

EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

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Vol 31 No 9

SEPTEMBER, 2011



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PRESIDENT'S MESSAGE Oliver Perry

Hello EEVC members. Welcome to the opening of the new school year and our monthly meetings at Plymouth Whitmarsh High School.

For my column I decided to focus on a few items in the economic and political environment that directly impact the future of electric car development. Having been sometimes accused of being a pessimist and even anti-electric car personality, I must admit that the following reports will not alter that image. I am for mutual funds. I have investments in mutual funds. But, I ask you, what are the prospects of me getting a good return on my portfolio in the near future? We can be for something and still appear to be against it when we face the truth head on. What is important is that we learn the truth and gain realism in whatever we investigate. Read the following and form your own conclusions.

“Elon Musk, Chief executive of electric car maker Tesla Motors is among those eschewing the tent life.”

The above quote is taken from *The Wall Street Journal* page A5, Sept 3-4. The article is entitled “At Burning Man, Air-Conditioning, RV’s Make Inroads”.

In Black Rock Desert in Nevada each year there is a festival called “Burning Man.” Its official manifesto calls on attendees to exhibit “radical self reliance” as they frolic on the dry lake bed for a week. Burning Man used to

be a desert tent city with a do-it-yourself ethos. In the beginning everyone was expected to wear radical outfits or even nothing at all. They were to rely on canned food, sleep in the open, and use portable toilets. People were expected to share and give gifts to one another. Money was banned. The earliest event grounds resembled more of a frontier than a city, with campsites loosely organized. The festival remains famous for elaborate art projects, performances, and mutant vehicles. This year 50,000 participants gathered for the 25th annual rite. Automobiles in the form of cupcakes and yellow submarines roved the desert hard pan. Wind storms force participants to wear goggles and dust masks.

But, even in this, “anything goes” atmosphere some Burners chaff at the new excesses invading the event. Black Rock Desert was chosen in part to encourage people to weather harsh conditions. However, Elon Musk is paying for an elaborate compound consisting of eight recreational vehicles and trailers stocked with food, linens, groceries, and other essentials for himself, his friends, and his family. At Mr. Musk’s RV enclave hired servants help empty septic tanks, bring water, and keep the electricity, refrigeration, air conditioning, TVs, DVD players, and other systems working. Elon Musk certainly does not want to brave the raw environment as a common man at this event.

Mr. Musk clearly does not view himself as a common man at this event. It doth not appear that Mr. Musk is as green as his Tesla. Does his example in life inspire others to sacrifice creature comfort for fuel efficiency? In America we shouldn't have to sacrifice anything for the environment, should we? But if part of the solution to solving our carbon fuel dilemma requires a more sacrificial life style then shouldn't our leaders demonstrate it? I am not as much questioning Musk for his lavish life style, especially in this case, as I am in laughing at the idea that he is truly green hearted.

Obama Asks EPA to Pull Ozone Rule

The Wall Street Journal page A5 Sept 3-4:

President Barack Obama, citing the struggling economy, asked the Environmental Protection Agency (EPA) on Friday, September 2 to withdraw an air quality rule that Republicans and business groups said would cost millions of jobs. The surprise move — coming on the same day as a dismal unemployment report... reflected the energy industry's importance as a rare bright spot in adding U.S. jobs. The tighter standards for smog-forming ozone could have forced states and cities to limit some oil and gas projects. In making the move the White House clearly judged that it had more to lose from industry and Republican criticism than it had to gain from environmental groups who support the rule.

"We support any decisions by the administration to recognize the enormous burden its regulations can place on jobs, the economy and low cost electricity," said Vic Svec, a senior vice president at Peabody Energy Corp, the U.S.'s biggest coal producer.

Environmental groups accused the president of caving in to corporate pressure. Frances Beinecke, president of the Natural Resources Defense Council stated that, "The White House is siding with corporate polluters over the American people. The Clean Air Act clearly requires the EPA to set protective standards against smog — based upon science and the law. The White House has polluted that process with politics."

