asking \$600/ battery.

For further info contact Bruce Meland, norsky666@yahoo.com, 541-350-6787.

***** FOR SALE*****

2001 Ford Ranger (detailed photos available), electric build completed in 2006, beautiful, detailed custom job. 120 VDC system, 60-mile range @45-50 mph, 85 mph top speed, insulated/heated battery boxes, 20 deep cycle 6-V batteries, new 4-year 19,000-mile battery pack will be installed 11/09, onboard 120 VAC charger plugs in anywhere, full charge overnight, cab heat and defrost for comfortable winter driving, power brakes and steering, tow package for light loads. Ideal commuter vehicle for any urban dweller, only 4 cents per mile to run. Only maintenance required is a motor brush replacement at 80,000 miles. Runs beautifully, clean, quiet. Valued at \$30,000. Located South Central Oregon. Call Max at 541-943-3353, message or fax to 541-943-3354.