Green Jobs vs. Real Energy Jobs

The Wall Street Journal page A11 Sept 3-4:

President Obama is expected to seek another \$250 billion or so in a new stimulus plan with plenty of money for clean energy and the creation of so called green jobs. In the 2009 stimulus the feds gave \$3.2 million in green energy grants to the county of Arlington, VA with almost \$300,000 used to install solar paneling on the roof of the local library. Arlington is one of the five wealthiest counties in the U.S. Arlington officials boasts that this project will save \$14,000 in annual electricity costs. The solar panels selected have a life span of 10-15 years. (Seems short to me. Can we trust this WSJ report to be accurate?) If this is true then \$300,000 will be spent to save \$280,000, if we add five more years and use a 20 year life cycle span for the solar panels. According to the writer Stephen Moore, some 3000 counties across the country have received funds for the same kind of negative return energy investment. Critics of the program also claim that compared to fossil fuel energy jobs the solar panel industry provides fewer opportunities.

The article then presents the Marcellus shale formation gas reservoir which the state of West Virginia has capitalized on. "Unlike most places you go these days, the town of Wheeling, W.V. is booming." With thousands of dollars being paid to land owners for gas drilling rights and jobs in the hydraulic fracturing gas companies mushrooming, economic revival is spreading throughout West Virginia and Pennsylvania. Even the White House acknowledges that the natural gas deposits in the midwest and Texas contain potentially 100 years of cheap natural gas. Yet Obama has failed to utter the words, "Marcellus shale" in any major speech. According to the data from the Federal Reserve Board's Industrial Production Indexes, the oil and gas industry (which, according to the writer, the Obama energy department loathes) has had more growth in output than any other manufacturing industry in the U.S. from 2005 - 2011. As a reward the administration is proposing \$35 billion in new taxes to slow it down.

Accepting the White House claim that all of the oil and gas tax write-offs are unwarranted loopholes, a 2011 Congressional Research Service study finds that for every 2 cents of tax subsidy handed to oil companies,

wind and solar get closer to \$1 in handouts.

The irony of the green movement's reactionary anti-fracking crusade is that one of the most important developments in cutting U.S. carbon emissions has come from replacing coal-burning plants with natural gas.

The article concludes, "So now we have a national energy policy directing our resources away from cheap, efficient, and increasingly abundant fuels like natural gas, coal, and oil while we channel billions of dollars to 500 year old technologies like wind power that can't possibly scale up to power a modern-day industrial economy."

Texas Power Grid Falls Short

The Wall Street Journal, Friday August 12, page A3

Peak electricity demand in sweltering Texas this summer has surged past levels that weren't expected until 2014, exposing a shortage of generating capacity likely to persist for several years. The Electric Reliability Council of Texas (ERCOT) is the organization responsible for the stability of the Texas grid, and ERCOT narrowly avoided rolling blackouts this past week.

Texas has a deregulated electric power market. The state's grid barely connects with other states, which means Texas cannot get much help from other places when it runs short on electric power. While most power sells for negotiated prices spelled out in long term contracts between the generators and power retailers, the grid operator also procures electricity to keep the system in balance. The price paid in this auction readjusts every 15 minutes. When supplies are thin prices can rise rapidly. Prices repeatedly hit \$3000 a megawatt hour last week in Texas. This is three times the maximum amount that generators can charge in deregulated electricity markets in the eastern U.S. (Electricity markets in Texas have rules created by state authorities, whereas other deregulated U.S. power markets are guided by the Federal Energy Regulatory Commission.) Prices normally range \$20 to \$50 a megawatt hour in Texas. *The WSJ* said that Mr. Jones, the Texas electricity markets watchdog, found no evidence of wrong doing in the rolling blackouts suffered in Texas last February caused by the unusual cold snap. There is no expect-

ed wrongdoing in this past week's close call.

We have heard that keeping the grid balanced with varying demand is economically challenging. Dr. Paul Kydd reported at one of our past meetings that load leveling technology is worth a lot of money to electric power companies. The Texas report reveals our inability to meet peak demand in parts of our country in extreme weather. One of the ways that power companies load level is to raise the cost of peak electricity. Who paid for the \$3000 per megawatt hour during the summer Texas demand? If I were paying that price I would yell, "turn it off!"

Once upon a time we were told by advertisers that we could trust our car to the man who wore the star. But the question was asked if we could trust the the friendly gas pump Tiger who reached into our pockets while we filled up at Exxon? Will we have to worry about our credit card bills while we charge our cars at our homes during peak demand? Will electricity really remain cheaper than gasoline?

JOIN THE DISCUSSION ON CHARGING FOR 21CAC

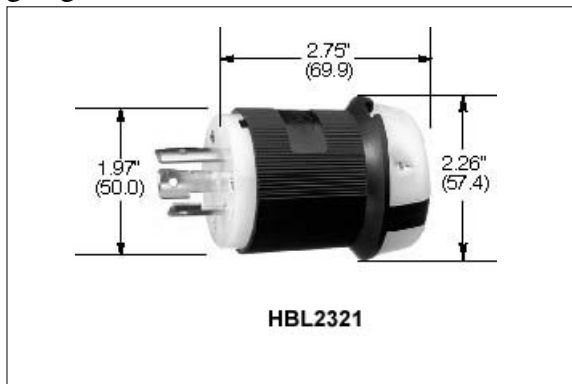
Joel R. Anstrom, Ph.D., Director of the Hybrid and Hydrogen Vehicle Research Laboratory, Thomas D. Larson Transportation Institute at Penn State, has asked EEVC members to join a discussion on charging connectors for use at the next 21st Century Automotive Challenge. Dr. Anstrom reports that "The MorningStar Solar home installation is almost complete on the new location. There are plans now to install a row of premium tailgate parking spaces in front of the house with power outlets available for RVs and charging ports for EVs and PHEVs. They will install 6x6 posts in a line roughly where the T-posts are. This will then provide us a new and more public charging space for 21st CAC. Dave Riley has asked us to recommend the best outlets to install for both RV power and EV charging. There can be multiple outlets per station. The house has a 75 kW, 480 VAC service so we can get real 240 and 120 VAC. At competition Don Auken had mentioned a standard RV park outlet that was waterproof. We may also be able to receive donations of charging outlets and meters from manufactur-

ers, especially Eaton who is already a sponsor.”

Dr. Anstrom wants to get a discussion going to get EEVC member input and recommendations. “It would be great to have a standard outlet/plug,” he says.

Dan Monroe replied that “You can’t go wrong with NEMA standards,” and pointed out that “5-15 or 5-20 for the 120 V chargers and 14-50 for the 240 V chargers. Enclosures rated NEMA 3R are waterproofed for outdoor use.” Information on the type of enclosure he suggests is available at http://products.connecticut-electric.com/inventoryD.asp?item_no=CESMPSC75GRHR&CatId={DC2498B8-0DED-45C0-BA09-76F22ACCD492}.

As an aside, Dan pointed out that Charge Point has installed eight J-1772 outlets in the Philadelphia Convention Center parking garage.



Brandon Hollinger replied that he has used the NEMA HLB2321 twist-lock connector that “won’t pull out if tugged. You must give it a bit of a turn.”

Greg Witmer then joined the discussion. He liked the idea, and added that “you could punch a hole in the side of this box and have a 10 foot long J-1772 cable coming out. I would think that there is enough room inside this box for a relay and support circuitry for the J-1772.. The kWh meter could go on the input side of this box and eliminate the need for everyone to build a meter box.”

Anyone who would like to join the discussion is invited to start by emailing Dr. Anstrom at janstrom@enr.psu.edu.

NEWS UPDATE

SAE modifies charging plug standard

Automotive Engineering online reported on August 12 that the SAE is reviewing its J1772 EV charger plug standard to add a pair of heavy-duty pins at the bottom for fast charging. Working with the Institute of Electrical and Electronic Engineers (IEEE) Standards Association, SAE was able to speed development of the new standard more quickly than would have been possible otherwise, *AE* reports. “In the first quarter of next year, SAE plans to establish a standard, integrated coupler that would allow electric vehicles and plug-in hybrid electric vehicles (EVs/PHEVs) to be charged from either a conventional 15-A ac wall outlet or a dc connector of up to 90 kW.”

Smaller, cheaper EV charger

An AP story dated Sept 12 reports that Nissan “has developed a charger for electric vehicles that’s smaller, about half the price, and easier to install.” The new charger, says the company, will be available in Japan in November “and is planned later for the U.S. and Europe, although dates are not set.”

The new design will cut in half the price for a basic charger of the revamped charger, which presently costs \$19,000. “The higher-grade model for outdoors will also be cheaper and cost under ...\$13,000.”

EV partnerships

Several groups of companies have announced partnerships for EV development.

GM and Korean battery maker LG, according to an August 25 AP report, have announced plans to jointly design and engineer EVs. “Under the new agreement, engineers from both companies will work together on parts as well as vehicle structures and designs.”

Another AP story dated the day before reports that GE and Hertz Global Holdings plan to offer EVs in China “and expanding the charging networks needed to run them.” The plan calls for the building of “770 charging stations in major Chinese cities including Shanghai and Beijing.”

Extended-range powertrain

Automotive Engineering online on July 26 reported on a new modular range-extended electric powertrain (REEP) system from ALTe Powertrain Technologies intended for retrofit application in light- and medium-duty fleet vehicles such as delivery trucks, vans, and shuttle buses, with OEM use perhaps in the future. "The company projects an 80 to 200% improvement in fuel economy with a REEP installation, with no loss in cargo capacity, increased torque, and power and towing capability comparable to a factory V8 engine."

The powertrain includes a 2.0-liter optimized engine, a genset and two electric motors, all mounted in front of the existing transmission.

U.S. household energy use slowing

A September 8 story by AP energy writer Jonathan Fahey reported that household electrical demand from U.S. households is leveling off, and experts expect it to begin to decrease over the next decade. More-efficient lighting gets a lot of the credit, along with greater efficiency in almost everything else in the house. And the economic slowdown has brought a new spirit of frugality.

Community EcoExpo

The EEVC has been invited to participate in the second annual Community EcoExpo event on Sunday, January 22 in Maple Glen (near Ambler). Details are still being worked out, but there will be exhibits, demo rides and the like. Contact Ollie Perry and organizer Lisa Brown, at 215-628-9970.

Moorestown Earth Fair

Kathy Hoffman, the director of a small eco-environment fair in Moorestown, New Jersey, has notified us that the event will be held again this year, same place, Sunday Oct 2nd, from 12:00 to 4:00 P.M. Kathy is interested in having as many EEVC members as possible bring electric, hybrid, and alt fuel cars for a show and tell. A number of us have shown cars in the past.

Please call Kathy at 8567782201 for more details and notify her if you plan to attend.

SCANDALS? WE GOT 'EM By California Pete



Along with the usual run of bad folks doing bad things (and some folks doing silly and/or stupid things; see below) are two stories that affect the energy business.

Perhaps the biggest is solar panel maker Solyndra, based in Fremont (the same town as NUMMI), which, after accepting \$535 million in Federal money in 2009 to build its second factory, and having been touted as the way of the future by both President Obama and then-governor Arnold Schwarzenegger, on August 31 abruptly announced that it was going bankrupt, and laid off all its workers with no prior notice.

A possible explanation comes from the fact that the company's solar panels, which were made in the form of tubes to intercept light coming from any direction, cost \$2 a watt to produce, when heavily-subsidized panels from China cost as little as \$1.25 a watt.

Possibly because of the publicity this caused, the FBI a few days later raided Solyndra's headquarters, looking for evidence of something shady. So far there has been no work on what, if anything, they found.

The second scandal just keeps getting worse (or better, depending on your point of view). Gas utility PG&E, owner of a 30-in gas transmission line that blew up in San Bruno a year ago, killing eight people and destroying 38 homes, has had another leak, this one in Cupertino (home of Apple Computer). It seems that the company installed a network of plastic pipes for local gas distribution — 1200 miles of pipe, in fact. But the pipe, installed before 1973, was made of a then-new DuPont plastic called Aldyl "A" that in 2002 was flagged by the federal pipeline agency as brittle and prone to cracking. And that's what happened, with distribution pipes cracking near fittings in a network of 2-in. pipes feeding a condominium complex. Inspection revealed many cracks and leaks of varying sizes, some of which the utility had known about but considered minor and not worth repairing.

A scathing federal report on the San Bruno incident apportioned a good deal of the blame for the incident to PG&E, and brought into question what it will do (beyond rigorous testing) about its 1500 miles of transmission line, much of which is lacking proper records (PG&E didn't know where that burst line in San Bruno came from, or even that it had a seam weld — let alone a defective one). And now it may have to replace 1200 miles of local distribution lines. I'm glad I don't own any of PG&E's stock, but I'm stuck buying gas from them.

S.F. Silliness

The America's cup race for 2012 is scheduled to be run in San Francisco Bay, and extensive preparations must be made along the SF waterfront to accommodate not only the contestants but also the mega-yachts of the rich folks involved. This has stated a controversy, with some people complaining that a harbor full of yachts will obstruct their view of the bay. Can't please some people.

Also getting on at least some people's nerves are those who like to hang around the city's Castro district in the altogether. After much thought a city supervisor, who has proposed an ordinance that anyone sitting down in public put a towel down first, and must cover themselves, at least a little (fig leaves?) when entering a restaurant.

COMING EVENTS

AltWheels Fleet Day

Sept 19, Norwood, MA. For information go to www.AltWheels.org.

RETECH 2011: The Renewable Energy Technology Conference & Exhibition

Sep 20-21, Washington. www.retech2011.com

Battery Power 2011

Sept 20-21, Nashville, TN. Go to www.batterypoweronline.com/bppt-conf11/bp11_index.php

DoE Solar Decathlon 2011

Sept 23-Oct 2, Washington, DC. Go to www.solardecathlon.gov/

EV Battery Tech USA

Sept 27-28, Troy, MI. www.ev-battery-tech.com/

Moorestown Earth Fair

Oct. 2, Moorestown, NJ. Call Kathy Hoffman at 856-778-2201.

The Business of Plugging In

Oct 11-13, Dearborn. Go to www.bpiconference.com

World Solar Challenge

Oct 16-23, from Darwin to Adelaide, Australia. Go to www.worldsolarchallenge.org/

The Networked EV: Smart Grids and Electric Vehicles

Oct 20, San Francisco. www.greentechmedia.com/events/live/the-networked-ev-2011/

U.S. National Electric Vehicles Safety Standards Summit

Oct 21-22, Detroit. Go to www.nfpa.org/newsReleaseDetails.asp?categoryid=488&itemId=46997

The Battery Show

Oct 25-27, Detroit www.thebatteryshow.com/

European Electric Vehicle Congress

Oct 26-28, Brussels. www.eevc.eu

SAE International 2011 Vehicle Battery Summit

Nov 14-15, Shanghai. Go to www.sae.org/events/battery/?&PC=11VBSSDEML&PCN=6125556048

SAE 2011 Powertrain Electric Motors Symposium for Electric and Hybrid Electric Vehicles

Nov 16, Shanghai. Go to www.sae.org/events/training/symposia/emotor/?&PC=11EMOTSDEM&PCN=6125556048

Community EcoExpo

Jan 22, Maple Glen, PA. For info call Lisa Brown at 215-628-9970

Solar POWER-GEN Conf & Exhibition

Feb 14-16, Long Beach, CA. Go to www.solar-powergen.com/index.html

EVS26

May 6-9, Los Angeles. www.evs26.org/

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.

October 12

November 9

December 14

January 11